

## Socio-Economic and Demographic Determinants of Health Insurance Consumption

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Received 10 August 2012; accepted 14 October 2012

### Abstract

This study analyzed factors affecting health insurance consumption in Akwa Ibom State. Primary data were collected from a total of 60 national Health Insurance Scheme patrons and non patron. Data were collected on consumer's education, income, age; religion, sex, marital status, access to health insurance information, occupation and family size. The data were analyzed using descriptive statistics and regression analysis. The socio-economic and demographic profile of the people revealed that most of the sampled NHIS patrons and non patrons were literate, engaged in meaningful employment, mostly married with average income, and were still in their active ages, and demonstrated meaningful exposure to insurance health information, which enable them to be or not to be active participants of the scheme. From the regression analysis, it was evident that all the variables except religion influenced insurance consumption positively whereas religion affects health insurance consumption negatively. Based on this, we recommended among other things, a re-alignment of health insurance marketing strategies with consumers socio-economic and demographic characteristics, as a measure to boost patronage.

**Key words:** Socio-Economic; Demographic; Health insurance; Consumption

Ibok, Nkanikpo Ibok (2012). Socio-Economic and Demographic Determinants of Health Insurance Consumption. *Canadian Social Science*, 8(5), 58-64. Available from <http://www.cscanada.net/index.php/css/article/view/j.css.1923669720120805.1836>  
DOI: <http://dx.doi.org/10.3968/j.css.1923669720120805.1836>.

### INTRODUCTION

The past few decades have witnessed renewed research interest in the concept and practice of health insurance marketing in Nigeria. Much of these interests have been ignited by the government in the form of insurance policy reforms, without any conscious or explicit concern for the underlying consumer Socioeconomic and demographic characteristics for the reform policy to be successful.

More still, the literature addressing the health insurance marketing programme is largely descriptive and conceptual in nature. Although many scholars have described how insurance marketing firms should work; there are few specific descriptions about the mechanics of how marketing as a strategy works to improve health insurance performance (Msuya Nyonator & Kutzon, 2004; Proper, 2000; Temple, 2002; Trujillo, 2003). In an effort to bridge this gap in the insurance marketing literature, Kirigia, Lin and Greane (2005) identified a number of parallels between the insured Socioeconomic/demographic characteristics and marketing and recommended procedures in marketing insurance of any kind in the literature. In effect, marketing and health insurance appear to reflect closely related processes, which are influenced by the same variables including education, income, sex, and marital status, and religion, access to health care information, employment, family size, among others.

The convergence on common outcomes together with the similarity in influencing variables have been interpreted as suggesting that marketing may be a close relative of insurance (Bloom, 2004) and a relationship may exist between the two. Thus, for any programme in marketing to be successful it must take its orientation from the consumer. In effect, investigating the consumer characteristics affecting the programme being marketed is imperative. Therefore, given the interest in health insurance and marketing -- and what we know about them as separate constructs -- the link between them vis-a-vis consumer characteristics become a subject of research interest.

However, health insurance is a necessary condition for improved health care of the citizenry. The importance of health insurance programme has been highlighted by many scholars and researchers (Bloom, 2004; Dong, Gbangon, De Allegri, Pokhre & Saverborn, 2008; Hadley, 2002; Makoka, Kaluioa & Kaubewa, 2007; Trujillo, 2003). Accordingly Oseiakota (2003) and Amponsah (2009) observed in their respective studies that lack of health insurance promotes deferment in seeking health care, non-compliance with the treatment regime and overall poor health outcome.

Amartya-sen (1999) also identified in his studies that health like education is one of the basic necessities that give meaning to human life and thus contributes to both the social and economic wellbeing of the citizens. However, scholars like Pauly and Herring (2001) and Long and Marquis (2002) noted that the major problem to health care in many developing nations is healthcare financing. They observed that many developing countries operate a cash and carry healthcare delivery system -- whereby patients are required to pay recommended bills even before treatment at government hospitals and clinics. The consequence of this arrangement is that most patients who could not afford this bill especially during emergency stand the risk of losing their lives because of initial deposit required for treatment to commence. Therefore, in a swift reaction to break the financial barrier to health care services in Nigeria, the federal government passed the National Health insurance Act with the aim of abolishing the cash and carry health care delivery system that was the practice in Nigeria. But unfortunately, since the commencement of the NHIS programme, there has been no empirical study to investigate how many people actually benefit from this programme and why others don't or the underlying factors inhibiting or driving health insurance consumption in Nigeria, from the public perspective. It is against this background that this study attempts to provide answers to the following research questions:

- (i) What are the socio-economic and demographic characteristics of health and non health insurance consumers?
- (ii) What is the effect of these socio-economic and demographic characteristics on health insurance consumption?
- (iii) Which other factor(s) affect health insurance consumption in Nigeria?

### **Objectives of the Study**

This study attempts to achieve three specific objectives:

- (a) To determine the socioeconomic and demographic characteristics of health and non health insurance consumers in Akwa Ibom State.
- (b) To analyze the effect of consumers Socioeconomic and demographic characteristics on health insurance consumption.
- (c) To identify other factors that may inhibit health

insurance consumption.

**Hypothesis.** One hypothesis was formulated to guide the study, namely:

**Ho.** There is no significant relationship between the consumer's socioeconomic and demographic characteristics and health insurance consumption.

### **Significance of the Study**

The implementation of the market driven health insurance programme in Nigeria will require skills in designing, developing, managing and controlling strategic issues with partners of all kinds and keeping them all focused on health policy assurance. Thus, the insurance industry will benefit from the results as it will help them in redesigning strategic approaches such as being customer friendly, market segmentation, targeting, and positioning and information technology. The consumers would also benefit from these results as an informed consumer is likely to make an informed decision including choice of healthcare provider. The government will find the results of this study useful in subsequent policy issues concerning health insurance of her citizenry.

### **Organization of the Paper**

We proceed in this study by reviewing relevant literature. A description of the research setting, the data and the model specifications follows, and then we report the results. Finally, we discuss implications for practice, the limitations and opportunities for further research. However, this study has made significant contributions by providing empirical evidence that consumer socioeconomic and demographic characteristics are important determinants of health insurance consumption.

### **Brief Literature Review**

Many researchers and scholars have looked into the relationship between consumer socioeconomic and demographic characteristics and health insurance consumption. Propper (2000) for instance, observed that the demand for private health insurance is a function of income, political allegiance, previous experience and the role of the state in providing health care. Temple (2002) in his quest for factors influencing insurance decision of the elderly found income and age as significant predictors of demand for private insurance health care; while Makoka *et al.* (2007) also found income and education of the consumers as significant determinants of private health care in a free public health care institutions. Van De Ven and Van Prang (1981) also noted in their studies that income and education of the insured were significant determinants of healthcare demand. Thus, higher income of the consumer decreases the opportunity cost that is associated with health insurance consumption, whereas increases in income and education of the consumer are expected to increase the consumer's probability of buying health insurance.

More so, studies on the effect of age, income, marital

status, employment, access to information and gender on health insurance have been well explored and documented (Grossman, 1972; Kroniek & Gilman, 1999; Long & Marquis; 2002; Pauly & Herring, 2001). Scholars like Trujillo (2003), Liu & Chen (2002), Cameron and McCollum (1995) are of the opinion that married couples are more likely to buy insurance coverage of any kind, and those gainfully employed also take insurance coverage more than the unemployed (Butler, 1999; Sawage & Wright, 1999). Pauly and Herring (2001) in their submissions also found that the price of insurance or premium has a significant influence on the demand for health insurance. This is in tandem with healthcare expenditure. Kronick & Gilmer (1999) observed that health care expenditure has always been on the increase and thus influencing the decision to participate in a given healthcare insurance programme. Similarly, recent studies conducted by Backnighausan, Nichols and Asunso (2007), Dong *et al.* (2008) and Kirigia *et al.* (2005) found that age, marital status and sex strongly influenced people's choice between professional health care and non professional care and concluded that the use of awareness campaign might increase the use of medical services among people. In a similar study of insurance ownership among women in South Africa, Kirigia *et al.* (2005) observed the relationship between health insurance consumption and the various social, economic and demographic characteristics of South African women.

Marital status was found to have a significant positive effect on the demand for health insurance (Kirigia *et al.*, 2005; Liu & Chen, 2002). They concluded that married couples demand health insurance more than the unmarried because of the need to protect their children and avoiding the risk of unaffordable health expenditures.

Religious faith of the people have been investigated and found with empirical evidence to affect health insurance consumption (Ibok, 2006; Juetting, 2003). Juetting (2003) for instance, found a significant relationship between Catholicism and health insurance consumption. On the other hand, access to health insurance information through either the print or broadcast media were found to positively and significantly affect health insurance patronage. However, Islam, Islam and Banowary (2009) observed that most family planning messages and health related information was disseminated via the broadcast media. Accordingly, they found the television as the most effective medium in disseminating health related information than any other medium.

Health insurance consumption should rise with income. This is because a person's consumption and human capital typically increase along with income, creating a demand for insurance in order to safeguard the income potential of the insured. Browne and Kim (1993) found a positive relationship between life insurance consumption and the level of income. A higher level of education in a

population is positively correlated with the demand for any type of insurance product. This is because education may increase people's ability to understand the benefits of risk management and even long term savings as a pre-cautionary measure and therefore increase their risk aversion. Thus, education is undoubtedly, an important determinant of the consumption of health insurance (Bloom, 2004; Blumberg & Nichols, 2002; Juetting, 2003; Trujillo, 2003). Similarly, occupation, sex, and family size were found to be robust predictors of health insurance consumption (Propper 2000; Temple, 2002).

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## METHODOLOGY

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The survey design method was used in this study. In order to obtain the data for this study, focus group interviews among patrons and non patrons of national health insurance scheme were conducted in Akwa Ibom State, particularly in Uyo municipality. The essence of this interview was to tap possible options for the survey questions. The questionnaire was pretested to a group of 10 patrons and 10 non patrons of NHIS and modified accordingly. The survey sample was drawn from both state and federal government employee's resident in Uyo capital city. The sample was stratified in these two segments. The questionnaire was tailored respectively to suit the two classes of the public chosen for the study.

However, ten respondents each from five ministries in the state and five federal ministries/Parastatals were taken as convenient sample owing to such factors as financial constraint, time and other constraints. Out of the 100 copies of questionnaire issued out, 60 were received in useable form. However, participation in the study was voluntary. There were twenty questions altogether in the questionnaire. The first section of the questionnaire asked questions on the respondent's basic demographic and socioeconomic variables. Section 2 of the questionnaire was concerned with questions bothering on the effect of the socioeconomic and demographic characteristics on health insurance consumption. The third section elicits responses on other factors that inhibit health insurance patronage in the state. Data were analyzed using tables, frequencies and percentages of responses from our respondents. The propositions were tested using the multiple regression analysis, and tested at 1, 5, and 10 percent level of significance. The five ministries selected from the state were the ministries of education, sports, health, agriculture, and culture/tourism, while the five federal ministries/parastatals selected were the women Affairs, immigration, and prisons, Corporate Affairs Commission and University of Uyo.

As a proxy for health insurance consumption, the decision to insure or not as a function of observed individual characteristics such as sex, income, religion, education, access to health insurance information and other factors influencing the demand for health insurance

was used. Thus the utility function for health insurance demand ranges between zero and one; 1 where a household has health insurance policy and 0 if a household has no health insurance policy. Therefore, health insurance consumption is estimated to be a function of several socio economic and demographic characteristics of the consumer expressed in an equation form as:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, + e)$$

Where Y = health Insurance consumption

X<sub>1</sub> = Access to health insurance information

X<sub>2</sub> = Education

X<sub>3</sub> = Age

X<sub>4</sub> = Marital status

X<sub>5</sub> = Sex

X<sub>6</sub> = Family size

X<sub>7</sub> = Occupation

X<sub>8</sub> = Religion

X<sub>9</sub> = Income

e = error term.

This can be expressed in an implicit form as:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e$$

The error term is assumed to be normally and independently distributed with zero mean and a constant variance. The b<sub>0</sub> = intercept, b<sub>1</sub> = the regression coefficient of the independent variables. The single equation model, which employs the ordinary least square estimation method, was used.

## DATA ANALYSIS AND RESULTS

(i) Socioeconomic and Demographic characteristics of respondents.

**Table 1**  
**Socioeconomic and Demographic Characteristics of Respondents N =60**

Characteristics	Categories	Frequency	Percentage
Age (years)	< 30	2	3.33
	31 –40	10	16.67
	41 –50	20	33.33
	51 and Above	28	46.67
	<b>Total</b>	<b>60</b>	<b>100</b>
Sex:	Male	36	60
	Female	24	40
	<b>Total</b>	<b>60</b>	<b>100</b>
Marital Status	Married	38	63.34
	Single	20	33.33
	Separated/Divorced	2	3.33
	<b>Total</b>	<b>60</b>	<b>100</b>
Education	Primary	2	3.33
	Secondary	28	46.67
	Tertiary	20	33.33
	others	10	16.67
	<b>Total</b>	<b>60</b>	<b>100</b>
Income	< ₦ 50,000	26	43.33
	₦ 51000-100,000	17	28.33
	₦ 101, 000-200,000	10	16.67
	₦201, 000 and Above	7	11.67
	<b>Total</b>	<b>60</b>	<b>100</b>

To be continued

Continued

Characteristics	Categories	Frequency	Percentage
Family size	1 – 2	12	20.00
	3 – 4	18	30.00
	5 – 10	20	33.33
	11 and Above	10	16.67
	<b>Total</b>	<b>60</b>	<b>100</b>
Occupation	Professional	22	36.67
	Managerial	6	10.00
	Technical	24	40.00
	Others	8	13.33
	<b>Total</b>	<b>60</b>	<b>100</b>
Religion	Christianity	42	70.00
	Islam	2	3.33
	Traditional Religion	10	16.67
	Others	6	10.00
Access to health insurance information	<b>Total</b>	<b>60</b>	<b>100</b>
	Broadcast media	32	53.33
	Print media	20	33.33
Possession of health insurance policy	Others	8	13.34
	<b>Total</b>	<b>60</b>	<b>100</b>
	Household has health Insurance policy	35	58.33
	Household has no health Insurance Policy	25	41.67
	<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2022

Table 1 shows that 3.33 percent of the respondents are under 30 years of age while 46.47 percent of them are 31 years and above, majority of them (50%) are between the ages of 31 - 50. This indicates that health need cut across different age groups, thus age is no barrier to getting involved in health insurance programme. Table 1 also indicates that the largest proportions (60%) are male, while only (40%) are female. More so, Table 1 also reveals that (63.34%) of the respondents are married, 33.33 percent of them are single, while few of them (3.33%) are divorced or separated. Table 1 further revealed that 46.67% of the respondents received secondary education, 33.33 percent had tertiary education while a very small percentage 3.33% had primary education. Only 16.67 percent had other qualifications. On income of respondents, 43.33 percent had income below ₦50, 000, 28.33 percent receive monthly income between ₦51, 000 to ₦ 100,000, 16.67 percent earned income of ₦101, 000 to ₦200, 000. The remaining 11.67 percent earned monthly income of above ₦201, 000.

Furthermore, Table 1 revealed that 70 percent of the respondents were Christians, 3.33 percent were Moslems, while 16.67 percent were traditionalist. 10 percent indicated other religion. In the case of access to health care insurance information through the media, 53.33 percent of the respondent's claim to have heard about it on either radio or television. 33.33 percent have access through the national newspapers; while very few (13.34 percent) claimed other sources like friends and neighbours. On the possession of health insurance policy, 58.33 percent of the respondents claimed to have registered with NHIS programme, the remaining 41.67 percent of the respondents did not have health insurance policy as indicated in Table 1.

On the factors affecting their possession of health insurance policy, their responses are as presented in Table 2.

**Table 2**  
**Reasons for Not Participating in Health Insurance Programme. N=25**

Reasons	Frequency	Percentage
Premium charge is too high	3	12
Don't have money to pay	1	4
Not aware of the programme/know how it operates	10	40
It is against my religion	1	4
Don't believe in it	2	8
No access to health care facility.	8	32
<b>Total</b>	<b>25</b>	<b>100</b>

Source: Field Survey 2011.

From Table 1, approximately over 42 percent of the respondents did not have health insurance policy, while 58 percent were insured with the national health insure scheme. For those not participating in the scheme, the most obvious reason is lack of awareness of the programme and how it operates. This stems from the fact that 40 percent of them claimed ignorance of the programme. Another significant proportion 32 percent indicated no access to health care facility as a major problem. 12 percent claimed that the premium charge is too high; another 4 percent claimed that they don't have money to pay. Don't believe in it and it is against my religion were only indicated by 4 and 8 percent of the respondents respectively. Those findings are suggesting that the problems affecting health insurance consumption in Akwa Ibom State is wide ranging and enormous and would require policy intervention by the government. This is because it has been ascertained that consumers have many difficulties. The most important of these being procedural bottleneck such as: not being adequately informed, no access to health care facility and high premium charge. This is shown as 40 percent, 32 percent and 12 percent respectively. Therefore for people to reap maximally from the national health insurance programme, these problems have to be dealt with.

### EFFECT OF SOCIOECONOMIC AND DEMOGRAPHIC VARIABLES ON HEALTH INSURANCE CONSUMPTION

In order to test the hypothesis, multiple regression analysis was employed to determine the relationship between health insurance consumption and consumers socioeconomic and demographic characteristics. Appendix 1 shows the multiple regression results. Linear function was selected as the lead equation because it has the highest number of significant variables as well as a higher R<sup>2</sup> value. The estimated equation is:

$$Y = 79.680 + 2.615X_1 + 19.234X_2 + 2.315X_3 + 3.33X_4 + 1.531X_5 + 45.087X_6 + 2.707X_7 + (46.957) (0.321)(32.792)(0.028)$$

$$(0.673)(27.717)(22.739) (1.315) - 4.577X_8 + 3.027X_9 (3.279) (37.717) R^2 = 0.563$$

From the regression results, all the parameter estimates carry positive sign except X<sub>8</sub> (-4.577) (Religion) implying that access to health insurance information (X<sub>1</sub>) education (X<sub>2</sub>), Age (X<sub>3</sub>), marital status (X<sub>4</sub>), sex (X<sub>5</sub>), family size (X<sub>6</sub>), occupation (X<sub>7</sub>) and income (X<sub>9</sub>) all have positive or direct relationship with health insurance consumption. That is the higher the coefficients of these variables the more health insurance will be patronized. From the R<sup>2</sup> of 0.563 or 56.3 percent of total variation in Y is explained by the independent variables. However, five of the estimated coefficients are statistically significant. These are the coefficients of access to health insurance information, age of household and occupation at 5 percent, while that of sex and family size are significant at 1 percent and 10 percent respectively. All the explanatory variables except religion are positively related to health insurance consumption.

### SUMMARY OF MAJOR FINDINGS AND DISCUSSIONS

It was the intention of this study to investigate the socio-economic and demographic determinants of health Insurance consumption in Akwa Ibom state. In order to carry out the study, 60 copies of the questionnaire were found useful for the analysis. The study involved males and females, married and single, people of different ages ranging from below 30 years and above, with different educational background. The blends of these characteristics give credence and value to the responses received from the target population. The results indicate that: first, the respondents were government employees ranging from managerial to technical and professional staff of diverse religious backgrounds and beliefs. Second, there appears that people who don't have health insurance policy are either not aware or know the procedure, or have access to health care facility in their domain and that the prices or premium were too high.

From the analysis of the hypothesis, it was revealed that all the factors except religion had positive coefficients suggesting that health insurance patronage is a function of consumer's socioeconomic and demographic characteristics. This has been established by various authors and scholars (Backnigham *et al.*, 2007; Pauly & Herring, 2001; Propper, 2000; Temple, 2002; Trujillo, 2003). Among all these indicators; access to health insurance information, education, age, marital status, sex, family size, occupation and income were seen as having direct and significant positive influence on health insurance consumption, with religion having negative relationship. These results are consistent with previous findings as in Butler (1999); Harmon and Nalin (2001); Karigia *et al.* (2005); Kronick and Gilmer (1999); Liu and Chen (2002); Long and

Marquis (2002); Makoka *et al.* (2007). See also Ibok, 2006 and Juetting, 2003 in their respective studies on health insurance consumption.

## LIMITATIONS AND FUTURE RESEARCH

Thus study was confined to government workers only in Uyo metropolis of Akwa Ibom State; representation for the whole population and the country cannot therefore be claimed. As such, findings should not be generalized to other geographic regions. Secondly, the conditions of the method and smallness of the sample would in no way fail to have impacted on the results obtained; this extinguishes the opportunity of making generalizations. It is therefore recommended that a further study with a larger sample size be carried out using the same data set. Furthermore, this study was a cross sectional survey of people in few government ministries, we recommend that further study should expand the scope of this study to cover other groups both within and outside the state using longitudinal data for better representation.

## CONCLUSION AND POLICY IMPLICATIONS

Based on the findings of this study, we can conclude that health insurance consumption is a function of health insurance information, access to healthcare facility, price of healthcare products and a myriad of socioeconomic and demographic factors. Previous researches on the health insurance marketing has not taken into explicit consideration the issue of socioeconomic and demographic variables as a major thrust in the formation of strategic health insurance marketing policy. No major empirical work has been carried out to specifically see how these variables could be integrated in the marketing of health insurance. This study thus presents a model exploring the joint contribution of these variables in determining health care insurance consumption in a developing economy like Nigeria. Besides this general implication, this study has several managerial and social policy implications.

The first implication is that managers of health insurance or national health insurance scheme should be aware that to create patronage would require considerations of major strategic variables and behaviour orientation towards the consumers of the programme.

Secondly, the government that initiated this scheme should help information flows and collaboration among NHIS, the public and healthcare providers and ensure that such services are at all times accessible both in cost and location. Thus a regular monitoring of the success of the scheme will help to deliver the desired performance outcome.

Thirdly, the findings also suggest that for NHIS to deliver a better value of healthcare to the citizenry there is

need for change of orientation to a strategic market driven healthcare insurance programme. As a consequence, the design, implementation and management of the programme should be strategic and consumers focus. Fourthly, a comprehensive framework of health insurance marketing should be considered to avoid mis-alignment that may produce non synergistic effects in programme implementation and sustainability. Finally, there is general need for re-alignment of health insurance marketing strategies with various consumers' socio-economic and demographic characteristics. This will help in promoting not only health insurance marketing and patronage but will also improve health care delivery as it will be specifically tailored to meeting individual needs of the consumers.

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