METHODS OF PAYMENT FOR HEALTH CARE AND PERCEPTION OF A PREPAYMENT SCHEME AMONG AUTO-TECHNICIANS IN ABUJA, NIGERIA

D.A. Adewole[1], M.D. Dairo[2], V.N. Shaahu[3], and S.A. Olowookere[4]

1. Department of Health Policy and Management, College of Medicine, University of Ibadan, Nigeria
2. Department of Epidemiology and Medical Statistics, College of Medicine, University of Ibadan, Nigeria
3. Department of Community Medicine, Federal Medical Centre, Makurdi, Nigeria
4. Department of Community Health, Obafemi Awolowo University, Ile–Ife Nigeria

Correspondence:

Dr. D.A. Adewole
Department of Health Policy
and Management,
College of Medicine,
University of Ibadan,
Nigeria
Email: ayodadewole@yahoo.com

ABSTRACT

Background: **The National Health Insurance Scheme (NHIS) in Nigeria has succeeded in enrolling only a minute fraction of the population. Studies on the scheme among informal sector employees are required to plan a scale up of the programme in this group which represents the majority of the working population in the country.**

Objective: **This study sought to assess the method of payment for health care, awareness of and the perception about the NHIS among auto-technicians in Abuja, Nigeria.**

Method: **A cross-sectional descriptive survey was conducted among auto-technicians in Abuja Municipal Area Council (AMAC), Nigeria. Data was collected using interviewer-administered questionnaire, and analyzed with SPSS version 17.**

Results: **A total of 351 auto-technicians and allied workers participated in the study. Post-secondary education [(Odds Ratio (OR) = 7.78, 95% CI = 1.61 – 37.54, p = 0.01)] and having a spouse who is gainfully employed [(OR = 3.67, 95% CI = 1.04-12.93)] predicted awareness of the NHIS. Older people above forty years of age were significantly less likely to be aware of the NHIS, (OR = 0.27, 95% CI = 0.08 – 0.92, p = 0.036).**

Conclusions: **Despite the glaring need and willingness of the participants to enroll in a prepayment scheme for health, workers in the informal sector of the economy may remain unreached by NHIS due to lack of awareness and skepticism. Strategic steps to remove ignorance and dispel doubts is imperative for scale up of the NHIS in the informal sector.**

Keywords: National Health Insurance Scheme, Awareness, Perception, Auto-technicians

INTRODUCTION

In agreement with the WHO's goal of 'Health for All', Universal Health Coverage (UHC), which is defined as access to key health interventions for all at an affordable cost to achieve equity of access, policy-makers are making efforts to design locally appropriate strategies of financing health care in order to accomplish this. Social health insurance (SHI), a prepayment method for funding health services, is one of the initiatives to promote universal health coverage.[1,2] Ghana, Rwanda and Kenya are some of the countries in the sub-Saharan Africa (SSA) that has promising SHI schemes. In these countries and in many others in the SSA, the major challenge has been in the implementation of sustainable SHI schemes especially in the informal sector. A large informal sector with low revenue generation capacity to meet basic human needs including health care, are some of the factors that makes the establishment of SHI schemes difficult in SSA.[1,3] These are in addition to a low level of awareness and understanding of the concepts of SHI on both the demand and the supply sides.[1,3,4] However, studies have shown that awareness and understanding health insurance schemes and a better socio-economic status predicts enrolment in a scheme.[5] Implementaion of a scheme that is both unknown and or not well understood among and for a group of potential beneficiaries is a recipe for failure.

In Nigeria, the National Health Insurance Scheme (NHIS) as a corporate body was established in 2005. The scheme was established to provide social health insurance to participating contributors; and to ensure that every Nigerian has access to health care at an affordable cost. It is a tripartite public – private partnership between the NHIS (Government Agency) which contracts the Health Maintenance Organisations

(HMOs) that in turn purchase health care services from healthcare providers on behalf of the NHIS for the scheme's beneficiaries. The HMOs get paid by the NHIS for its services. However, since its inception, the enrolment of Nigerians in the scheme has been low and mainly limited to the formal sector workers and their family members. Presently, only about 3.0% (5 million of 170 million) Nigerians are benefiting from the scheme.[6]

Most employees in the non- formal sector are engaged in the small and medium scale enterprises, majority of them have low and irregular income, and awareness and understanding of the concept of health insurance is low amongst them.[7] Like the majority of the people in Nigeria, payment for health care services is made through other means than prepayment schemes with attendant characteristic poor health outcomes in the Country.[6] As the larger sector in Nigeria, there is a need to integrate this workforce into the existing SHI scheme. This will facilitate the achievement of the desired universal health coverage.[1] The NHIS encourage formation of informal trade unions into groups as platforms for enrolment into the scheme.

This informs a focus on auto-technicians who are found in organized groups, in small and big cities and towns, both rural and urban types in Nigeria. Effective planning for integration of this sector requires baseline information on potential participants' awareness and willingness to access such schemes. Thus, this study sought to assess the awareness and perception of this trade group about prepayment schemes as it is currently available through the NHIS. This is important to appreciate existing gaps and thus to appropriately address them.

MATERIALS AND METHODS
This was a descriptive cross-sectional survey carried out between January and February 2012 in Abuja Municipal Area Council (AMAC), Federal Capital Territory (FCT) Nigeria. The study population consists of auto-technicians. Auto-technicians work in organized locations known as mechanic units (villages) and are found in all Nigeria towns and cities. An individual member specializes in a particular area of automobile work.[8] A particular village, also called a workshop is made up of varying number of sub-groups, each sub-group is led by a qualified team leader under whom there are apprentices learning the particular skills. Subgroups are in distinct skill groups of auto-artisans such as; mechanics, electricians, auto painters, panel beaters, vulcanizers, body builders, welders and other auto related repair works.

The sample size for the study was estimated using the formula for determining a single proportion. The critical proportion was obtained from the report of a previous study where the proportion of those who were in a prepayment scheme for health was 27.1% [9]. The estimation was made using a power of 80% and a confidence level of 95%, and adjusting for a non-response rate of 15%. This yields a sample size of 357.

AMAC has twelve wards, namely; City centre, Garki, Gui, Gwagwa, Gwarinpa, Jiwa, Kabusa, Karshi, Karu, Nyanya, Orozo, and Wuse/Wuye.[10] Of these wards, Garki, City Centre and Wuse/Wuye wards, the three with the highest concentration of mechanic villages were purposively selected for the study. There were 25 mechanic villages within the selected wards. Each of these villages were of varying sizes, having between 15 – 20 workshops in a village. All the 25 villages were selected for the study and were visited. The estimated sample size was proportionally allocated to these 25 villages. In each of the villages selected, head technicians (team leaders) who were willing to participate were recruited into the study until the allocated sample size in the selected mechanic village was achieved.

Interviewer-administered questionnaires were used to collect data. The questionnaire was developed based on the study objectives and a review of relevant literatures. The questionnaire contained mainly close ended questions and was divided into three sections. Section A consisted of questions on socio-demographic characteristics; Section B had questions on methods of payment for health care, awareness (ever heard) about the NHIS and pattern of health seeking behaviour including types of facilities patronized; while Section C consisted of the respondents' perception of prepayment schemes like the NHIS. Since almost all the participants in this study knew nothing about health insurance or the NHIS, trained research assistants explained the basics of health insurance such as premium, and funds collection, risk sharing/pooling and purchasing health care services from health care providers,[7] as it presently exists under the NHIS. Data collection was completed within a period of three weeks.

Approval to conduct the study was obtained from the Ethics Committee of the Department of Health, Abuja Municipal Area Council, Abuja Nigeria. Verbal informed consent was obtained from the participants prior to commencement of data collection. A new appointment was scheduled with those who were busy to grant interviews the first time. Those who were not ready or declined to participate at the second

appointment were left out of the study. The study participants were limited to the masters of the trade only. All apprentices were excluded from the study.

Data analysis
Data were analyzed using SPSS version 17. Frequency tables were generated while associations were tested with the chi square statistics. Logistic regression analysis was used to determine possible explanatory variables and relationships. Only variables associated with a p value <0.10 in bivariate analyses were considered eligible for inclusion in logistic regression analysis. Level of statistical significance was set at 5%. Awareness of NHIS was used as the dependent variable. Independent variables included socio-demographic characteristics such as age, sex, level of education, marital status, occupation and spouse's employment status.

RESULTS
Socio-demographic characteristics of auto-technicians
A total of 357 auto-technicians were approached out of which 351 responded. Thus the response rate was 98.3%. Table 1 show the socio-demographic characteristics. The mean age of the respondents was 32.8 ± 7.1 years and the skill groups were dominated by males, 99.7% (n = 350). Only 1.4% (n = 5) of the respondents did not have a form of formal education. About two thirds, 60.7% (n = 213) were married. Almost two-fifths, 37.6% (n = 80) of the married men had spouses who were employed. Auto-mechanics were in the majority, 70.1% (n = 246) among the respondents.

Table 1: Socio-demographic characteristics of auto-artisans (n = 351)

Socio-demographic Characteristics (N=351)	Frequency	Percentage
Age		
20 – 29	127	36.2
30 – 39	165	47.0
40 – 49	51	14.5
≥ 50	8	2.3
Mean ±SD = 32.8 ± 7.1		
Sex		
Male	350	99.7
Female	1	0.3
Marital status		
Single	138	39.3
Married	213	60.7
Educational status		
No formal education	5	1.4
Primary	109	31.1
Secondary	217	61.8
Post – secondary	20	5.7
Spouse/spouses employment status (n = 213)		
Currently employed	80	37.6
Currently unemployed	133	62.4
Ethnicity		
Fulani	3	0.9
Hausa	55	15.7
Ibo	86	24.5
Yoruba	119	33.9
Others*	88	25.0
Trade group distribution		
Auto mechanic	246	70.1
Battery charger	9	2.6
Auto electrician	11	3.1
Upholster	5	1.4
Auto painter	19	5.4
Panel beater	46	13.1
Others**	15	4.3

Others included ethnic groups such as Mengi, Igbira, Ijaw, Idoma etc*
*Others** included auto spare parts dealers, auto air condition repairers, vulcanizers etc*

Table 2: Pattern of health seeking behavior of Auto-artisans, perception and awareness about the NHIS (n=351)

Variable	Frequency (Percentage)
Main source of medical care	
Traditional/spiritual homes	6 (1.7)
Chemist/patent medicine stores	92 (26.2)
Private health facility	120 (34.2)
Public health facility	133 (37.9)
Main method of paying health care costs	
Out of pocket	349 (99.4)
Prepayment	2 (0.6)
Ever found it difficult paying health bills	
Yes	150 (42.7)
No	201 (57.3)
Ever heard about the NHIS	
Yes	20 (5.7)
No	331 (94.3)
Perception about the NHIS	
Better than OOP	
Agree	343(97.8)
Disagree	4(1.1)
Don't Know	4(1.1)
Will minimize financial hardship during illness	
Agree	345(98.3)
Disagree	0(0)
Don't Know	6(1.7)
I will encourage others to enroll	
Agree	346(98.6)
Disagree	0(0.0)
Don't Know	5(1.4)
It will enhance access to quality health care	
Agree	336(95.8)
Disagree	5(1.4)
Don't Know	10(2.8)
It is a good idea	
Agree	329(95.8)
Disagree	7(2.0)
Don't Know	15(4.3)

Pattern of health facility patronage, funding costs of healthcare and awareness of the NHIS
Public health facilities, 37.9% (n = 133) and private hospitals, 34.2% (n = 120) were the reported types of facilities mainly patronized by the respondents. Out of pocket expenditure was by far the most common method of paying for health care costs, 99.4% (n = 349) and 42.7% (n = 150) reported having experienced difficulty in settling medical bills in the past. Almost all, 94.3% (n = 331) reported not to have previously heard about the NHIS.

Auto-technicians perception about the NHIS
Overall, respondents' attitude to a prepayment scheme like the NHIS was quite favourable. Majority agreed that a prepayment scheme like the NHIS was better than out-of-pocket (OOP) payment system, 97.8% (n = 343) would greatly minimize financial hardships during illness, 98.3% (n = 345) and that it is a good programme if properly implemented, 98.6% (n = 346) (Table 2). Awareness of the NHIS was associated with older age (p < 0.001), post-secondary school education (p < 0.001), being married (p = 0.022) and married to a gainfully employed spouse (p = 0.003).

Respondents with post-secondary education were over seven times more likely to be aware of the NHIS than those with other levels of education [(OR = 7.78, 95% CI = 1.61 – 37.54, p = 0.014) (Table 3).

Table 3: Association between socio-demographic characteristics of Auto-artisans and awareness of the NHIS

Variable	Aware n (%)	Not aware n (%)	Crude Odds ratio	Adjusted Odds ratio	Confidence Interval
Age(years) n = 351					
<40	10(3.4)	282(96.6)	0.17	0.27	0.08-0.92
>40 (ref)	10(16.9)	49(83.1)		1	
χ^2 = 14.286, p <0.001					
Educational level n = 346					
Secondary and below (ref)	14(4.3)	312(95.7)		1	
Post-secondary	6(30.0)	14(70.0)	0.11	7.78	1.61-37.54
χ^2 = 18.536, p <0.001					
Marital status n = 351					
Single	3(2.2)	135(97.8)	0.25	0.26	0.06-0.82
Married (ref)	17(8.0)	196(92.0)		1	
χ^2 = 5.256, p <0.022					
Spouse(s) work n = 213					
Yes	12(15.0)	68(85.0)	4.51	3.67	1.04-12.93
No (ref)	5(3.8)	128(96.2)		1	
χ^2 = 8.594, p <0.003					

Hosmer - Lemeshow chi square 2.553; df = 7; p = 0.923

DISCUSSION

In this study, less than one-tenth of the respondents were aware of the NHIS, a proportion that is unacceptably low especially for people who live and work in one of the major cities and much more, the capital city of a country. Similar findings were documented in the reports of earlier studies in Oyo State Nigeria.[7, 11] However, the low level of awareness reported in this study is more worrisome in a setting such as Abuja, a major metropolitan city where the national headquarters of the NHIS is located. Studies have acknowledged a generally low level of awareness of health insurance in the majority of the SSA countries while others that reported a fair level of awareness about the NHIS were reported by investigators who worked among better informed formal sector workers in southwestern Nigeria.[9, 12]

Lack of, and or poor awareness about the NHIS among other factors are obstacles to enrolment and active participation in the scheme.[13] Absence of or low level of enrolment into a prepayment scheme may be more profound among people with no or low level of formal education, those who are not in the formal sector and among the low social economic groups.[5, 14]

Contrary to findings in some previous studies that a high level of awareness and enrolment in a health insurance scheme has a direct correlation with age, and that the older the people, the more likely they were to be in a prepayment scheme for health.[14] In the present study, older people were less likely to be aware of the NHIS. This finding may be due to the preponderance of older people who were found to be of lower educational attainment in this study. This is in agreement with the findings that, respondents with higher educational status were very much likely than those of lower educational status to be aware of a health insurance scheme. A positive correlation between education and purchase of health insurance policy has been shown in previous studies; Education could enhance individual's knowledge about the benefits of enrolment in a prepayment scheme as well as the disadvantages of not being under a prepayment scheme.[5, 14] Awareness about health insurance among potential beneficiaries has been shown to positively influence willingness to buy a health insurance policy.[5,15]

Respondents whose spouses were engaged in income generating activities were nearly four times more likely to be aware about the NHIS, than those whose spouses were otherwise. Studies have shown that individuals and households who are in higher socioeconomic status are more likely to purchase health insurance policy than those who are in a lower status.[8] Spousal incomes could have additive effect on households finances, and thus more likely to improve the socioeconomic status of such households. In a more recent study in Kenya, rich households were reported to have increased odds of health insurance coverage.[14] It is suggestive that individuals in this study whose spouses were economically productive were in a better socioeconomic status than those whose spouses were not, and if given the opportunity, will more likely enroll in a health insurance scheme.

It is logical that individuals and households who buy a health insurance policy are aware of its availability. Improved socioeconomic status could enhance individuals and groups access to better sources of information dissemination about beneficial social policies including health insurance. This suggests that it could contribute to a better awareness about health insurance and its advantages among participants whose spouses engaged in income generating activities. Studies have shown that households with higher socioeconomic status, because they can afford it, are more likely to have better exposure to beneficial information through various media platforms, which in turn may increase the likelihood of these households enroll in a health insurance scheme[5,14]. It is advocated that awareness creation in the general populace with special focus on those who are less likely than others to be aware is essential and it is one of the first important steps to ensure buying into a prepayment scheme.

In a similar study conducted in a rural area of Kenya, it was reported that awareness creation about health insurance scheme employing multiple media strategies increases the chances of enrolment in a health insurance scheme[13]. Experience in both high and middle income countries have shown that providing adequate information about health insurance have been found to increase chances of enrolment in health insurance schemes[16]. It is advocated that the challenges of low awareness, skepticism about health insurance schemes and the attendant low enrolment should be addressed using appropriate media strategies to enable a better understanding of the scheme and its benefits among potential beneficiaries.

Similar to the findings in this study, previous studies reported favourable disposition to health insurance schemes among potential beneficiaries, and, for obvious reasons, respondents preferred pre-payment methods of paying for health care costs to out-of-pocket approach[7]. Studies in other developing countries in Africa, Caribbean and Asia reported similar findings[15, 17, 18].

Findings in this study is in support of the often observed main method of payment for health care services in this environment, as almost all of the study respondents, reported using other methods apart from prepayment system to settle medical bills. This is in consonant with documented reports in many LMICs,[1] as well as in a previous study by Adewole and colleagues in South-west Nigeria,[7] Related studies,[19,20,21] reported similar findings in other parts of Nigeria. OOP payment is a common method in many SSA countries and in a good number of countries in Asia.[1,22–24] A health system

where individuals have to pay out of pocket for a substantial part of the cost of health services at the moment of seeking treatment restricts access to only those who can afford it, and is likely to exclude the poorest members of the society, with significant implications for equity of access to quality health services in many developing countries [25,26]. This assertion is more so in a country like Nigeria where about two-thirds of its populace are relatively poor, more than fifty per cent are absolutely poor and more than two-thirds live on less than one dollar per day.[6, 27]

CONCLUSION
Findings in this study is in support that awareness about health insurance scheme among the informal sector of the population in Nigeria is very low. The scheme is likely to enjoy support as evidenced by opinions expressed by respondents in this study. This has positive implications for sustainability if stakeholders take appropriate steps that will address peculiar socio-cultural milieu of the potential beneficiaries in its design and implementation. It is recommended that awareness creation about the scheme is embarked upon to ensure that potential beneficiaries are well informed about the basics of the scheme and the associated benefits. Also, the stakeholders in the position of authority in the scheme should appropriately address areas of concern raised. For the study findings to be more representative, a multi-centre study is desirable.

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