

Households' Willingness to Pay (WTP) for the National Health Insurance Scheme (NHIS): The Case of Ojo Local Government Area of Lagos State, Nigeria

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Abstract: Ensuring adequate access to healthcare services by the people is a paramount goal of health care delivery policies in Nigeria. One of such initiatives is the National Health Insurance Scheme (NHIS) that the government is test-running for ensuring adequate understanding of its modus operandi and likely constraints. This study examines household's willingness to pay for National Health Insurance Scheme in Ojo Local Government area of Lagos State. Data were collected from 120 households using structured questionnaires that were administered by personal interviews. Descriptive statistics and Probit regression were used for data analysis. Results show that majority of the households made use of orthodox form of medicine though healthcare facilities were largely perceived to be non-functional. Probit regression results showed that expectations of tax reduction, monthly income, marital status and household size, gender and impression of paying much more significantly influenced WTP ($p < 0.05$). It was concluded that National Health Insurance Scheme is a laudable programme but its commencement would be facilitated by ensuring adequate quality of healthcare services and moiré awareness creation.

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1. Introduction

Health issues in Nigeria are paramount on the concurrent legislative list of the Federal Constitution. Hence, the absolute responsibilities for it fall on the Federal, State and Local Governments (CBN, 2000). The first national health policy was adopted in 1985, with a goal of bringing about a comprehensive health care system based on primary health care, which is extensive, preventive, protective, restorative, rehabilitative and affordable to every citizen. It was also to serve as a strategy to achieve health for all by the year 2000. Also, various strategies have been adopted to improve the health status of the people, particularly with respect to reducing infant and maternal mortality. However, health service delivery worsened in the early 1990s due to lack of appropriate financial commitment that resulted in shortage of drugs, vaccines and other essential medical equipments. The government had initially provided "Free health care" for its citizens funded by its earnings from oil exports and general tax revenue. However, the global slump in oil prices in the 1980s greatly affected Nigeria's major source of income. Government could therefore no longer afford to provide free health care for its citizens. They however, subsequently introduced several cost recovery mechanism like user charges and drugs revolving funds. Furthermore, the introduction of the Structural Adjustment Programme in 1986 adversely

affected the health sector allocation (NHIS Handbook, 2004).

In government's quest to ensure that every Nigerian has access to good health care services, the National Health Insurance Scheme (NHIS) has been proposed. NHIS has been on the drawing board since 1962 (Katibi *et al*, 2003). Under this program, workers in the private and public sectors are to contribute 5 percent of their basic salary, with counterpart contribution of another 5 percent by the employers. With the renewed interest and efforts at full commencement of the Scheme, this study focuses on analyzing the willingness of the households to participate in the proposed Scheme. This is to ensure that policy makers have some foresights into the potentials of the proposed Scheme in meeting the health needs of the people.

Some studies had been carried out on health insurance schemes and other health-related services in some African countries. Bonu *et al* (2003) investigated the WTP for user fees in health facilities in Tanzania. The survey demonstrated that 12% of respondents were not willing to pay any amount of money for the services, while 34% were willing to pay TSh 100-999 and 12% were willing to pay at least TSh16,000. The poor, older (>46 years) and women were significantly less likely to be willing to pay. Almost one quarter of the poorest 40% of the population was not willing to pay. The authors

concluded that uniform user charges may be regressive, adversely affecting the poor, women and elderly.

Frick *et al* (2003) examined the willingness to pay for azithromycin treatment for trachoma in Tanzania. About 40% stated they would not be willing to pay any amount of money. It was discovered that lack of willingness was associated with lower maternal education and proxy indicators for lower cash availability. The authors concluded that community distribution of antibiotic for trachoma control needs to be free.

Muela *et al* (2000) carried a qualitative study in Tanzania to investigate the reasons people may be unwilling to spend money on biomedical services when they spend large sums on traditional medicines and healing. Two points were made: first, when people believe they have “out of the order” illnesses (those caused by witchcraft or spirits) they feel they must consult traditional practitioners; for “normal illness” (e.g. malaria, diarrhea) they seek biomedical treatment. Second, when traditional practitioners are needed, there is great social pressure and financial support from family to pay for this, unlike the situation when biomedical services are needed.

Mubyazi *et al* (2000) conducted a similar study in Tanzania looking at the payment mechanisms for the poor and the vulnerable groups in Korogwe District Tanzania. The result showed that 70-80% of community leaders and focus group participants and 100% of health workers (private and government) interviewed supported the policy of cost sharing. Males were significantly more likely to have their own savings to use for payments than females were. Most community leaders and government officials were aware that waivers could be granted for “the poor” but patients were less likely to know about this. Patients had mixed opinions on whether user fees improved the quality; about half said all services improved, a quarter said all services worsened, and a quarter said some services improved and some worsened. Authors stress the need for formulation of an acceptable definition of “poor” for waivers.

Shrestha *et al* (2004) conducted a study that looks specifically at willingness to pay for cataract surgery in Nepal. Seventy-eight patients with cataract (one or both eyes) were interviewed to determine WTP for cataract surgery. The description of the methods is inadequate to determine how patients were selected for interview or exactly what they were asked. Only half of those with cataract were willing to pay for surgery. Among these, half were willing to pay more than \$13 and half less. Factors associated with unwillingness to pay included poverty, and

unilateral cataract. Also, females were willing to pay less than male.

Hengjin *et al* (2003) conducted a similar survey in Burkina Faso. The survey looked at the Willingness to pay for community based insurance in that country. The purpose of the survey was to study WTP for a proposed community-based health insurance (CBI) scheme in order to provide information about the relationship between the premium that is required to cover the costs of the scheme and expected insurance enrolment levels. In addition, factors that influence WTP were to be identified. Data were collected from a household survey using a two-stage cluster sampling approach, with each household having the same probability of being selected. Interviews were conducted with 2414 individuals and 705 household heads. The take-it-or-leave-it (TIOLI) and the bidding game were used to elicit WTP. At the end of the survey, it was discovered that the average individual was willing was influenced by household and individuals' ability to pay, household and individuals characteristics, such as age, sex and education.

The main objective of this study is to examine the household's willingness to pay for National Health Insurance Scheme (NHIS). This will be achieved with the following specific objectives: to establish households' use of orthodox medicine in relation to their socio-economic characteristics; to examine households' perception of the functionality of the existing health care facilities; to determine the awareness level of households on NHIS; and to determine the factors responsible for households willingness to pay for the Scheme.

2. Materials and Methods

Area of study

Ojo Local government is located at the western part of Lagos State along the Lagos-Badagry expressway. The area falls under the Badagry division, which is one of the five divisions making up Lagos administratively. Ojo has a land size of 54 square kilometers out of the 3577 square kilometers of Lagos State. The state is located on the southwestern part of Nigeria on the narrow coastal plain of the Bight of Benin. It lies approximately on longitude 2°42'E and 3°22'E respectively and between latitude 6°22'N and 6°02'N. The rate of population growth is 300, 000 persons per annum. In the built up urban areas of metropolitan Lagos, the average density is 20, 000 people per square kilometer. It is a wetland region and has two climatic seasons; dry (November – March) and wet (April-October). Ojo Local Government characterized by a large central market where all people resident around there make their food shopping. The market is

situated along the expressway, which extends deep into the street.

Data collection and sampling procedures

The study made use of primary data. Simple random sampling was employed for the research survey. The Local Government Area was divided into 5 zones; they include Okokomaiko zone, Igbo-elerin zone, Sabo zone, Abule Aka zone and Alaba zone. Because of lack of authentic population figures for the zones, 30 households were interviewed from each of the 5 zones. However, insufficient information and poor response left us with only 122 households to work with. Data were collected on the socio-economic characteristics of the households, their perception about the functionality of the health facilities and factors affecting their WTP for NHIS.

Methods of data analysis

The method of data analysis used in this study includes the use of descriptive statistics such as frequency distribution, mean, percentages and tables. Probit regression model estimation was used to estimate the determinants of WTP for NHIS.

Probit Model Analysis

It is an alternative log-linear approach for handling categorical dependent variables. Its assumptions are consistent with having a categorical dependent variable assumed to be a proxy for a true underlying continuous normal distribution. A typical use of probit is to analyze dose-response data in medical studies. Like log logistic regression, this study focused on a transformation of the probability that Y, the dependent variable equals 1 if the respondent is willing to pay for NHIS and 0 otherwise. The estimated model can be stated as:

The following were the independent variables: savings (₦), number of dependants, other source of income (yes = 1, 0 otherwise), other financial demands (yes = 1, 0 otherwise), tax reduction (yes = 1, 0 otherwise), impression of paying much more (yes = 1, 0 otherwise), income (₦), age of the household head, gender (male = 1, 0 otherwise), marital status (married = 1, 0 otherwise) and household size.

3. Results and Discussion

Households' use of health services

Table 1 shows that 65 percent of the households had family doctors while 35 percent did not. This shows existing concerted efforts by the people to access health facilities. It also reveals their awareness of the health benefits in modern medicines as against orthodox traditional ways of treating diseases. The table also shows that 57.5 percent of

the households in the study area visited hospital when there was incidence of illness. This shows that a considerable number of the total households in the study area made use of hospital when ill. However, 26.6 percent visited hospitals for medical checkup while 15.0 percent were there for medical advice. Also, 86.7 percent of the households in the study area visited the hospital whenever the need arose while 10.0 percent indicated to have visiting hospital twice per week while 1.7 percent visited once in a week and two weeks. It also shows that 52.5 percent of the respondents made use of government hospitals while 47.5 percent utilized the services of private hospitals.

Table 1: Distribution of households on usage of medical services

Family Doctor	Freq	%
No	42	35
Yes	78	65
Reasons for visiting hospital		
Illness	69	57.5
Medical Check up	32	26.6
Medical Advice	18	15.0
Illness & medical check up	1	0.8
Frequency in hospital		
Once a week	2	1.7
Twice a week	12	10.0
Once in two weeks	2	1.7
Whenever need arises	104	86.7
Type of hospital		
Government hospital	63	52.5
Private Hospital	57	47.5

Source: Field Survey, 2006

Households' perception of the functionality of healthcare facilities

This section is aimed at establishing households' perception of the functionality of the healthcare facilities in the communities. Table 2 below shows the different levels of perception of the households that were interviewed. Likert scale was used to rank their perception level. The results show that 4.2 percent of the households indicated that the health facilities were still in good working condition and functioning, while the number of households that held the view that the healthcare facilities were in poor state is very high, this recorded 50.8 percent of the households. This implies that majority of the households in the study area believed that health facilities were in poor state. They also held the view that government has not done anything to improve the poor state of the health facilities in their communities. The results of awareness level of the households about National Health Insurance Scheme

(NHIS) are also presented in table 2. It shows that only 37.5 percent of the households were on the high awareness level strongly aware about the NHIS, which is about 37.5 percent of the total respondents. 27 households are observed not to be aware at all which is 22.5 percent of the respondents, while 48 household which is 40 percent of the total respondents are aware, but they are partially aware of the programme. This implies that the awareness level about NHIS in the study area is quite high.

Table 2: Perception scale of households about functionality of health centers and NHIS Awareness

Functionality	Frequency	%
10 – 20 (Low)	5	4.2
21 – 30 (Moderate)	54	45.0
> 30 (High)	61	50.8
Awareness		
10 – 20 (Low level)	27	22.5
21 – 30 (Moderate level)	48	40.0
> 30 (High level)	45	37.5

Source: Field survey, 2006.

Factors influencing households' WTP for NHIS

Probit model was used to determine the willingness to pay (WTP) for the NHIS. Households' savings, number of dependants, other source of income, meeting other demands, tax reduction, monthly income (salary), age of household head, gender, marital status and household size, all are the independent variable. The dependent variable is the willingness to pay (WTP). The model produced a good fit of the data as shown by statistical significance of the computed Chi Square ($p < 0.01$).

Reduction of tax, monthly income, marital status and household size were statistically significant ($p < 0.05$), while gender and "impression of paying much more" were statistically significant ($p < 0.01$). The positive relationship between tax reduction and the willingness to pay indicates that household will be willing to pay for NHIS if tax was reduced from 5 percent to a lower percentage. They were of opinion that if the tax was reduced, their income would be enough to meet their immediate needs and still have enough for savings. However, the negative relationship between households' impression of paying much more than the usual healthcare service, and their WTP implies that majority of the households did not think that NHIS would cost more than the previous form of healthcare services which they were using. However, this impression did not affect their willingness to pay for NHIS.

Households' monthly salary had positive effect on WTP. It was found that majority of the respondents in the study area did not have other

sources of income. It was recorded that only 3 respondents earn close to ₦40, 000 on the average. This implies that majority of the households here are low-income earners with an average salary of about ₦15, 000. It was however concluded that households with low-income may not be willing to pay for NHIS because of insufficiency of their income to meet other financial demands.

The parameter of gender had negative relationship with households' WTP. This implies that female headed households had higher probability of WTP for NHIS. The parameter of marital status had negative relationship with households WTP. This implies that married households had lower probability of WTP. The positive relationship between household size and the WTP for NHIS implies that the more people in a household the higher their willingness to pay. It was deduced from the study that a household with 4 children under 18 years will be willing to pay for the programme than a household without or with just one child. This means that a household will want more people to be covered under this programme so as not to be cheated. However, a household with just one child might not be willing to pay for the programme.

Table 3: Probit results of the determinants of households' WTP for NHIS

Variables	Coefficient	t- value
Constant	0.305	.359
Savings	0.007	.613
Dependants	0.062	.935
Income	-0.238	-.798
Other demands	0.219	.635
Tax reduction	0.735*	1.941
Pay more	-0.850***	-2.755
Salary	1.025**	2.152
Age	-0.027	-1.099
Gender	-0.788**	-2.516
Marital status	-1.090**	-1.996
Household size	0.229**	2.057

Diagnostic tests: Log likelihood function = -62.27487; Restricted log likelihood = -84.41636; Chi-squared = 44.28296; Overall significance level = 0.001

4. Recommendations and Conclusion

The study examines household's willingness to pay for National Health Insurance Scheme in Ojo Local Government area of Lagos State. It reveals that majority of the households made use of orthodox form of medicine. This study also reveals that majority of the households perceived that healthcare facilities in their respective communities were non-functional. Not many households were aware about the programme and tax reduction, monthly income,

marital status and household size, gender and impression of paying much more significantly influenced WTP ($p < 0.05$).

In view of the growing cost of health services in the century, this study recommends that the government should try as much as possible to ensure functional tax system whereby the rich compensates the poor. This will encourage the low-income earners to be willing to pay for the NHIS. Another issue to be considered is the area of the health facilities available in our hospitals. The government should ensure that there is total overhauling of the health care centers. Obsolete medical equipments should be replaced with modern ones. This will go a long way in influencing households' WTP for NHIS. The level of awareness should also be increased through mass media and other public enlightenment programmes.

In conclusion, the National Health Insurance Scheme is a laudable programme put in place by the Federal Government to ensure that the quality of healthcare services is improved for the citizenry and also ensure equitable distribution at an affordable cost. However, the government should ensure that there is continuity and consistency as the programme kick starts.

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