Out-of-pocket payment for healthcare, the insured and uninsured: the barrier to universal healthcare coverage in Ghana

Abstract:

All healthcare insurance systems are aimed at achieving the main financing functions of raising revenues and pooling resources for risk-sharing. Out-of-packet payment for healthcare pushes many households into poverty, especially in the Global South where there are insufficient funds for healthcare financing. Multi cross-sectional analyses of data from nationally representative sample survey (2008-GDHS) consisting of 11,778 households, 4,916 female and 4,568 male adults was used to assess coverage, determinants and barriers to healthcare insurance adjusting for socio-demographic factors. Approximately 48% of the household had no member insured while about 42% of the females and 32% of the males had no health insurance cover. Direct relationships exist between educational attainment, wealth and insurance coverage. From the result, it argued that the relatively-low health-insurance coverage at the household level and high dependence on family and friends for insurance premium payment will push more households into poverty and this will widen the already existing health gap in inequality within the country and constitute a barrier to universal healthcare coverage.

Key words: out-of-pocket payment, health insurance, barrier to universal healthcare,

Introduction

The health and well-being of the population is pivoted on the way healthcare system is financed. In low and middle income countries (also refers to as the Global South), where state and government funding for the healthcare system remains insufficient, out-of-pocket payment for healthcare has become a means to access healthcare delivery services. The struggle to pay for healthcare is estimated to force 25 million households (more than 100 million individuals) into

poverty each year (WHO 2005). Poverty and the enemies of health care are said to be imposing the double burden of disease, disability, and premature death on many societies (WHO 2002) and this is more evident in the Global South where epidemiological and nutritional transition has resulted in the co-existence of both infectious and chronic non-communicable disease and their as co-morbidities (Agyei-Mensah and de-Graft Aikins 2010; Akinyele 2006).

The World Bank (2008) posited that for any health financing coverage, there are generally three interrelated and separate dimensions: the breadth (number of people covered), the depth (the extent of services covered), and the resulting impacts on health outcomes and financial protection against large out-of-pocket expenditure. To ensure equitable access to healthcare delivery services, decisions have to be made at the individual, group, and national levels to pool resources together to spread the financial risks associated with ill health. Healthier populations are known to have relatively higher average income than their counterparts with ill health (Heijmens 2005; van Agt 2000) and illness also has huge negative economic impact (Suhrcke *et al*. 2006). Health insurance schemes provide the greater opportunity to spread the financial risks associated with ill health. The current study examines the level of health insurance coverage both at the individual and household level, the socio-economic and demographic determinants and the barriers of health insurance enrollment in a developing country.

Conceptually, Grossman (1972) postulated that individuals combine medical care and other market goods with their own time to invest in their health. The decision therefore to invest in healthcare is dependent on other external factors which are not mutual exclusive. One has to weigh the opportunity cost before investing in healthcare. Enrolment in a healthcare insurance scheme can also be explained by diffusion of innovation theory proposed by Rogers and Shoemacher (1971). The diffusion of innovation theory describes the early adoption of unhealthy lifestyles in the educated and wealthy, while the uneducated poor may adopt these unhealthy

lifestyle later. This same theory can be applied to the adoption of new interventions such as health insurance scheme in a general population. The educated rich with access and means will be more likely to adopt and enroll in the healthcare insurance scheme early, with the uneducated poor being late adopters.

Healthcare system and health insurance in Ghana

In 1992, user-fees for healthcare delivery services were instituted in all public health facilities which sought to remove subsidies on all health services in Ghana (Agyepong 1999; Badasu 2000). This paradigm shift in the health policy in Ghana was on the wheels of the Economic Recovery Program (ERP) and the Structural Adjustment Program (SAP) supported by the donor and development partners of the country. The new health policy saw a significant shift in healthcare cost onto the individual and the household. Perceived association between increased cost of service and quality of service provision (Lavy and Germain 1995; Mwabu *et al*. 1993) resulted in increased hospital attendance after the introduction of healthcare cost recovery in Ghana. However, the cost recovery policies in Ghana led to an increase in self-medication and other behaviours aimed at cost-saving (Asenso *et al*. 1998) this is attributed to removal of subsidies on service cost resulting in increase in healthcare service cost. Another health seeking behaviour that may result from increase cost of healthcare services is healer shopping (de-Graft Aikins 2005). These behaviours were adopted as copping strategies for the increased healthcare cost associated with change in the national health policy.

In 2003, the National Health Insurance Scheme (NHIS) (Act 650) was passed with the aim of making healthcare accessible to all**.** Under the law, the National Health Insurance Authority (NHIA) licenses, monitors and regulates the operation of health insurance schemes in Ghana. There are three main categories of health insurance operating in Ghana. The first and the most

dominant is the district mutual health insurance scheme, which is operational in every district in Ghana. These (the district mutual health insurance schemes) collectively operates as the NHIS. The NHIS is a public or non-commercial scheme and is open to all residents of the country. Under the scheme, members pay an annual premium. The informal sector worker (self employed) pays the informal sector rates (at least GH¢7.20 (US$4.80)[1], maximum of GH¢ 48.00 (US$32.02)) to register to receive healthcare coverage by NHIS. However, some categories of persons are exempted from premium payment. These are people considered to be indigent - that is individuals considered too poor, without a job and lacking the basic necessities of life to be able to afford insurance premiums. Dependents of members under age 18 years and persons 70 years and older are also exempted from premium payment. The NHIS receives regular funding from founds accrued to the central government from the National Health Insurance Fund. The sources for the fund come from two-and-a-half percent of social security contributions of Ghanaian workers and two-and-a-half percentage from the Value Added Tax (VAT).

The second category of health insurance comprises the private commercial health insurance schemes, operated by approved companies. The third category of health insurance is known as the private mutual health insurance scheme. Under this, any group of people (say members of a church or social group) can come together and start making contributions to cater for their health needs, providing for services approved by the governing council of the scheme. Both the commercial and private mutual health insurance schemes are not entitled to subsidy from the National Health Insurance Fund. Benefits of health insurance scheme are that policy holders can seek healthcare treatment and services from any health facility in the country without paying at the point of delivery unless extra service or drugs are sought (See Text Box 1 and 2). Policy holders can also use their membership cards to purchase prescribed drugs and medications at accredited pharmacies and licensed chemical shops without paying at the point of delivery. Since the enactment of the NHIS Act, limited national representative studies have been conducted to

access the coverage and it use in the country. The 2008 Ghana Demographic and Health Survey provides the platform to assess the coverage of the NHIS at the national level and the deterrents of universal coverage.

DATA AND METHODS

Data

The 2008 Ghana Demographic and Health Survey (GHDS) is the fifth in the series to be conducted in Ghana. The survey is based on a nationally representative sample and comprises household and individual surveys. The 2008 GDHS involved a two-stage stratified probability design sampling technique. The first stage involved selecting clusters from an updated master sampling frame constructed from the 2000 Ghana Population and Housing Census. A total of 412 clusters were selected using systematic sampling with probability proportional to size. The second stage of selection involved a systematic sampling of 30 of the households listed in each cluster. At the household level, 11,778 household were interviewed while at the individual level, 4,916 women aged 15-49 years and 4,568 men aged 15-59 years were interviewed. The response rates are 99% for household, 97% for women and 96% for men. Information covered under the survey included fertility, family planning, maternal and child health and nutrition, childhood mortality, HIV/AIDS-related knowledge and behaviour, healthy lifestyle behaviour, health insurance coverage and domestic violence.

Measurement

Variables are drawn from both the household and the individual surveys with household level analysis using information on household size, number of household members covered by any healthcare insurance, household wealth quintile, and type of place of residence while the

individual level analysis used variables from the individual women and men surveys. Socio-demographic characteristics, insurance coverage, health insurance type, reason for not being registered for health insurance, source of payment for insurance premium, out-of pocket payment of healthcare services, and level of satisfaction of health insurance service(s) were analyzed to estimate coverage, level of satisfaction with insurance service, and deterrent(s) of enrollment in the health insurance scheme.

Analysis

Descriptive and multivariate analytical techniques were employed. The descriptive analysis was used to describing the characteristics of respondents. Analysis of variance (ANOVA) was used to investigate the association between type of place of residence, household size, household wealth quintile and insurance coverage using the F-test statistic to access the significant or otherwise of the association. Respondent's socio-demographic characteristics – age, marital and working status, and educational attainment, household size, and wealth quintile were used as independent variables to predict the outcome variable (insurance coverage). This was done by employing binary logistic regression modelling because the outcome variable (insurance coverage) is dichotomous.

Result

Distribution of socio-economic and demographic characteristics of household

Almost seven in ten (68.3%) of the households are headed by males (Table 1). The mean age of household head is about 44 years with a median age of 42 years and standard deviation of 16 years. Only 1.6% of the households were headed by individuals aged between 15-19 years whereas 13.5% of the households were headed by elderly adults' age 65 years or older. About a

third (31.5%) of the household heads had no formal education with more than a halve (55.6%) having secondary or higher education. The urban-rural distribution indicates that 56.1% of the sampled households were in rural setting. While 20.3% of the households were single member households, 36.5% were 5 or more member households. The mean household size is approximately 4 with a standard deviation of 2.6. Household wealth quintile showed almost even distribution.

……..Table 1 Percentage distribution of households by household characteristics

Health insurance coverage at the household level

The analysis of variance using F-test statistics revealed an direct relationship between some household characteristics and the number of household member covered by health insurance. The mean household size is approximately 4 persons while the mean number of household members covered by health insurance is less than 2 persons (1.6). The mean number of household member covered by health insurance is relatively higher in male headed households compared to their female counterparts. In terms of educational attainment of household head, from primary education to higher, there is upward progression of the mean number of household member insured with advancement in educational attainment (see Table 2). Relatively, more urban household members are insured than rural household. Household wealth reveals a clear relationship with the mean number of household member insured.

……Table 2: Analysis of variance between household characteristics and number of household members insured

Determinants of health insurance coverage

Comparatively, a total of 2,050 (47.1%) female and 1,444 (31.6%) male have health insurance cover. Individual age in single years was not a statistically significant determinant of adult

insurance cover (Table 3). There is direct relationship between highest educational attainment, wealth quintile and health insurance coverage for both adult female and male Ghanaians. Currently married female and male respondents are more likely to be insured compared to their never married counter parts. Comparatively, female respondents are about 50% more likely and male respondents about 36% more likely to be insured compared to their never married counterparts. As individuals advance in educational attainment, the odds of being insured also increases (Table 3). Male respondents with higher educational attainment are twice more likely to be insured as compared with female respondents with the same educational attainment. The same can was observed with wealth quintile where improvements in wealth status results in increase odds of individuals being insured. The effect was relatively high and significant among the middle and upper wealth quintiles. Rural adult Ghanaians are relatively more likely to be insured compared to their urban counterparts though not statistically significant in the case of male respondents. This can be attributed partly to the differential in insurance premium in the two areas.

……..Table 3: Socio-demographic determinants of health insurance coverage among adult Ghanaians

Barriers to healthcare insurance uptake

Among the individual adults insured under healthcare insurance scheme, a little over five in ten of the male respondents paid for insurance premium themselves (54.5%) compared to 33.1% for their female counterparts (Table 4). The results also revealed that more female than male (61.6% and 29.5% respectively) depend on relatives and friends to pay for health insurance premium with 2.9%of the females and of the 14.7% males insured having their insurance premium paid for by their employer or covered under the Social Security and National Insurance Trust (SSNIT). This can be attributed to the employment pattern in the country. Relatively more males than females

are employed and in the formal sector where SSNIT contribution is mandatory by statutory law. Only 0.2% of females and 0.3% males are exempted from health insurance premium payment as indicated in Table 4.

……..Table 4: Source of insurance premium payment by sex of respondent

Insured respondents' level of satisfaction under the scheme can be used to predict the future sustainability of the scheme. The results show that 46.8% of insured females rated services under the scheme as better, 39.2% same, 9.9% worse and the remaining 4.1% were not sure or don't know. In the case of male, 55.6% rated service under the scheme better, 31.3% same, 15.5% worse and 3.0% not sure or don't know. Approximately 79% of insured males paid out of pocket for drug and services compared to about 84% for female. Relatively more females than males (97.6% and 92.0% respectively) plan to renew their insurance. Those that had no plan to renew their insurance cover advanced reasons such as "have not been sick" "worse quality of care for card holders" "premium expensive" for their decision.

DISCUSSION

In this article, the level of healthcare insurance coverage among household members and individual adult in their reproductive ages were estimated using nationally representative survey data. The association between selected household characteristics and healthcare insurance coverage was investigated alongside individual socio-demographic characteristics that predict health insurance coverage. The deterrents for enrolment into the health insurance scheme and quality of service delivery were also investigated.

Consistent with the findings of Meng *et a*l. 2011, where health insurance coverage is limited in low- and middle-income countries, this study revealed also that relatively fewer individuals are covered by any health insurance scheme meaning a greater proportion of Ghanaians are still paying for

healthcare services from out of pocket (48%). Thus, the country is far from attaining the possible universal healthcare coverage. The implications of out of pocket payment for healthcare services are high dependence on limited resources to access and finance healthcare services and products. One out of every four families living in the world's poorest countries is documented to borrow money or sells assets to pay for health care (Kruk *et al.* 2009). Given the fact that the average income of ill health people is relatively lower than their healthier counterparts (Heijmens 2005; van Agt 2000) and also given the negative economic impact of illness (Suhrcke *et al*. 2006), there is a psychological strain on both the infected (persons infected with disease or ill health conditions) and affected (persons who are indirectly affect by the disease condition by proving care and support to persons living or affected by the disease condition) persons due to dependency on others for support and care. This often results in social exclusion and family abandonment (de-Graft Aikins 2007). Also, other behaviours aim at cost-saving, for example, self medication, healer shopping (Asenso *et al*. 1998; de-Graft Aikins 2005) will be very prevalent.

The relatively high dependence on self (females33.1% and males 54.5%) and also on relatives and friends' dependent (females 61.6% and males 29.5%) for healthcare insurance premium payment constitute a barrier to healthcare insurance uptake and universal healthcare coverage. This collaborate the findings of de-Graft Aikins (2005) and Tagoe (2010) in which high dependence on family, friends and relations to support health expenditure of chronically ill diabetes patients and household source of health finance were reported.

With improvement in life expectancy at birth in the country [58 years (2000) to 60 years (2009), (WHO 2011)] more of the elderly population will be qualifying under the exemption policy and without the corresponding improvement in the economy, the proportion of the population that will also qualify exemption from premium under the indigent (poor) will significantly increase. This will

put a greater strain on the insurance scheme and might affect not only quality of service delivery under the scheme but coverage of healthcare.

Anecdotal information from health facilities under the NHIS indicates that staff attitude towards policy holders in the area of service delivery falls short of expectation. There is a yawning gap between monies given to the schemes by the National Health Insurance Authority (NHIA) and claims submitted by healthcare service providers. Due to these lapses in the NHIS in the area of reimbursement of funds to facilities concern, many service delivery facilities prefers to provide service to clients willing and in the position to pay out of pocket for services than to insurance holders.

Major deterrents for enrolment of individuals onto the health insurance can be explained partly with Grossman's concept of investing in health. The opportunity cost of investing in one's health as insurance for a period of ill health is out-weighed by meeting the current social and economic demands on the individual. The decision to invest in health (that is health insurance) is dependent on one disposable income (wealth) and the socio-economic and political environment. Economic downturns have the potential to be a barrier for the adoption of new interventions such as health insurance. The consequences are the withdrawal from activities that make demands on household and individual resources. Even though insurance is a mutual benefit for all policy holders, low level of knowledge and understanding of the NHIS (as in the case of Ghana) is an obstacle for universal coverage of the insurance scheme. Out of packet payment by insured clients at the point of service delivery due to limited services and drug coverage of the insurance policy is also a major factor.

Health insurance is the major means to pool resources together to spread the financial risk of ill health. In the event of an economic downturn, the poor and the socially disadvantaged are at high risk of any negative impact. The challenge in the Global South is to make healthcare services

available and equitable to all strata of the population. To achieve universal coverage of healthcare there is a need to restructure the current existing health insurance policies to take into account the current epidemiological and nutritional transition. These transitions come with changes in the epidemiology and socio-demographic profile of the countries as life expectancy improves and chronic non-communicable disease emerges in lower age groups (Dorling *et al* 2006, Tagoe 2010).

The high statistically significant association between education, wealth status and being insured is consistent with Rogers and Shoemacher's (1971) diffusion of innovation theory where the educated and the rich adopt new intervention earlier than the uneducated and the poor. Universal access and coverage of healthcare will not only be pivoted on health policy reforms, but, also education and economic empowerment.

Conclusion

The finding of this study is an indication of the relatively low levels of health insurance uptake by the Ghanaian adult population at both the household and individual levels. The implication of the low health insurance coverage will have both health and economic consequences at the micro and macro level. Health expenditure contributes substantially to household impoverishment (Bredenkamp *et al*., 2011). Individuals will continue to depend on relatives, friends and selling of household assets to finance health expenditure and this will lead to a widening of the health inequality gap within the country. At the national level, the already limited national health system will be over stretched to meet the ever increasing demands.

With rapid behavioural change in the developing region and its risk of expose to chronic non-communicable diseases coupled with evidence that points to the fact that relatively fewer Ghanaian adults adhered to healthier lifestyle behaviour (Tagoe and Dake 2011), more individuals will be exposed to NCDs. Treatment and management of these disease conditions are expensive

and often far above the means of the average citizen. Health insurance is the single greatest opportunity to access health care. The lack of education and understanding of some insurance holders on insurance being a policy for resource accumulation and financial risk sharing needs to be given another attention if effective scaling up of the NHIS is to be achieved.

While it is very important to continue to educate and improve the socio-economic status of the population to increase the population acceptance and adoption of the NHIS, institutional framework aimed at improving health service delivery and expanding coverage of service under the scheme will propel scaling up and sustainability of the scheme. The government of Ghana's proposal of one-time health insurance premium payment is vital and needs to be evaluated through a multi-sectorial approach. This is because health and health decisions making is multifaceted and dependent on a wide range of socio-demographic, psychological, economic, political, physical, and environmental factors.

Endnote

[1] Based on Bank of Ghana exchange rate = GH¢1.00 = US$1.4992 (30th June 2011)

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Text Box 1: Services

- Out-patient services – general and specialist consultations reviews, general and specialist diagnostic testing including, laboratory investigation, X-rays, ultrasound scanning, medicines on the NHIS Medicines list, surgical operations such as hernia repair and physiotherapy.
- In-patient services – General and specialist in patient care, diagnostic tests, medication-prescribed medicines on the NHIS medicines list, blood and blood products, surgical operations, in patient physiotherapy, accommodation in the general ward and feeding (where available).
- Oral health – pain relief (tooth extraction, temporary incision and drainage), dental restoration (simple amalgam filling, temporary dressing)
- Maternity care – antenatal care, deliveries (normal and assisted), Caesarean section, post-natal care
- Emergencies – these refer to crises in health situations that demand urgent attention such as medical emergencies, surgical emergencies, paediatric emergencies, obstetric and gynecological emergencies and road traffic accidents.

Text Box 2: Excluded services

- Appliance and prostheses including optical aids, heart aids, orthopaedic aids, dentures etc.
- Cosmetic surgeries and aesthetic treatment
- Anti-retroviral drugs for HIV
- Assisted Reproduction (e.g. artificial insemination) and gynecological hormone replacement therapy.
- Echocardiography
- Photography
- Angiography
- Dialysis for chronic renal (kidney) failure
- Organ transplants
- All drugs that are not listed on the NHIS list
- Heart and Brain Surgery other than those resulting form accidents
- Cancer treatment other than breast and cervical
- Mortuary Services
- Diagnosis and treatment abroad
- Medical examinations for purposes other than treatment in accredited health facilities (e.g. Visa application, Education, Institutional, Driving license etc)
- VIP wards (accommodation).

Table 1 Percentage distribution of households by household characteristics

Household characteristics	Frequency	Number
Sex of head		
Male	68.3	8,043
Female	31.7	3,735
Age of head		
Mean	44.33	
Median	42.00	
Educational attainment		
No education, preschool	31.5	3,712
Primary	12.9	1,514
Secondary	47.7	5,622
Higher	7.9	930
Type of place of residence		
Urban	43.9	5,175
Rural	56.1	6,603
Household size		
Mean	3.95	
Median	4.00	
Household wealth quintile		
Poorest	21.1	2,490
Poorer	19.5	2,291
Middle	20.0	2,354
Richer	20.4	2,402
Richest	19.0	2,241

Source: Computed form GDHS 2008

Table 2: Analysis of variance between household characteristics and number of household members insured

Characteristics	Mean	Median	N	Std. Dt	Skewness	F	Sig
Sex of head of household						67.352	0.000
Male	1.72	1.00	8,043	2.445	1.823		
Female	1.36	1.00	3,735	1.735	1.679		
Highest educational level attained						42.797	0.000
No education, preschool	1.58	0.00	3,712	2.426	2.156		
Primary	1.26	0.00	1,514	2.043	2.144		
Secondary	1.60	1.00	5,622	2.139	1.692		
Higher	2.31	2.00	930	2.343	1.484		
Type of place of residence						20.718	0.000
Urban	1.71	1.00	5,175	2.183	1.670		
Rural	1.52	0.00	6,603	2.298	2.072		
Wealth quintile						21.032	0.000
Poorest	1.45	0.00	2,490	2.496	2.353		
Poorer	1.43	0.00	2,291	2.238	2.236		
Middle	1.56	1.00	2,354	2.146	1.839		
Richer	1.66	1.00	2,402	2.118	1.652		
Richest	1.96	1.00	2,241	2.177	1.224		
Total	**1.61**	**1.00**	**11,778**	**2.250**	**1.901**		

Source: Computed from GDHS 2008

Table 3: Socio-demographic determinants of health insurance coverage among adult Ghanaians

Variables	Female		Male	
	B	**Exp β (S.E)**	**B**	**Exp β (S.E)**
Constant	-1.822	0.162 (.211)***	-2.419	0.089 (.202)***
Age	.002	1.002 (.004)	.005	1.005 (.003)
Marital status (Never married)				
Currently married	.405	1.499 (.090)***	.305	1.357 (.080)***
Formally married	.020	1.020 (.140)	-.337	0.714 (.195)
Highest educational attainment (No formal education)				
Primary	-.003	0.997 (.095)	.109	1.115 (.132)
Secondary	.477	1.611 (.088)***	.388	1.474 (.115)*
Higher	.862	2.367 (.181)***	1.474	4.367 (.160)***
Working status (Not working)				
Currently working	-.032	0.968 (.080)	-.167	0.847 (.096)
Type of place of residence (Urban)				
Rural	.245	1.277 (.082)**	.090	1.094 (.091)
Wealth quintile (Poorest)				
Poorer	.122	1.129 (.099)	.298	1.347 (.116)*
Middle	.416	1.516 (.107)***	.579	1.784 (.126)***
Rich	.792	2.207 (.117)***	.941	2.563 (.133)***
Richest	.802	2.230 (.129)***	.932	2.539 (.146)***
Household size	.137	1.147 (.054)*	.086	1.089 (.013)***

Supper script = Reference category ***P < 0.001 **P < 0.01 *P < 0.05.

R^2= (Female =0 .060; Male =0 .109) -2 log likelihood (Female - 6452.968; Male - 5320.524)

Total N: Females = 4,916, Males = 4,557 Source: Generated from Ghana DHS, 2008.

Table 4: Source of insurance premium payment by sex of respondent

Source premium payment	Female (%)	Male (%)
Yes, respondent paid for self	33.1	54.5
Yes, paid by relative/friend	61.6	29.5
Yes, paid by employer/SSNIT	2.9	14.7
No, exempt as elderly (+70)/pensioner	0.1	0.1
No, exempt as indigent (poor)	0.1	0.2
No, other	2.4	1.1
Total	**1,987**	**1,391**

Source: Generated from GDHS, 2008