UNIVERSAL HEALTH COVERAGE AND IMPROVED HEALTHCARE SECURITY OF INFORMAL ECONOMY WORKERS: COMMUNITY HEALTH INSURANCE SCHEME OPTION IN NIGERIA

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ABSTRACT

The healthcare payments are a significant challenge for most African countries, including Nigeria. The healthcare payment in most parts of Africa is predominantly out-of-pocket at the point of utilization. The level of earnings and the nature of lifestyle constrained the poor informal economy workers from affordable health care services. A research survey design using administered questionnaires to gather data on household heads' willingness to pay for health care services was adopted by the study. The ordinary least square regression was used to analyze and predict the level of willingness. The willingness of the households to pay for health care services was specifically valued using the contingent valuation methodology. The study results suggest that poor informal households are willing to participate in and pay for healthcare schemes to reduce or eliminate out-of-pocket payment expenditure. The study recommended the use of in-kind payment option in the form of commodity exchange in improving the accessibility of informal economy households to health care services.

Keywords: *Income poverty, Health insurance, Informal economy worker, Commodity exchange, Health care financing*

1.0 BACKGROUND TO THE STUDY

In most developing countries like Nigeria, growth, poverty and inequality are main societal problems. Several initiatives that are specifically focused on the poor have been put in place in eliminating these problems by the government at various levels in Nigeria. Some of the initiatives include; Small scale credit schemes, better life for rural dwellers, Anchor borrower scheme, family support programme, national health insurance scheme and so on. Accessibility to affordable health care services and other social services specifically has continued to be a major challenge to the poor in Nigeria. While the urban rich enjoy access to quality health care services, the rural poor who are majorly the

informal economy households are deprived of this benefit (Ahiuma-Young & Adeniyi, 2012a; Awojobi et al., 2014).

The issue health care payments for the poor informal economy households coupled with the issue of tackling widespread poverty in the society remained a fundamental problem in most developing countries like Nigeria. Like most developing countries in Africa in the mid-1980s, Nigeria undergoes various reforms in the health care and other social service sector (Awoyemi, 2012). The reform introduced user fees payment in the public health care system which moved the country to a market oriented structure from state dependent payment structure. The World Bank de-emphasized the user fee payment structure and encouraged the in-kind risk sharing arrangement which will make the predictability of health care payment among the poor informal economy household possible (World Bank, 1987; Bitran & Gideon, 2002; Dror & Preker, 2002). Due to the lack of this structure proposed by the World Bank in Nigeria, the poor informal households still suffer the burden of high out-of- pocket health care payments which further leads to poorer health status because of low income earning (Whitehead, 2001; OECD/WHO, 2003).
Employment of the Contingent valuation methodology to investigate the willingness of poor informal rural households to pay for health care services through the use of in-kind/commodity exchange payment structure, is the fundamental aim of this study.

Statement of Problem

Community Health care Insurance scheme is designed for people living in rural areas and those in the informal sector who has limited health care accessibility due to high out-of-pocket payment. The health insurance scheme is designed to improve access to health care services due to the highly subsidies payment structure by the government for the poor informal economy household in rural communities in most developing countries like Nigeria. This however, calls for improvement in health sector budgetary allocation by the various governments.
The participation of the poor households who are mostly the informal economy workers, has however not improved over the years. According to Whitehead (2021), the informal sector workers in Nigeria suffer the burden of out-of-pocket payments because they cannot pay for health care services despite government interventions thus, leading to poorer health status amongst the poor. Ataguba, (2021) also affirm that the informal economy workers resort to orthodox healthcare centres only when the illness has deteriorated. There is therefore an urgent need to improve the participation of the informal economy households in the health care insurance scheme. The in-kind/commodity exchange health care services payment structure option is considered by this study.

2.0 LITERATURE REVIEW

Healthcare Security of Informal Economy Workers

Several initiatives and schemes focused on the poor (predominantly the Informal Sector workforce) have been introduced by successive governments in Nigeria (Bitran et al., 2019). Some social welfare initiatives include family economic advancement programmes, small-scale credit schemes, operations feeding the nation, a better life for rural dwellers, national poverty eradication programmes, and national health insurance schemes. However, the impact of these initiatives, specifically access to affordable healthcare services for the poor, has been elusive. While the population still strives to tackle the issue of poverty amongst the informal sector workers, the issue of health care payment for the poor remains a problem in most developing countries like Nigeria (Bitran et al., 2021). Like all other developing countries, Nigeria was caught up in the web of reform in the healthcare sector. On the 19th of May, 2022, the government signed the new National Health Insurance Act (NHIA) 2022 into law.

The NHIA seeks to secure mandatory health insurance for every Nigerian and legal resident. The main aim of the health scheme is to provide Universal Health Coverage (UHC) and improved health security (NHIA; 2022). Healthcare schemes usually ensure that people can access quality healthcare without financial hardship (WHO, 2020). The NHIA 2022 saw the adoption of user fees for healthcare financing in public health systems, which moved the country from a state-dependent to a market-oriented healthcare structure (WHO, 2022). This, however, only succeeded in shifting economic power into the hands of the elite populace, thus making access to health care purely a function of the ability to pay (Amaghionyeodiwe, 2022). The financing and provision of health care is simply a transaction between the providers who transfer resources to patients and the patients, or a third party transfers resources to the providers (Mossialos, 2018).

Bringing health care closer to its citizens, the Nigerian government, through the National Health Insurance Acts (NHIA) 2022, is very commendable. The problem, however, is the nature of implementation pursued by the government, which requires those in the formal sector to be covered first before those in informal employment. While it is easier and more accessible to those in formal employment, the large volume of informal workers will still suggest the need for urgent attention to cater for them (Mohammed et al., 2020). The informal sector workers in Nigeria suffer the burden of out-of-pocket payments because they cannot pay, leading to poorer health status (Whitehead, 2021). The informal economy workers resort to orthodox healthcare centres only when the illness has deteriorated (Ataguba, 2021). According to a report published by the WHO in 2017, globally, 150 million people are pushed into poverty due to direct payments for health services.

The Nigerian government introduced the user fee health care payment structure in 1998 under the Bamako Initiative, which advocated for cost-sharing and community participation to improve the sustainability and quality of healthcare services. Risk-sharing health care financing arrangement, which will make health care payments predictable among the poor, who are predominantly the informal economy workers, was given high publicity by the World Bank in most developing countries like Nigeria in 2018 (World Bank, 2019; Betran & Giedion, 2020; Drot & Preker, 2020). Nigeria's healthcare sector is still predominantly operating on a cash payment method, which creates considerable inequality in healthcare service accessibility among its citizens (Binam, 2021).

Health Care Financing in Nigeria

How a country finances its healthcare systems determines the health status of its citizenry (Asfaw & Von Braun, 2018). The selection of adequate and efficient method(s) of financing health care services and the organisational delivery structure for health care services is essential in achieving the objective of providing health care for all citizens in Nigeria (WHO, 2018). Nigeria's primary health financing mechanisms include the government budget using general tax revenue, direct out-of-pocket payments, social insurance schemes, and donor funding (Onwujekwe et al., 2020). The social insurance scheme is a Formal Sector Social Health Insurance Programme (FSSHIP) implemented by the National health insurance scheme (Kindig et al., 2020). Other health financing mechanisms include demand-side financing through conditional cash transfers (CCT) and community-based health insurance (CBHI) (WHO, 2018; Mcintyre et al., 2020). Efforts to increase public funding of health at all levels of government in Nigeria are being explored alongside other options for health financing, such as Public Private Partnerships and Overseas development assistance (Ibe et al., 2021). The out-of-pocket payment method dominates the source of financing from the table. Government and eternal donor funding has declined steadily over the period. A summary of sources of healthcare financing in Nigeria is shown in Table 1.

Table 1: Relative shares of various health care financing mechanisms

	Total Health Expenditure As a Fraction of GDP	Government expenditure as a percentage of total health Expenditure	Private sector expenditure on health as a % of total health expenditure	Private households' OOP at a % of private sector health expenditure	Prepaid and risk pooling plans as % of Private sector expenditure on health	General government expenditure on health per capita at exchange rate	General government health expenditure as a % of general government expenditure	External resources on health as a % of Total expenditure on health
2010	3.58	26.1	73.9	95.0	2.4	4	7.1	13.1
2011	5.58	29.1	70.9	94.8	3.4	5	5.4	13.8
2012	5.95	33.5	66.5	92.7	5.1	6	4.2	16.2
2013	5.66	31.4	68.6	91.4	6.5	6	3.2	5.6
2014	5.63	25.6	74.4	90.4	6.7	5	3.1	6.1
2015	5.78	25.5	74.5	91.2	6.7	6	3.2	5.3
2016	4.13	25.2	75.3	92.6	6.7	6	3.2	5.2
2017	5.17	26.2	74.4	91.8	6.6	5	3.0	5.0
2018	3.95	26.4	76.3	96.6	4.8	5	3.0	5.8
2019	4.10	25.2	74.8	91.4	5.2	4	4.8	6.0
2020	4.50	24.8	78.4	95.2	3.8	7	5.8	20.5
2021	4.50	24.8	68.9	93.5	4.7	6	5.4	24.5
2022	4.42	25.1	70.4	94.2	5.6	5	4.8	20.8
2023	4.42	27.2	72.4	95.4	5.8	4	4.6	20.8
2024	4.60	29.2	71.8	93.2	6.4	7	5.2	16.9

• OUT-OF-POCKET PAYMENT

Source: World Health Organization (WHO) 2010, 2016, 2020, 2024

The predominance of out-of-pocket health financing makes it difficult for poor informal economy workers to access quality health care services at the point of utilization. The high Out-of-pocket payment for healthcare services makes households use orthodox healthcare centres only when the illness has deteriorated (Chigozie et al., 2022).

Informal Economy Workers

The informal economy is attributed to high social and economic costs due to poor safety and healthy working conditions (WHO/World Bank, 2017). In developing countries like Nigeria, many informal economy workers are exposed to Occupational Safety Health (OSH) risks (Pages & Maridgal, 2019). According to ILO estimates, 2.78 million people die each year from work-related accidents or diseases, and 317 million sustain occupational injuries, representing an estimated loss of 4% of global GDP (ILO, 2018; 2019).

Healthcare access is a fundamental social protection area that informal economy workers lack in most developing countries like Nigeria (ILO, 2019). Despite government efforts

to improve healthcare systems, a large population of informal economy workers still has limited accessibility to healthcare services in Nigeria (Onolai & Brisibe, 2018b).

Income Poverty

Lack of access to health care protection, low job security and unemployment protection are some of the significant factors that increase the vulnerability of informal economy workers to income poverty (Hurtado et al., 2017). Healthcare expense burdens lead to considerable financial difficulties, such as the inability to cope with other basic needs expenses, increasing the informal economy households' vulnerability to income poverty (Onolai & Brisibe, 2018c). People dependent on the informal economy are typically at risk of exclusion, notably because they have more difficulty paying health insurance contributions or accessing health care (Alter Chen et al., 2020).

Commodity Exchange

The lack of access to social protection in Nigeria makes labour income the only option for survival among the informal economy households (Awoyemi, 2014; Akintoye, 2008; Duru, 2019). The Informal economy faces financial difficulties in paying for health care services due to low labour income that falls below the USD 3.10 per day international labour earning standard in most developing countries like Nigeria (World Bank, 2019; Alter et al., 2020). The rural informal economy households are mainly agrarian by profession. The payment for health services through the use of in-kind/commodity exchange payment structure will be a good start-off for the target population, thus enabling accessibility to affordable essential healthcare services (Omoruan et al., 2019).

Hypothesis Formulation

In view of the foregoing literature review, the following hypothesis is formulated for this study:

H_1: The in-kind payment/ commodity exchange health care service payment method will improve the accessibility of poor informal economy workers to quality health care services in Nigeria.

3.0 RESEARCH METHODOLOGY

The study population for the research is informal sector workers in Ikorodu North Local Government Area of Lagos state, Nigeria. The choice of study area is based on the researcher's prior knowledge and familiarity. According to Deaton (2019), familiarity and knowledge of the study area enhance data accuracy. It also strengthens the efficiency of the statistical inferences drawn about the study population (Singh & Mangat, 2018). This study is a cross-sectional design. The sample size of 384 for this study was determined by using the statistical formula from (Krejcie & Morgan, 1970). This method is helpful for the estimation of sample size from a finite population.

The contingent valuation methodology was used by the researchers to value households willingness to pay (WTP) for health care services. Since health is not a commodity traded on the market like other goods, contingent valuation methodology is commonly used to value households' willingness to pay (WTP) for community health insurance schemes (Johannesson, 2020; Mitchell & Carson, 2021; Hanemann, 2020)**.** In the real WTP case involving consumer choice, there is currently no general method used to obtain the WTP distribution directly with the possible use of in-kind or commodities exchange payment structure, which is the primary contribution of this paper. The researchers, therefore, adopted the use of the contingent valuation methodology.

In obtaining the factors that influence the willingness to pay (WTP) of households and the estimation of the valuation equation, the Ordinary Least Square (OLS) estimation technique was adopted. Let M_2 represent the monetary equivalent of the WTP question. Also, let q represent the vector of covariates (socio-economic and health characteristics, etc.) on the respondent generated through the questionnaire, and M1 denote a dichotomous variable which assumes the value of 1 if we have information relating to WTP of respondents and 0 if no information.

$E (In M_{2i} / q_i, M_{1i} = 1) = q_i'ß$---------- (i)

The equation 1 specifies the willingness to pay or valuation model using the Ordinary Least Squares (OLS) estimation method.

$Mean = E (M_2) = \exp (q'ß + \sigma^2/2)$ ---------- (ii)

$Median = \exp (q'ß)$ ---------- (iii)

The estimated parameters of the Mean and Median of the WTP are shown in Equation 2 and Equation 3, which were obtained by using the standard econometric software called Strata 9.2. The monetary equivalence (Y_2) obtained from the WTP questions are lognormal distributed, hence using the Strata 9.2 (Strazzera et al., 2018).

Table 2: Description of the variables used in analysis

Variable	Definition	Mean/proportions
Male	**Gender variable**	**0.63**
	1= male, 0= female	
Education level	**1= no formal education**	**42.7%**
	2= Primary education	**34.3%**
	3= secondary education	**14.6%**
	4= Tertiary education	**8.4%**
Insurance awareness	**Knowledge of health Insurance**	
	1= Have knowledge	
	0 = No knowledge	**0.11**
Wealth	**Measure of income level of**	
	House-holds. Using the current	**₦ 121,714.20**
	Market prices	
Wealth categorized	**Wealth 1 = 1 if wealth < ₦85,000**	**40%**
	Wealth 2 = 1 if wealth is ₦85,000 - ₦120,000	**36%**
	Wealth 3 = 1 if wealth > ₦120,000	**24%**
Emedical(household)	**Expected medical expenses per month**	**₦6,492.30**
EcomdH	**Expected value of farm produce per month**	**₦ 146,543.67**
Age	**The age of the respondent at the last birthday**	**47.69**
Size of household	**number of household member living together**	**6.00**
Health status	**State of health of family member at interview**	**(1): 6.8%, (2): 33%**
	1 = poor, 2 = fair, 3 = Good, 4 = very good	**(3): 46.60%, (4): 13.6**
	5= Excellent	**(5): 0%**

WTP	**Willing to pay/contribute for health care services**	
	1= accept to pay	**80%**
	0 = not willing to pay	**20%**
WTP(cash)	**Willing to pay for health care service with cash**	
	1= accept to pay	**24%**
	0 = not willing to pay	**76%**
WTP(commodity)	**willing to pay for health care service in-kind**	
	1= accept to pay	**86%**
	0 = not willing to pay	**14%**
Participation	**Indicating participation status of household in**	
	Any health insurance scheme	**9%**
	1= Participated and 0, otherwise	
Treatment	**Usual means of treatment when any family**	
	Member of household fell ill	**55%**
	1 = orthodox and 0 = traditional	
Trust	**Confidence in community trust fund**	
	1= highly distrust, 2 = distrust	**(1): 3.6%, (2): 18.4%**
	3 = Trust and 4 = highly trusted	**(3): 43.7%, (4): 14.3**
Distance	**Closeness to the nearest health centre**	
	Measured in kilometer	**3.33**

Source: Researcher's Calculation

Table 3: Willingness to pay (WTP) Equation

Valuation Equation		
	Ordinary Lea st Square	
Parameter	**Estimate**	**Standard Error**
Constant	7.064	0.368***
Male	0.195	0.085**
Size of Household	0.027	0.013**
Wealth 1	0.166	0.101*
Wealth 2	0.196	0.099**
Education 1	0.083	0.164
Education 2	0.118	0.162
Education 3	0.148	0.193
Trust 1	0.044	0.255
Trust 2	0.166	0.124
Trust 3	0.210	0.098**
Quality of Health care	0.855	0.293***
Quality of Health care	0.610	0.299**
Quality of Health care	0.633	0.315**
Distance of Centre	0.058	0.020***
Commodity Exchange	0.853	0.297***
State of Health of respondents	0.083	0.170
State of health of respondents	0.206	0.108*
State of health of respondents	0.168	0.148
Adjusted R Squared	**0.30**	

*** ** *** Significant at 10%, 5%, 1% levels respectively**

Table 4: Summary of quarterly estimated mean WTP in naira

	OBS	Mean	CI (Mean)	Median	CI (Median)
All raw observation	309	7,274.67	6,492.3-8057.54	5,076.92	4, 508.3-6,461.5
Ordinary Least Square	246	9,324.00	9,269.7-9,378.20	7,860.03	7,814.3-7,905.8

Observations.

From Table 4, the computed quarterly mean and median willingness to pay for health care service scheme of ₦9,324 ($7.77) and ₦7,860 (US$6.55), although reasonable, it is, however, small when compared with the expected monthly amount of ₦6,492.30 ($5.41)

spent on health care per household of poor informal economy workers as observed in Table 2.. Therefore, alternative healthcare service payment structures that will encourage in-kind/commodity exchange coupled with an additional government assistance funding are needed. The in-kind/commodity exchange is however suggested by this study since over the years government budgetary allocation to the health sector has always fallen short of the agreed minimum 15% benchmark recommended at the Abuja declaration of the Africa Union in 2001 (WHO, 2021).

Hypothesis Testing Results

From Table 4 above, the computed monthly amount the respondents are
Willing to pay (WTP) for a health care service is approximately ₦3,110 (US$2.59). This is less than minimum expected monthly health care payment expenses of ₦6,492.30 ($5.41) to be made by poor informal economy worker households in Nigeria, as observed in Table 2. From Table 3 above, it was observed that the poor informal economy household has a very positive correlation to using in-kind/ commodity exchange as payment option for health care services. The community contributory schemes are therefore likely to be a good start-off. The pooling of funds will be easier when the poor households can afford health care payment which will in turn improve the accessibility of the informal households to basic health care services in Nigeria..

4.0 DISCUSSION OF FINDINGS

Given Table 2 above, Gender, health status, household size, confidence in the health care scheme, quality of health care centre, distance to the nearest health care centre, and wealth are some of the factors elicited by the study to determine the willingness to pay (WTP) for health care services by the respondent households. The amount households are willing to pay is an increasing function of their ability to pay. Hence, wealthier households measured by the in amount of farm produce in stock are willing to pay more than less wealthy ones as confirmed in table 3, which show a strong positive correlation with commodity exchange. Men traditionally shoulder the economic responsibility of households and hence tend to show a higher willingness to pay for health services than female-headed households. Households with larger sizes are also WTP higher than households with smaller sizes. This likely resulted from households' enormous financial burden when seeking health care. Households that perceive the quality of health care centres nearest to them as poor are willing to pay more than households that perceive the quality as good. Household heads with greater trust and confidence in the proposed scheme have a higher WTP amount than those with low confidence in the scheme. Households that travel long distances to access health care have WTPs that are higher than households that live close to healthcare centres.

5.0 RECOMMENDATIONS AND CONCLUSION

Based on the findings of this study, the following recommendations were made:

1) Since poor informal economy households lack accessibility to formal insurance schemes due to high out-of-pocket payments for health care services, community Health insurance schemes, which propose the use of in-kind payment in the form of commodity exchange, should be adopted as a payment method for health care services among poor informal economy households.
2) The government should increase funding for the NHIA, particularly for the health sector. This will help reduce the payment for health care services.
3) Adequate and well-trained medical personnel should staff hospitals, clinics, labs, and other health care centres. A lack of adequate and well-trained medical personnel contributes to poor health among poor informal economy households, which in turn increases health care expenditures.
4) Formalities should be put in place for insurance and other health care service providers to accept an in-kind payment structure in commodity exchange, especially for poor informal economy households in Nigeria.

The government policy option of bringing health care through the National Health Insurance Scheme (NHIA) is essential. The problem, however, is the nature of implementation pursued by the government. This requires that those in formal employment be covered first before those in the informal sector can be brought into the scheme. The value of government funding on health has not fared any better over the past years. This lack of commitment has called for means of protecting the poor informal economy households from the high cost of medical payments and the increasing level of out-of-pocket payment. This is likely to retard and even hamper developmental efforts put in place by the government. The researchers, therefore, suggest that the recommendations made therein be strictly followed.

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