ASSESSING THE ANTECEDENTS OF NATIONAL HEALTH INSURANCE SCHEME (NHIS) ENROLLMENT IN GHANA: THE PERSPECTIVE OF RURAL DWELLERS

Minkah Andrews Yaw[1*], Agyemang Prempeh Fredua Sylvester[1]
Emmanuel Bosompem Boadi[2*], Isaac Amankwaa Adu[1]

[1] *School of Management, Jiangsu University, Zhenjiang 212013, P.R. China.*
[2] *School of Public Administration, Hohai University, Nanjing 202001, P.R. China.*

Corresponding Author: Minkah Andrews Yaw*, Emmanuel Bosompem Boadi[*]

ABSTRACT

The purpose of this research is to assess the factors that affect National Health Insurance Scheme (NHIS) enrollment in Ghana. Using convenience sampling method, 200 completed data were analyzed. The Statistical Package for Social Sciences (SPSS 25) was used in analyzing the relationships between the Independent variables and the dependent variable. Findings from the study indicated that there is a reasonable positive linear relationship between Enrollment Drive Features (Independent variables) and NHIS Enrollment (Dependent). Based on the findings, it is concluded that, a comprehensive package and awareness of a health insurance guarantee higher enrollment. The study recommends that the National Health Insurance Authority (NHIA) and its affiliate offices intensify the education and sensitization program about the scheme, its role and the feedback from the public.

KEYWORDS: *National Health Insurance Scheme; Enrollment; Rural dwellers; Enrollment Drive Features*

INTRODUCTION

Ghana has made universal coverage of health care her top most priority, defined as 'access to adequate health care for all at a reasonably low price', of health care and has therefore enacted policies and programs to attain this objective. A number of health financing reforms have been executed meant to increase the general resources to the health sector and ensuring fairly allocation, the most recent of such reform is the National Health Insurance Scheme (NHIS), which seeks to enhance social health protection. Preceding to the formation of the NHIS in 2003, Ghana carried out most of the known healthcare financing machineries including general tax and donor funding, 'cash and carry' payments, and community-based health insurance schemes (Freeman, 2016). To cushion the burden of down-payment for health care, the government through its executive powers introduced an exclusions policy targeted at children under the age of 5, pre-natal care for pregnant women, the indigent and paupers, the elderly, and for some disease-specific services (Government of Ghana/SAPRI, 2001; Sulzbach et al., 2014; Singleton, 2015). Despite having a relatively comprehensive policy, there was considerable evidence that the exclusion policy was poorly funded and executed as many of those who should have enjoyed the exemption did not receive them (Sawadogo et al., 2017; Geng et al., 2018).

Notwithstanding this seemingly impressive financing structure, there is a pragmatic evidence of low enrollment, but there exists deficiency of information in the logical reasons, particularly regarding how poor people and low wage groups who are the primary target population for realizing the quality in the health care system have benefited from the scheme. Just 36% of the population are covered following a time of the scheme introduction, suggesting the universal health coverage status has not yet been accomplished (Oxfam, 2018). The

study provided consistent data that was informative and instrumental to the National Health Insurance Authority (NHIA) and interested parties on the subject matter. It will also add to the existing body of knowledge in serving as locus to support subsequent researchers on the same or related topics; that is factors which affect National Health Insurance Schemes' enrollment. The recommendations of this research work can also serve as a guide for policy makers and governments in making informed policies on socio-economic factors that affect the enrollment of the NHIS in the country. Adopting a rural and relocated community perception make this paper the first of it kind and would help researchers and policy makers to reevaluate the policies on these vulnerable groups, while filling this gap in literature. Therefore, this study seeks to find out the factors that affect people's decision to enroll on the National Health Insurance Scheme in Ghana.

LITERATURE REVIEW

A greater number of studies have been conducted in recent years on the patronage of health insurance. Sulzbach (2014) in their study revealed that household head characteristics (older age, female gender, higher education, and employment) forecast insurance enrollment at the household level, whereas these factors plus family wealth increased the likelihood of enrolment at the individual level. With regard to patronizing health insurance, those who are liable to illness were more likely to participate than their counterparts. Of course, persons in the educated circles and those who are prone to disease are more likely to patronize health insurance schemes than their counterparts because they have impartial understanding and experience of the scheme to be able to enjoy the benefits.

Jehu-Appiah (2017) noted that insights about provider schemes and community attributes play an imperative part, although there was a varying distinction in household decision to voluntarily enroll and remain enrolled on an insurance schemes. Policy makers were advised to embrace household taught as potential hindrances or enablers to enrollment and invest in understanding them in their design of interventions to stimulate membership. With a household survey of 3301 and 13865 individuals, the study results postulated that scheme factors have the strongest link with voluntary enrollment and retention decisions in the national health insurance scheme. Precisely, these relate to benefits, convenience and price of NHIS. At the same time, while family had positive perception with regard to technical quality of care, benefits of NHIS, the convenience of NHIS administration, and had appropriate community beliefs and attitudes, they were negative about the price of NHIS, provider attitudes, and peer pressure. People who have not enrolled unto a health insurance were more negative than the insured about benefits, convenience, and price of NHIS. If indeed household and individual perception about schemes do affect enrollment and retention in the scheme, then NHIA must invest education and awareness creation in order to maintain positive perceptions about the scheme. However, an individual perception is just one of the many factors that combine to affect enrollment positively or negatively. Again, it stands to reason that those who are insured are more positive about the benefits than those who are not, this is because it is that positivity that influences their decision to register and subsequently renew their membership and vice versa.

Again, Varatharagan (2016) their work noted that where the insurance scheme focused primarily on satisfying the needs of the poor and providing social health protection based on the values of equity, solidarity, risk sharing, cross-subsidization, reinsurance, client and community ownership, value for money, good governance, and transparency in the health care delivery, NHIS coverage is thus prominent in the most disadvantaged district, where there is a higher cases of poverty, lower levels of female education and lesser health care facilities and where the needs of the pregnant women and the elderly may not be met.

While some research may predict higher enrollment and participation for people with higher income, there is no doubt that is associated more with those working in the formal sector and live in the urban areas. As Varatharagan (2016), stated, poorer people in the rural setting who understand the benefits attached to health insurance are reliant on these schemes for health services just because they may not be able to afford payment for their services when they need it most. However, the influence that knowledge about the scheme has on patronage in the rural communities cannot be overemphasized. Hence, even though enrollment may be higher in a rural setting, it is dependent more on the knowledge and understanding that rural people have other than the factors noted by Varatharagan and others.

He & Nolen (2018) also asserted that, there is a significant positive relationship between income and education on health care demand. Commonly, higher income decreases the opportunity cost attributed with the purchase of health insurance. Thus, increases in income and education are expected to increase the likelihood of patronizing health insurance. The effects of demographic and economic factors such as age, marital status, employment and gender on health insurance have been studied variously.

Married respondents are more likely to patronize an insurance coverage (Trujillo, 2017; Liu & Chen, 2015). Those employed are also more likely to enroll unto an insurance coverage (Saltzman, 2018; Savage & Wright, 2015; Ratner et al, 2018)

Harmon and Nolan (20014) highlighted that marital status had a significantly positive impact on health insurance demand. In Ghana's NHIS, children below 18 years, whose parents or caretakers pay their own contributions, are excluded from paying any contribution. Thus, married couples may demand insurance in order to cover their children and also tend to be more averse to the risk of overwhelming health expenditures. Based on the above discussion, it can be concluded that this study is enriched with challenges facing people in patronizing National Health Insurance as well as the variables that influence enrollment in a health insurance scheme. However, most of these researches focused on privately run insurance schemes as against government-run insurance schemes. More often than not, government-run insurance schemes are affordable and are targeted at the poor. Therefore, if most research indicates a positive relationship between income and patronage, then it can be assumed that they are appropriate to areas where the premiums are high and are targeted at those who can afford such schemes. In Ghana where the main insurance scheme is government-run, this seems to be the opposite.

Wang et al. (2015) identify that in rural China the inability of farmers to pay premiums is a major limitation to enrollment. Similarly, Criel & Waelkens (2013) reveal that the declining subscriptions to the Maliando Mutual Health Insurance Scheme in Guinea-Conakry are as a result of the inability of people to make payments of their premiums. Furthermore, In Ethiopia, Asfaw & Braun (2014) found that enrollment in community health insurance remains low due to the inability to pay premiums. Basaza et al. (2018) also confirm the role of the inability to afford premium as significant in Uganda. Sulzbach et al. (2015) find a relationship between the inability to afford premiums and low enrollment in the Nkoranza and Kwahu Districts in Ghana. In Kenya, high premiums and inflexible premium collection schedules limit enrollment (Mathauer et al., 2018).

Inefficiencies and operational difficulties in the NHIS's administration have also been identified to contribute to low enrollment in Ghana (Jehu-Appiah et al., 2017). These related to membership registration, insurance cards production and distribution. Members had to wait for a period (between three to six months) before they received their membership cards. The delays discouraged enrollment, though the idea was to prevent adverse selection. 22 Institutional rigidities also accounted for low enrollment in the Jos City in Nigeria (Onyedibe et al., 2017). In some parts of rural China some community insurance schemes signed up members only once in a year and on a particular day. Those who decided to join later were not admitted. This rigidity was found to keep a significant number of potential members outside the scheme (Carrin, 2016).

Moreover, poor quality care of healthcare delivery to the insured may explain low enrollment. This may relate to long waiting periods for healthcare, excessive prescription, poor referral systems, and differential treatment based on the socio-economic and insurance membership status. Preferential treatment given to the uninsured as against that received by the insured is a disincentive to enrollment. A case on point is identified by De Allegri et al., (2017) and (Dalinjong & Laar (2016) in the Nouna District in Burkina Faso and the Builsa and Bolgatanga Districts in Ghana respectively where some insured experienced long waiting hours for health care, verbal abuse and discrimination in favor of those who make upfront payment. The insured expressed dissatisfaction with the attitude of health workers. Again, some scheme members reported that they were not well examined by doctors as they saw them as not making direct contributions to the health cost financing of the providers.

The following hypothesis were therefore formulated:

H1: Health Care Delivery System has a positive and significant impact on NHIS Enrollment.

H2: Level of Income has a positive and significant impact on NHIS Enrollment

H3: Risk Perception and Health seeking behavior has a positive and significant impact on NHIS Enrollment

H4: Availability of Health Care Facilities has positive and significant impact on NHIS Enrollment.

METHOD

The research was conducted in Kokoteasua, Obuasi, Ghana. A relocated village to make way for Gold mining waste dump. Out of the total population, persons above the age, 18 were involved in the study. The research work adopted a descriptive and an exploratory research designs. These research designs were used to gather and analyze data in establishing the relationships between the constructs. The quantitative research method was employed to offer a clear description of the health insurance scheme and factors that affect its enrollment in Ghana.

Since this study attempts to identify the factors that affect NHIS Patronage in Kokoteasua, a survey research design was employed because it gives the researcher the opportunity to sample people's opinion and obtain comment or information from a significant number of respondents. It is also noted that the sole aim of survey study is to examine current opinions, behaviour and other characteristics of a group (Onodugo, Ugwuonah, & Ebinne, 2010).

Questionnaires were developed to gather primary data from respondents to obtain information on how

availability of health care facilities and health care delivery system affect NHIS enrollment and how a person's level of income affect NHIS enrollment, how risk perception and health seeking behavior affect NHIS enrollment. This research study employed cross-sectional multiple regression model in the analysis by looking out for the factors that affect NHIS Enrollment in Ghana. This study contains one (1) dependent variable and four (4) independent variables. Multiple regression analysis enabled hypotheses H1, H2, H3and H4 to be tested.

The variable Y is titled as the "dependent variable" which is denoted as NHIS Enrollment.

The independent variables (enrollment drive features) were therefore given application-based names such as health care delivery system X1, level of income X2, risk perception and health seeking behavior X3, and availability of health care facilities X4. The model is expressed as: $Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$

RESULTS

Table 1: Respondents' Social Profiles

Variables	Characteristics	Frequency	Percentage
Gender	Male	104	52
	Female	96	48
Age	18-35	65	32.5
	36-45	23	11.5
	46-59	42	21.0
	60 and above	70	35.0
Marital Status	Married	86	43.0
	Single	114	57.0
Employment	Self Employed	32	16.0
	Wage Employed	84	42.0
	Student	64	32.0
	Unemployed	20	10.0
Membership of NHIS	Registered	105	52.5
	Unregistered	95	47.5

Out of the 200 respondents 52% are males, 53.3% are married, 35% are above 45 years.

Factor Analysis and Reliability

A Cronbach's Alpha test was run to test the questionnaire's reliability. The table below shows that general calculated Cronbach's alpha for the study is 0.931(table 2). This indicates that there is high reliability in the instrument used. The table below shows the results of the reliability test.

Table 2: Reliability Statistics of the Data

Table 3: Validity Statistics of the Data.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
EF	0.933	20

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.834
Bartlett's Test of Sphericity	Approx. Chi-Square	1719.730
	Df	15
	Sig.	.000

The results show that KMO measure of sampling adequacy was 0.834, and Bartlett's Test of Sphericity was significant at $p < 0.001$, depicting the data was suitable for factor analysis.

Correlation Analysis

The results from the table 4 below shows that there is a positive correlation that exist between the independent variables namely: (health care delivery system, level of income, risk perception and availability of healthcare facilities) and the Dependent variable (NHIS enrollment).

Table 4: Correlation Matrix

Model	Health Care Delivery System	Level of Income	Risk Perception	Availability of facilities	NHIS Enrollment
HealthCare Delivery System	1				
Level of Income	.301	1			

Risk Perception	.450	.164	1	
Availability of Facilities	.067	.285	.416	1	
NHIS Enrollment	.568**	.711**	.476**	.661**	1

REGRESSION ANALYSIS

Based on the observations from the results of Beta coefficients and P-values, availability of health care facilities appear to be the strongest predictor of NHIS enrollment followed by Level of Income, and the next is risk perception and health seeking behavior, with health care delivery system being the least predictor of NHIS enrollment. Table 5 below shows the results of the relationship between the independent variables and the dependent variables.

Table 5. Regression of Enrollment Drive Features on NHIS Enrollment

Model	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	T	Sig.
(Constant)	.359	.123		2.919	.004
Healthcare Delivery System X1	.053	.047	.056	1.128	.000
Level of Income X2	.196	.070	.192	2.789	.006
Risk Perception X3	.138	.041	.152	3.363	.001
Availability of healthcare facilities X4	.862	.060	.812	14.299	.000
R value	.843a				
R-square value	.710				
Adjusted R-square	.706				

Y=Dependent variable (NHIS Enrollment)

FINDINGS

These results confirm the study hypothesis (H1) that Health Care Delivery System has a positive and significant impact on NHIS Enrollment. This study is synonymous to the study by Jehu-Appiah (2017) who postulated that perceptions of people about health insurance scheme, service providers and disease causation have an impact on patronage. Negative perceptions decrease enrollment. Knowledge about health insurance schemes may be associated to the premium rate, suitability of the service provided by health workers and benefit package. Perceived low premiums and effective service delivery increases affordability and this has tendency of increasing enrollment. Moreover, the trust in insurance schemes relates to the assurance that members can actually depend on such schemes for financial assistance when they experience health shocks. The inability of an insurance scheme to provide to its subscribers when members are in need is likely to grind down trust, thereby restraining enrollment (De Bock & Gelade, 2012).

Hypotheses H2 is confirmed that Level of Income has a positive and significant impact on NHIS enrollment. Again, the findings of this study is found to be similar to a study done by other researchers. Income has been identified to have a robust relationship with enrollment. All things being equal, higher incomes increase the ability to pay premiums, thereby increasing patronage unto the health insurance scheme. Jehu-Appiah (2017) has shown that income plays an imperative role as a determining factor of enrollment. Income is closely related to employment and so the employed may have a higher probability to enroll than the unemployed. As income increases and unemployment decreases, people are more willing to patronize health insurance (Asenso-Okyere et el., 2010).

These results endorse the study hypothesis (H3) that Risk Perception and Health Seeking Behavior has a positive and significant impact on NHIS enrollment. The poor and low income groups are more likely to take health insurance because they are more risk-averse than the higher income groups (Monheit & Vistnes, 2016). These groups tend to have a higher aversion for risk and may sacrifice satisfying consumption for patronizing health insurance in order to protect their limited assets against tragic health expenditure as it can push them further below the point of survival. Additionally, the individual's self-assessment of health affects the decision to use health insurance. Jowett (2017) asserts that a person who assesses himself as healthy might be less willing to

take health insurance than one who is less healthy. Furthermore, community and cultural beliefs about diseases causation can have an effect on enrollment. People who associate disease causation with spirituality may not take part in health insurance (De Allegri et al., 2016). Osei-Akoto & Adamba (2017) assert that a strong belief and reliance on God and prayers for preventive health can reduce demand for health insurance, likewise the belief that buying health insurance implies inviting sickness (Baidoo & Buss, 2012).

Therefore hypotheses H4 is confirmed that Availability of Health Care Facilities has positive and significant impact on NHIS enrollment. Long distance from a health facility or a health service provider translates into a high rate of amount of seeking health care which will be borne by the insured. Among the insured in the Self-Employed Women Association health insurance scheme in Uganda, members complained that the cost of transportation to a health facility discouraged them from utilizing health services, even though they had insurance (Morestin & Ridde, 2019). Similarly, in the Asante-Akim South District in Ghana, there exist a negative association between long distance from a health care facility and insurance coverage. Enrollment is low among populations living further from a health facility (Sarpong et al., 2018).

CONCLUSION

The study conducted contained 200 respondents and a factor analysis along with multiple regression was run. The findings demonstrated a reasonable positive linear relationship between enrollment drive features and NHIS enrollment in Ghana. With regards to all the components of enrollment drive features i.e. independent variables, there exist a significant positive relationship between the components and NHIS enrollment. The study urges the NHIA to adopt mechanism in addition to constant monitoring of the scheme providers and training of health officials and eliminate the top-bottom approach of the scheme to bottom-up approach method. The study therefore recommends that, scheme managers should reduce premium rate as the majority of subscribers fall in the informal sector. These informal sector workers classified as mostly the poor in the community. Hence a higher fee, will force them to resort to self-treatment. The study only selected one community purposively for the research. The study identified health care delivery system, level of income, availability of health care facilities and risk perception and health seeking behavior of the scheme as areas of concern. Also, further research is also needed into how household characteristics affects ones enrollment drive unto a health insurance scheme.

Conflicts of Interest
The authors declare that they have no competing interests.

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