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Effect of Health Insurance on the Demand for Health Care in Oyo State, Nigeria

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Abstract

Health service is for all- both the rich and the poor. A country that lacks adequate health care budgets has got a severe problem including unproductive work force. Often, households and health seekers are faced with health care traffic and increasing cost of health care which have led to a decrease in marginal benefits of health stock and poor health services. One of the innovative ways to raise funds for the provision of health services is the provision of health care insurance that can shield rural households from some of the costs of health care. Health insurance plays an important role in reducing the influence of high costs of health care on the economic wellbeing of households and health care seekers because health insurance turns unpredictable health expenditures into predictable insurance payments. This study looks at effects of health insurance on the demand for health care in Oyo State, Nigeria. The study specifically determines the demand for health insurance in Oyo State. The paper adopted descriptive statistics and Chi-Square Test. The study found out that the association between age category and mode of payment was significant such that older people tend to use health insurance (NHIS) with a percentage of (22.0%) more than the other women.

Keywords: Health Insurance, Health care, medical expenditures.

1.1 Introduction

Health service is for all- both the rich and the poor. A country that lack adequate health care budgets has got a severe problem. Often, households and health seekers are faced with health care traffic and increasing cost of health care which have led to choice problem and poor health services. Innovative ways to raise funds for the provision of health services are the provision of health care insurance that can shield rural households and health seekers from some of the cost of health care. Health insurance plays an important role in reducing the influence of high costs of health care on the economic wellbeing of households and health care seekers because health insurance turns unpredictable health expenditures into predictable insurance payments (Asgary et al., 2004). Health insurance encourages longer term investment in the wellbeing of households that make medical care accessible. Also, it is a key component of social protection and a significant factor in the economic development of rural areas of Oyo State.

Despite these factors, the Oyo State health care services and facilities have not achieved all its objectives of ensuring that everybody has good access to good health care services at affordable price. Arising from these can be caused by the state population that continues to rise and expand at annual rate of 29% (Health Insurance Report, 2005). Also, the available health care resources-personnel, drugs and equipment's are insufficient to provide quality and equitable access to health care services. In addition, report from Nigerian Social Insurance Trust Fund shown that Oyo State has not been enrolled for National Health Insurance Scheme. Conventionally, numerous studies have shown that demand for health care is indirectly related to the level of health insurance coverage. People with full insurance coverage spent approximately 50 percent less than individuals in families or households that paid 95 percent of their health bill (Feldman, 1987). Hence, private health insurance arose because consumers of medical care are generally uncertain about when they are going to require medical attention. This uncertainty and the expensive nature of medical care create a large degree of risk. In order to eliminate much of this risk, consumers buy insurance for their medical care needs. By paying a fixed amount each month, consumers protect themselves from large medical costs.

Under National Health Insurance Scheme (NHIS) in Nigeria, diagnostic tests, routine immunization, consultation with a defined range of specialist, family planning, maternity care (i.e postnatal and antenatal care) e.t.c are listed healthcare benefits. For example, antenatal care (ANC) is the care before birth. It includes education, counseling, screening, treatment to monitor, to promote the well-being of the mother and foetus. The current challenge is to determine the type of healthcare and the quantity of health care services that would be sufficient to ensure good quality of care at a particular cost for low or high-risk pregnant women.

Globally in 2006, expenditure on health was about 8.7% of gross domestic product, with the highest level in the America at 12.8% and the lowest in the South-East Asia Region at 3.4%. This translates to about US$ 716 per capita on the average but there is tremendous variation ranging from a very low US$ 31 per capita in the South-East Asia Region to a high of US$ 2636 per capita in the America. The share of government in health spending varies from 76% in Europe to 34% in South-East Asia. Where government expenditure in health is low, the shortfall is made up in low-income countries by private spending, about 85% of which is out of pocket. This means that payment is made at the point of accessing health services. Such payment does not allow for pooling of risks and leads to a high probability of catastrophic payments that can result in poverty for the household. External resources like health insurance are becoming a major source of health funding in low-income countries. From a share of 12% of total health expenditure in 2000, external resources represented 17% of low-income country health expenditure in 2006. Some low-income countries have two thirds of their total health expenditure funded by health insurance (World Health Statistics, 2009).

Health care facilities include the primary health care, secondary and tertiary health facilities. In Nigeria, according to Federal Ministry of Health (2008), the total shares of public ownership in 2004 on health facilities were 14,607 while the private sector accounted for 9,029. At states level, the shares of public ownership in Akwa Ibom, Bauchi, Borno, Cross River, Kaduna, Kano and Kebbi were recorded higher compare with other states which accounted for 390, 666, 424, 429, 827, 666, 544 while the private ownership were 146, 2, 30, 115, 333, 15 and 26 respectively. The public ownership of health care facilities in Oyo State was 524 while the private sector accounted for 725. This implies that health seekers in Oyo State would likely pay

higher prices for medical care which has a significant burden on the households and health seekers in the state since most of the facilities were not provided by state social insurance scheme. However, price increases make it more difficult for uninsured consumers to purchase medical care. Therefore, the study will determine health insurance on demand for health care in Oyo State. Besides, this study will provide answers to this research question. What are the effects of health insurance on the demand for health care in Oyo state?

2.1 Demand for Health care

The analysis of demand has been found to play a central role in modern economics analysis. Price mechanism is also essential in the theory of demand. Rational consumers maximize utility function of goods and services subject to budget constraints (Besley, 1999). Therefore, the demand concept has been widely applied to health care.

Why do Consumers Demand for Health Care?

Grossman (1972) has stated that people consume health directly and health is an investment. This is because people are happier when they are healthier and good health permits people to do other things. Several factors have been found to affect the decision of consumers on the demand for health care. For instance, incidence of illness, cultural-demographic characteristics (e.g age, sex, race, education, preference) and economic factors (income, price, health insurance, the value of the consumer time) are among the factors that affect demand for health care. Evidence have shown that when people get old, their stock of health depreciates at a faster rate, so demand for health care must increase (i.e the aged spend more on health care than the young). Higher incomes increase the consumption value of health thus, health spending rises with wage and income. Lastly, education is positively related to health such that educated people demand more for health care.

The amount of health care demanded is sometimes measured by the quantity of services used, such as inpatient days, outpatient visit or prescription. The demand for inpatient services could respond differently to price changes than the demand for outpatient services. This is because there is responsiveness of demand for different health plans to changes in the price of health insurance. Any change in the out-of-pocket costs of services or premium costs will have an effect

on the number of plan enrollees and thus, in the demand for health care services paid for by that plan (Ringel et al., 2004).

Health Insurance

Literature has shown that focus on health insurance is mainly placed on insurance against medical expenditures, with assumption that illness entails only monetary losses (e.g., medical expenditures and temporary loss in earnings) (Asheim et al 2003). Therefore, health care seekers protect themselves against the risk of health care cost with the motive that he or she gets good medical care at affordable price. However, health insurance protects insured persons from paying high treatment cost in the event of sickness. WHO (2004) stated that health insurance promote universal health coverage and attract considerable interest.

Who pays for Health Insurance?

Health insurance can be paid directly from out-of-pocket (OOP) while employers can also provide medical benefits to employees and their dependents with expenses being fully deductible through taxation.

Types of Health Insurance

Health insurance covers social insurance, Private for profit and private-non-profit insurance policies (Lawanson, 2005). Social insurance is all government redistribution programs which are financed by tax revenue. That is, it is an earmarked fund set up by government with explicit benefits in return for payment. The premiums are determined by income (i.e ability to pay) rather than related to health risk. Also, it is compulsory for certain groups in the population. It may be called National Health Insurance.

Private for profit insurance is a voluntary participation. Premiums are based on an assessment of the risk status of the consumer (or group of employees) and the level of benefits provided. Private-non-profit insurance is set up by non-governmental agency and community-based fund. The purpose of the policy is to assist the poor and improve access to services. Premiums are usually flat rate (not income-related) and it is not progressive.

Demand for Health Insurance

In the literature, the theory of demand has been extremely used in the health care insurance. That is, why do consumers purchase or value health insurance? Asgary et al (2004) stated that various theoretical models have been designed to explain the demand for health insurance. However, most of the studies have expanded the model developed first by Grossman and which are based on expected utility theory.

According to Asgary et al (2004), the decision to purchase health insurance is explained by the utility theory. This means that individuals compare the benefits of purchasing insurance with health care expenditures without insurance given their risk preference. If the benefits of insurance are greater than the cost, the household will purchase or buy health insurance. The insured only received benefits of insurance if he or she becomes ill. Also, their knowledge and ability to predict future health conditions are expected to have a significant impact on their decision to demand health insurance. Therefore, when health care costs are high and individual's expectation of illness is high, he or she may likely demand for more health insurance.

The decision to purchase health insurance also depends on individual reactions to risk. The risk aversion may cover high random event of illness, serious injuries, disabilities, high cost of hospitalization and treatments. This means increase in risk aversion leads to increase in probability of purchasing health insurance.

Table 1.0 PROPORTION OF FUNDS SPENT ON HEALTH CARE

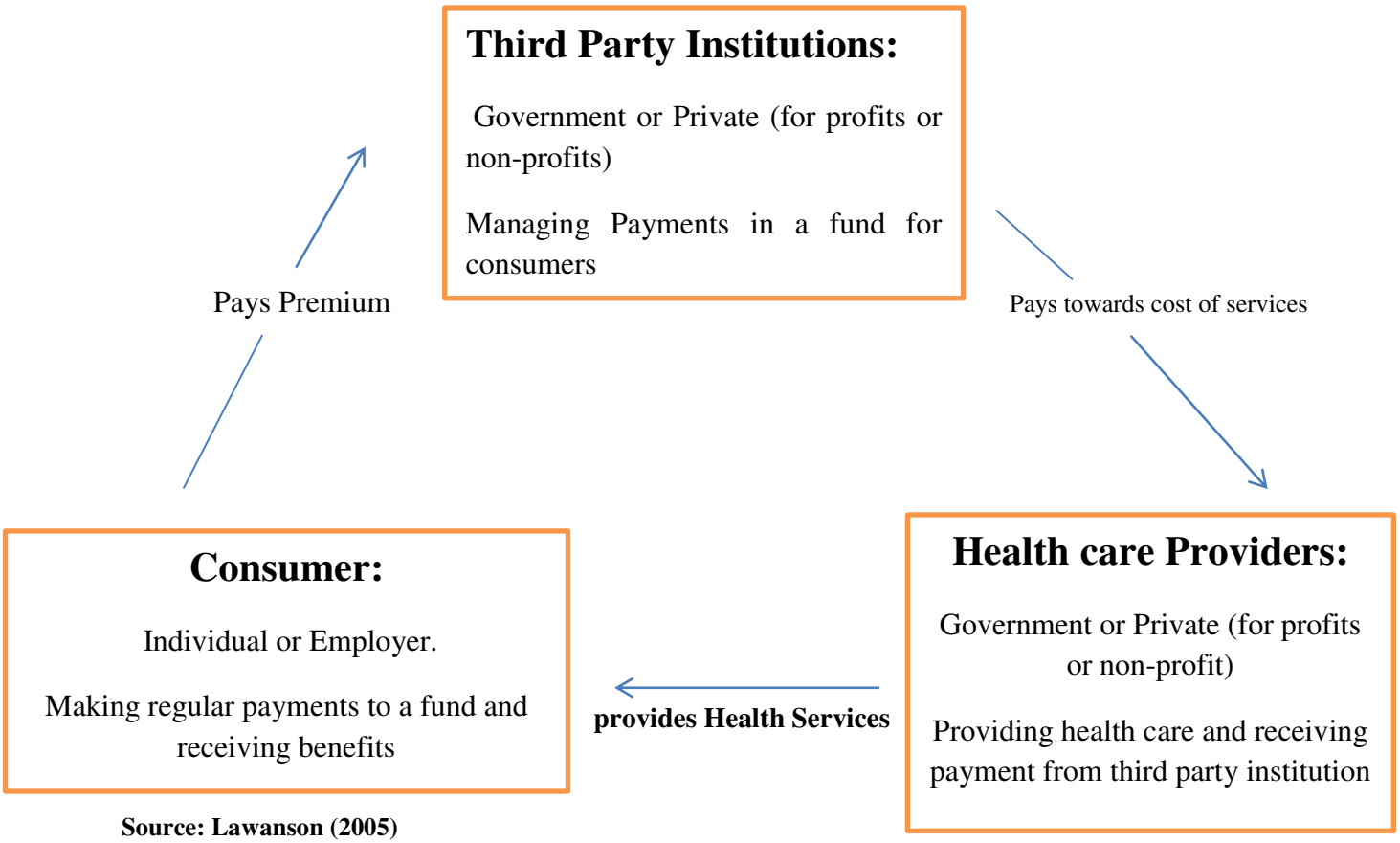
States / Financial Agents	Kano	Gombe	Kogi	C River	Lagos
Fed. Govt.&Agencies	6.6	7.4	2.5	11.4	13.4
SMOH	2.2	7.2	7.2	5.0	1.9
HMB	3.8	0.0	0.0	0.0	2.2
LGA Health Dept.	11.0	10.5	7.4	5.0	0.5

Public FA	23.6	25.0	17.2	21.4	18.4
Out-of-pocket	76.2	74.9	82.8	78.5	69.8
Firms Health Dept.	0.0	0.0	0.0	0.0	10.5
Health Insurance	0.2	0.0	0.0	0.0	0.7
NGOs	0.0	0.1	0.0	0.1	0.9
Private FA	76.4	75.0	82.8	78.6	81.8
Total	100.0	100.0	100.0	100.0	100.0

How Has Health Insurance Affect Demand for Health care?

Understanding the effects of health insurance policies in the demand for health care services is very important. According to Ringel et al., (2004), considering the demand faced by an individual plan, there could be two important effects of health insurance on the demand for health care with regard to change in the out-of-pocket costs of health care services. Firstly, more consumers will choose to join health insurance policy if the out-of-pocket costs for health care in a particular health plan fall. More so, the decrease in costs will lead those already enrolled in the plan to use more services than before. Therefore, the total effect of health insurance on demand for health care services can be seen in two views. The first captures the effect on demand for health care if there are changes in the number of enrollees in the health insurance plans. While the second represents the effect of the change in price on the demand for health care services among the previous and current enrollees. The study will analyze the first effect.

Figure 1: THE HEALTH INSURANCE PROCESS



Source: Lawanson (2005)

National Health Insurance Scheme (NHIS)

The National Health Insurance Scheme (NHIS) was established under Act 35 of 1999 by the Federal Government of Nigeria. The aim of the scheme is to provide easy access to health care for all Nigerians at an affordable cost through various prepayment systems. NHIS is totally committed to secure universal coverage and access to adequate and affordable healthcare in order to improve the health status of Nigerians, especially for those participating in the various programme/products of the scheme.

Given the general poor state of the nation's health services and the excessive dependence and pressure on Government provided health facilities, with the dwindling funding of healthcare in the face of rising cost, the scheme is designed to facilitate fair financing of health care costs through pooling and judicious utilization of financial risk protection and cost-burden sharing for

people, against high cost of health care through institution of prepaid mechanism, prior to their falling ill. This adds to the provision of regulatory oversight on Health Maintenance Organization (HMOs) and other players in Health care delivery. Other objectives are to:

- ensure that every Nigerian has access to good health care services
- protect families from the financial hardship of huge medical bills
- limit the rise in the cost of health care services
- ensure equitable distribution of health care costs among different income groups
- maintain high standard of health care delivery services within the scheme
- ensure efficiency in health care services
- improve and harness private sector participation in the provision of health care services
- ensure adequate distribution of health facilities within the Federation
- ensure equitable patronage of all levels of health care
- ensure availability of funds to the health sector for improved services.

NHIS is responsible for registering health maintenance organization and health care providers under the scheme; issuing appropriate guidelines to maintain the viability of the scheme; approving format of contracts proposed by the health maintenance organization for all health care providers; determining, after negotiation, capitation and other payments due to health care providers by the health maintenance organization; advising the relevant bodies on inter-relationship of the scheme with other social security services; the research and statistics of matters relating to the scheme and exchanging information and data with the National Health Management Information System, Nigerian Social Insurance Trust Fund, the Federal Office of Statistics, the Central Bank of Nigeria, banks and other financial institutions, the Federal Inland Revenue Service, the State Internal Revenue Services and other relevant bodies.

After the official launch of the scheme on 6th June 2005, the enrollees comprises of federal government workers under the umbrella of Federal Civil Service Commission, Federal Universities and other federal government parastatal (agency). Till date, over 4 million Identity cards have been issued. 62 HMOs have been accredited and registered; 5,949 healthcare providers, 24 banks, 5 insurance companies and 3 insurance brokers have also been accredited

and registered. The lists of states that have shown their interest and fully rolled in are: Rivers, FCT, Benue, Ekiti, Akwa Ibom and Cross Rivers.

Table 2.0: Enrollees Registered under National Health Insurance Scheme Public Sector Scheme as at December; 2011

No	HMO's	Total Principal Counts	Total Dependant Count	Total Extra Dependant Count	Total Beneficiary Count
1.	Hygeia	48, 988	79,197	-	128,185
2.	Total Health Trust	58,751	106,388	-	165,139
3.	Clear Line Integrated Limited	50,884	97,221	-	148,105
4.	Health Care International Ltd	61,780	105,762	-	167,542
5.	Medi Plan Health Care Ltd	34,400	64,111	-	98,511
6.	Multishade Nig. Ltd	40,211	74,990	-	115,201
7.	United Health Care International	86,727	151,408	-	238,135
8.	Premium Health Ltd	68,523	129,666	-	198,189
9.	Ronsberger Nig. Ltd	18,521	41,297	-	59,818
10.	International Health Management	24,891	58,555	-	83,446
11.	Expat Care Health International	28,727	57,578	-	86,305
12.	Songhai Health Trust	20,014	42,033	-	62,047
13.	Integrated Health Care	19,179	40,229	-	59.408
14.	Premium Medic Aid	36,201	70,709	-	106,910
15.	Manage Health Care Services	17,220	35,811	-	53,031
16.	Pristine Health	18,836	46,349	-	65,185
17.	Maayoit Health Care Ltd.	18,381	39,480	-	57,861
18.	Wise Health	25,707	51,431	-	77,138
19.	Wetlands Health Services	15,945	34,123	-	50,068
20.	Zenith Health Care Ltd.	30,673	63,082	-	93,755
21.	Defence Health Maintenance Ltd.	60,121	120,152	-	180,273
22.	United Comprehensive Health	17	6	-	23
23.	Health Care Security	1,379	3,839	-	5,218
24.	Royal Health Maintenance Services	2,762	5,452	-	8,214

25.	Arewa Health Maintenance Services	2,503	6,225	-	8,728
26.	Zuma Health Trust	1,763	2,592	-	4,355
27.	PrePaid Medicare Services	450	1,079	-	1,529
28.	Precious Health Care	4,405	7,899	-	12,307
29.	Oceanic Health Maintenance	211	312	-	523
30.	Complete Medicare Ltd.	2,801	6,232	-	9,033
31.	Life Care HMO Ltd	88	219	-	307
32.	NonSuch Medicare Ltd.	167	402	-	569
33.	Sahel Health Trust Ltd.	283	687	-	970
34.	Prudent Health Care Management	1	3	-	4
35.	UltimateHealthMaintenanceServices.	1,226	2,108	-	3,334
Total				-	

Source: National Health Insurance Scheme, 2007 annual reports.

3.1 Review of Related Studies

This session discusses the review of related studies.

Table 3.0 Related Literatures

AUTHOR	OBJECTIVE	STATE/COUNTRY	METHOD	FINDINGS
Onwjekwe (2007).	This study aims to generate new policy relevant knowledge by determining the desirability and feasibility of PVHI in paying for healthcare from the point of view of individual households as well as from corporate Bodies.	Enugu State	Pre-tested interviewer administered questionnaire was used to collect data from a random sample of households in both Enugu and Ugwuoba. Another pre-tested interviewer administered questionnaire was used to collect data	The results show that private voluntary health insurance (PVHI) is a feasible strategy for financing healthcare in the study area. The results also indicate that PVHI was more preferred compared to compulsory health insurance and that even government workers were willing to pay for

			from a purposive sample of corporate bodies	PVHI.
Oyekale (2009)	The study assesses rural household access to health facilities and their willingness to pay for the National Health Insurance Scheme (NHIS) that was implemented by the Nigerian government	Osun State	Data were collected from 102 rural household from some villages using the multi-stage stratified random sampling, the descriptive and probit regression were adopted	Majority of the household in the study area were found to have a considerably large family size. More so, most of the household had a per capita income less than the average monthly income and this invariably reduced their willingness to pay for NHIS.
Sanusi (2009)	This study assessed the level of awareness of NHIS by health care consumer in Nigeria.	Oyo State	Analytical techniques used were chi-square and descriptive statistics. A random sampling technique was adopted in administering one hundred questionnaires on health care consumers in the state.	Result shows that 87% of the respondents were aware of (NHIS) programme and about 83% of the respondents were registered with the programme.
Ibiwoye (2009)	The study examined the extent to which any of six factors-income occupation, gender, age group, marital status and family size plays an explanatory role in the slow pace of usage of NHIS.	Lagos State	The instrument of data collection was a survey conducted between April-June 2007 in the 14 0ut of the 20 Local Government Areas of Lagos. Respondent were classified according to	The study found out that occupation, income and other socio-economic factors affects the use of the NHIS scheme in Nigeria and that these factors are mutually reinforcing.

			Gender, Occupation, and Income, Family size, Age group and Marital status.	
Agba (2010)	The paper focuses on the perceived impact of the National Insurance Scheme on registered workers in Federal Polytechnic Idah.	Kogi State	The study adopted both primary and secondary data	There was a significant impact of NHIS on the developmental process of health care system.
Olugbenga (2010)	The study aimed to determine the knowledge and attitude of civil servants in the employment of Osun State towards the National Health Insurance Scheme (NHIS).	Osun State	A descriptive cross sectional study of 380 civil servants in the employment of Osun State government using multi staged sampling method.	The study found out that about 60% of workers used out of pocket as the most prevalent form of health care financing, while 40% were aware of NHIS. Television and billboards were their main sources of awareness. However, none had good knowledge of the components of NHIS, 26.7% knew about its objectives and 30% knew about who ideally should benefit from the scheme.

4.1 Analytical Framework

Asgary et al., (2004) stated that experimental models have been used to analyze the demand for health care through health insurance (Dardanoni et al 1987; Manning et al 1987; Hopkins et al., 1996; Chernew 1997; Liljas 1998; Besley et al 1999). Several variables have been found to have influence in households' or individuals' decisions to purchase health care which could be embedded as background characteristics of health insurance coverage. This includes access to health care services, quality of services in health care centers, health care expenditures,

households ‘or individuals’ income level, education level, age, family size, and number of adults in households, residence e.t.c. Given that health care seekers that demanded for health care make decisions based on needs, the effect of health insurance on demand for health care can be explained by changes in the proportion of hospital visit of the enrollee.

5.1 Method

This study adopts a descriptive statistics and Chi-Square Test. The study investigates the effects of health insurance on the demand for health care in Oyo State, Nigeria. The study made use of data from the women who attended antenatal care from the Antenatal Clinic, University of Ibadan Teaching Hospital. The data was characterized by age and mode of paying for antenatal care ANC. The variables in the study are the quantity of health care services that is demanded and the numbers of people who demanded for health care that enroll for health insurance against the people who are not covered by health insurance and demanded for health care services.

The study use total numbers of women who visited antenatal care as a proxy for quantity of health care services that is demanded while total number of women who received antenatal care with health insurance were examined against the number of women who received antenatal without health insurance. The proportion of percentage change of women who attend antenatal care with health insurance against the number of women who received antenatal care without health insurance in the total number of women who visited hospital for antenatal care will determine the effect of health insurance on demand for health care. If the proportion of percentage changes of women who attend antenatal care with health insurance increase, it means the effect of health insurance is positive and significant. This is because benefits received by women who received antenatal care with health insurance have increase, therefore the decision to purchase health insurance will increase and more antenatal care services would be demanded.

Data

The data for this study were extracted from the registered women in Antenatal Clinic, University of Ibadan Teaching Hospital, Oyo State, Nigeria. The total random sample of household women used for this study was 539 women. The background characteristic of the data is categorized by age and mode of payment.

6.1 Results

Table 4.0: Age Distribution of Women That Attended Antenatal Care

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17	1	.2	.2	.2
	19	1	.2	.2	.4
	21	2	.4	.4	.7
	22	2	.4	.4	1.1
	23	5	.9	.9	2.0
	24	14	2.6	2.6	4.6
	25	12	2.2	2.2	6.9
	26	25	4.6	4.6	11.5
	27	40	7.4	7.4	18.9
	28	37	6.9	6.9	25.8
	29	40	7.4	7.4	33.2
	30	59	10.9	10.9	44.2
	31	42	7.8	7.8	51.9
	32	62	11.5	11.5	63.5
	33	47	8.7	8.7	72.2
	34	26	4.8	4.8	77.0
	35	42	7.8	7.8	84.8
	36	24	4.5	4.5	89.2
	37	11	2.0	2.0	91.3
	38	23	4.3	4.3	95.5
	39	8	1.5	1.5	97.0
	40	6	1.1	1.1	98.1
	41	6	1.1	1.1	99.3
	43	1	.2	.2	99.4
	44	2	.4	.4	99.8
	46	1	.2	.2	100.0
	Total	539	100.0	100.0	

Statistics

Age

N	Valid	539
	Missing	0
Mean		31.32
Median		31.00
Std. Deviation		4.199
Minimum		17
Maximum		46
Percentiles	25	28.00
	50	31.00
	75	34.00

The table 4.0 above showed the age distribution of women who attended antenatal care (ANC) in University of Ibadan Teaching hospital for 62days. From the table, the total number of 539 women attended ANC. The age distribution of the women ranges from age 17- 46 above. The result showed that women of age 26-40 have the highest frequency. The women of age 26-30

were 201 (37%), age 31-35 were 219 (40.6%) while women of age 36-40 were 72 (13.4%). The average age of women that attended ANC was 31 years.

Fig 2: A pie chart distribution by Age

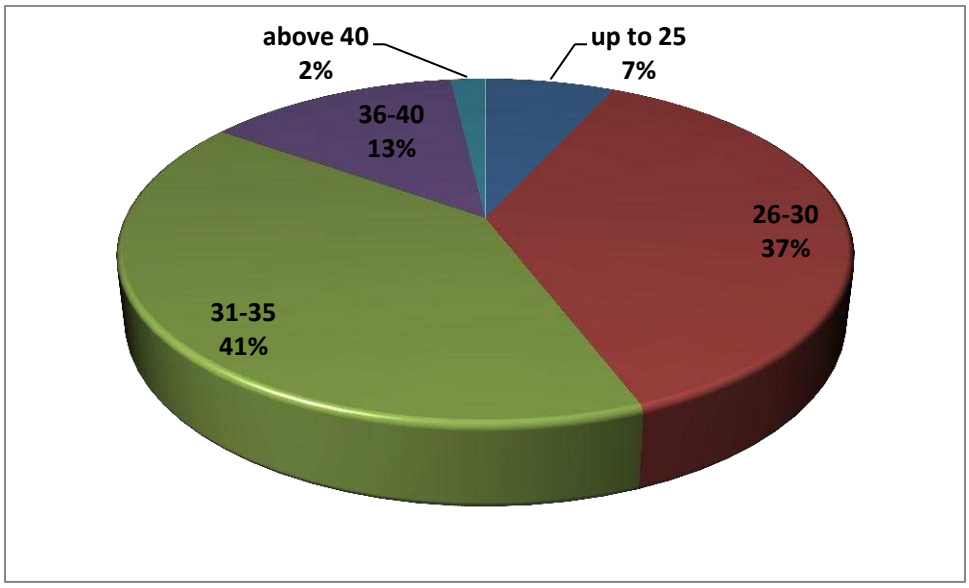


Table 5.0 Distribution by Mode of Payment

Mode of payment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NHIS	111	20.6	20.6	20.6
	PF	47	8.7	8.7	29.3
	STAFF	25	4.6	4.6	34.0
	NONE	356	66.0	66.0	100.0
	Total	539	100.0	100.0	

Fig 3: Bar Chart Distribution by Mode of Payment

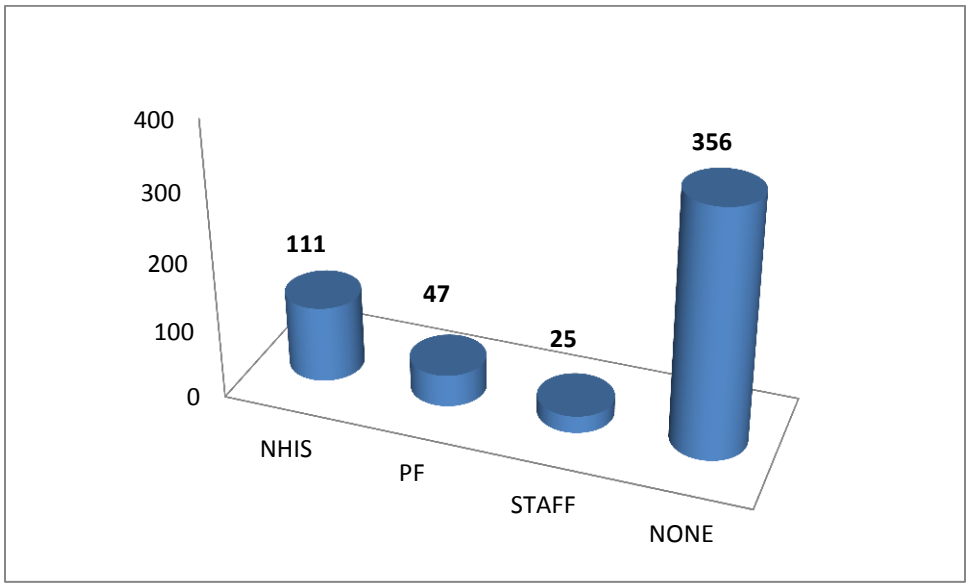


Table 6.0 Chi-Square Test

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	*21.683[a]*	*12*	*.041*
Continuity Correction			
Likelihood Ratio	*24.170*	*12*	*.019*
Linear-by-Linear Association	*5.920*	*1*	*.015*
N of Valid Cases	*539*		

a. 6 cells (30.0%) have expected count less than 5. The minimum expected count is .46.

Table above showed the distribution of the mode of payment for ANC. The total numbers of women that pay for ANC using health insurance through National Health Insurance Scheme (NHIS) were 111 (20.6%), women that pay through PF were 47 (8.7%) while women who pay as a result of beneficiaries for being a staff of University of Ibadan Teaching Hospital were 25 (4.6%). The highest numbers of women who pay for ANC did not have health insurance. This

means that women of these categories would have to pay high cost of attending antenatal care ANC.

Table 7.0 Association of Women's Age by Mode of Payment

Age * Mode of payment Crosstabulation

			Mode of payment				Total
			NHIS	PF	STAFF	NONE	
Age	up to 25	Count	7	0	2	28	37
		% within Age	18.9%	.0%	5.4%	75.7%	100.0%
	26-30	Count	37	12	9	143	201
		% within Age	18.4%	6.0%	4.5%	71.1%	100.0%
	31-35	Count	49	24	8	138	219
		% within Age	22.4%	11.0%	3.7%	63.0%	100.0%
	abv 35	Count	18	11	6	47	82
		% within Age	22.0%	13.4%	7.3%	57.3%	100.0%
Total		Count	111	47	25	356	539
		% within Age	20.6%	8.7%	4.6%	66.0%	100.0%

The above table 7.0 showed the association of age with mode of paying for antenatal care ANC. From the table above, 49 women of age 31-35 used more of health insurance as a mode of payment for antenatal care ANC with a percentage of 22.4%. The lowest categories were 7 women of age 25 below with a percentage of 18.9%. The total number of 9 women between ages 31-35 showed the highest numbers of women who were the beneficiaries of ANC being a staff of University of Ibadan Teaching Hospital (UCH) with 4.5%. The total numbers of women who fell into the categories of women that attended antenatal care ANC without health insurance were women of age 26-30 with a total number of 143 (71.1%) and women of age 31-35 with a total number of 138 (63.0%).

Discussion

The distributions in the tables presented in the results in session 6.0 showed that women with age 26-40 were found to attend more of ANC. Also, from the table 4.0, women of age 32 were found to have attended more of ANC. These were women of middle age. This means that at age 32, women tend to have more pregnant than any other women. Therefore, their demand for health care increases at this age. From the result, women who attend antenatal care with health insurance were very low compare to women who were not covered by health insurance.

The implication of this result is that, women who do not pay antenatal care with health insurance would pay more than the women who were covered by health insurance except the categories of women who were beneficiaries of being a staff of University of Ibadan Teaching Hospital. In addition, the table shows that women tend to reduce the rate of pregnancy as they grow older. This is because from table 4.0, the total number of women who come for antenatal decrease by 4.5% at age 36 to 0.2% at age 46.

The effect of health insurance was significant in this study (see: table 7.0). This is followed the objective of the study. The association between age category and mode of payment was significant such that older people tend to use health insurance (NHIS) with a percentage of (22.0%) more than the other women. The implication of this result as stated in the literature is that, old pregnant women demand for more health care. This is because their stock of health depreciates at a faster rate as they grow older. Therefore, the decisions to purchase health insurance would be based on the level of benefits received such that, if the benefits are greater than the cost, the old women will purchase or buy more of health insurance to demand for antenatal care.

7.1 Conclusion and Recommendations

This paper presented the effects of health insurance on demand for health care in Nigeria. In the study, the amount of health care demanded can be measured by the quantity of services used. The demand for the health care services could respond differently to price changes. Also, the decisions to purchase health insurance could be based on the level of benefits received such that, if the benefits are greater than the cost, the household will purchase or buy more of health insurance.

Given the above results, it can be deduced that there is a significant effect of health insurance on the demand for health care. This is because the association between age category and mode of payment was significant such that older people tend to use health insurance (NHIS) with a percentage of (22.0%) more than the other women. Although, considering the large proportion of women without health insurance in fig 3, we might conclude that health insurance was not effective. More so, the factor that causes this gap was inadequate public awareness of health insurance. Nevertheless, among the women who use NHIS, this study could show that demand

for health insurance to purchase health care increase as a result of increase in level of age which lead to an increase in demand for health care.

In this study, there are challenges and limitations that made the analysis tasking. The study consumes time, resources and the time frame of the study was short. This is because of the fact that this research area is presently gaining renewed interest and attention among academicians and researchers. In addition, unavailability and inaccuracy of data have made the analysis cumbersome. Poor collation of data by substandard enumerators and record officers in the NHIS department in most public hospitals have caused a major setback to adequately fine-tune more facts and results on this particular study. Not only that, this study is based alone to the data from women who attend antenatal care in University of Ibadan Teaching Hospital. Women from other hospitals in Oyo State were not incorporated into the study. This is part of the limitations to the study as a result of inadequate and lack of data. Therefore, this study is a continuous research.

Given the findings in this study, the following are the recommendations:

Unavailability and Inadequacy of data have been a major source of set-back to researchers. Government should provide a plat form where data on health insurance can be accessed. In addition, government should employ competent personnel into the affairs of record keeping.

Government and other stakeholders should gear up the awareness campaign in Oyo State. The print media, television and radio stations should be mobilized to air NHIS programmes in the state. Village heads, chiefs and religious leaders should also help in the propagation of programme in Oyo State and the nation in general.

Hospitals, clinics and health care centers providing health service for NHIS beneficiaries should be properly equipped. Since private clinics and labs are involved in the scheme, government should also provide counterpart funding to ensure that these establishments are properly equipped with equipment that can promote efficient information system.

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APPENDIX

Statistics

Age

N	Valid	539
	Missing	0
Mean		31.32
Median		31.00
Std. Deviation		4.199
Minimum		17
Maximum		46
Percentiles	25	28.00
	50	31.00
	75	34.00

Mode of payment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NHIS	111	20.6	20.6	20.6
	PF	47	8.7	8.7	29.3
	STAFF	25	4.6	4.6	34.0
	NONE	356	66.0	66.0	100.0
	Total	539	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17	1	.2	.2	.2
	19	1	.2	.2	.4
	21	2	.4	.4	.7
	22	2	.4	.4	1.1
	23	5	.9	.9	2.0
	24	14	2.6	2.6	4.6
	25	12	2.2	2.2	6.9
	26	25	4.6	4.6	11.5
	27	40	7.4	7.4	18.9
	28	37	6.9	6.9	25.8
	29	40	7.4	7.4	33.2
	30	59	10.9	10.9	44.2
	31	42	7.8	7.8	51.9
	32	62	11.5	11.5	63.5
	33	47	8.7	8.7	72.2
	34	26	4.8	4.8	77.0
	35	42	7.8	7.8	84.8
	36	24	4.5	4.5	89.2
	37	11	2.0	2.0	91.3
	38	23	4.3	4.3	95.5
	39	8	1.5	1.5	97.0
	40	6	1.1	1.1	98.1
	41	6	1.1	1.1	99.3
	43	1	.2	.2	99.4
	44	2	.4	.4	99.8
	46	1	.2	.2	100.0
	Total	539	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	up to 25	37	6.9	6.9	6.9
	26-30	201	37.3	37.3	44.2
	31-35	219	40.6	40.6	84.8
	36-40	72	13.4	13.4	98.1
	above 40	10	1.9	1.9	100.0
	Total	539	100.0	100.0	

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Mode of payment	539	100.0%	0	.0%	539	100.0%

Age * Mode of payment Crosstabulation

			Mode of payment				Total
			NHIS	PF	STAFF	NONE	
Age	up to 25	Count	7	0	2	28	37
		% within Age	18.9%	.0%	5.4%	75.7%	100.0%
	26-30	Count	37	12	9	143	201
		% within Age	18.4%	6.0%	4.5%	71.1%	100.0%
	31-35	Count	49	24	8	138	219
		% within Age	22.4%	11.0%	3.7%	63.0%	100.0%
	36-40	Count	13	11	6	42	72
		% within Age	18.1%	15.3%	8.3%	58.3%	100.0%
	above 40	Count	5	0	0	5	10
		% within Age	50.0%	.0%	.0%	50.0%	100.0%
Total		Count	111	47	25	356	539
		% within Age	20.6%	8.7%	4.6%	66.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.683[a]	12	.041
Continuity Correction			
Likelihood Ratio	24.170	12	.019
Linear-by-Linear Association	5.920	1	.015
N of Valid Cases	539		

a. 6 cells (30.0%) have expected count less than 5. The minimum expected count is .46.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Mode of payment	539	100.0%	0	.0%	539	100.0%

Age * Mode of payment Crosstabulation

			Mode of payment				Total
			NHIS	PF	STAFF	NONE	
Age	up to 25	Count	7	0	2	28	37
		% within Age	18.9%	.0%	5.4%	75.7%	100.0%
	26-30	Count	37	12	9	143	201
		% within Age	18.4%	6.0%	4.5%	71.1%	100.0%
	31-35	Count	49	24	8	138	219
		% within Age	22.4%	11.0%	3.7%	63.0%	100.0%
	abv 35	Count	18	11	6	47	82
		% within Age	22.0%	13.4%	7.3%	57.3%	100.0%
Total		Count	111	47	25	356	539
		% within Age	20.6%	8.7%	4.6%	66.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.575[a]	9	.138
Continuity Correction			
Likelihood Ratio	16.486	9	.057
Linear-by-Linear Association	5.175	1	.023
N of Valid Cases	539		

a. 3 cells (18.8%) have expected count less than 5. The minimum expected count is 1.72.

Oneway

Descriptives

Age

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
NHIS	111	31.92	4.315	.410	31.11	32.73	23	44
PF	47	33.09	3.106	.453	32.17	34.00	26	39
STAFF	25	31.32	4.327	.865	29.53	33.11	24	38
NONE	356	30.90	4.211	.223	30.46	31.33	17	46
Total	539	31.32	4.199	.181	30.96	31.67	17	46

ANOVA

Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	250.225	3	83.408	4.831	.003
Within Groups	9236.524	535	17.265		
Total	9486.750	538			

Post Hoc Tests

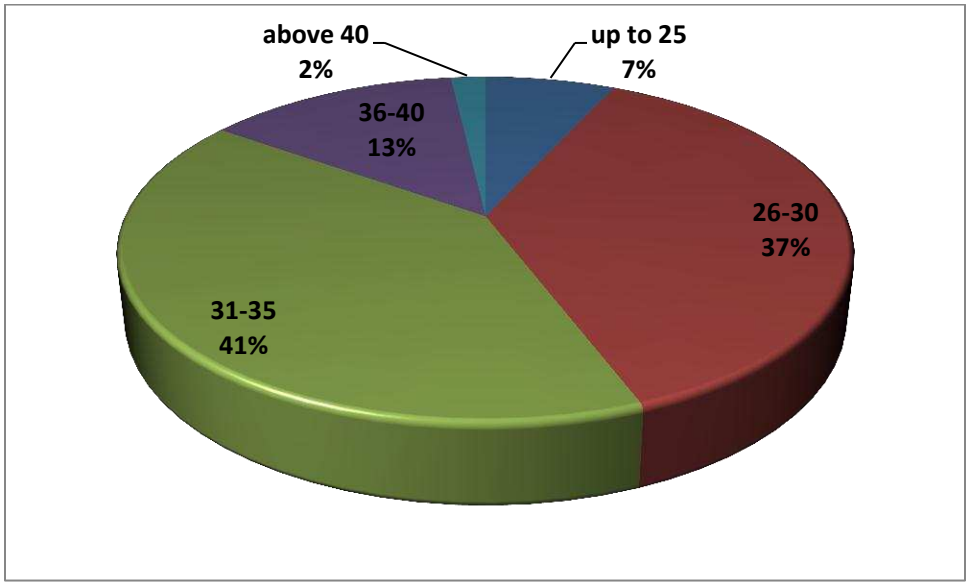
Multiple Comparisons

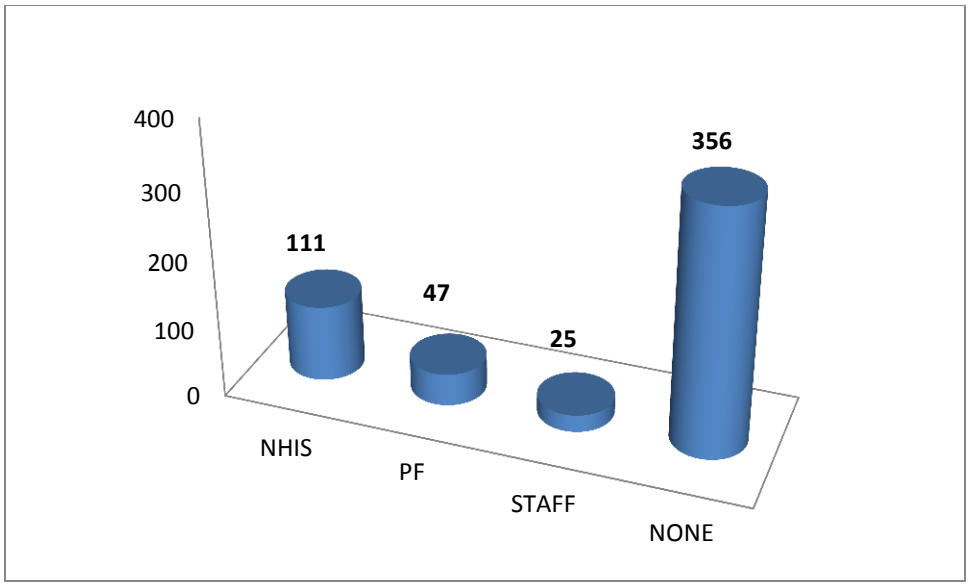
Dependent Variable: Age

Scheffe

				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
(I) Mode of payment	NHIS	(J) Mode of payment	NHIS					
			PF	-1.166	.723	.458	-3.19	.86
			STAFF	.599	.920	.935	-1.98	3.18
			NONE	1.023	.452	.164	-.24	2.29
	PF	(J) Mode of payment	NHIS	1.166	.723	.458	-.86	3.19
			PF					
			STAFF	1.765	1.029	.401	-1.12	4.65
			NONE	2.189*	.645	.010	.38	4.00
	STAFF	(J) Mode of payment	NHIS	-.599	.920	.935	-3.18	1.98
			PF	-1.765	1.029	.401	-4.65	1.12
			STAFF					
			NONE	.424	.860	.970	-1.99	2.83
	NONE	(J) Mode of payment	NHIS	-1.023	.452	.164	-2.29	.24
			PF	-2.189*	.645	.010	-4.00	-.38
			STAFF	-.424	.860	.970	-2.83	1.99
			NONE					

*. The mean difference is significant at the .05 level.




400
300
200
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47
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356
NHIS
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STAFF
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