

ISSN: 1597-877X

BENIN JOURNAL OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION (BJHSEE)

FORMERLY KNOWN AS - JOHKHEE



VOL. 4, NO. 1, NOVEMBER 2019

Department of Health Safety and
Environmental Education
FACULTY OF EDUCATION
University of Benin

ISSN: 1597-877X

BENIN JOURNAL OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION (BJHSEE)

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Vol. 4, No. 1, November 2019



Journal of the Department of Health, Safety and Environmental Education
University of Benin, Benin City, Nigeria

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UTILIZATION, AVAILABILITY AND ASSESSIBILITY OF NIGERIAN HEALTH INSURANCE SCHEME (NHIS) IN ILORIN, KWARA STATE, NIGERIA

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Abstract

National Health Insurance Scheme (NHIS) is a strategy by the government for reducing maternal, morbidity and mortality rate because adequate utilization of the health care scheme is associated with improved health outcomes. This study investigated impact of NHIS on healthcare utilization in Ilorin Kwara State, Nigeria. The specific objectives of this study are to determine the level of utilization of NHIS, determine the accessibility and spatial distribution of healthcare centers and to examine the relationship between NHIS and healthcare utilization. Systematic random sampling technique was used to select the 400 respondents from the metropolis. Data was collected using questionnaire. Descriptive and inferential statistics were used to analyze the data generated. The study revealed that 292 (73%) have health insurance. The study also found income, occupation and education as major factors controlling the utilization of NHIS. The result of the correlation between Healthcare Utilization and NHIS in the selected healthcare centers shows that University of Ilorin Teaching Hospital (UITH) has 34%, General Hospital 47% while Civil Service Hospital has 67%. The study recommends that NHIS scheme should be continuously reviewed to ensure that it operates in a manner that will ensure the justification of its implementation and achievement of its goal.

Key words: NHIS, Healthcare Services, Healthcare Utilization, Healthcare Accessibility.

INTRODUCTION

Health is a major component of a nation's socio-economic development. Good health does not only contribute to better quality of life, but is also essential for a stronger and more efficient labour force for the creation and maintenance of a nations' wealth (Akpomuvie, 2010). The importance attached to the health of the people and the socio-economic wellbeing requires the total commitment of the government to healthcare issues. In most developed countries, healthcare is provided for everyone regardless of their ability to pay. This is done to maintain a healthy and virile labour force for efficient productivity. Although the vast proportions of the population of Nigeria still live in rural communities, yet in terms of health

centers, the rural communities are neglected, this is due to social inequality.

Healthcare utilization as posited by Awoyemi, Obayelu and Opaluwa (2011) is the use of Healthcare services by the people. The choice and from place to place depending on various factors predisposed to the end users. Although good utilization of health services in any society serves to improve the quality of people's health. Studies have shown that healthcare utilization by people depends on availability, quality of service, socio-economic status of the people and personal characteristics of the users. (Manzor et al, 2009). In Nigeria, the healthcare delivery system is a blend of both public and private healthcare providers. Healthcare provision is the responsibility of the three-tiers of government with the private sector playing along (Akhtaw, 1991).

National Health Insurance Scheme (NHIS) is a corporate body under act 35 of 1999 constitution by the Federal Government of Nigeria to improve the health of all Nigerians at affordable cost. The NHIS is a social security system in which the healthcare of employees in the formal sector is paid from funds created by pooling of contribution of employers and employees. Beneficiaries to the scheme include students of tertiary institutions. The objective of National Health Insurance Scheme (NHIS) is to ensure that every Nigerian has access to good healthcare service while protecting families from the financial hardship of medical bills (NHIS, 2012). Under the scheme, healthcare providers referred to as Health Maintenance Organizations (HMO's) are responsible for providing and making payments for all persons who have registered and have paid the required premium.

To provide this service, the HMO's liaise with the accredited medical establishment of a person's choice (Abu, 2013). Accessibility to healthcare services associated with the establishment of the National Health Insurance Scheme (Omoruan, Bamidele & Philips, 2009). Accessibility can be defined in four dimensions of availability, accessibility, affordability and acceptability. Many have lost their lives due to their inability to meet their health needs. Statistics have shown that about 70% of Nigerians pay out of their pockets for their healthcare needs (Agba, 2010). These and many more are reasons for NHIS to function effectively. No doubt, establishment of a health insurance scheme became inevitable and the need to enlighten the general public on the importance of the scheme to ensure utilization and consequently achieving the sustainable development goals as it pertains to health (Chikwe, 2013). Low quality of healthcare in Kwara state was found to be associated with shortage of healthcare givers, which consequently lead to increment in patients' waiting time (Cooper, 2008)

One of the most significant development problems in Nigeria is the lack of adequate health centers in various parts of the country (Akpomuvie, 2010). However inadequate health centers are aggravated by

the persistence of regional inequalities in the distribution of available health institutions. The geographical disparity in the provision of health centers is most severe between urban and rural areas. However, Tanmola and Owoyemi (2009) found out that cost of receiving healthcare services was a major determinant in the health seeking behavior of people in North central Nigeria, but Awoyemi *et al* (2011) have argued that the choice of healthcare center utilization in North central Nigeria is greatly informed by the waiting time, especially in government owned hospitals.

Health financing is very important in developing countries. Health insurance schemes in many low and middle income countries, most especially African countries are still in their early stages of implementation with the goal of universal coverage of the population. In Nigeria, evidence shows that knowledge and utilization of NHIS is still low (NHIS, 2012) and it affects the utilization of healthcare in the country due to healthcare services being inaccessible. The NHIS covers only 1% of the nation's population (the federal government workers) and its implementation were largely urban based and the health benefits package are considered inadequate as it excludes some life threatening challenges such as those related to kidney, heart and liver. It was based on the foregoing that the study seeks to understand the utilization, accessibility and availability of NHIS in Ilorin Kwara State. Hence this study seeks to answer the following research questions: what is the level of utilization of NHIS, where are health care centers located. The specific objectives of this study are to; determine the level of utilization of NHIS in Ilorin, determine the accessibility and spatial distribution of healthcare centers and examine the relationship between NHIS and healthcare utilization.

Kwara state is a state in western Nigerian with its capital being Ilorin. Kwara is located within the North Central geopolitical zone, commonly referred to as the Middle Belt. Kwara State shares her boundaries with the Republic of Benin at her west, the Niger River at her North and Oyo State to her South. It is located 8.50°N latitude and 4.54°E longitudes and is situated at an elevation 320 meters above sea level. The state covers an area of 36,825 square kilometer. Ilorin metropolis is made up of three local governments; namely Ilorin South, Ilorin East and Ilorin West. The metropolis is bounded by Moro local government to the north, Oyun local government to the south, Asa local government to the west and Ifelodun local government to the East.

Ilorin enjoys a humid tropical type of climate which is characterized by the tropical wet and dry season with a mean temperature ranging from 25°C to 28°C while the annual rainfall is about 1150 millimeters, the least amount of rainfall occurs in January, the average in this month is 10mm. Most of the precipitation falls in September, averaging 232mm. The highest rainfall is recorded in the month of July and September with double maximum. The temperature is uniformly high throughout the year

and open air insulation can be very uncomfortable during the dry season. The climate rests on the two prevailing winds blowing across the country at different times of the year. These winds include; the dry North-East trade wind from the Sahara desert and the South-West trade wind of the Atlantic Ocean.

Ilorin was founded by the Yoruba, one of the three largest ethnic groups in Nigeria, in 1450. It became a provincial military headquarters of the ancient Oyo Empire, and later became a Northern Nigeria protectorate when Shehu Alimi, an itinerant Islamic preacher and teacher, took control of the city through the spread of Islam. The capital was occupied by the Royal Niger Company in 1897 and its lands were incorporated into the British colony of Northern Nigeria in 1900, although the emirate continued to perform ceremonial functions. Although the city retains a strong Islamic influence, Christianity is now widely practiced in the cosmopolitan part of the city due to the significant immigration of people from other parts of Kwara State and the rest of Nigeria.

The creation of Kwara State in 1967 with the capital in Ilorin has led to immigration of people from the remote Area to occupy the vast land. The study Area has a diverse population; the major tribe is Yoruba and a minority of Bariba, Nupe and the Fulani. As at 1991 census, the state had a population of 1,548,412 as at 2006, the population had risen to 2,365,353. Since 2006 there hasn't been any other census but the 2016 population figures was projected to 3,192,900. (National Population Commission of Nigeria, National Bureau of Statistics)

Healthcare services in Kwara state include; promotive healthcare (Health Education, Proper Nutrition); preventive (survey of portable drinking water, control of diseases, routine of immunization, and basic education on sanitation and hygiene); and Curative treatment of minor ailments, delivery service, child welfare and supply of drugs. The area has four general hospital, 575 primary healthcare 512 public, 63 private hospitals, 164 secondary healthcare 138 private, 26 public. Ilorin has a total of 166 healthcare centers, 88 public health centers and 78 private health centers. Out of the 88 public health centers, 78 are primary health centers, 9 are secondary while one is a tertiary health center (UITH). While the private health centers are 13 primary and 65 secondary (Ministry of Health, 2011)

METHODS OF THE STUDY

Data required and sources

To achieve the objectives, both primary and secondary data were adopted for this study. The primary data for this study are; Socio-demographic characteristics of the respondents; Level of utilization of NHIS by the respondents; and Coordinates of government owned secondary and tertiary healthcare centers in the study area while the secondary sources of data are; population of the patients that have been attended to during

the years; record of patients with NHIS attended to in the hospital during the years understudy; record of patients without NHIS attended to within the years of study; population figure of the study area; and map of the study area. Data on socio-demographic characteristics, level of utilization of NHIS in the study area were collected through questionnaire administration. Coordinates of government owned secondary and tertiary healthcare centers were obtained through the use of a handheld Global Positioning System (GPS). Population of patients attended to by the healthcare center and record of patients attended to with and without NHIS was obtained from the selected healthcare's center (UTH, General Hospital and Civil Service Hospital). Population figure of the study area was obtained from the National Population Commission (NPC) Ilorin, Kwara state. Map of the study area was obtained from the office of the surveyor general, Ilorin, Kwara state.

The study employed the use of both descriptive and inferential statistics and Geographic Information System (GIS) analysis. Tables and charts were used to analyze the data. Simple percentages were used to summarize the data. GIS software was employed to map out the spatial distribution of the healthcare facilities. Correlation analysis was employed to study the relationship between NHIS and healthcare utilization. The correlation equation is stated as;

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$$

Where:

r is correlation coefficient,

n is number of variables

x is variable I (patients with NHIS),

y is variable ii (total number of patients).

DISCUSSION OF FINDINGS

Availability and Utilization of Healthcare center

Table 1 shows respondents responses on availability of healthcare centers in their areas. As shown in the table most 329 (82%) of the respondents indicated availability of healthcare centers in their areas, while only 71 (18%) indicated non availability of healthcare centers in their areas. Similarly, the table further shows that majority 260 (65%) of the respondents do patronize health centers in their area, while 69 (18%) do not patronize health centers in their areas.

Table 1. Availability and Utilization of Healthcare Centers

Availability	Frequency	Percentage
Yes	329	82
No	71	18
Total	400	100.0
Utilization of Healthcare Centers		
No	69	18
Yes	260	65
No healthcare center in my area	71	18
Total	400	100.0

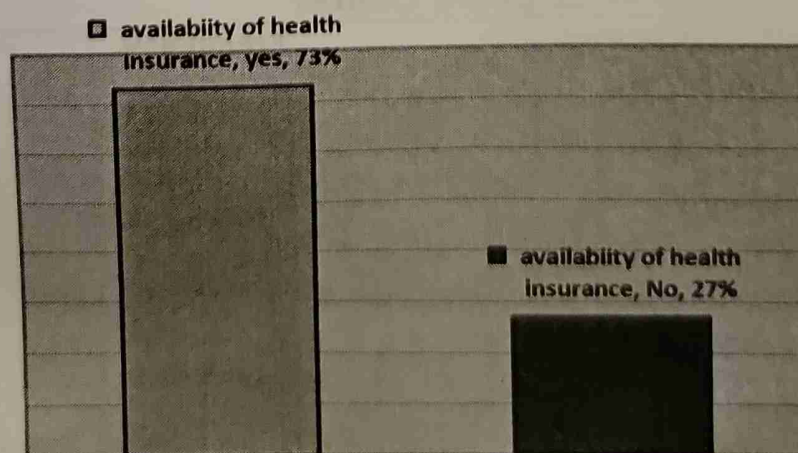
Source: Author's fieldwork, 2018.

Satisfaction with Service at Health Center

Table 2 shows that most 331 (83%) of the respondents were satisfied with the services rendered at the healthcare centers they visited, while 69 (17%) of the respondents were not satisfied with the services.

Utilization of National Health Insurance Scheme

As shown in Figure 2, 292 (73%) of the respondents are on National Health Insurance Scheme (NHIS) while 108 (27%) are not on NHIS. This therefore shows that NHIS has not been widely used in the study area and this is contrary to the objective of the scheme. According to NHIS, (2012) the objective is to ensure that every Nigerian has access to good healthcare service while protecting families from the financial hardship of medical bills. The few 27% not on NHIS may be linked to problems such as poor awareness. The findings corroborates with the study of Inegbedion (2015) on the awareness and utilization of the National Health Insurance Scheme in Edo State, Nigeria which revealed that majority 90.0% of the respondents are on NHIS.

**Figure 2: Utilization of National Health Insurance Scheme**

Source: Author's fieldwork, 2018.

Accessibility and Spatial Distribution of Healthcare Centers.

Access to healthcare services is considered as the link between the healthcare system and the population it serves; the volume and type of services, whether the service can be reached or not, the client's perceptions of the worth of the service and acceptability of services provided, all these influences the access and the utilization of services (Fiedler, 2000). Table 2 shows three dimensions (finance, distance and time) of accessibility to health centers in the study area. Majority 266 (67%) of the respondents pay between ₦1000-₦3000 for registration, while 134 (33%) pay less than ₦1000 for registration. Also, 191 (48%) of the respondents spent between 16-30 minutes before seeing a doctor, while 107 (27%) and 78 (19%) spent above 60 minutes (1 hour) and between 31-60 minutes before seeing a doctor. Only 24 (6%) spent less than 15 minutes before seeing a doctor. It can be observed from these results that much time is spent by most of the respondents before seeing a doctor. The implication of this is that time that was supposed to be spent on other socio-economic activities is spent at the health centers waiting to be attended to by a doctor.

In addition to this, taxi 217 (54%) was the major mode of transportation used by most of the respondents in getting to health centers, this is followed by walking/trekking 98 (25%); motor cycle 54 (14%) and tricycle 10 (2%) only 21 (5%) of the respondents get to healthcare center through private vehicles. The above results contradicts the studies conducted by Okafor (2007), the study revealed inaccessibility of NHIS in the Niger-Delta region of Nigeria. This, according to him has obviously affected the utilization of healthcare services by a vast proportion of the beneficiaries who still depend on traditional medical care and self-medication.

Table 2: Accessibility to Healthcare Center

Accessibility to Healthcare center	Frequency	Percentage
Cost of registration		
Less than 1000		
1000-3000	134	33
Total	266	67
Time taken to see a Doctor	400	100.0
Less than 15 minutes		
16-30 minutes	24	6
31-60 minutes		48
Above 60 minutes	191	19
Total	78	27
Means of transportation	107	
Private vehicle	400	100.0
Taxi		5
Tricycle (keke)	21	54
Motorcycle	217	2
Walking	10	14
Total	54	25
	98	100.0
	400	

Cost of transportation

100-150		
160-200	68	17
Above 200	134	33
I trek	107	27
Total	91	23
Distance	400	100.0
Less than 500m		
500-1km	156	39
1km-2km	137	34
Above 2km	58	15
Total	49	12
	400	100.0

Source: Author's fieldwork, 2018

With regards to physical access to health centers, majority 156 (39.0%) of the respondents travel over a distance less than 500 meters before getting to the hospital while 137 (34%) and 58 (15%) of the respondents travel between 500m-1km and 1.1km-2km respectively before getting to health centers. In support of this, most 134 (33%) of those that do not trek to health centers spend between ₦160-₦200, while 107 (27%) and 68 (17%) spend above ₦200 and ₦110-₦150 respectively, while (23%) don't spend on transport because they walk to the healthcare center. 23% of the respondents that trek maybe due to the fact that they earn so little and can't afford other means of transportation. This also depicts that most of the respondents were satisfied with the services rendered at the healthcare centers they visited.

Spatial distribution of Healthcare Centers.

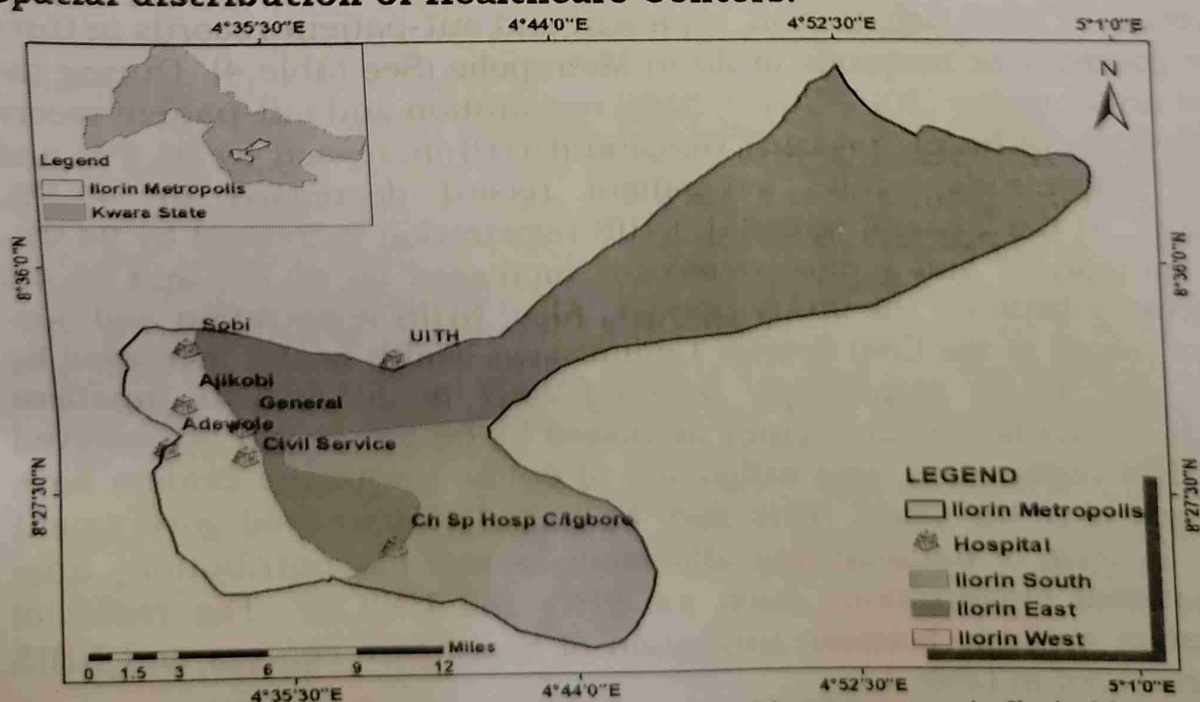


Figure 3: Location of Secondary and Tertiary Healthcare centers in Ilorin Metropolis
Source: Author's fieldwork (2018).

Descriptive Analysis of the Utilization of NHIS and Healthcare Utilization (2007-2017)

As indicated in table 4, the highest record of Healthcare Utilization enrollees recorded within the period understudy in UITH, General Hospital and Civil Service Hospital is 84,840, 74,843 and 53,806 respectively and a mean of 59,338, 63,111 and 52,336 respectively.

Table 3: Descriptive Analysis of the Utilization of NHIS and Healthcare (2007-2017)

Healthcare Center	NHIS	Total	Maximum	Minimum	Mean	Standard Deviation
UITH	125,047	766,772	84,840	28,283	59,338	15,638.68
GENERAL	97,701	694,217	74,843	15,054	63,111	16,296.19
CIVIL SERVICE	156,224	575,695	53,806	4,165	52,336	13,029.35

Source: Authors fieldwork, 2018

The table reveals that UITH has the highest record of healthcare utilization which may be due to the fact that the healthcare center is located in Ilorin West and has the highest population in the study area. Civil Service Hospital on the other hand is located in Ilorin South which has the highest number of private healthcare centers in the study area and thus influences the choice of healthcare in the area.

Relationship between NHIS and Healthcare Utilization. (2007-2017)

The record of NHIS registration, inpatient and out-patient records in three major government hospitals in Ilorin Metropolis (See table 4). During the period under review (2007-2017), NHIS registration and out-patient record at University of Ilorin Teaching Hospital (UITH) increased by 94.5%, and 62.0% respectively, while out-patient record decreased by 41.5%. Similarly, at the General hospital, NHIS registration increased by 94.9%. While outpatient and inpatient records increased by 60.6% and 86.4% respectively between the study periods. Also, NHIS registration and out-patient record at the Civil Service Commission health center increased by 86.8% and 95.4% respectively between 2007 to 2017. Also, inpatient records at this healthcare center increased by 69.5%. It can be observed that NHIS registration, and utilization of public healthcare centers have increased over the years. This may be linked to improved government efforts in term of national and allocation as well as contributions from international organizations such as WHO and UNICEF. The result of correlation analysis between utilization of healthcare centers and NHIS was presented in table 4.

Table 4: Relationship between National Health Insurance Scheme (NHIS) and Healthcare Utilization. (2007-20017)

Year	UITH			Hospitals					
	NHIS Inpatients	Outpatients		NHIS Inpatients	General Outpatients		NHIS Inpatients	Civil Service Outpatients	
2007	1,702	14,569		609	13,245	1,200	1,400	1,965	
2008		12,012		7,654	51,000	7,143		800	
2009	1,959	41,979	8,190	6,022	52,431	9,312	19,345	23,000	6,121
2010	18,081	56,079		8,224	40,012	1,031	12,993	27,081	5,810
2011		10,680		9,987	50,144	6,712	15,331	29,045	9,430
2012	8,443	44,803	1,243	11,721	40,123	7,314	14,621	23,098	8,341
2013	18,124	50,643		9,320	30,012	5,213	13,410	19,000	6,923
2014		11,847		8,124	53,156	6,511	14,312	18,867	3,321
2015	10,443	44,799	9,393	10,345	30,215	7,231	14,283	18,312	2,311
2016	10,620	39,434		10,678	32,456	7,871	15,391	14,001	2,512
2017		6,786		11,017	33,671	8,812	16,821	17,892	1,982
	16,215	25,898					18,317	20,812	2,623
		6,725							
	11,929	34,499	8,323						
	13,719	37,869	6,901						
	13,812	38,514							
		7,012							
	r= 0.3455			r= 0.4748			r= 0.6786		

Source: Author's fieldwork, 2018

Furthermore, it can also be observed that NHIS enrolment when compared with numbers of inpatient and outpatient in each year was low. For instance, in 2007, the total number of both outpatient and inpatient records at UITH was 26,581, only 1,702 of this number registered for NHIS, meaning that 24,879 patients were not on NHIS in 2007 at UITH.

King (1912), in his book "Elements of Statistical Methods" states that if the Pearson coefficient has an absolute value of 1, it indicates a perfect linear relationship between the variables and if it has a value of 0, it indicates no linear relationship. Applying King's interpretation, the results in table 5 shows that;

The relationship between NHIS and Healthcare Utilization at UITH; $r = 0.3455$ which means there is a weak positive linear relationship. And also means NHIS accounts for 35% of the total utilization of the healthcare center. General hospital shows; $r = 0.4748$ which means there is a weak positive linear relationship and also means NHIS accounts for 47% of the total Utilization of Healthcare in the Hospital. Also, Civil Service Hospital shows; $r = 0.6786$ which means there is a strong positive linear relationship and that NHIS accounts for 68% of the total Utilization of healthcare in the study area. This means that NHIS improves the utilization of healthcare centers in Ilorin, Kwara state. This result is not unexpected because the aim of NHIS is to increase utilization of healthcare amongst Nigerians.

CONCLUSION

National Health Insurance Scheme in Nigeria was introduced to increase public access to healthcare centers and services. The study revealed that

most of the respondents are on NHIS and were satisfied with the quality of service provided by government hospitals. Also, high cost of medical service and poor service has resulted in level of utilization of the National Health Insurance Scheme among the respondents. The study further indicated that there is a significant increase in healthcare utilization as utilization of NHIS increases which results in a strong positive linear relationship between NHIS and healthcare Utilization within the study area.

Recommendation and Policy measures

Based on the above findings the following recommendations were made: More enlightenment on the guidelines for membership, coverage and benefit packages of the NHIS, improved service delivery to reduce encumbrances faced by users of the scheme especially as regards unnecessary bureaucracy, long queues and unfriendly staff, wider coverage of the scheme and broadening of the scope of the scheme, reduction in the cost of registration in private hospitals should be considered in order to make it affordable, the government should ensure adequate number of health personnel and centers for the scheme. This can be achieved by getting more of the private sector health centers into the scheme, the NHIS scheme should continuously review this scheme to ensure that it operates in a manner that will ensure the justification of its implementation and achievement of its goal. In this regard, it should ensure that its officials are frequently updated through workshops and seminars, the scope of the scheme should be extended to the private sector where millions of Nigerians are yet to benefit from the scheme and the government should expedite action in establishing the necessary framework requisite for implementation of the programmes of the scheme to the benefit of all Nigerians.

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