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**The impact of National health insurance on maternal health care in Ghana:
A case study of the East Akim District in the Eastern region of Ghana**

BY

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DEDICATION

I dedicate this thesis to my mother, Sarah Buedi for her endless encouragement, support and confidence in me.

Abstract

The aim and primary focus of the research was to assess the impact of NHIS on maternal health care in Ghana. In this regard, the study sought to address specific objectives which include: contribution of NHIS on maternal health delivery and contribution of NHIS on maternal mortality rate. Moreover, the general maternal health care delivery in Ghana was also assessed. The study made use of questionnaire and interview guide approach to obtain answers to achieve above objectives. Raw data gathered were analyzed in SPSS. Findings indicate that, with the implementation of NHIS, women were able to access prenatal care, normal delivery, hospitalization after delivery and postnatal care without any charge. Prenatal indicators analyzed include care by professionals and vaccination (TT). There was an increase in the number of maternal healthcare professionals who were competent to handle maternal related issues. NHIS policy implementation led to drastic decline in maternal mortality rate. Health infrastructure improved as new ones were built while old ones were renovated. Findings also indicate that government of Ghana has put in place intervention programmes to enhance general maternal health care delivery. However, these have its associated challenges such as provision of adequate equipments and logistics, staff and human resources.

Keywords: health, mortality, maternal, paternal, prenatatal care, postnatal care, delivery

Abstrakt

Cílem a hlavním zaměřením studie bylo zhodnotit dopad NHIS na profesionální porodní péči v Ghaně. Proto je tato studie zaměřena na následující cíle: vliv NHIS na dostupnost mateřské péče; vliv NHIS na úroveň úmrtnosti v období porodní péče. Dále byla hodnocena dostupnost porodní péče v Ghaně na státní úrovni. Jako zdroj dat pro tuto studii bylo použito dotazování formou rozhovorů a dotazníků. Pro zpracování dat byl použit program SPSS. Při zahrnutí vlivu NHIS, ukazují výsledky následující: ženy měly přístup k předporodní péči s normální dostupností, úroveň ošetření a poporodní péče nevykazují změny v kvalitě. Analyzované indikátory zahrnují profesionální předporodní péči včetně vakcinace (TT). Výsledky vykazují zvýšení počtu zdravotních pracovníků, kteří byli schopni poskytnout porodní péči včetně možných zdravotních komplikací. Zavedení procesů NHIS vede k významnému poklesu úmrtnosti v období porodní a porodní péče. Vylepšení zdravotní infrastruktury vedlo ke vzniku nových procesů a modernizací zavedených postupů. Výsledky dále indikují, že zásahy Ghanské vlády a jejích programů trvale vylepšují dostupnost profesionální porodní péči v Ghaně. Tyto zásahy dále vyžadují zvýšení kvality v navazujících oblastech, jako je nákup moderního vybavení, zvýšení odbornosti a vyšší nároky na personální zajištění.

klíčová slova: zdraví, smrtelnost, Otcovský, poporodní péče, prenatální péče

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1.0 INTRODUCTION

This section explains the background of the main study, the problem which necessitated the need for this study as well as the aims and objectives to be addressed in this study.

1.1 Background to the study

World Leaders and health organisations across the globe have been more concern about maternal health in recent times. Priority has therefore been given globally to reducing maternal mortality for more than two decades now (Averbug 2009). This has necessitated the Millennium Development Goal 5 to targets a 75% reduction in maternal mortality ratios between 1990 and 2015.

Available statistics from a report issued by World Health Organization (2007) on Maternal Mortality indicates that, every year girls and women of about 536,000 approximately die from pregnancy-related causes globally. This problem is quite better in developed and advanced countries because another report on Maternal and Newborn Health by United Nations Children's Fund (2008) also suggest that over 99 percent of these maternal deaths occur in developing countries with nearly half of this occurring in Sub-Saharan Africa. This shows that a girl or a woman in Sub-Saharan Africa is at risk when she wants to give birth.

The issue about Maternal Mortality is not only about the death, but women are very important tool to economic development in the world (Boserup et al 2007; Kumar et al 2015; Cornwall et al 2015; Goltz et al 2015; and Karinje et al 2015). Also, giving more attention to maternal health care is a way to improve health systems overall, which benefits the entire population of a country (Africa Progress Panel Policy Brief, September.

Studies has found out that the fundamentally predominant issue which faces maternal health is lack of efficient financing mechanisms (Nour 2008; Goodburn and Oona 2001; Cham et al 2005; and Shiffman 2007). A successive government in the Sub-Saharan Africa has therefore find means of curbing this issue. There are also donor agencies including US Agency for International Development (USAID), United Nations (UN) Fund for Population Activities, Pan American Health Organization, the World Bank, and World Health Organization (WHO), which provides funding for maternal health. There are also private and individual donors such as MacArthur and Packard Foundations who provides funds for this same problem. One major intervention which Sub-Saharan African Leaders has made to solving maternal mortality is the introduction of for their various countries is the health insurance.

A number of African countries are currently experimenting with different approaches, including Nigeria, Rwanda, Kenya, Tanzania and Ghana (Agar and Pace 2011). The nation Social health insurance is seen as one of the health financing approaches with a strong potential to share risks across population groups and time (Wagstaff 2009).

1.2 The Ghana National Health Insurance

The National Health Insurance Scheme (NHIS) in Ghana was established by law under the National Health Insurance Act 2003, Act 650. The sole aim for creating this scheme is to abolish user fees and ensure more equitable access to health care (Agyepong and Adjei 2008). The NHIS operates Ghana's public healthcare system and allows three different kinds of insurance plans which are the private mutual insurance schemes; District Mutual Health Insurance Schemes and private commercial insurance schemes. The most popular plan is the district mutual health insurance, which operates in every district in Ghana. The other insurance plans cover under 1 percent of the insured population (Dixon et al 2014).

The NHIS in Ghana is one of the very few in Sub-Saharan Africa which is an organised and a financed healthcare scheme making a trail blazer for the universal healthcare movement on the African continent (Dixon et al 2014).

Before the introduction of the NHIS in 2003, the government of Ghana was using the nations generated revenue to financing its health care delivery system. Patients were charged user fee before they can access health care, yet this developed into a framework where a settled expense was paid for examination, consultation and and other symptomatic methods (Nyonator and Kutzin 1999). In 1988 there was a minor changes in the Health Fee Act 1971 to include charging the full cost of medications to patients. This then developed into numerous challenges in the contribution of requiried drugs, including preferential distribution of medications to the various health facilities and this led to the system was popularly called "cash and carry" also formally known in 1992 as the Revolving Drug Fund (Nyonator and Kutzin 1999).

The cash and carry framework was commens to fund 15 percent of repetitive use through the user fee paid by patients at the purpose of getting to health administrations This "cash and carry" system was seen as a barrier which prevents people especially the vulnerable from accessing health care and as a result decreasing access to health services and delay in looking for health services when sick and inadequate purchase of prescribed medications. In 2001, the then government of Ghana introduced Community-based health insurance schemes but was covering about 1 percent of the entire population (Atim et al 2002).

Again by 2003, the government introduced a system to exclude antenatal care and normal deliveries from delivery fees which was popularly called “free maternal care” (Atim et al 2002). This was a policy introduced which exempted women from delivery fees in public, private and mission facilities in the four most deprived regions of Ghana (Averbug 2009). The free maternal care policy was therefore expanded to cover the six other remaining regions in 2005 because of the positive success it was reaping (Witter et al 2007). Studies which was conducted to evaluate the free maternal care policy and the exemption fee policy by (Witter et al 2008) was found out that there was an increase in facility deliveries, earlier care seeking for complications, and a decrease in out-of-pocket expenditures for delivery; whereas there was no change or worsening of service quality.

With the government of Ghana intentions to provide universal health access coverage to all Ghanaians, the National Health Insurance Act was passed in 2003 by Act 650. This was aiming to provide universal coverage of all Ghanaians within 5 years through nationally mandated district-wide health insurance schemes (Averbug 2009). By then, for a Ghanaian to enroll on the NHIS fee, an amount of 20,000 old cedis equivalent to \$2.16 needed to be paid as initial registration fees while annual premium was 72,000 cedis equivalent to \$7.81 per adult (Averbug 2009). The NHIS was covering basic health care including outpatient consultations, essential drugs, inpatient care and shared accommodation, maternity care (normal and caesarean delivery), eye care, dental care, and emergency care (Averbug 2009). The national health insurances scheme as of 2009 covers both public and private health care suppliers at all levels of the health system, subject to their accreditation by the NHIA. As of December 2009, 966 private, 1,368 open and 163 CAG suppliers were selected in NHIS.

1.3 Problem Statement

In most developing countries especially in Africa, access to health service is a major problem. This is a serious concern since major illness is one of the most substantial and unpredictable shocks to economic well-being that most households will face (Gajate-Garrido and Ahiadeke 2015). The most vulnerable ones of this problem are women and children and the problem can be traced down to lack of financial resources.

With the Government of Ghana’s intention to providing health care to all by attempting to remove cost as a barrier, the National Health Insurance Scheme (NHIS) was created in 2003, and this program became fully operationalized in 2005 (Singh et al 2015). Before the NHIS program was introduced and implemented there was the free maternal care policy or the

exemption policy which exempts women from paying delivery fees in four regions (Northern, Upper East, Upper West and Central) and the policy was scaled up to all regions in 2005 (Singh et al 2015). This program was discontinued in 2005 and pregnant women were therefore entreated to enroll into the NHIS program meaning pregnant women who have not enrolled into the program cannot access health care.

However, since world leaders, international organisations and health institutions across the globe places much emphasis on maternal mortality and antenatal health care, one would have thought that the abolishing of free maternal care and enrolment of pregnant women into the NHIS will have a positive impact on mortality rate in Ghana but the story was different. Ever since the NHIS was implemented most of the studies have been on the insurance coverage (Gajate-Garrido and Ahiadeke 2015). For instance, studies in the US have shown that membership in insurance schemes expand healthcare utilization but have been less successful when assessing its impact on health outcomes (Gajate-Garrido and Ahiadeke 2015) (Currie and Gruber 1996; Aizer 2007; Card et al 2008; Finkelstein and McKnight, 2008; Card et al 2009; Finkelstein et al 2012).

Nevertheless, only a few studies have delved into the issue of maternal mortality and the NHIS (Singh et al, 2015). Among the few include a study in 2012, Dzakpasu et al, assessed the impact of free delivery care on the Health Facility Delivery and Insurance Coverage in Ghana's Brong Ahafo Region and the results was that there was an increased use of facility delivery in the Brong Ahafo Region particularly among the poor. Mensah et al (2010) also assessed the Ghana's National Health Insurance Scheme in the Context of the Health MDGs: An Empirical Evaluation Using Propensity Score Matching and the found out that those NHIS enrollees in the Brong Ahafo and Upper East Regions were more likely to receive ANC and to have a facility delivery. However, since there is a knowledge gap, this research seems to address and add knowledge to the existing few literature.

1.4 Research Objectives of the Study

The main objective of this research is to assess the impact of NHIS on maternal health care in Ghana. Some of the research areas to be considered include:

- Contribution of NHIS on maternal health delivery
- Contribution of NHIS on maternal mortality rate
- The general maternal health care delivery in Ghana.

1.5 Thesis Outline

This thesis is organized as: The first chapter as presented above involves the introduction to the research topic, the research objectives and research questions. The second chapter covers the literature review and presents literature that is related to the study of this research. The third chapter presents the method and materials used for this study thus, methodology and the method used in the data collection.

Chapter four addresses the empirical findings from the research which are presented and analysed in the light of the theoretical frameworks that are outlined in the literature review. In the final chapter, conclusions are drawn and some suggestions and recommendations are made.

2.0 LITERATURE REVIEW

This chapter reviews the existing literature on the definitions and concepts of health insurance and maternal health care. In this direction it provides broad discussion and introduces key principles of insurance coverage on maternal health and general the theory around it.

2.1 Definitions and concepts

There are not too many definitions and explanations which has been given to the term health insurance. But basically and generally, is an insurance against loss through illness of the insured; *especially* insurance providing compensation for medical expenses incurred by the insured. They following are the types of health insurance which is provided worldwide:

- ***Health Maintenance Organization (HMO)***: An HMO was meant to be fix for the rising costs of traditional indemnity, or “fee-for-service”, insurance. It utilizes primary care physicians (PCP) as “gatekeepers” in order to prevent overutilization of physician or specialty services; in order to see a specialist, patients must receive a referral from their PCP. Customers who enroll in this plan are required to choose health care providers within the network of contracted physicians and hospitals. Patients enrolled in HMOs still pay monthly premiums, but their premiums tend to be lower because of the contracted network—providers know that patients will be directed to them.
- ***Preferred Provider Organization (PPO)***: PPOs were created as middle ground between HMOs and traditional insurance. Their goal is to restrain overutilization, while allowing patients more flexibility in their choice of physicians and specialists. There is no PCP gatekeeper for PPO plans, but customers are encouraged to choose providers within the network. Patients who choose a provider outside of the network will pay more out-of- pocket. The network itself consists of contracted physicians, but their contracts do not exclude them from other networks. PPO patients typically pay higher premiums than those who choose an HMO. Often they must first meet a set deductible and then still pay coinsurance at the point of services.
- ***Exclusive Provider Organization (EPO)***: EPOs is essentially HMOs with a twist—EPOs has no PCP gatekeepers. They do, however, require patients to stay inside a set provider network. Because patients have direct access to the network, they are able to get lower rates on their premiums. EPOs is very restrictive in that you must remain within the network to get care. Even in the case of an emergency, some EPOs may make you pay some or all of the expenses out-of-pocket if you go out-of-network.

There are also co-payments with EPOs, but, like HMOs, they are usually quite small. EPOs are great for individuals who want a *lower premium* and who *hate waiting for* referrals to see specialists. Individuals who don't mind doing a little leg work to find the right provider or specialist in a particular network will thrive with this plan.

- **Health Savings Account (HSA):** HSAs should be thought of as bank accounts, rather than as insurance plans. They are tax-deductible accounts that cover medical expenses not covered by your health plan—and you can't have an HSA without an insurance plan. Traditionally, HSAs are coupled to high-deductible health plans, but some new plans under Obama care offer EPO, HMO, and PPO plans with an HSA option. Much like IRAs, they roll over annually and grow tax-free; there are limitations to how much an individual or employer can contribute in a year. Qualified medical expense withdrawals are also tax-free. Patients with an HSA cannot be enrolled in Medicare, nor can they be enrolled on another person's tax returns. Patients can write checks directly to their provider from their HSA account.

However, health insurance can be categorised into private health insurance which is provided by private organisations and social health insurance provided by state governments in general terms. For the purpose of this research, social health insurance provided in developing countries specifically Ghana is being considered.

2.2 The Health system in Ghana

The structure and geography of health services in Ghana are organised in a hierarchical order and it comprises of four levels which are based in the urban areas and five in the rural areas (Mensah et al 2010; Brugiavini and Pace 2010). There are two government bodies (the Ministry of Health (MOH) and Ghana Health Services (GHS)) which oversee the running of health care delivery and infrastructure in Ghana (Pehr 2010). The health post popularly called the chip centres are the first level at which patients can secure health care and is located in the rural areas. It is followed by Health centers or clinics, district hospitals, regional hospitals and teaching hospitals follow in that order (Brugiavini and Pace 2010).

2.3 The Ministry of Health

The goal of MOH is, “to improve the health status of all people living in Ghana through effective and efficient policy formulation, resource mobilization, monitoring and regulation of delivery of health care by different health agencies” (Ministry of health-home,2015). The duties and responsibility of MOH is to formulate policies, monitor and evaluate health services delivery, resource allocation for health services and the regulation of health services

delivery. MOH also develops the framework for the regulations of food, drugs and health service delivery (Ministry of health –home, 2015). Pehr, 2010 suggest that the following organizations are under the oversight of MOH:

- Ghana Health Services
- Korle-Bu Teaching Hospital (located in Accra)
- Okomfo Anokye Teaching Hospital (located in Kumasi)
- Christian Health Association of Ghana
- Ghana Ambulance Service
- Ghana Medical and Dental Council
- The Pharmacy Council
- Ghana Registered Nurses and Midwives Council
- Traditional and Alternative Medicine Council

Again, MOH includes the following directorates:

- Policy, Planning, Monitoring and Evaluation (PPME)
- Research, Statistics and Information Management (RSIM)
- Human Resource Development and Management (HRDM)
- Administration (Admin)
- Procurement and Supplies (P&S)
- Traditional and Alternative Medicine (TAM)
- Finance (FIN)

2.3.1 The Ghana Health Service (GHS)

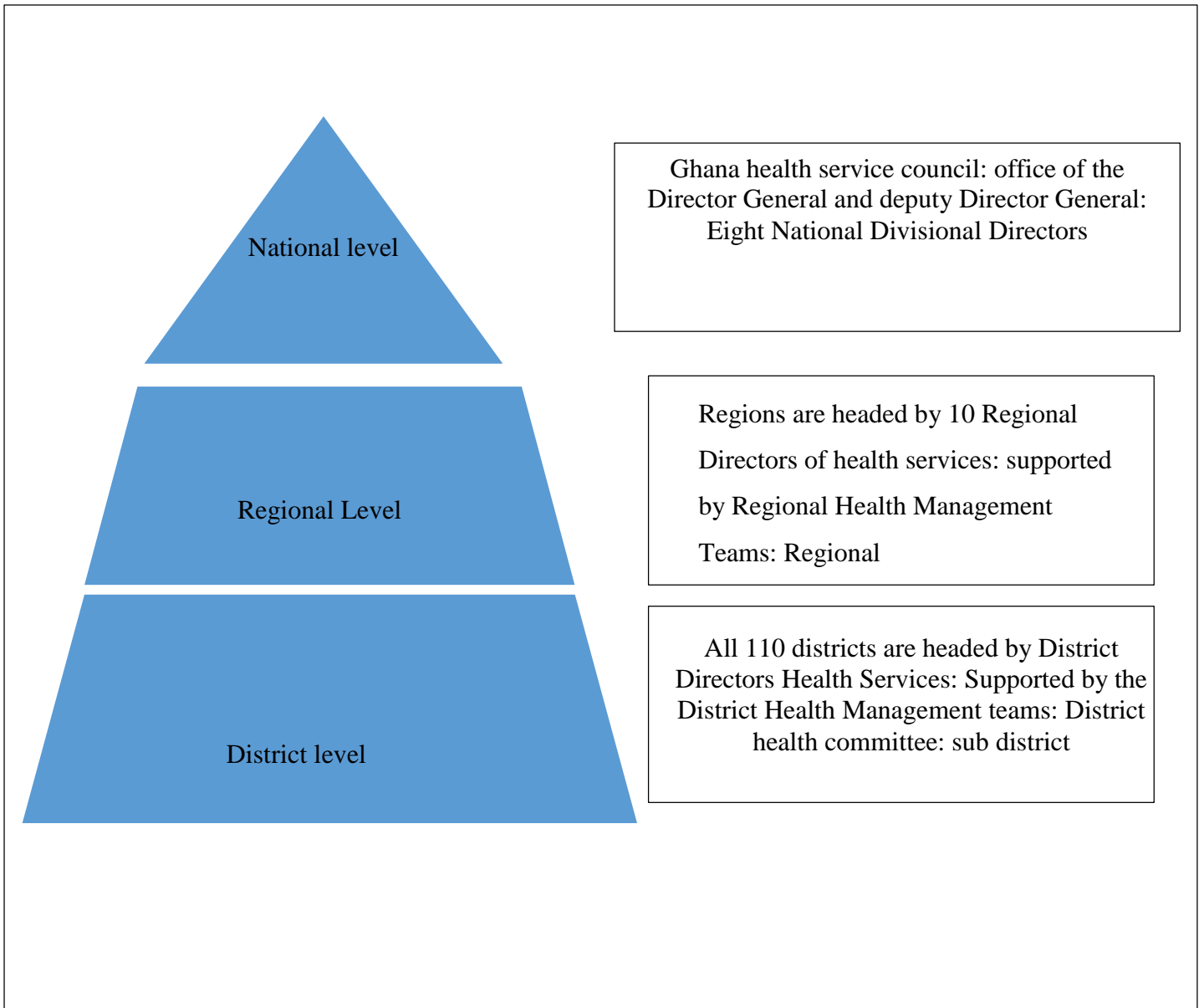
The GHS is another important government body which oversees health care in Ghana. Their mission and responsibility is defined as an “autonomous Executive Agency responsible for implementation of national policies under the control of the Minister for Health through its governing Council the Ghana Health Service Council” (pehr, 2010). The following are the functions of GHS according to Pehr, 2010:

- Developing strategies and technical guidelines to achieve national policy goals and objectives
- Undertaking management and administration of health resources within GHS
- Promoting healthy living and habits among residents
- Establishing effective disease surveillance, prevention and control
- Determining charges for health services (contingent on approval from MOH)

- Providing in-service training and continuing education
- Performing any other functions relevant to promotion, protection and restoration of health.

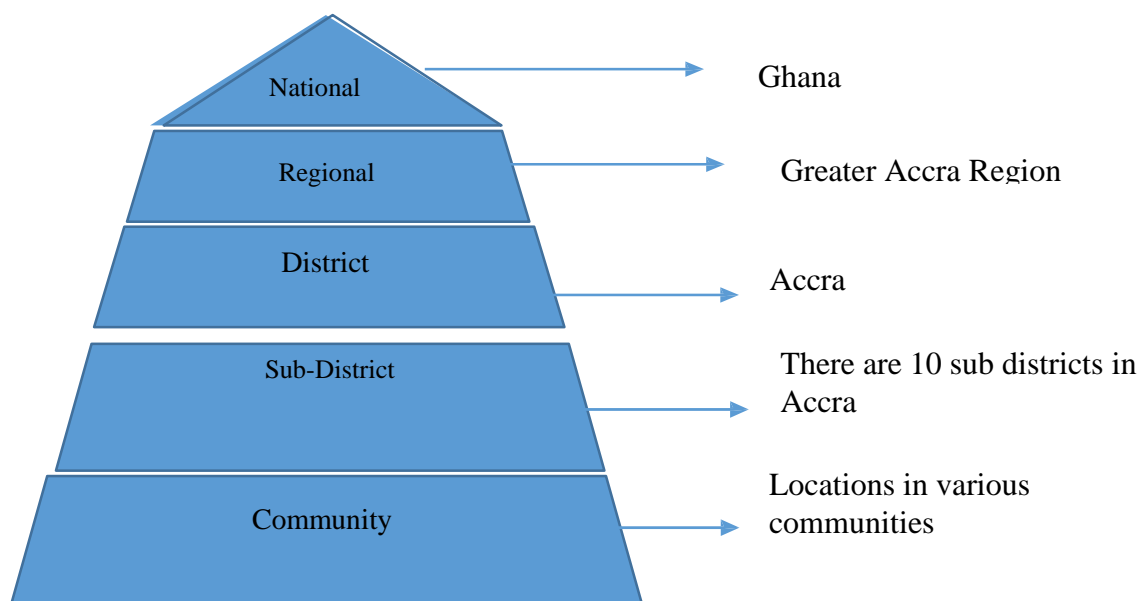
The following is also a pictorial description of the three administrative levels of GHS and five functional (service distribution) levels of health care in Ghana. The Administrative and the functional levels shows the national regional and district level distribution of health centres.

Figure 1: Administrative Levels of GHS



Source: Pehr (2010)

Figure 2: Functional Levels of Health Care Service Distribution in Ghana

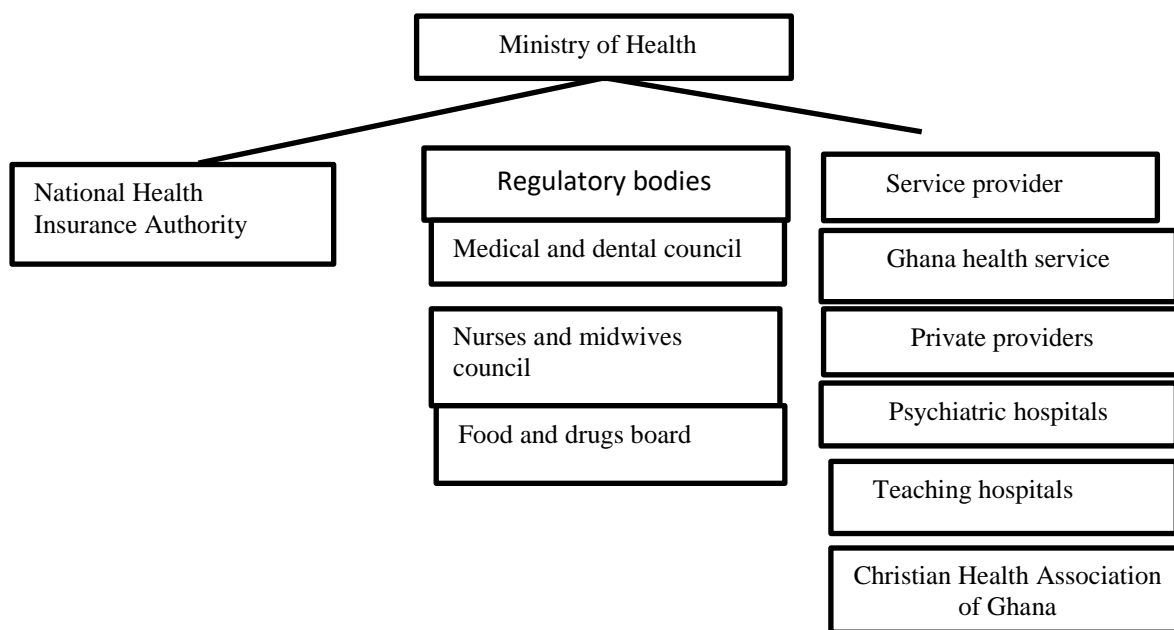


Source: Pehr, 2010

2.4 Ghana's National Health Insurance Scheme

According to the National Health Insurance Act 2003, Act 650, Part I, Section 2, the objective of the NHIS is to “secure the implementation of a national health insurance policy that ensures access to basic healthcare services to all residents”. With this objective, it was initiated and implemented to be a pro-poor policy thus, heavily subsidisation of the premiums by other revenue sources and also targeting payment exemption policies (Dixon 2014). The figure below explains the relationship of the NHIA and the rest of the Ghana's Health system.

Figure 3: Relationship between the NHIS and the Ghana’s Health system



Source: Jenna Dixon, 2014

2.5 Empirical Review on Maternal Health care

To begin with, Alcock et al 2015 examined the inequalities in uptake of maternal health care and choice of provider in underserved urban areas of Mumbai, India using a mixed methods study. These authors developed a regression models using data from a census of married women aged 15–49 to test for associations between maternal characteristics and uptake of care and choice of provider. They then conducted seven focus group discussions and 16 in-depth interviews with purposively selected participants, and used grounded theory methods to examine the reasons for their choices.

Their results proved that the odds of institutional prenatal and delivery care increased with education, economic status, and duration of residence in Mumbai, and decreased with parity. Tertiary public hospitals were the commonest site of care, but there was a preference for private hospitals with increasing socio-economic status. Women were more likely to use tertiary public hospitals for delivery if they had fewer children and were Hindu. The odds of delivery in the private sector increased with maternal education, wealth, age, recent arrival in Mumbai, and Muslim faith. Four processes were identified in choosing a health care provider: exploring the options, defining a sphere of access, negotiating autonomy, and protective reasoning. Women seeking a positive health experience and outcome adopted strategies to select the best or most suitable, accessible provider.

Also in 2015, Mannava, Durrant, Fisher, Chersich and Luchters examined a systematic review of attitudes and behaviours of maternal health care providers in interactions with clients. Using data and methods of five electronic databases which were searched for studies from January 1990 to December 2014 they found out that there are physical abuse towards women, absenteeism or unavailability of providers, corruption, lack of regard for privacy, poor communication, unwillingness to accommodate traditional practices, and authoritarian or frightening attitudes. These behaviours were influenced by provider workload, patients' attitudes and behaviours, provider beliefs and prejudices, and feelings of superiority among MHCPs. Overall, negative attitudes and behaviours undermined health care seeking and affected patient well-being. These authors therefore suggested that greater attention is required to the attitudes and behaviours of MHCPs within efforts to improve maternal health, for the sake of both women and health care providers.

Still in 2015 but in Ghana, a cost-effectiveness analysis study was performed in a before- and after-intervention on Clinical Decision Support System to improving Maternal Health Care in Ghana by Dalaba et al in the area of Kassena- Nankana district. Their results proved that the intervention health centres, the average cost per pregnancy complication detected during ANC (cost –effectiveness ratio) decreased from US\$17,017.58 (before-intervention) to US\$15,207.5 (after-intervention). Incremental cost –effectiveness ratio (ICER) was estimated at US\$1,142. Also considering only additional costs (cost of computer-assisted CDSS), cost per pregnancy complication detected was US\$285. Their suggestion was that Computer –assisted CDSS has the potential to identify complications during pregnancy and marginal reduction in labour complications. But Ganle, 2015 used a data from the 2007 Ghana Maternal Health Survey which were analysed for disparities in antenatal care (ANC) visit, utilisation of tetanus toxoid immunisation and iron tablets/syrup intake during pregnancy, place of delivery, skilled birth attendance, caesarean section (CS) and post-natal care (PNC) among different ethnic groups in Ghana. His findings showed that the proportion of women who received any form of skilled antenatal, delivery and PNC in the five years (2003–2007) preceding the survey was 96%, 55% and 55%, respectively.

Also the author found out that, despite the incremental progress Ghana made in improving access to skilled maternal health care services, large gradients of disparities exist. The ethnic difference in utilisation of institutional prenatal care was small; however, fewer births to women from majority ethnic groups such as the Akan (21%) took place at home compared with births to women from minority ethnic groups such as the Ewe (58.8%), Guan (42.7%), Grusi

(53.4%), Mole-Dagbani (74.7%) and Gruma (58.8%). The rate of consultation of a skilled health care provider for delivery among the different ethnic groups also ranged from a low of 27% for births to Mole-Dagbani women to a high of 68.8% among births to Akan women. He therefore concluded and suggested that efforts to promote universal access to skilled maternity care not only should target those sub-populations with significantly low utilisation levels but also must focus on those components of maternal health care such as skilled attendance at delivery that demonstrate the greatest disparities.

Lastly, Srivastava, Bilal, Preeti and Sanghita in 2015 used a data from the Public health and social science databases, English articles covering antenatal, intrapartum or postpartum care, for either home or institutional deliveries, reporting maternal satisfaction from developing countries (World Bank list) with no year limit to analysed the Determinants of women's satisfaction with maternal health care in developing countries. They found out rather that determinants of maternal satisfaction covered all dimensions of care across structure, process and outcome. Also, Structural elements included good physical environment, cleanliness, and availability of adequate human resources, medicines and supplies.

Process determinants included interpersonal behavior, privacy, promptness, cognitive care, perceived provider competency and emotional support.

This section has discussed into detailed the theory surrounding health insurance and health care particularly in Ghana. It also outlined some of the empirical evidence of maternal health care around the globe.

3.0 METHODOLOGY

This chapter represents the methodology used to assess the impact of NHIS on maternal health care in Ghana specifically in the East-Akim Municipality in the Eastern Region. This section also critically looks at the profile of the East-Akim Municipality in the Eastern Region in terms of political boundaries, location in the national and district contexts.

3.1 Research Design

A research methodology is the procedural framework within which a research is conducted (Malhotra and Birks, 2007). A Research Approach refers to an integrated set of research principles and general procedural guidelines that guide a scientific research (Punch, 2013). There are three broad approaches of research namely qualitative, quantitative and mixed methods (Denzin, and Yvonna, 2009). Qualitative approach often rely on interpretive or critical social science, follow a nonlinear research path and speak a language of cases and contexts, while quantitative approach rely on a positivist view to social science and follow a more linear research path of variables and hypotheses.

The mixed methods is sometimes referred to as, multiple methodology or multi-methodology research, which offers a combination of both worlds, that is, the in-depth, contextualized, and natural but more time-consuming insights of qualitative research coupled with the more-efficient but less rich or compelling predictive power of quantitative research (Denscombe, 2003). In good research, the contention is that the choice of research methods for satisfying various research needs should be appropriate, reasonable and explicit (Denscombe, 2003). This study used the Mixed Method of research. Moreover, the research adopted the survey approach in collecting the data; specifically, through the use of a questionnaire. It also used the interview guide to solicit answers to address research objectives. The choice for this research design was necessary not only due to the exploratory nature of the study but also because it has been found to be suitable for analysing a phenomenon, situation, problem, attitude or issues by considering a cross-section of the population at one point in time (Robson, 1993). The suitability of using the survey and interview guide strategy in this study is to help the researcher identify and explain statistically, the impact of NHIS on maternal health care. This research therefore employed a single case study approach.

3.2 Case Profile

The East-Akim district lies within longitude 0°.56 West and 0°. 15 West and latitude 6.03 North and 6°.35 North with a total land area of approximately 725km² and Kibi as its capital (Ministry of Food and Agriculture, 2015). The district is bordered by Kwahu South District to

the North, Atiwa District to the North West, Kwabibirem District to the South West; Fantekwa to the East and New Juabeng and Suhum-Krabo-Coaltar Districts to the South (Ministry of Food and Agriculture, 2015).

3.3 Population and Sampling Techniques

The data used for this research came from a survey conducted between January and June 2014 among a random sample of 850 women who had given birth in the East-Akim districts since 2012. The sampling frame for the survey was obtained from the East-Akim Demographic Surveillance System.

3.4 Study variables

The survey collected information on the socio-demographic characteristics of respondents and contribution of NHIS to maternal mortality rate. In the latter analysis focused on four (4) key areas of maternal health which include: prenatal care, normal delivery, hospitalization after delivery and postnatal care. Prenatal care indicators analysed include care by professionals and vaccination (TT) while in the former causes of maternal mortality rate are examined (USAID, 2009).

3.5 Data collection procedure

Only one set of questionnaire was designed for the respondents. The questionnaire was made up of both open-ended and close-ended questions and it sought to establish the impact of the NHIS on maternal health care. The questionnaire was divided into two main sections. Section one focused on the demographic variables of the respondents while section two solicited on the two main constructs making up the framework. One major phase of the survey process was the execution of the survey instrument and the structured questionnaire was purposively distributed. Purposive used here refers to “selecting certain respondents for participation in the study presumably because they are representative of the population of interest and/or meet the specific needs of the research study” (Dillon et al. 1993).

The analysis was done in line with the research questions and objectives above and it was presented in the form of tables to give better explanations. All the tables in the analysis were generated from survey data through the SPSS 17.0 (statistical package for social studies) after being coded.

3.6 Data Analysis

The analytical instrument for this study was the Statistical Package for Social Science (SPSS) version 17.0 using graphs, tables and descriptive statistics. This software has been widely used by researchers as a data analysis technique (Zikmund, 2003). For the qualitative part, thematic technique was deployed. The interview guide was created with reference to the theme derived from the objectives, specifically objectives 1 and 2.

4.0 DATA PRESENTATION AND ANALYSIS OF DATA

The chapter presents data and analysis of the results of the study. Interpretation of results and findings were done according to the objectives of the study. Hence this chapter is divided into three main sections consisting of Socio-demographic characteristics of respondents, contribution of NHIS on maternal health delivery and the general maternal health care delivery in Ghana.

4.1 Socio-Demographic Characteristics of Respondents

This section presents analysis of Socio-demographic characteristic of respondents of the study. Table 4.1 shows the various variables examined under socio-demographic features of respondent.

Table 4.1: Socio-Demographic Characteristics of Respondents

Women Age	No. of Responses	Percentage (%)
15-19	159	18.71
20-24	253	29.76
25-34	397	46.71
35 and above	41	4.82
Marital Status		
Married	738	86.82
Not Married	112	13.18
Education		
Below Secondary/None	443	52.12
Secondary or More	407	47.88
Occupation		
Farming	465	54.71
Civil service	245	28.82
Self Employed	89	10.47
Other	51	6.00
Locality of Residence		
Urban	285	33.53
Rural	565	66.47

Source: Authors computations (2016)

Findings in Table 4.1 show that majority of respondents for the study were in the age bracket of 25-34 years recording 46.71%, however, age bracket with the least were 35 years and above which recorded 4.82. It could therefore be deduced that the former age group was very active in terms delivery, hence benefit most from NHIS. Moreover it was obvious that respondents constituted 76.82% of married women. However, unmarried women captured in the study were 13.18% which upon further probe proved to be within 15-19 years. Educational level of women was alarming as most (52.12%) had none or below secondary education. This implies that, literacy level of women was very low in the communities in the East Akim district. Moreover, 66.47% of respondents were residents in the rural communities of the area of study. As a result their main occupation which doubles as source of income was farming which recorded 54.71% among other occupations such as Civil service (28.82%) self-employment (10.47%) and others (6%).

4.2 Contribution of NHIS on Maternal Health Delivery

Maternal health care delivery is one of the key issues that National Health Insurance Scheme addressed in Ghana. This study presents analysis of the impact of NHIS on maternal health care delivery in the East-Akim district in Eastern region of Ghana. In this direction, the analysis focuses on five (5) key areas of maternal health which include: prenatal care, normal delivery, hospitalization after delivery and postnatal care. Prenatal indicators analysed include care by professionals and vaccination (TT)

4.2.1 Prenatal Care

Two main indicators of prenatal care were adopted: care by health professionals (doctor, nurse, and midwife or community health officer); vaccination (tetanus toxoid) before delivery. Table 4.1 and Figure 4.1 show the distribution of key indicators of prenatal care of East-Akim District.

Table 4.1 Key Prenatal care indicators of East-Akim District (2016)

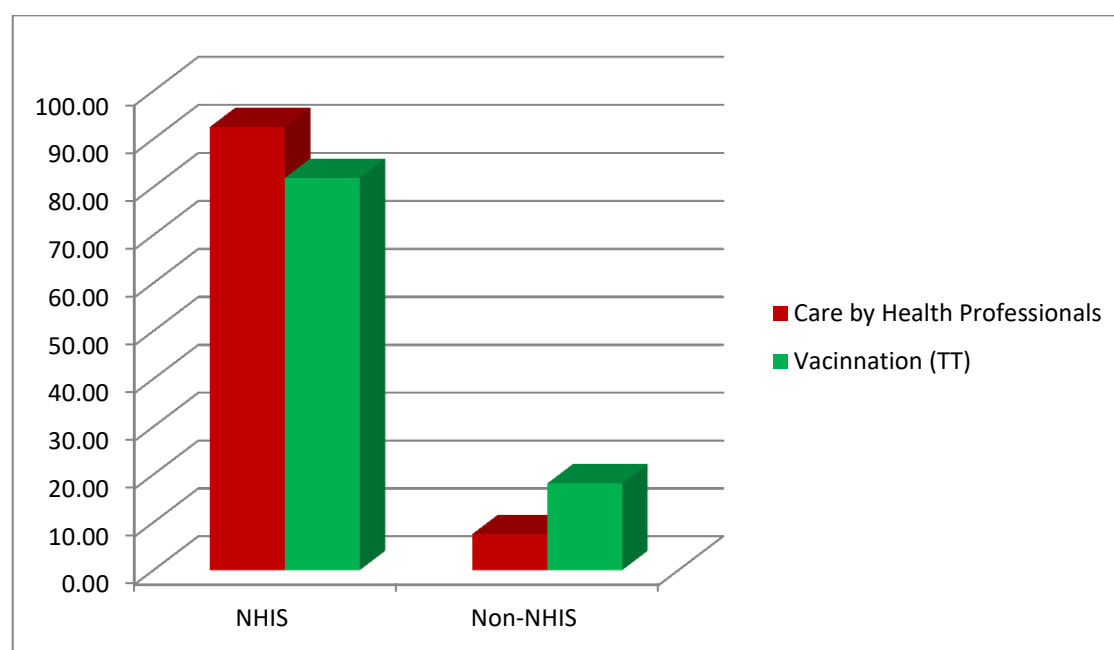
Key Prenatal Indicators	NHIS	%	Non-NHIS	%	Total
Care by Health Professionals	786	92.47	64	7.53	850
Vaccination (TT)	696	81.88	154	18.12	850

Source: Authors Computations (2016)

Table 4.1 above show that, 92.47% of respondents who were registered under the NHIS benefited from care by health professionals while 7.53% non-NHIS registered respondents also received care in that regard. Moreover, 81.88% of respondents mentioned that they had benefited from free vaccination of Tetanus toxoid (TT). The wide gap in the proportions of NHIS and Non-NHIS subscribers in respect of these key indicators was as a result of premium exemption for prenatal care.

In an interview with some key respondents, it was found that those without complications had at least four prenatal care visits where the first visit occurred in first 14 weeks out of the total 42 weeks. The distribution of prenatal care indicators are presented in Figure 4.1 below

Figure 4.1 Key Prenatal care indicators of East-Akim District (2016)



Source Authors Computations (2016)

Furthermore, respondents in an interview revealed that they enjoy additional prenatal care services during pregnancy since they were enrolled in NHIS. The essence of this was to identify and treat pregnancy related problems respondents. During this period, pregnant women enjoyed services such as: screening for potential complications, advice pregnancy related issues such as preparation for birth, place of delivery and referring mothers with complications. Findings show that, prior to NHIS, fees were charged for the above services however, such fees are now applicable to those who were not enrolled onto the scheme.

4.2.2 Coverage of other Maternal Healthcare by NHIS

Apart from prenatal care given to pregnant women who visit the various hospitals and chip compounds in the East-Akim district in the Eastern region, there were other maternal health care provided which include: normal delivery, hospitalisation for delivery and postnatal care.

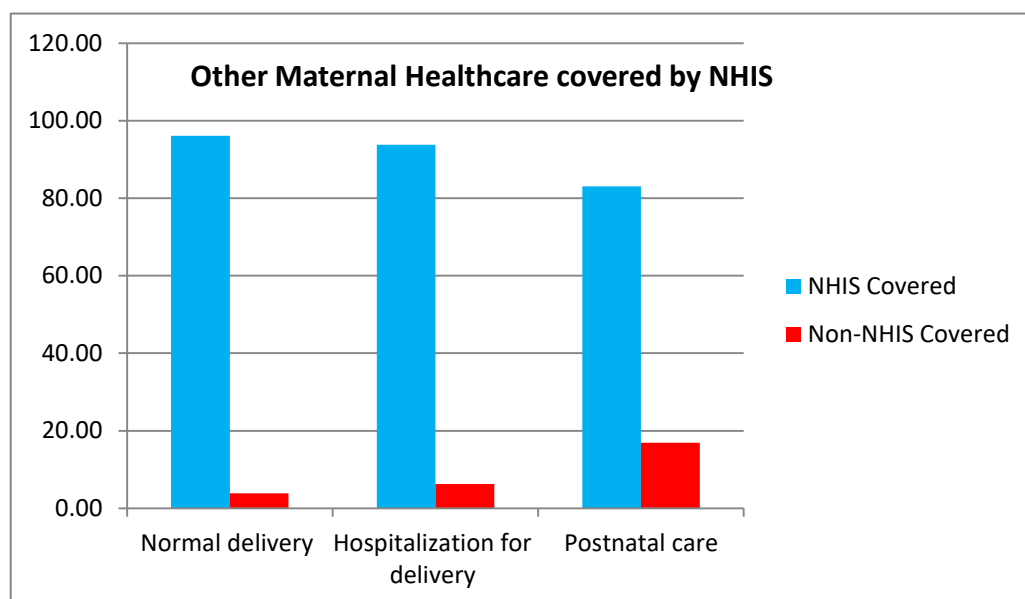
Table 4.2: Other Maternal Healthcare covered by NHIS

Maternal Care	NHIS Covered	%	Non-NHIS Covered	%	Total
Normal delivery	817	96.12	33	3.88	850
Hospitalization for delivery	797	93.76	53	6.24	850
Postnatal care	706	83.06	144	16.94	850

Source: Authors Computations (2016)

Table 4.2 above and Figure 4.2 below present a distribution of other maternal health care covered by NHIS. As stated earlier, the Ghanaian government in September 2008 introduced a specific policy exempting users of maternal services such as childbirth. Since then, the policy has been extended to cover other maternal services stated above. Findings show that 96.12% of respondents benefited from normal delivery indicating that there were 817 deliveries which was very high relative to the total sampled respondents. This implies that, due to the prenatal care given under the coverage of NHIS, most women were able to deliver safely without any complications. Moreover, no charges applied as the policy takes care of that. However, the study could only identify 33 respondents representing 3.88% who also had safe delivery but were not enrolled on NHIS. Prior to NHIS, most mothers were asked to go home before they could later return to health facilities for postnatal checks. This was as a result of high cost involved in being hospitalized after delivery.

Figure 4.2: Other Maternal Healthcare covered by NHIS



Source: Authors Computations (2016)

Most mothers were poor and could not afford that services, however, findings show that NHIS covers the cost of hospitalisation after delivery. This implies that after delivery, mothers can stay for few days, usually not more than one week for deliveries without complications before they are allowed to go home. Out of the sampled respondents, 797 representing 93.76% of respondents benefited from this services which were not available to them prior to enrolling on NHIS. This implies that, mothers were attended to in few days after delivery to avoid any after-delivery complications. Postnatal care also recorded 83.06% of the respondents which indicate that mothers were allowed to benefit from after birth care which played a crucial role in the health of new born babies in the various communities surveyed. In this sense, expectations were that mortality rate will reduce. Despite this opportunity offered mothers, about 144 respondents which constitute 16.4% did not enjoy this package because they were unregistered members. Hence, although the survey results give a good picture of improvement in the maternal health care delivery, much education and awareness of the NHIS policy should be done to be able capture a lot more people especially women.

4.3 Contribution of NHIS on Maternal Mortality rate

Generally maternal mortality rate of Ghana has improved few years after the implementation of free maternal health policy of the NHIS policy. Since then, all efforts have been made to monitor mortality rate in the various regions as well as districts in Ghana. Districts and regional level statistics build up to the national maternal mortality rate. In this section of study, analysis

was divided into two main sections. First main causes of maternal health was analysed based on information gathered from key respondents of District Health directorate of the area of study. Secondly, contribution of NHIS policy on maternal mortality rate was analysed in respect of the major causes identified.

4.3.1 Major Causes of Maternal Mortality

Table 4.3 below presents major causes of maternal mortality in East Akim district. Data obtained for the computations in this table were obtained for the district Health Directorate of East Akim District.

Table 4.3 Major Causes of Maternal Mortality in East Akim District

Main Cause of Maternal Mortality	Period Prior to NHIS (per 1000 persons)		Period after NHIS (per 1000 persons)	
		%		%
Unsafe Abortion	200	38.91	68	13.23
Severe Bleeding	146	28.40	58	11.28
Hypertensive diseases	168	32.68	78	15.18

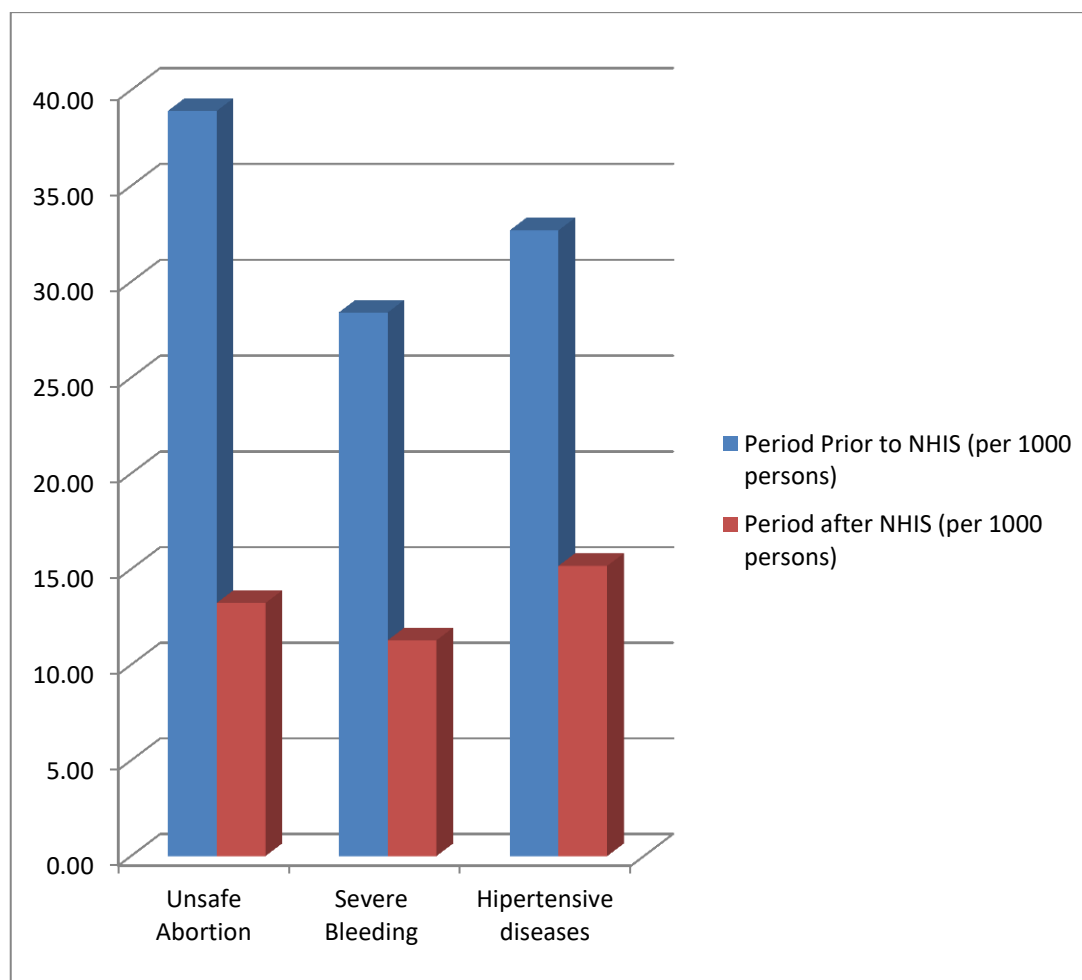
Source: District Health Directorate-East Akim (2016)

Findings in presented in Table 4.3 above, show that unsafe abortion was the major cause of maternal mortality recording the highest proportion of 38.94% (200) for a period prior to the implementation of free maternal care policy by government of Ghana. However, since the policy, the rate of unsafe abortion declined to 13.23% (68). Similarly, the number of hypertensive diseases which occurred prior to NHIS stood at 32.68% (168). However there was a significant decline to 15.18% (78) after most of the cases were now covered by the policy.

Moreover, severe bleeding also exhibited similar trend relative to both unsafe abortion and hypertensive diseases, thus, moved from 28.40% (146) to 11.28% (58). Implication of the above statistics indicate that, prior to the NHIS policy, the district recorded high numbers of cases in respect of the major cause of maternal mortality, however, the NHIS has contributed to the significant reduction the rate of cases reported in the district.

The distribution of major causes that led to maternal mortality in the East Akim district is presented in Figure 4.3. The next section of the discussion covered how NHIS has contributed to the reduction of the maternal mortality rate.

Figure 4.3 Major Causes of Maternal Mortality in East Akim District



Source: Authors Computations (2016)

4.3.2 Contribution of NHIS on Maternal Mortality rate

4.3.2.1 Reduction in the District Mortality Rate

This section examines rate of maternal mortality that occurred before and after NHIS policy in relation to the major causes of mortality. Table 4.4 presents maternal mortality that occurred in East Akim district of Ghana.

Table 4.4 Mortality Prior to NHIS Maternal Health Policy

	Cases Reported	Number of Deaths	(%)
Unsafe Abortion	200	62	31.00
Severe Bleeding	146	49	33.56
Hypertensive diseases	168	60	35.71

Source: District Health Directorate-East Akim (2016)

Table 4.3 above presents information on maternal mortality before the implementation of NHIS maternal health policy. Findings indicate that out of total cases of 200 reported on unsafe abortion, 62 death occurred recording 31% while 168 hypertensive diseases cases resulted in 60 deaths, recording 35.71%. Severe bleeding also recorded 146 cases out of which 49 deaths occurred representing 33.56%. A general observation was that, the rate at which people maternal health related deaths occurred in the district was alarming. Further probe through interviews with key health officials and respondents indicate that, cost of maternal health was too expensive for residents. As a result, most pregnant women resort to unsafe herbal medicines which further complicate issues. It was found, most of the surrounding villages in the study area are farming communities and that the poverty level in these areas was very high. Moreover, in most communities visited, residents travel at long miles before they can have access to health facility which worsen their case

Table 4.4 Mortality after implementing NHIS Maternal Health Policy

	Cases Reported	Number of Deaths	(%)
Unsafe Abortion	68	10	14.71
Severe Bleeding	58	8	13.80
Hypertensive diseases	78	11	14.10

Source: District Health Directorate-East Akim (2016)

With the implementation of the maternal healthcare policy of the NHIS, it could deduced from that evidence presented in Table 4.4 that maternal mortality rate in the East Akim district has reduced drastically. Thus, unsafe abortion recording 68 (200) cases with 10 (62) deaths representing 14.71% (31%) while hypertensive diseases recorded 78 (168) cases and 11(60) deaths represented 14.10% (35.71%).

Moreover, severe bleeding also recorded similar trend thus, 58 (146) cases and 8 (49) deaths which represented 13.80% (33.56%). The implication is that, NHIS policy has led to a drastic reduction of mortality rate in the East Akim district. This was possible through exemption of fees charged for maternal healthcare, creation of access to quality maternal healthcare and health infrastructural development. These were briefly discussed in the next section of the analysis.

4.3.2.2 Cost of Maternal Health Care

In Ghana, there have been efforts to reduce the user fees for health services in recent years, however, professional healthcare still remain expensive for many women. In East Akim district, cost of seeking healthcare was classified into both direct and indirect: fees for use of facilities, services and drugs were very high. When added to transportation cost to clinics and the possibility of losing wages from work were often excessive. Moreover, the treatment of obstetric complications was very expensive, making pregnant women with complications look more vulnerable. However, findings show that NHIS policy has made significant contribution in terms of covering cost of healthcare sought by pregnant women. In the policy, women were exempted from the cost of maternal healthcare. This has led to the reduction of mortality rate as seen in Table 4.4 and increased the number of women enrolment of NHIS in the study area since women can now seek maternal healthcare without paying any fee. However, in most of the communities studied, registration fee for enrolment remained a problem.

4.3.2.3 Access to Maternal Healthcare

Access to quality maternal health care was the most important thing after the primary obstacle, cost. With the implementation of NHIS, the government ensured that, there were available health personnel to offer quality healthcare to beneficiaries. In this direction, findings show that prior to the implementation of NHIS policy, the nurse and midwifery to patient ratio in the district was 1: 70, however government effort has reduced this ratio to 1:25 since the last few years. This implies that quality of healthcare was assured and that care is available when needed. However, in the most typical villages of the study area, lack of social amenities such as electricity, quality drinking water and bad road network led to shortage of health workers despite improvement in the ratio in other urban towns.

4.3.2.4 Infrastructure

Prior to the implementation of NHIS, East Akim district had only four health facilities. Findings show that, these consist of two government hospitals, one government clinic and one mission hospital. Since NHIS policy require additional health facilities to be able to create

access to surrounding communities, the state established four additional clinics and improved private sector initiative, four private clinics and maternity homes were established. Not only does this create access to for people especially women to have access to maternal healthcare but it also contributes to coverage of the policy. In addressing, bad road network which always led to delay in delivery of women, the government renovated some major roads that linked villages to the health facilities.

4.4 The General Maternal Health care delivery in Ghana

Maternal health care delivery in Ghana has improved over last two decades, however, the pace has slow down and there is the need to put in extra effort to achieve the Millennium Development Goals (MDG) 5 target of minimizing maternal mortality rate. Institutional mortality rate has declined from 216 per 100,000 live births in 1990 to 164 per 100,000 live births in 2010 with distance of 110 to target of 54 per 100,000 in 2015. A comprehensive implementation of recent MDG Acceleration Framework offers hopes that maternal mortality rate wil decline further.

4.4.1 Contributing Factors

Government of Ghana introduced a number of interventions to improve maternal healthcare. These interventions include following:

- Free maternal health services, repositioning family planning and training as well as repositioning reproductive and child health staff.
- Government has established a safe motherhood task force and providing support to increase number of midwives by direct midwifery training. For instance, the initiative of opening two new midwifery training schools in Tamale and other places has led to 13 percent increase in national enrolment between the period 2007 and 2009. Furthermore, in 2010 midwives in Ghana were trained on the use of partograph. Understanding the use of partograph promotes confidence, minimizes prolonged labour, caesarean sections and intrapartum still births.
- The implementation of High Impact Rapid Delivery (HIRD) approach as a strategy to complement the reduction of maternal and child mortality. Most districts in Ghana have shown improvement in the service indicators achieved and innovative strategies implemented to improve maternal health.
- Other interventions include Ghana VAST Survival programme, Prevention of Maternal Mortality Program (PMMP), and Safe-Motherhood Initiative.

- Moreover, there are other projects such as Making Pregnancy Safer Initiative, Prevention and Management and Safe Abortion Programme, Maternal and Neonatal Health Programme and Roll Back Malaria Programme, Intermittent Preventive Treatment (IPT).

In all the ten (10) regions in Ghana, government has implemented the Emergency Obstetric and Neonatal Care (EONC), however, it is yet to be with full complement of required resources (Midwives, equipment etc.)

4.4.2 Key Challenges of Maternal Health in Ghana

Despite the above initiative to improve maternal mortality in Ghana, there are some key obstacles that impede maternal health services. These include:

- Increase scaling up maternal health services, especially at the district level and investing in Community Health Planning services as well as related Primary Health Care infrastructure and systems.
- Improving the placement of trained health workers, provision of equipment, logistics, staff accommodation, transportation and ambulance services in dealing with human resource constraints and poor quality of care.
- Referral of health cases still remain a problem in many districts in Ghana. Most districts have no ambulance services. Even though regional and district hospitals are well equipped to handle sophisticated issues on labour, the core issue is how to transport women in labour on time to available health facilities. Services provided by national ambulance are very expensive and perhaps not yet resourced to offer district level services.
- Cost of conveying women in labour to health facilities is not covered by NHIS. Perhaps this is one of the major factors resulting in reluctance of mothers to deliver at health facilities.
- Lack of data on maternal care to enhance systematic investigation into maternal health as well as lack of well-structured plans and procedures to check and assess where maternal health programmes and initiatives are lacking.
- Existence of barriers to access to critical health services by communities and families specifically as a result of inadequate financial capacity of mothers and families, long distance to available health facility as well as low female literacy rate and bad health seeking attitude among the poor; socio-cultural factors such as the influence of men in healthcare decision making.

5.0 CONCLUSION AND RECOMMENDATION

This purpose of this chapter was to summarize the study conducted. It presents summary of findings, conclusion and recommendation based on the findings discussed.

5.1 Discussion

The aim and primary focus of the research was to assess the impact of NHIS on maternal health care in Ghana. Research areas considered include: contribution of NHIS on maternal health delivery and contribution of NHIS on maternal mortality rate. The study made use of questionnaire and interview guide approach to obtain answers to achieve above objectives. Summary of findings follow the order in which discussion and analysis was carried out in the previous chapter.

5.1.1 Contribution of NHIS on Maternal Health Delivery

Maternal healthcare delivery were assess based on four key areas of maternal healthcare as prescribed by UNDP (2009). These were; prenatal care, normal delivery, hospitalization after delivery and postnatal care. Prenatal indicators analysed include care by professionals and vaccination (TT). It was found that NHIS contributed to maternal healthcare delivery through the increase in the provision of maternal healthcare professionals who were competent to handle maternal related issues.

In this sense most mothers were able benefit from their services. NHIS also offered most mothers the opportunity to be vaccinated for Tetanus toxoid (TT). Apart from prenatal care, NHIS also offered, mothers free cost of delivery, hospitalisation after delivery and postnatal care. This reduced the rate of maternal health complications of mothers in East Akim district.

5.1.2 Contribution of NHIS on Maternal Mortality rate

NHIS has made several contributions in reducing the mortality rate of East Akim district. Firstly, it was found that prior to NHIS policy implementation, unsafe abortion, severe bleeding and hypertensive diseases were the main cause of maternal mortality and the rate of occurrence was high, hence a high maternal mortality rate. It declined drastically after implementation of NHIS. Moreover, NHIS has exempted mothers from the high cost of prenatal services, cost of delivery and others postnatal services. As a result more mothers were able to visit any health facility to access maternal healthcare. The policy ensured that it creates access to quality healthcare for mothers, in this regard, government ensured that there were available health personnel to offer quality healthcare to beneficiaries. Eventually, nurse to patient ratio improved. However, the cost of registering for the policy remained the major obstacle for most mothers, hence inability to access maternal healthcare under NHIS. Health infrastructure such

as roads leading to health facilities was constructed and deplorable ones were renovated to reduce the difficulty of transporting women in labour to nearby facilities. Moreover, there were significant improvement available health facilities. New clinics have been built and old ones renovated to a standard capable of accommodation masses of mothers who visit the facilities

5.1.3 The General Maternal Health care delivery in Ghana

Over last two decades, there has been an improvement in maternal health care delivery in Ghana. Although Ghana is yet to achieve the Millennium Development Goals (MDG) target on reducing maternal mortality rate, it has managed to improve institutional mortality rate to 164 per 100,000 live births in 2010 and 54 per 100,000 in 2015. This was made possible by a lot of contributing factors include intervention programmes instituted by the government intervention programmes constitute. These interventions include; free maternal health services, establishment of safe motherhood task force, increase number of trained midwives, implementation of High Impact Rapid Delivery, Ghana VAST Survival programme. Others were: Prevention of Maternal Mortality Program (PMMP), Safe-Motherhood Initiative, Making Pregnancy Safer Initiative and Prevention and Management and Safe Abortion Programme. However, there was the need to address key challenges included: Primary Health Care infrastructure and systems, improvement of placement of trained health workers, provision of equipment, logistics, staff accommodation, transportation and ambulance services in dealing with human resource constraints and poor quality of care.

5.2 Conclusion and Recommendations

As established by the findings, the study concluded that the NHIS has made significant contributions to maternal healthcare in the East Akim district. These cover improvement in healthcare delivery, reduction in maternal mortality rate and exemption of mothers from maternal healthcare cost. Other aspects of contribution also include making maternal healthcare accessible to mothers as well as providing infrastructure for maternal healthcare delivery. It could therefore be concluded, in terms of the areas covered under this study, There has been a quick increment in the quantities of individuals enrolled with the NHIS since its initiation in 2003. Furthermore, the NHIS' acquaintance also shows up with have expanded usage of formal health facilities. One of the major objectives of the insurances scheme. There has been a quick increment in the number of individuals enrolled with the National Health Insurances Scheme since its commencement in 2003. With respect to use of facilities, between 2005 and September 2007 The utilization of outpatient and inpatient division benefits practically multiplied according to Ministry of Health in 2008.

Notwithstanding, the Ministry of Health report does not make it clear whether this was an impression of an expansion in the quantity of individuals utilizing health services, or whether it was the quantity of visits to health administrations that increased. NHIS has contributed immensely; hence there is the need to ensure sustainability of the policy. Despite above contributions of NHIS to the maternal healthcare, the study recommended the following:

There is the need to improve upon maternal health care infrastructure and systems since there is a possibility of rapid population growth in the district, There should also be plans to extend ambulance services to district levels to deal with emergency transportation of women in labour whose communities still have bad road and also. NHIS service providers need to be reimbursed early enough to enable them pre- finance maternal healthcare delivery without any difficulty.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANC	ANTENATAL CARE
CS	CAESAREAN SECTION
EPO	EXCLUSIVE PROVIDER ORGANIZATION
GHS	GHANA HEALTH SERVICES
HIRD	HIGH IMPACT RAPID DELIVERY
HMO	HEALTH MAINTENANCE ORGANIZATION
HAS	HEALTH SAVINGS ACCOUNT
ICER	INCREMENTAL COST –EFFECTIVENESS
IPT	INTERMITTENT PREVENTIVE TREATMENT
MDG	MILLENNIUM DEVELOPMENT GOALS
MOH	THE MINISTRY OF HEALTH
NHIS	NATIONAL HEALTH INSURANCE SCHEME
PCP	PRIMARY CARE PHYSICIANS
PMMP	PREVENTION OF MATERNAL MORTALITY PROGRAM
PNC	POST-NATAL CARE
PPO	PREFERRED PROVIDER ORGANIZATION
TT	TETANUS TOXOID
UN	UNITED NATIONS
USAID	UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
WHO	WORLD HEALTH ORGANIZATION