



DEMAND FOR HEALTH INSURANCE AMONG INDIVIDUAL HOUSEHOLDS IN LAGOS STATE: EFFECTS OF SOCIO - DEMOGRAPHIC VARIABLES

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Abstract

This study assesses socio-demographic variables on the demand for health insurance in Lagos State. For this purpose, the researchers have been able to examine selected socio-economic and demographic variables and their effects on health insurance accessibility and desire of individual households. The explanatory research design was employed. A convenience sampling technique was adopted. Data was gathered from individual households within Alimosho and Ojo Local Government Areas of Lagos State through the use of an interviewed schedule. The sample consisted of 212 respondents made up of individual households within the sample areas. Data collected was analysed using multiple regression technique. The study was able to establish some level of contributory linkage between selected socio-demographic variables and demand for health insurance. The findings show that while education and income both appeared to have significant

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effect, gender and age both have positive contributory effect. The study therefore recommends that health insurance providers should endeavour to education the larger society of the significance of health insurance products to human existence. Secondly, a robust strategic health insurance outlines should be designed to incorporate the vulnerable ones in the society to ensure equality and fairness in the provision of National Health Insurance Scheme. Lastly, Health Maintenance Organisations should endeavour to implement flexible payment plans for participants in order to improve participation of more individuals.

Key words: Health insurance, demand, socio-economic, demographic, individual households

JEL Classification: M04, M10, M06

I. Introduction

The health of any nation significantly enhances its economic development (World Health Organisation, 2000; Sumninder & Ruchita, 2001). Indeed, healthy population is being noted as a necessary tool for rapid socio-economic and demographic sustenance of the whole world. With such advantageous socio-economic prospects, most African countries and indeed Nigeria suffers provision of quality, accessible, and affordable healthcare service delivery (World Health Organization, 2007; Oba, 2008; Omoruan, Bamidele, & Philips, 2009). Most countries have tried to align themselves to the fact that the provision of healthcare services should not only be a part of the government policy for each country but also a means of taking care of the poor who may not be able to finance the cost that is associated with paying for their health care needs (Boateng & Awunyor-Vitor, 2013; Meghan, 2010).

However, the structure of health system in Nigeria is such that is embedded on the concurrent item of legislation. This implies that while the Federal government co-ordinating the tertiary arm, the State government manages the secondary arm comprising general hospitals and health centers and Local government is concerned with the provision of basic health to grassroot people. In the past, studies had ascribed several problems militating against the growth of health insurance demand to include: inadequate awareness and education; non-engagement of employers; inadequate health facilities; concentration on elites, corporate and institutional clients; inadequate well trained health personnel or physicians; increasing population; and poor working conditions of medical personnel (Swartz 2009; Saksena, Elovaino & Perrot, 2010; Jutting, 2003; Minitry of Health Rwanda, 2009).



Increasing number of studies negate the assumption that poor people enjoy medical care as the middle-class people do (Cook, Hichs, O'Malley, Keegan, Guadagnoli, & Landom, 2007; Haas & Swartz, 2007; Selden, Hudson & Banthin, 2004). The study of Swartz (2009) had noted that poor people encounter barriers to obtaining healthcare connected with their inability to afford it. In spite of efforts made, developing countries, Nigeria inclusive, are far from reaching universal health care coverage (Carrin, Waelkens, & Criel, 2005; Drechsler & Jütting, 2005), and the health system in these countries have failed to provide adequate access to health services and financial protection for citizens, such that many people still rely on out-of-pocket payment to provide finances for their health care needs (Drechsler & Jütting, 2007; Jütting, 2004; Pauly, Blavin, & Meghan, 2009).

In Nigeria, it is clear that the quality of health services facilities is extremely low. At all levels, health facilities are mostly non-functional, thereby translating to insufficient health services delivery. According to United Nation Development Programme (2008), 13 percent and 9 percent of Nigerians were undernourished in 1990/92 and 2002/04, while 39 percent in 1990 and 44 percent of Nigerians in 2004 were noted to have access to improved sanitation. Collin, Schoen, Davis, Gauthier, and Shoenbaum (2007) opined that public financing of medical care is necessary and that enhanced consumption of medical services can lead to improved health and positive externalities. Thus, conventional theory holds that people purchasing health insurance because they prefer certainty to paying a small amount as premium to the risk of getting sick and paying large medical bills (Basaza, Criel & Van der Stuyft, 2008; Schneider, 2004).

However, insurance usage and patronage in Nigeria has constantly underperformed in terms of its contribution to the gross domestic product, penetration and demand. More so, health risks are not appropriately pooled; so the poor, the low income earners, the elderly, and less healthy are excluded from insurance in spite of the emergence of many illnesses that are not common with us and the lack of fund by many families to pay for these illnesses when they occur (Dror & Jacquier, 1999; Sanusi & Awe, 2009; Kannegiesser, 2009).

The core objective of this study is to examine the socio-economic and demographic factors effects on the demand for health insurance among individual households in Lagos State. Other objectives include: investigating if there is a significant relationship between insurance education and demand for health insurance; investigating if income level of individual households have positively enhanced their affordability for



health insurance; examining the significant impact of age distribution of individual household on health insurance demand; and examining the gender effect on the demand for health insurance.

I.1. Research Questions and Hypotheses

For the realization of the afore-mentioned objectives, the following relevant research questions were set:

- i. Is there any significant relationship between insurance education and demand for health insurance?
- ii. Has income level of individual household positively enhance their affordability for health insurance?
- iii. Of what significant impact are age distributions of individual households on health insurance accessibility?
- iv. Is gender of any significant effect on the demand for health insurance?

To provide answers to the above highlighted relevant questions, the following testable research hypotheses were considered:

H₁: There is no significant relationship between insurance education and demand for health insurance

H₂: Income level of individual households do not positively enhance their affordability for health insurance

H₃: Age distributions of individual households have no significant impact on health insurance accessibility

H₄: Gender is of no significant effect on the demand for health insurance

II. Theoretical and empirical framework

Health insurance, according to Vaughan and Vaughan (2008), is defined as insurance against loss by sickness or accidental bodily injury. Thus, the loss may be the loss of wages caused by the sickness or accident or it may be expenses for doctor bills, hospital bills, medicine or expense of long-term care. Health insurance, according to the Health Insurance Association of America (2014), is defined as ‘coverage that provides for the payments of benefits as a result of sickness or injury; which include insurance for losses from accident, medical expense, disability, or accidental death, injury and



dismemberment. It includes insurance for losses from accident, medical expense, disability, or accidental death and dismemberment. It is thus described as any program that assists payment for medical expense, whether through privately purchase insurance, social insurance or a social welfare program funded by the government (Bhargava & Loewenstein, 2005; Elwyn, Edwards, Kinnersley & Grol, 2000).

An earlier related study conducted by Garnick, Hendrick, Torpe, Newhouse, Donelon, and Blendon (1993), established that individuals with health insurance were skeptical about whether their policy covered hospitals and physician visits but much less accurate about whether their plan included mental health coverage or covered emergency room visits. However, the empirical findings from the study of Lowenstein et al. (2013) noted that difficulties may arise in that consumer dread shopping for insurance do not have a good understanding of cost-sharing concepts (such as deductibles, co-insurance and benefit maximums) and require a high level of numeracy to make informed judgment about and choice between medical plans are uncertain. Previous studies have reiterated that the choice of a health insurance plan is driven by two set of determinants: (i) the characteristics of the health plan itself, and (ii) the personal characteristics of the individual making the choice (Sanhueza & Ruiz-Tagle, 2002; Shaw & Ainsworth, 1995; Bhat & Jain, 2006; Boateng & Awunyor-Vitor, 2013).

Individual predisposing factors are linked to the socio-economic and demographic profile of the enrollee (Mitchell, Haber, & Hoover, 2006; Kamuzora & Gilson 2007; Sarpong, Loag, Fobil, Meyer, Adu-Sarkodie, May, & Schwarz, 2010; Jehu-Appiah, Aryeetey, Agyepong, Spaan, & Baltussen, 2012). Some of the major factors suggested to have affected the demand for health insurance are: price (i.e. insurance premium), income, education, age, healthcare expenditure, health status of the family, employment, marital status and gender (Atinga, Abiro, & Kuganab-Lem, 2015; Barrett & Conlon, 2003; Butler, 1999; Hopkins & Kidd, 1996; Lepine & Nestour, 2008; Mocan, Tekin, & Jeffrey, 2004; Rao, 2004). Price, being a determinant of health insurance demand has been explicitly examined in terms of insurance premium, in an earlier argument by Feldstein (1973) supported by Bhat and Jain (2006) noted that as the price of healthcare increases, the demand for insurance in the risk of networth depletes. The empirical evidence to the price determinant of health insurance demand is shown in the work by Chernew, Cutler, and Keenan (2005); Mwabu, Wang'ombe and Nganda (2003); Elsenhauer (2006) and Ruhara and Kioko (2016).



Studies [such as Bolhaar, Lindeboom, and Klaauw, 2008; Cameron & Trivedi, 1991; Swartz, Marcotte and McBride, 1993; Tepper, and Turnbull, 2016] have noted that people with very low income or those unemployed, always do not have access to health insurance whenever it is not obligatory and publicly provided. An increasing income, by and large, decreases the opportunity cost associated with the purchase of private health insurance. Therefore, at a large income level household insurance purchase decreases as households are desiring to retain the risk (Bhat & Jain, 2007). An earlier submission by Kronick and Gilmer (1999) posited that persons with low incomes and few assets purchase insurance basically to protect their health. There is evidence of selection into insurance by income (Finn & Harmon, 2006; Grignon & Kambia-chopin, 2009; Yue & Zou, 2014). Income can determine the probability of purchasing private insurance in two ways: (i) the intuitive expectation that the higher the income the less the opportunity cost associated with the purchase of private health insurance in pure monetary terms (Hopkins and Kidd 1996); and (ii) The opportunity cost of healthy time, which according to Propper (1989) is a function of income, source of income and the extent to which individuals re-allocate their use of time.

The individual perception of risk is a significant factor. Consumers' knowledge of the risk they are exposed to influence their insurance buying decision. This is made possible with the level of education concerning the product. The significance of education in health decision-making is well reported in the study of Bhat and Jain (2006). It is further stipulated that education has an inverse effect on income, as both education and income are generally positively correlated (Van De Ven & Van Praag, 1981). In all, an increase in both education and income would be expected to lead to an increase in the propensity of purchasing insurance. According to Hoffer (nd), the most vital determinants of individual choice are income, age and place of residence. Patel (2002) earlier reiterated that many more people would demand health insurance if they were well informed about the affordability and accessibility of individual and family plans.

Senterfitt, Long, Shih, and Teutsch (2013) demonstrated how education and health behaviour impact on health outcome, in that health behaviours were associated with a smaller difference in health status at the lower educational levels, due to the fact that lower education status itself was a much more significant contributor to health than the health behaviour. In consistent with the study of Bharmal, Derose, Felician and Weden (2015), education is seen as an instrument to better health through individuals' enhanced health knowledge and health behaviour. Earlier studies [such as Liu & Chen, 2002;



Motlagh, Gorji, Mahdavi, & Hhaderi, 2015; Liu, Goa, & Rizzo, 2011] had shown existence of direct correlational link between education and higher intensity of risk aversion; correlation between education level and increased awareness of benefits of low-payment regular insurance in avoidance of catastrophic health expenditure; and also, relational link between increasing education level and demand for medical insurance.

Bhat and Jain (2007) gave a supporting evidence drawing from their work that households having higher annual income propensity have higher capacity to renew health insurance than that of non-insured households; noting that if the income of the household is higher it will have more money to purchase health insurance and pay the premium regularly. By and large, it shows clearly as supported by an earlier work by Van De Ven and Van Praag (1981) that education and income are generally significantly and positively correlated, in that, increases in both income and education would be expected to lead to an increase in the probability of buying the insurance.

However, supporting evidence can be found in the works of Barnes, Hanoch, and Rice (2015); Bhat and Jain (2006); and Savage and Wright (1999) showing positive impact on the probability of having insurance Cover. Nonnemaker (2009) stipulated that age rating of premiums as important method to equate the amount an insurer receives from (or on behalf of) an individual to the expected cost of providing care to that person; in order for reduction in the cost of insurance for those in the lowest cost band. Bhat and Jain (2007) confirms the importance of age variable in deciding the extent of health insurance demand and noted that people in higher age groups relatively spend more on insurance.

In consistent with the result, Barata, Almeida, Montero, and Silva (2007) confirm gender as a factor in determining the health status and behavioural framework of mankind; noting that health services utilization form more inequalities in women seeking medical attention. In an empirical result from Okunada and Wunnava (2002), it was found that a higher proportion of women tend to participate in health insurance, life insurance and retirement plan. Cerceau (2012) opined that health programmes are rarely gender neutral and can even reinforce existing inequalities if gender issues are not adequately addressed. In a multivariate analysis conducted by Boateng and Awunyor-Vitor, (2013), Gender was a significant determinant of one's insurance status where female genders were said to be significantly more likely to renew their health insurance as compared to male respondents.



III. Research methods

The research design adopted in this study was explanatory in nature. The need for this research design is to identify any casual relationship between the variables that relate to the research problems (Saunders, Lewis & Thornhill, 2009). In attainment of the research objectives, the research instrument employed was a structured interview. The data gathering exercise was made speedy with the support of some employed research assistants. However, the respective participants' views to the understudied issues were coded by employing a Likert-type measuring scale of 'Strongly agree', 'Agree', 'Undecided', 'Disagree', and 'Strongly disagree'.

The population consisted of individual households in the Lagos metropolis. The sampling units therefore take cognizance of the individual households within the Alimosho and Ojo Local Government Areas of Lagos State. The choice of these sample areas was due to ease of data gathering. The study employed a convenience sampling technique. The sample consisted of 212 respondents.

Concerning the study validity, theoretical and content were choice of validity. While the former was effected via variable measures from extant literature, the content validity was designed through the distribution of a set of drafted questionnaires to few selected Health Maintenance Organisations' officers, health insurance providers and academia in the insurance profession. Experts in this area, therefore, considered the instrument and gave laudable instructions, which assisted researchers in being able to structure the items on the instrument within the participants understanding. On reliability, 0.7651 was estimated as the Crobach alpha indicating that the instrument superseded the required standard of 0.70.

IV. Results and discussion

In an attempt to analyse the effects of the socio-economic and demographic variables on demand for health insurance among individual households, multiple regression technique was employed. The importance of multiple regression in this study is to determine how the explanatory variables ($X_1 - X_4$) affect the dependent variable (Y). The linear function was chosen on the bases of its suitability of the signs on the regression coefficient as specified by a priori expectation, the value of the coefficient of multiple



determination R^2 , the number of statistically significant variables that is 'beta' and F-value and test.

The equation obtained from linear model result is as follows:

$$Y = 1.734a + 0.534X_1 + 0.231X_2 + 0.183X_3 + 0.387X_4$$

a = Constant

X_1 = Insurance education

X_2 = Gender

X_3 = Age

X_4 = Income

Y = Demand for health insurance

Table 1 indicates that the independent variables yielded a coefficient of multiple regression (R^2) of 0.455 accounting for 45.5% of the variance that evidence the relationship between the independent variables and demand for health insurance. The table 2 therefore shows that the analysis of variance for the multiple regression data produced F-ration value of 21.079 which is significant at 0.05. In table 3, the variables all contribute positively to demand for health insurance a low relationship. While all other variables show some level of statistical significance, age did not.

Table no. 1. Model summary result showing the effects of socio-demographic variables on demand for health insurance

Model	R	R Square	Adjusted R Square	Std. Errors the Estimate	Durblin Watson
1	.535 ^a	.455	.231	.27131	.056

Source: Field survey, 2016



Table no. 2. ANOVA summary result showing the effects of socio-demographic variables on demand for health insurance

Model	Sum of squares	Df	Mean Square	F	Sig.
1					
Regression	168.210	4	22.807	21.079	.000 ^a
Residual	31.836	208	.253		
Total	200.046	212			

Source: Field survey, 2016

Table no. 3. Coefficient (a) table presenting the effects of socio-demographic variables on health insurance

Independent variables	Standard error	Beta	t-value	P
Insurance education	0.25	.534	6.631	.000
Income	0.37	.251	2.873	.011
Age	0.42	.183	1.320	.121
Gender	0.51	.387	4.583	.000

Source: Field survey, 2016

V. Conclusion, recommendations and further studies

This study made attempts to assess socio-demographic variables on health insurance demand of individual households within the Nigerian environment. The findings of the study have shown the significance and importance of the various socio-demographic variables on health insurance plan. It has so far affirmed that health insurance of both out-of-the pocket choice and that of government are growing and the increasing effect of these factors affect individual demand and renewal decisions of continuing in health insurance programme. Findings from this study hence show that while income and education have significant effect in the demand function of health insurance demand age and gender exhibit a positive contributory effect in the demand for health insurance.

For proper recommendation to this research, health insurance providers should endeavour to education the larger society of the significance of health insurance products to human existence. Secondly, a robust strategic health insurance outlines should be



designed to incorporate the vulnerable ones in the society to ensure equality and fairness in the provision of National Health Insurance Scheme. Further, Health Maintenance Organisations should endeavour to implement flexible payment plans for participants in order to improve participation of more individuals. However, concrete collaboration should be facilitated among Insurance companies and HMOs for reduction in their operating cost and efficiency in their delivery of health insurance service in the country. Lastly, National Insurance Commission (NAICOM) should make regular check on health insurance delivery procedure and methodology adopted among Nigeria's health insurance providers so as to ensure that proper technicality are standardised in meeting health insurance expectations of a policyholders.

The future studies should explore whether the insurance companies, particularly microinsurance schemes, offer medium-term health insurance policies and thus the key imperative for doing so. More research should look in the direction of the socio-demographic of health risks using the risk averse - risk taking framework in determining policyholders' repeat purchase decisions, renewal decision and behavioral methodology to health risk.

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