

Enrolment of Urban Poor in National Health Insurance Scheme in the Ga East Municipality, Ghana

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Abstract

Social health insurance is seen as a mechanism that helps mobilize resources for health, pool risk, and provide more access to health care services for the poor. This study sought to determine the rate and factors influencing enrolment in the National Health Insurance Scheme (NHIS) among the urban poor in the Ga East municipality, Ghana. A cross sectional study was conducted in the Grushi community of Ga East Municipality of the Greater Accra Region using data from a household survey of 250 household participants. Data were collected from household level using structured questionnaires. Logistic regression models were used to assess the socio-demographic and facility related predictors of enrolment in the NHIS. All statistical tests were two-tailed and considered significant at p -value <0.05 . 76.5% of the participants were enrolled in the NHIS whereas 23.5% were not. Most, 76.3% of card bearers face problems of drug unavailability when they visit the facility. Having secondary and primary education was associated with 4.28 (adjusted odds ratio, [AOR], 95% confidence interval, [CI]; 4.28, 1.51-12.43) and 5.15 (AOR, 95% CI; 5.15, 1.85-14.16) times higher odds of enrolling in the NHIS scheme. Living very far from the NHIS service center was also associated with reduced odds of enrolling in the scheme (AOR, 95% CI; 0.19, 0.04-0.93). There is a generally high enrolment into the NHIS scheme among the urban poor people in Accra, Ghana. Enrolment in the NHIS was influenced by the educational level, use of healthcare services and distance from an NHIS accredited facility. Extending geographical access and improving service quality could be an important strategy for expanding NHIS membership among this population.

Keywords: National Health Insurance Scheme, Enrolment, Urban, Poor, Ghana

1. Introduction

The world is urbanizing rapidly and in developing countries, it is projected that more than half the population will be urbanized by 2020 (1). Despite being seen as positive development, this is also seen as a forerunner of new sources of poverty. Nowadays, a vast majority of the poor appears to be living in urban areas (2). One in three urban dwellers lives in a slum, producing slum cities within cities. However, more than 90 per cent of slums are found in developing countries. Slum dwellers are not the only poor residents of cities, but they do represent a clustering of living conditions within a city (3). Poverty is set to become an increasingly urban phenomenon. Urban poor populations, and the places where they live, are diverse.

Health is determined by many diverse factors, including income, gender, age, access to health services and infrastructure. Just because health services are located in an urban area does not mean that they are easily accessible by the urban poor. Despite relative availability of health care services in urban areas, the urban poor have limited access (4). In 2010, 170 million out of the 1 billion slum-dwellers worldwide had no access to a latrine and 1.2 million were projected to die from air-pollution (5). Cost of health care represents a significant barrier for the urban poor. Poor populations spend major part of their income on health care. It is estimated that more than 100 million people are pushed into poverty every year due to health care expenses. As the presence of multiple ill health conditions increase in urban settings, health care costs can push poor people further into poverty (3).

Health insurance is among the solutions promoted in developing countries since the 1990s to improve access to health care services because it avoids direct out-of-pocket payment by patients and spreads the financial risk among all the enrolled. Social health insurance is seen as a mechanism that helps mobilize resources for health, pool risk, and provide more access to health care services for the poor (6). Many mutual health insurance organizations have been developed in sub-Saharan Africa, and over the past several years some African countries have set up national health insurance systems. However, in those countries that elect to give an important role to health insurance, it remains to be verified whether such insurance reach those who are most vulnerable in terms of access to services: to the poor. In fact, lack of funds creates problems when it comes to registering to pay the premium, and when the enrolled need to use health care services. On these two levels, the program assess the situation of the poor, examines the problems they encounter and presents measures taken by some insurance organization to remedy these problems (7).

In 2003, the Parliament of Ghana passed the National Health Insurance (NHIA) Act 650 (now Act 850) to enhance the performance of its health system, with particular focus on the poor. The NHIA paved the way for the establishment of the national health insurance scheme (NHIS). The scheme was implemented to help promote access to health care services for Ghanaians. Ghana's NHIS is one of the very few attempts by a sub-Saharan

African country to implement a national-level, universal health insurance (8). The scheme focuses on meeting the needs of the poor, and providing social health protection based on the principles of equity, solidarity, risk sharing, cross-subsidization, reinsurance, and client and community ownership.

Although health insurance coverage is seen an eminent component of healthcare access and delivery, universal coverage will not directly result in universal access to healthcare (9). There are other health costs that and co-payments that remain the responsibility of the patients and the urban poor often forgo seeking medical attention because of their inability to bear the other costs (10). In some instances, this sect of the population is not able to afford the premium for health insurance coverage and the district income guidelines for exempting the poor actually exclude the marginal poor, who are not able to pay the premium (11). Problems with transportation and prior negative experience with the health insurance and general health system also bare the urban poor from accessing healthcare. The insured however, are highly dissatisfied with health care delivery due to their perception that they are given poorer quality of care and wait longer compared to the out of pocket clients (12). These experiences and perceptions militate against clients enrolment in the scheme (13).

Ghana has recorded a steadily increasing growth over the years, with a decrease in national poverty level by more than half (from 56.5% to 24.2%) between 1992 and 2013 (14). There is however a high rate of rural-urban migration leading to a high level of urban poor dwellers in the capital city, Accra (15,16). The

population of Accra increased from 18,574 in 1911 to 1.7 million in 2000: a 90-fold increase in less than a hundred years (16). This expansion has had implications on sanitation and environmental health, leading to occasional outbreaks of infectious diseases, which disproportionately affect the poor in these communities (16). Despite the increased intended benefits of the NHIS for the poor, enrolment is found to be low in such communities (10). In particular, poverty prevents poor people to register for the NHIS in the southern part of the country even though poor people in Ghana are generally less likely to enroll in the NHIS, to access healthcare (17). There is however paucity of evidence on the level of and factors influencing enrolment in the NHIS among the urban poor in Ghana. This study sought to determine the rate and factors influencing enrolment in the NHIS among the urban poor of Grushi community in Accra, Ghana.

2. Methods

2.1 Study design and setting

The study was a descriptive cross-sectional study carried out in May 2015 at Grushi, a community in the Ga East Municipality, Ghana. Ga East District is about 25 kilometers north of Accra with its capital at Abokobi and the total land area is about 1000 acres. It is bordered on the west by Ga West and on the East by the Adentan Municipal Assembly and the south by the Akuapem south district. However, Madina is the largest settlement within the district. Other settlements include Dome, Agbogba, Haatso and Oyarifa. The Ga East municipal in all has fifty-nine (59) communities. Potable water supply in the urban/peri-urban areas of the Municipality has been a major challenge to the Ga East Assembly, and areas like Madina, Dome, Taifa, Agbogba, and North Legon. Others depend on tanker services and a few hand dug wells as alternative sources of potable water supply. Total sanitation coverage is estimated at 31% for household facilities and 29% for institutions. Pit latrine even though not approved by the Assembly is being used by some households in these urban communities.

The main occupation for the people was trading and the women are fish mongers. The major challenge in the community is bad drainage, during the rainy season the community is mostly flooded. Health facilities are unevenly distributed in the district. There are four private health centers but are not NHIS healthcare providers. The people usually access healthcare from Achimota and Atomic hospitals respectively with the NHIS.

2.2 Study population and sampling

The study was conducted among residents (18-70 years) of the Grushi community who are either enrolled or not in the NHIS and consented to participate in the study. The Ga District Mutual Health Insurance Scheme (DMHIS) operational report (18) indicates that the proportion of registered members with the NHIS ID card is 39%. The sample size estimation was based on Cochran (19), using the formula $N = \frac{Z^2 P (1-P)}{d^2}$.

Therefore, using 61% as the proportion of uninsured clients, a 95% confidence interval and a margin of error of 5%, a sample size of 369 was estimated. Using the finite population correction factor formula, the estimated final sample size for study was 235. The figure was rounded up to 250 to offset possible effect of the non-responses.

The study was conducted using a two-stage sampling technique. Firstly, purposive sampling method was used select the community for the study. The selection was done based on the characteristics of the areas Grushi (Dome) in addition to availability of an accredited NHIS health facility. Secondly, participants were selected at the household level using a random sampling strategy.

2.3 Data collection

The data for this research was collected from the Grushi community households in the Ga East Municipality Research Assistants (RAs), fluent in English and local dialects and comfortable with the cultural and geographical area were recruited to interview. Training was conducted to familiarize RAs with the survey questionnaire, facilitated consistency in the survey administration, and ensured ethical conduct of the study.

Questionnaire was designed to determine the level of NHIS enrolment among the urban poor. Previous studies by Koegel et al.(20) have demonstrated that samples of urban poor through these methods provide good approximations of the total urban poor population. In each selected household, the adult aged 18 years and below 70 years were given questionnaire by the RAs. Survey was done in whichever language participants felt most comfortable English, or any local dialect.

For this study, the “Enrolled” are members who have registered and paid the full premium irrespective of whether they are waiting or holding NHIS identity cards. “Previously enrolled” are those who have registered but may not have paid the full premium for the year or have not renewed membership and are not eligible to access services. The “non-enrolled” are those who have never registered with the NHIS. Ethical approval was obtained from the Ghana Health Service Ethical Review Committee.

2.4 Data analysis

Descriptive statistics such as means and standard deviation was used to analyze continuous variables. Pearson Chi-square and Fischer’s exact tests were used to test for association between the independent variables and outcome variable. Logistic regression models were used to assess the socio-demographic and facility related predictors of enrolment in the NHIS. Details of the variable definition is shown in Table 1. All statistical tests were two-tailed and considered significant at p-value <0.05. The analyses were done using Stata version12 (Stata Corp., College Station, TX).

Table 1: Definition of variables

Variable	Definition/Explanation
Dependent variable: NHIS Enrolment status	Are you enrolled or not: yes or no
Independent variables	
Age	Age at last birthday for persons 18 years and above
Sex	Male or female
Income	From a minimum of GHC 50.00 and above
Ethnicity	Which tribe the participant belongs to
Marital status	Single, Married, never married and deposed
Health status	The health of the participant at the time of the study (well or not well)
Employment	Self-employed, Private or Public
Religion	Which of the religion the participant belongs

3. Results

3.1 Socio-demographic characteristics and service related factors

Table 2 presents an overview of the socio-demographic and economic characteristics of the respondents. Majority of the respondents (61.8%) fell under the age category (18 – 30) with just about 9 of them being 57 years and above. Only 23 of the respondents were Grushi with 117(49.0) the majority group being Akans. 96.2% of the respondents answered that they were well on the subject of health status with just 7(2.9%) responding otherwise. Majority of the respondents were self-employed with about 50 of them with no employment. On their level of education, it seemed a fairly literate community with 120(50.6) being educated to the secondary level and 21 of them having no formal education. 56(28.1) earned more than GHC 200 with the remainder earning less than or equal to GHC 50 and GHC 200. Most of the respondents 196(46.9%) were Christians. 113(46.9%) were married with just about 30 of them being either divorced, separated or widowed. All respondents had an equal knowledge of NHIS, no matter their insurance status. The sources of information included friends (8.8%), relatives (8%), radio (30%), television (21.6%), newspapers (2.4%) and other sources (8%). 15.2% of the respondents disclosed that they heard about NHIS from more than one source. 12.9% of the study participants believed the health facility is very far whereas 26.8% indicated their distance to the facility was not far. Majority, 54% of the participants visited a health facility when sick. Out of these, 69.6% visited public hospitals whereas 73.3% visited private hospitals. 22.2% of them visited the pharmacy shop.

Table 2: Socio –demographic and facility related characteristics

Variables	Frequency	Percentage
Age (n=241)		
18 – 30	149	61.8
31 – 43	70	29.1
44 – 56	13	5.4
57 and above	9	3.7
Sex (n=239)		
Male	45	18.8
Female	194	81.2
Ethnicity (n=239)		
Grushi	23	9.6
Ga	58	24.3
Akan	117	49.0
Others	41	17.1
Health Status (n=238)		
Well	229	96.2
Not well	7	3.0
Other	2	0.8
Employment Status (n=240)		
Self-employed	133	55.4
Public	17	7.1
Private	40	16.7
Unemployed	50	20.8
Level of Education (n=237)		
No Education	21	8.9
Primary	78	32.9
SHS	120	50.6
Tertiary	18	7.6
Income (n=199)		
<GHC 100	91	45.7
GHC100 – GHC200	52	26.1
GHC200+	56	28.1
Religion (n=241)		
Christian	196	81.3
Muslim	45	18.7
Marital Status(n=241)		
Single	98	40.7
Married	113	46.9
Divorced/Separated/Widowed	30	12.4
Closeness of facility (n=231)		
Very far	30	12.9
Far	139	60.2
Not far	62	26.8
Visit facility when sick	135	54.0
Facility visited when sick[§] (n=135)		
Herbal Clinic	4	3.0
Maternity Home	4	3.0
Pharmacy Shop	30	22.2
Private Hospital	99	73.3
Public Hospital	94	69.6

[§]Multiple response

Majority, 76.5% of the participants were enrolled in the NHIS whereas 23.5% were not. Most, 76.3% of card bearers face problems of drug unavailability when they visit the facility. Other cited problems included rejection of card (2.8%), poor attitude of health staff (1%), long queues (4.7%) and others (15.2%). In the bivariate analysis, ethnicity, level of education, source of information on NHIS, how far the NHIS accredited facility is from the respondents' home, how motivated they are when they are sick to visit an accredited health facility and the facility they visit when they are sick were associated with enrolment in the NHIS, Table 3.

Table 3: Bivariate analysis of factors associated with NHIS enrolment at Grushi

Characteristics	NHIS Enrolment n (%)		P-value
	Enrolled	Not Enrolled	
Socio-Demographic Factors			
Age			0.073
18 – 30	118 (79.7)	30(20.3)	
31 – 43	46 (67.7)	22(32.3)	
44 – 56	9 (69.6)	4(30.4)	
57 and above	9 (100.0)	0(0.0)	
Religion			0.207
Christian	34 (82.4)	7(17.1)	
Muslim	8 (100.0)	0(0.0)	
Sex			0.152
Male	38 (84.4)	7(15.6)	
Female	142 (74.4)	49(25.6)	
Marital Status			0.563
Single	17 (85.0)	3(15.0)	
Married	19 (90.5)	2(9.5)	
Divorced/Separated/Widowed	6 (75.0)	2(25.0)	
Ethnicity			0.050
Grushi	20(87.0)	3(13.0)	
Ga	50(86.2)	8(13.8)	
Akan	83(71.8)	31(27.2)	
Others	27(65.9)	14(34.1)	
Health status			0.617
Well	172(76.1)	54(23.9)	
Not well	6(85.7)	1(14.29)	
Other	2(100.0)	0(0.0)	
Employment Status			0.268
Self-employed	98(75.4)	32(24.6)	
Public	13(76.5)	4(23.5)	
Private	35(87.5)	5(12.5)	
Unemployed	35(70.0)	15(30.0)	
Level of Education			0.002
No Education	9(45.0)	11(55.0)	
Primary	61(79.2)	16(20.8)	
SHS	96(81.4)	22(18.6)	
Tertiary	13(72.2)	5(27.8)	
Income			0.534
<GHC 100	69(75.8)	22(24.2)	
GHC100 – GHC200	39(78.0)	11(22.0)	
GHC200+	38(69.1)	17(30.9)	
Facility related factors			
Heard about NHIS	180(76.9)	54(23.1)	0.208
Closeness of facility			0.020
Very far	21(70.0)	9(30.0)	
Far	103(74.1)	36(25.9)	
Not far	56(90.3)	6(9.7)	
Visit facility when sick	122(90.4)	13(9.6)	0.011
Facility visited when sick			0.028
Herbal Clinic	4(100.0)	0(0.0)	
Maternity Home	2(50.0)	2(50.0)	
Pharmacy Shop	18(60.0)	12(40.0)	
Private Hospital	83(83.8)	16(16.2)	
Public Hospital	69(73.4)	25(26.6)	

3.2 Predictors of NHIS enrolment

As shown in Table 4, The educational level of participants had significant association with enrolment in the NHIS scheme. Being educated was associated with decreased odds of enrolment in NHIS scheme compared to

those not educated. In the multivariable model, having secondary and primary education was associated with 4.28 (AOR, 95% CI; 4.28, 1.51-12.43) and 5.15 (AOR, 95% CI; 5.3, 1.85-14.16) times increase in the odds of enrolling in the NHIS scheme. Participants who visited the health facility when sick were also almost 4 times more likely to enroll in the NHIS as compared to those who do not visit the health facility when sick (OR, 95% CI; 3.81, 1.33-10.91). Living very far from the NHIS service center also decreased the odds of enrolling in the scheme.

Table 4: Factors associated with NHIS enrolment

Factors	NHIS Enrolment			
	Univariable		Multivariable	
	OR	95 % CI	AOR	95 % CI
Age				
18 – 30	1.00		1.00	
31 – 43	0.53	0.28 – 1.02	0.55	0.21 – 1.09
≥44	1.14	0.36 – 3.63	1.07	0.31 – 3.16
Ethnicity				
Grushi	1.00		1.00	
Ga	1.01	0.26 – 4.43	1.89	0.27 – 13.35
Akan	2.49	0.69 – 8.97	2.38	0.39 – 14.56
Others	3.46	0.87 – 13.66	2.89	0.42 – 19.82
Level of Education				
No Education	1.00		1.00	
Primary	4.66	1.65-13.17**	4.28	1.51 – 12.43**
SHS	5.33	1.97-14.43***	5.15	1.85 – 14.16**
Tertiary	3.18	0.82 – 7.67	3.02	0.92 – 6.41
Closeness of facility				
Very far	0.25	0.08 – 0.79*	0.19	0.04 – 0.93*
Far	0.82	0.34 – 1.94	0.39	0.11 – 1.49
Not far	1.00		1.00	
Visit facility when sick	2.73	1.23 – 6.06	3.81	1.33 – 10.91

OR, Odds Ratio; AOR, Adjusted Odds Ratio; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

4. Discussion

Findings from this study shows a generally higher enrolment among the urban poor people in Accra, Ghana. Enrolment in the NHIS was influenced by the educational level, use of healthcare services and distance from an NHIS accredited facility. This study found that majority, 76.5% of the participants were enrolled in the NHIS (84.4% and 74.4% among men and women respectively). This was higher than the percentage coverage reported by the Ghana Demographic and Health Survey report 2014, which was 62% among women and 48% among men.(21) A recent report by the World Bank however showed that about 40% of the Ghanaian population were covered by the NHIS as at 2014.(22) Some previous studies on enrolment into the NHIS in Ghana have also shown low enrolment level among the poor to be a problem facing health insurance schemes in low-income countries including Ghana.(23,24)

Generally, the NHIS has been expanding since its inception in 2003, with coverage becoming more equitable over the years.(22) Identification of and premium exemptions for individuals and groups without adequate financial resources to pay is one of the stated goals of the NHIS (NHIS law LI 1809).(25) Overall, about two-thirds of active members of the NHIS are under this premium exemption category (people under 18 years or 70+ years; pregnant women and indigents).(26) The increased coverage of NHIS among the urban poor is attributed to this exemption, thereby removing financial barriers to enter the insurance scheme.(27,28)

We also found an influence of socio-economic factors on enrollment in the scheme. Increasing level of education increased enrolment in the NHIS scheme. Majority of the participants in this study had secondary level education and enrolment in the NHIS was highest among this group as compared to the other levels. Compared to those with secondary education, this group had about 5 times higher odds of enrolling in the NHIS. This shows that even among the urban poor, disparities exist in the utilization of healthcare services as a result of differences in education. This corroborates previous findings in Ghana which showed an increase in enrolment in the NHIS among the educated as compared to the uneducated.(29) A study among urban residents in the Volta region of Ghana however did not find any influence of education on enrolment into NHIS.(13) Existing literature has also predicted that employment and education increases the odds of enrollment as both increase knowledge about the advantage of health insurance.(30)

An increased level of education is seen as a measure of increased socio-economic status and knowledge

about available healthcare services.(31) People with higher education are most likely to have well paid jobs and be wealthier than their counterparts with no education. They are therefore able to overcome the financial barriers associated with enrolment in the scheme. Although the exemption packages of the NHIS target the poor, a large section of the urban poor might however not benefit. As suggested found in a study of social health insurance schemes across Africa, insurance schemes in Ghana and Ethiopia cover less than 2% of the poor despite the provision of exemption schemes, partly due to challenges with identifying the vulnerable.(32)

Enrolment in the scheme was also influenced by access to NHIS service points and utilization of health services. Lack of service centers within the reach of respondents was associated with decrease in the odds of enrolling in the NHIS. This is consistent with previous studies that found that the availability of government health facilities in a region is associated with higher likelihood of enrollment in the NHIS.(29) Paez et al,(33) and Schoeps et al,(34) also concluded that geographical access to health care facility tends to influence health services utilization. Few public health facilities available in the district where this study was conducted are mostly centralized in the urban communities especially, in Madina. Dome though an urban community where Grushi community is situated, does not have any public health facility. As such residents who prefer to use public health facilities are forced to move to Madina covering a distance about 9.80kilometers, or Achimota hospital which is closer to the Ga East Municipality. Enrolees therefore have no option but to use the few private hospitals with NHIS accreditation while majority resort to chemical shops. Relating to the theory of distance decay which states that 'things further away are unlikely to be used',(35) it is believed that improving access to healthcare will ultimately improve enrolment in the NHIS.

This study also documented challenges associated with use of NHIS cards at the health facility. The most cited was problems of drug unavailability when they visit the facility while others cited problems of rejection of the NHIS card. Although these participants are already card bearers, these experiences could bare them from renewing their subscription with the scheme. Failure to meet clients' expectation about service quality and lack of attractiveness of the scheme were reasons for enrolling and renew subscription to the NHIS in a previous study conducted in the Volta region of Ghana.(13) A recent systematic review also reported low satisfaction with the NHIS scheme especially with regard to staff attitudes and long waiting times, differential treatment for NHIS-insured and non-NHIS insured clients and the quality of drugs covered by the NHIS.(26) Demand for health care is sensitive to the quality of care provided and this is evident even among poor households, who will limit their demand for health care when the services are poor quality, although they are less sensitive to changes in quality of service.(36,37) Effective technical arrangement and improvement in the quality of services provided could enhance enrolment into the scheme.

Strengths and limitations

This study provides an important evidence on the enrolment in the NHIS scheme among the urban poor in Ghana. However, due to the geographical, socio- economic differences between regions, the results are indicative but not necessarily applicable to all other districts in the region. The study also could not sample the views and perceptions of the staff and management of the NHIS that could have been useful in providing insight into facility related factors influencing enrolment into the scheme. Being a cross-sectional study, the issue of reverse causality cannot be overruled. The association between use of health facility and the outcome for instance could be interpreted the other way around; that is, participants were more likely to use the health facility because they were enrolled in the NHIS scheme.

5. Conclusion

In conclusion, there is a generally high enrolment into the NHIS scheme among the urban poor people in Accra, Ghana. Enrolment in the NHIS was influenced by the educational level, use of healthcare services and distance from an NHIS accredited facility. Users of the scheme also reported problems of drug unavailability and rejection of card when they visit the health facility. The NHIS should promote the policy by introducing more drugs and services to the already existing ones to help eradicate entirely out of pocket payment. The NHIS should also open more outlet at the health centers in the communities to enhance access and challenges with registration and renewal of NHIS membership. This will improve accessibility and utilization of the scheme. Extending geographical access and improving service quality could be an important strategy for expanding NHIS membership among this population.

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Declaration of interest

None

List of abbreviations

DHMT	District Health Management Team
DHS	Demographic and Health Survey
DMHIS	District Mutual Health Insurance scheme
LMIC	Low and Middle Income Countries
MDGS	Millennium Development Goals
MDI	Multidimensional Index
MOH	Ministry Of Health
NHIA	National Health Insurance Authority
NHIL	National Health Insurance Levy
NHIS	National Health Insurance Scheme
OPD	Out Patient Department
SSNIT	Social Security and National Insurance Trust
UHC	Universal Health Coverage
UHC	Universal Health Coverage
WHO	World Health Organization

References

1. United Nations. World Urbanization Prospects: The 2011 Revision [Internet]. New York; 2011 [cited 2017 Dec 16]. Available from: http://www.un.org/en/development/desa/population/publications/pdf/urbanization/WUP2011_Report.pdf
2. Chen S, Ravallion M. The Developing World Is Poorer Than We Thought, but No Less Successful in the Fight Against Poverty. *Q J Econ* [Internet]. 2010 [cited 2017 Dec 16];125(4):1577–625. Available from: <http://siteresources.worldbank.org/DEC/Resources/DevelopingworldispoorerQJE.pdf>
3. Coast E, de-Graft Aikins A. Health for the urban poor. 2011;(November):1–3.
4. Shetty P. Health care for urban poor falls through the gap. *Lancet* [Internet]. 2011 Feb 19 [cited 2018 Jan 9];377(9766):627–8. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0140673611602158>
5. WHO- SEARO. Regional Consultation on Health of the Urban Poor [Internet]. Mumbai; 2010 [cited 2017 Dec 17]. Available from: <http://apps.who.int/iris/bitstream/10665/205757/1/B4682.pdf>
6. Dalinjong PA, Laar AS. The national health insurance scheme: perceptions and experiences of health care providers and clients in two districts of Ghana. *Health Econ Rev*. 2012 Jan;2(1):13.
7. Morestin F, Ridde V, Montréal U De. How can the poor be better integrated into health insurance programs in Africa ? An overview of possible strategies. 2009;1–8.
8. Blanchet NJ, Fink G, Osei-Akoto I. The effect of Ghana’s National Health Insurance Scheme on health care utilisation. *Ghana Med J* [Internet]. 2012 Jun [cited 2017 Apr 19];46(2):76–84. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22942455>
9. Friedman E. Money isn’t everything: Nonfinancial barriers to access. *JAMA* [Internet]. 1994;271(19):1535–8. Available from: <http://dx.doi.org/10.1001/jama.1994.03510430091042%5Cnhttp://jama.jamanetwork.com/article.aspx?articleid=372522>
10. Hafner-Eaton C. Physician Utilization Disparities Between the Uninsured and Insured. *JAMA* [Internet]. 1993;269(6):787. Available from: <http://jama.jamanetwork.com/article.aspx?doi=10.1001/jama.1993.03500060087037>
11. Durairaj V, D’Almeida SD, Kirigia J. Ghana s approach to social health protection. *World Heal Rep Backgr Pap No 2* [Internet]. 2010;28–56. Available from: <http://www.who.int/healthsystems/topics/financing/healthreport/GhanaNo2Final.pdf?ua=1>
12. Bruce E, Narh-Bana S, Agyepong IA. Community satisfaction, equity in coverage and implications for sustainability of the Dangme West Health Insurance Scheme Project No. 2001/GD/08 technical report series No. 9. Accra, Ghana; 2008.
13. Boateng D, Awunyor-Vitor D. Health insurance in Ghana: evaluation of policy holders’ perceptions and factors influencing policy renewal in the Volta region. *Int J Equity Health* [Internet]. 2013;12(1):50. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3716631&tool=pmcentrez&rendertype=abstr>

- act
14. Cooke E, Hague S, McKay A. The Ghana Poverty and Inequality Report – 2016 [Internet]. Unicef. Accra; 2016 [cited 2017 Dec 17]. Available from: [https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016\(1\).pdf](https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf)
 15. Fink G, Weeks JR, Hill AG. Income and health in Accra, Ghana: results from a time use and health study. *Am J Trop Med Hyg* [Internet]. 2012 Oct [cited 2017 Dec 17];87(4):608–15. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22927498>
 16. Agyei-Mensah S, de-Graft Aikins A. Epidemiological transition and the double burden of disease in Accra, Ghana. *J Urban Health* [Internet]. 2010 Sep [cited 2017 Dec 17];87(5):879–97. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20803094>
 17. Dixon J, Luginaah I, Mkandawire P. The National Health Insurance Scheme in Ghana’s Upper West Region: A gendered perspective of insurance acquisition in a resource-poor setting. *Soc Sci Med*. 2014 Oct;122:103–12.
 18. Ga District Mutual Health Insurance Scheme. Operational Report 2009. Acca; 2009.
 19. Cochran WG. Sampling Techniques. Vol. 20, Wiley Series in Probability and Mathematical Statistics Applied. 1977. 428 p.
 20. Koegel P, Burnam MA, Morton SC. Enumerating homeless people: Alternative strategies and their consequences. *Eval Rev*. 1996;20(4):378–403.
 21. Ghana Health Service; Ghana Statistical Service; ICFInternational. Ghana Demographic and Health Survey. Rockville, Maryland, USA; 2014.
 22. Wang H, Otoo N, Dsane-Selby L. Ghana National Health Insurance Scheme: Improving Financial Sustainability Based on Expenditure Review [Internet]. World Bank Studies. 2017. 1-53 p. Available from: https://openknowledge.worldbank.org/bitstream/handle/10986/27658/9781464811173.pdf?sequence=2&utm_content=buffer7ab0f&utm_medium=social&utm_source=linkedin.com&utm_campaign=buffer
 23. Basaza R, Criel B, Van der Stuyft P. Community health insurance in Uganda: Why does enrolment remain low? A view from beneath. *Health Policy (New York)*. 2008;87(2):172–84.
 24. Bruce ES, Narh-bana SA, Agyepong IA. COMMUNITY SATISFACTION , EQUITY IN COVERAGE AND IMPLICATIONS FOR SUSTAINABILITY OF THE DANGME WEST. Health (San Francisco). 2007.
 25. Aryeetey GC, Jehu-Appiah C, Kotoh AM, Spaan E, Arhinful DK, Baltussen R, et al. Community concepts of poverty: an application to premium exemptions in Ghana’s National Health Insurance Scheme. *Global Health* [Internet]. 2013 Mar 14 [cited 2018 Jan 3];9(1):12. Available from: <http://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-9-12>
 26. Alhassan RK, Nketiah-Amponsah E, Arhinful DK. A Review of the National Health Insurance Scheme in Ghana: What Are the Sustainability Threats and Prospects? Coles JA, editor. *PLoS One* [Internet]. 2016 Nov 10 [cited 2018 Jan 3];11(11):e0165151. Available from: <http://dx.plos.org/10.1371/journal.pone.0165151>
 27. Kotoh AM, Aryeetey GC, Geest S Van Der. Factors That Influence Enrolment and Retention in Ghana’s National Health Insurance Scheme. *Int J Heal Polity Manag*. 2017;6(x):1–12.
 28. Kotoh AM, Van Der Geest S. Why are the poor less covered in Ghana’s national health insurance? A critical analysis of policy and practice. *Int J Equity Health*. 2016;15(1).
 29. Brugiavini A, Pace N. Extending health insurance in Ghana: effects of the National Health Insurance Scheme on maternity care. *Health Econ Rev* [Internet]. 2016 Dec [cited 2018 Jan 3];6(1):7. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26864987>
 30. Chankova S, Sulzbach S, Diop F. Impact of mutual health organizations: evidence from West Africa. *Health Policy Plan* [Internet]. 2008 Apr 19 [cited 2018 Jan 3];23(4):264–76. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18480126>
 31. Jamison EA, Jamison DT, Hanushek EA, Feachem R, Hill K, Jimenez E, et al. The Effects of Education Quality on Income Growth and Mortality Decline [Internet]. Cambridge; 2006 [cited 2018 Jan 14]. Available from: <http://www.nber.org/papers/w12652>
 32. Fenny AP, Yates R, Thompson R. Social health insurance schemes in Africa leave out the poor. *Int Health* [Internet]. 2018 Jan 9 [cited 2018 Jan 19]; Available from: <http://academic.oup.com/inthealth/advance-article/doi/10.1093/inthealth/ihx046/4794744>
 33. Paez A, Mercado RG, Farber S, Morency C, Roorda M. Accessibility to health care facilities in Montreal Island: An application of relative accessibility indicators from the perspective of senior and non-senior residents. *Int J Health Geogr*. 2010;9.
 34. Schoeps A, Gabrysch S, Niamba L, Sié A, Becher H. The effect of distance to health-care facilities on childhood mortality in rural Burkina Faso. *Am J Epidemiol*. 2011;173(5):492–8.

35. Skov-Petersen H. Estimation of distance-decay parameters -- GIS-based indicators of recreational accessibility. 2001 [cited 2018 Jan 3]; Available from: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.5.6180>
36. Alderman H, Lavy V. Household responses to public health services: Cost and quality tradeoffs. *World Bank Res Obs.* 1996;11(1):3–22.
37. Castro-Leal F, Dayton J, Demery L, Mehra K. Public spending on health care in Africa: do the poor benefit? *Bull World Health Organ* [Internet]. 2000 [cited 2018 Jan 4];78(1):66–74. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/10686734>