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UNIVERSITY OF GHANA, LEGON

CONTRIBUTION OF NATIONAL HEALTH INSURANCE SCHEME TOWARDS ACCESS TO QUALITY CHILD HEALTH CARE SERVICES IN THE DENKYEMBOUR DISTRICT, EASTERN REGION

BY

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DECLARATION

I, Lawrencia Apeadu, hereby declare that with the exception of referenced works of other people, which have been cited and duly acknowledged, this work is an output of my own initiative. This research proposal has neither in whole nor in part been presented for an award or a degree elsewhere.

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DEDICATION

This work is dedicated to the Almighty God and then to the Apeadu family for their immense support in various ways to ensure I completed my studies. Special dedication to my mum for taking care of my daughter whilst I concentrated on my studies in order to do this work

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LIST OF ABBREVIATIONS

AU	African Union
CHAG	Christian Health Association of Ghana
CHPS	Community-Health Planning And Services
DMHIS	District-Level Mutual Health Insurance Schemes
EU	European Union
GDP	Gross Domestic Product
GMA	Ghana Medical Association
GNP	Golems Network Poken
GSS	Ghana Statistical Service
HIV&AIDS	Human Immunodeficiency Virus/Acquired immunodeficiency syndrome
ILO	International Labour Organization
NHIA	National Health Insurance Authority
NHIL	National Health Insurance Levy
NHIS	National Health Insurance Scheme
OAU	Organization of African Unity
QHD	Quality Healthcare Delivery
SAP	Structural Adjustment Program
SHI	Social Health Insurance
SSNIT	Social Security And National Insurance Trust
TMP	Traditional Medical Practitioners
UNICEF	United Nations Children's Fund
WHO	World Health Organization
VAT	Value Added Tax

DEFINITION OF TERMS

National health insurance scheme: A national health policy that allows registered members' free access to health care

Health care delivery: Providing quality medical services to patients

Quality of care: Provision of satisfactory medical service assistance to patients

Enrolment onto NHIS: Utilization of the national health policy to access free medical care

ABSTRACT

Background: Irrespective of an individual's race, sex, religion and finances, health must be rudimentary and an indispensable benefit to all, generally making healthcare supreme to every person. Nonetheless, for the reason that children are confronted with special health problems linked to the phases of their physical and mental development, which make them vulnerable to malnourishment and infectious diseases, health care is more critical for children.

Objective: To assess the contribution of NHIS towards access to quality child healthcare services at the St. Dominic Hospital in the Denkyembour District.

Methods: The study adopted a facility based cross-sectional design using quantitative data collection approach with a structured questionnaire. Data was collected over one-month period. A total number of 127 participants (parents/caregivers) were selected using folders of children enrolled on NHIS attending St. Dominic Hospital by using a simple random sampling technique. Stratified sampling technique was also be used to sample parents who have enrolled their children; and parents who have not enrolled their children onto the NHIS, to solicit their views on the topic under study. Descriptive statistics such as means ± SD, cross-tabulations, tables, frequency and percentage ages was used to describe demographic characteristics of the study population. The chi square test and t-test statistics was used to determine association between each independent variable (socio-economic characteristics, difference in perception, geographic and health care facility factors); and dependent variable (quality healthcare delivery [QHD]). Multiple logistic regressions was used to determine the strength of association between dependent variable (QHD) and independent variables (socio-economic characteristics, geographic, difference in perception and healthcare facility factors). P-values was determined for each independent variable and statistical significance was accepted at a 5percent probability level ($p \leq 0.05$).

Results: Socio-demographic factors of parents (parent age; educational level, marital status, employment status) and distance from respondents' residence to NHIS accredited health facilities significantly influence child enrolment and utilisation of quality child health care via the scheme (p=0.05). Further, there is significant differences in the perceptions of parents of insured and uninsured children of the quality of child healthcare they received.

Conclusion: The contribution of national health insurance scheme towards access to quality child health care services in the Denkyembour District was generally perceived to be good especially among parents who live close to an accredited NHIS facility. The rude and inconsiderate attitude of health personnel threatens the contribution of NHIS towards access to quality child health care services. Overall, the quality of care of services derived from enrolling children onto NHIS was good (71.65%). The study recommends that policy makers and management of the health institutions consider the factors outlined in this study when formulating policies towards increasing access to healthcare for children.

CHAPTER ONE

INTRODUCTION

1.0 Background of the study

Because the economic development of every country is closely linked to the health status of its population, healthcare issues are indispensable to every nation (Asah, 2013). Thus, of the many emerging industries of several advanced countries is the healthcare industry, constituting about 10percent of the Gross Domestic Product (GDP) of developed nations (Cracium *et al*., 2004). On a whole, health is the coming together of physical, emotional, social, intellectual, spiritual and occupational resources as they assist in mastering development necessary for satisfying a productive life (Boni, 2011).

As the saying goes "no one can escape good health, which enhances development". In other words, healthcare is crucial for everyone and its delivery must be of the highest quality at all levels. As per World Health Organization (WHO, 2003:16), to ensure quality health care delivery, "it must be safe (void of injuries to patients); effective (the services given based on scientific knowledge and patient centered), care provided must be respectful and responsive to individual patient preferences, needs, values and patient values (guide all clinical decisions)". "Not only should quality healthcare be efficient and equitable, it should also be timely to reduce waits and harmful delays" (WHO, 2003: 16).

Irrespective of an individual's race, sex, religion and finances, health must be rudimentary and an indispensable benefit to all, generally making healthcare supreme to every person (Asah, 2013). Nonetheless, for the reason that children are confronted with special health problems linked to the phases of their physical and mental development, which make them vulnerable to malnourishment and infectious diseases, health care is more critical for children

(Hampshire *et al*., 2011). For this reason, between 1989 and 1999, the United Nations Children's Fund (UNICEF) and the Organization of African Unity (OAU), currently, known as African Union (AU), embraced a policy for children stipulating in their articles 24 and14 respectively that, it is the right of children to access the utmost standard of health and as such have the right to health facilities for treatment (UNICEF, 1989; OAU, 1999). Consequently, policy makers are encouraged to guarantee that no child is denied their right to access healthcare services (UNICEF, 2012). Inasmuch as healthcare is vital for children, the cost of healthcare makes its accessibility expensive for most parents (Coast, 2011).

As a result, many poor homes are unable to have access to healthcare due to many factors such as unavailability of health facilities and cost of health services in times of ill-health (Donnell, 2007). In other words, many parents delay in seeking quick attention for their children when they are sick because healthcare is expensive. Ultimately, their health wanes and the charge for cure increases over time (Oppong *et al*., 2009).

Universally, a projected 150 million people face catastrophic healthcare costs annually because of direct payments for healthcare while about 100 million are driven into poverty (WHO, 2010). The acceptance of advance payment methods is a key universal intervention to resolve this issues, particularly in low-and-middle income countries (LMICs) where bulk of its citizenry do not have health insurance (WHO, 2010). This has 'forced' Ghana, to consider alternative ways of financing healthcare with one of such being the National Health Insurance Scheme [NHIS] (Asah, 2013). Health insurance works as an operative intercessor between health providers and beneficiaries, connecting planning and financial plan to service delivery (Qingyue *et al*., 2010). Qingyue *et al*. (2010), argue that providing monetary assets for the

health system, ensuring persons have satisfactory admittance to public health and individual care and setting financial enticements for providers to offer healthcare services in a cost effective way is the purpose of health insurance.

Ghana started the usage of a National Health Insurance Scheme (NHIS) in 2004 as a result of the acceptance of the National Health Insurance (Act 650) in 2003. The NHIS has a general objective of guaranteeing even handed 'admittance' to quality rudimentary social insurance for all individuals, without any "pay as your earn" services at medical centers. Act 650, requires all Ghanaians to register with NHIS or in another medical coverage design. In particular, Section 852 of Act 650 exempts youngsters under 18 years from paying the premium if their caregivers is a legitimate card holder of the NHIS (Kusi, Enemark, Hansen, & Asante, 2015). The enlistment of youngsters under five years has in any case, been separated from that of their caregivers since two thousand and ten and along these lines, they can be enrolled regardless of whether their caregivers are not enrolled (Kusi *et al.,* 2015).

Undeniably, NHIS has had a positive effect on the medical services in general in Ghana and corroborated by researchers (Aryeetey, Nonvignon, Amissah, Buckle, & Aikins, 2016; Amoah, 2012). Sulzbach *et al*. (2009), established that NHIS had reduced admissions considerably from 2.4percent in 2004 to 1.9percent in 2007. Additionally, few individuals were 'arrested' in medical centres because of their failure to settle their medical cost and a substantial decrease in on-the-spot payment to access medical service. In contrast, Brugiavini and Pace (2010), discovered that the NHIS had not meaningfully 'abridged' on-the-spot payment at medical centres, but has rather heighten medical assistance use.

Statistics showed that 80,000 children in Ghana were not living to celebrate their 5th birthday (MoH, 2006). It is believed that the introduction of the national health insurance scheme in Ghana is a step in the right direction in the government's efforts to ensure that all Ghanaians have access to affordable healthcare (Gajate-Garrido & Owusua, 2013). The high out-of-pocket payment for healthcare resulting from the Structural Adjustment Programme (SAP) brought a lot of hardships resulting in poor healthcare access and delivery (Brunelli, 2007). Thus, the growing concern for improvement in children's healthcare quality across all domains such as safety, timeliness, effectiveness, equity, efficiency and patient centeredness has been heightened by the need for the country to meet the 3rd Sustainable Development Goal by countries by 2030 and this goal to a large extent can be attained by providing an effective child healthcare (Asah, 2013). The present study therefore, sought to assess the contribution of NHIS towards quality child healthcare delivery in the Denkyembour District in the Eastern Region of Ghana.

1.1 Problem statement

Buor (2008), asserts that long queues observed at the various out-patient departments (OPDs) at the various health centres and hospitals in Ghana is characteristic of the high subscription to the NHIS. Nevertheless, due to the perception that insured patients are given poorer healthcare and wait longer compared to the fee paying patients, there is a growing dissatisfaction among insured clients (Bruce *et al*., 2008). This situation prevents new members from joining the scheme and even retain existing members such that the increase in the number of health insurers is not proportionate to the growth in population (National Development Planning Commission, 2012).

Data obtained from the St. Dominic Hospital in the Denkyembour District area buttress this point as it indicated that there had been an increment of 2.7percent in the number of insured

children reporting to the hospital between 2015 and 2016 (St. Dominic Hospital, 2017). Thus, data from the hospital showed that only 42.6percent of children who received healthcare in 2015, were insured as against 39.9percent in 2016 (St. Dominic Hospital, 2017). Although, the number of uninsured children is still low compared with insured children, there is a looming dire cost on child healthcare in the district. The important questions the study seeks to ask are; do parents' socio-demographic factors influence enrolling their children onto the NHI scheme? Does geographic location affects enrolling children onto the NHIS? Do the attitude and hostile environment in NHIS accredited healthcare facilities influence parents' decision to enrol their children onto the NHIS? Are there any benefits of enrolling children onto the NHIS among insured and uninsured parents?

1.2 Justification

The high cost of healthcare has been a detriment to many children from poor homes (Asah, 2013). Thus, children were identified as part of the vulnerable groups who should benefit from the NHIS without paying premium (Asah, 2013). Since the NHIS provides an alternative means of financing healthcare for children, the need for more parents to enrol their children onto the NHI scheme to avert high cost of healthcare, which has been a major contributor to child mortality in Ghana is expedient.

Since its assentation into law in 2003, studies have focused predominantly on enrolment rates and questions of access (Sarpong *et al*., 2010; Dixon *et al*., 2011; Jehu-appiah *et al*., 2011). Very few studies have examined NHIS and child healthcare in Ghana (Asah, 2013). However, no known study has been done on NHIS and child healthcare delivery in the Eastern Region of Ghana. This study thus seeks to fill this gap in literature by investigating

the extent to which the NHIS can contribute to quality child healthcare delivery in the Denkyembour District in the Eastern Region of Ghana.

Therefore, the study is useful for highlighting some major contributions of the NHIS to child healthcare and the need to ensure that it benefits insured children. Furthermore, the study brings out parents' perspective of quality of healthcare received by their children and this significantly influences the decision of parents to enrol their children to benefit from the healthcare services provided through the NHIS. This is important for the NHIS to ensure that insured children receive quality services under the NHI scheme to erase the negative perception some parents have of the scheme (Turkson, 2009).

Moreover, the study highlights the various factors such as distance to NHIS accredited facility, availability of health personnel etc that influence parents' accessibility and utilization of healthcare services through the NHI scheme in different geographic settings. These factors tend to influence the kind of challenges parents face in utilizing healthcare services through the NHI scheme. This eventually has an implication for coverage of more children on the NHI scheme in the long run. Therefore, this study will contribute to strengthening policies to improve the healthcare services provided through the NHI scheme (especially for children) so as to increase enrolment and utilization of healthcare services.

In addition, the motivation for the study is as a result of the fact that the researcher is a healthcare professional who has had considerable years of experience working in the health sector of Christian Health Association of Ghana (CHAG), especially, the paediatric

department. The experiences gained over the years will help to bring much more understanding to the topic under consideration.

1.3. General objective

The general objective of the study was to assess the contribution of NHIS towards access to quality child healthcare services at the St. Dominic Hospital in the Denkyembour District.

1.3.1. Specific objectives

The general objective of the study was achieved by addressing the following specific objectives:

1. To examine socio-demographic characteristics of parents that influence their decision to enrol their children onto NHIS to access quality child healthcare services.

2. To assess the influence of geographic factors on access to quality child healthcare services for children enrolled onto NHIS.

3. To identify healthcare facility factors (barriers) influencing access to quality child healthcare services without NHIS registration.

4. To determine the perceptions of parents/caregivers of the benefits of enrolling children onto the NHIS between insured and uninsured parents.

1.3.2. Research Questions

The following questions helped in finding answers to address the specific objectives of the study:

1. How do socio-demographic characteristics of parents influence access to quality child healthcare services for children with NHIS registration?

2. How do geographic factors influence access to quality child healthcare services for children with NHIS registration?

3. How do healthcare facility factors (barriers) influence parents' access to quality child healthcare services for children without NHIS registration?

4. What are the perceptions of the benefits of enrolling children onto the NHIS between insured and uninsured parents?

1.4 Outline of the Dissertation

The entire dissertation was divided into six chapters. Chapter one comprise the background of the study, statement of the problem, justification of the study and objectives (main and specific) of the study. Chapter two reviewed theoretical studies and presented the conceptual framework for the study. Chapter three presented the study design, study area, study population, study variables, sampling procedure, data collections techniques and tools, quality control, pretesting, data processing and analysis, ethical consideration. Chapter four presented the findings of the study. Chapter five discussed the findings. Chapter six presented conclusions and recommendations for the study.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.0. Introduction

This chapter presented analysis of evidence available on the topic under consideration in this study. It is divided into six sections comprising health and its importance, overview of national health insurance scheme (NHIS), socio-economic characteristics influencing enrolment of children onto NHIS, geographic (accessibility) factors to healthcare, healthcare facility factors and perception of benefits of enrolling children onto the NHIS.

2.1. Importance of health

Health is the state of physical and mental well-being essential to living a meaningful, pleasant and productive life (Kuffour, 2011). Health as explained by Byrne (2004), is an important component of flourishing modern societies, a foundation of well performing economies, and a shared principle. Health, according to the World Health Organization (WHO, 1963), is not just the nonexistence of diseases but the state of complete physical, mental, and social well-being.

It is very clear how contemporary pecuniary advancement has been achieved as a result of good health, longer, healthier, more productive human lives (Kuffour, 2011). It is the fundamental to economic advancement and not just a quality of live (Byrne, 2004). Health is regarded by WHO as a right for every human being (WHO, 2015). Health is crucial to the well-being of a community as well as individual's well-being (Olujimi, 2007). It strongly affect the earning capacity of an individual and is key to the ability of an individual enjoying and appreciating all aspects of life (Olujimi, 2007). Health from a wide scope, constitute medical and public health viewpoints (Kuffour, 2011). It gives much attention to the needs of

the poor or assailable and disfavoured groups (Asher, 2004). It involves particular responsibilities of government with regards to healthcare and the fundamental factors of health as well as roles to ensure non-discrimination and people's right to participate in relevant decision making (Asher, 2004).

WHO (2006) lines up the social and economic environment, the physical environment and an individual's personal characteristics and behaviours as the principal factors of health. In general, the health status of an individual is greatly impacted by his/her living setting. The social and economic environments are principal determinants of an individual's health status, given the fact that higher education levels are linked with a higher standard of life as well as a higher income (WHO, 2006).

Without good health, Anderson noted, individuals may contract weakening diseases which could lead to unnecessarily short life time (Anderson, 2014). Anderson again noted that good is quite easy to attain. However, individuals have to change their lifestyle which is sometimes hard. Consequently, most of today's diseases can be attributed to poor lifestyle of individuals. Other signs are that good health is a productive factor in a competitive economy (kuffour, 2011). The absence of an individual at work is not just costly towards their sickness payments, but also towards their replacement by other workers and subsequently lower productivity for their employer (Kelley, Mitchell, Hospitals, & Ruggieri, 2009). For example, about 15 percent of the working population in the European Union (EU) are affected with chronic diseases (Harbers & Achterberg, 2012). This according to Byrne does not only place a burden on the diseased persons, but also on those who aid them; about 15 million people in

the current EU need the aid of a third person to carry out the primary functions of normal life (Byrne, 2004).

It is revealed that poor health affect earnings by decreasing salaries or restraining involvement in the work force (Kuffour, 2011). Currie and Madrian (2005), noticed a correlation between health and the labour market, but little agreement has come out concerning the degree of that connection. Three means by which ill health can decrease wages has been identified: reductions in productivity; costs for the employer to accommodate the individual; or discrimination. Nonetheless, conclusion was drawn that the negative correlation that existed between earnings and health was not chiefly the result of wage difference, but the amount of time worked.

The essence of a healthy population cannot be understated looking at their contributions to their family lives and the economy at large (Kuffour, 2011). The importance of a healthy population cannot be downplayed considering their contributions to their family lives and the economy at large (Kuffour, 2011). Monies and sometimes valuable assets are sold off to fund the recovery process of sick individuals, especially children to make up for 'wasting' productive hours 'babysitting' the sick and/or visiting at the hospital (Kuffour, 2011).

It is against this backdrop that the present study sought to add to literature by assessing the role of NHIS in ensuring quality child healthcare delivery for children attending the St. Dominic Hospital in the Denkyembour District.

2.1.1 Access to healthcare

Kuffour asserts that lots of the troubles we face with regard to health are avertable and curable through better accessibility to healthcare services (Kuffour, 2011). It is hard to come up with tolerable definition for access because it is affected by a lot of factors (Obasi, 2013). Obasi (2013) indicates that factors affecting the use of services determine access. Obasi continues to state that access is affected by system infrastructure allowing or restricting use through hours of operation, the appointment system, walk in facilities and telephone services (Obasi, 2013). Culture, another factor which affect access by integral differences in the social system (Kuffour, 2011). Gender also influence access, forcing women into gender specific roles that has damaging effect on their health or forced to seek permission to obtain healthcare (Kuffour, 2011). Access in this study is defined as the ability to use healthcare services, particularly the number of times a child visits a healthcare facility in a one year period.

2.2. National Health Insurance Scheme (NHIS)

Through the National Health Insurance Act of August 2003, the Ghana's National Health Insurance Scheme (NHIS) was birthed and is one of very few efforts by a Sub-Saharan African country to carry out a national-level, universal health insurance programme (Kirigia *et al*., 2006). A newly-created National Health Insurance Authority (NHIA) was licensed to ensure the enforcement of a national health insurance policy that see to it that all residents have access to basic healthcare services (NHIA, 2003). The NHIA warrants and controls district level mutual health insurance plans (DMHISs) and in addition different plans permitted under the Act; certifies suppliers, decides in counsel with DMHISs, first-class ranks, and for the most part regulates and gives an account of NHIS activities (NHIA, 2010).

Financing of NHIS is from four essential sources to be specific; taxation on merchandise and enterprises, a reserved part of government managed savings charges from formal division laborers, user charges and diverse assets from speculation returns, legislature, or subscribers (NHIA, 2010). The 2.5percent assessment on products and ventures, called the National Health Insurance Levy (NHIL), is by a wide margin the biggest source, including around 70percent of incomes. Government managed savings charges represent an extra 23percent, premiums for around 5percent, and different assets for the staying 2percent (Yankah, 2009).

The NHIS, including all DMHIS has a solitary arrangement for assistance that is set by Legislative Instrument 1809 and portrayed by the NHIA as covering "95percent of disease conditions" that torment individuals in Ghana (Witter & Garshong, 2009). The NHIS covers outpatient administrations, including laboratory testing and activities, for example, treatment for hernia; majority of admission cases, including expert operations, most medical procedures, and clinic settlement; oral wellbeing medications; all maternity administrations, including cesarean deliveries; emergency care; and, at long last, all medications on the midway settled NHIA Medicines List (NHIA, 2009).

The NHIS bundle avoids some extremely costly systems, for example, certain medical procedures, cancer medications (other than breast and cervical disease), organ transplants, and dialysis; non-indispensable administrations, for example, corrective medical procedure; and some prominent things, for example, human immunodeficiency virus (HIV) antiretroviral drugs (Blanchet, Fink, & Osei-Akoto, 2012). Other than the services the scheme does not cover, there are couple of formal cut-off points set on NHIS individuals' utilization of

advantages, there is no cost-sharing on premiums (i.e., no co-installments, coinsurance, or deductibles), no yearly or lifetime limits and minimal successful entryway keeping. Rewards were planned to be "portable" from one district to the next, however genuine “portability” has been blended and is one purpose behind the ongoing presentation of one, national NHIS card to supplant district cards (Blanchet *et al.,* 2012).

The NHI Act 650 technically requires all Ghanaians to enroll in the NHIS or in another health insurance plan. Specifically, Section 31 of Act 650 reads: “(1) A person resident in Ghana other than a member of the Armed Forces of Ghana and the Police Service shall belong to a health insurance scheme licensed under this Act; (2) A person resident in a district, who is not a member of a private health insurance scheme or any other district scheme registered under this Act, shall apply to be enrolled as a member of the district mutual health insurance scheme in the relevant district”.

Nevertheless, enrollment is voluntary; that is nobody is punished for not enrolling and enrollment is not automatic (Blanchet *et al.,* 2012). In general, Ghanaians have to physically be present at a DMHIS office, fill out registration form, and make payment of small registration fee – this is caters for the photo identification and administrative expenses of registration (Blanchet *et al.,* 2012). Indeed, even specialists who add to the NHIS via social security contributions (SSNIT) need to actually enlist and pay enrollment expenses with a specific end goal to acquire the insurance cards. Notwithstanding, SSNIT supporters, expansive swaths of the populace are absolved from reimbursing premiums, yet not enrolment charges, including: individuals over age 70; kids under 18 whose guardians both enroll and indigents.

Individuals who are not absolved must pay a yearly insurance premium notwithstanding the enrollment charges in Ghana. The authorized NHIA rules require a scope of premiums to be charged by an individual's wage or riches, running from GHS7.2 for the "simple poor" to GHS50 for the "specific rich". In any case, given that exact pay measures are not by and large accessible, numerous DMHIS have moved to charging a consistent premium to all, commonly between GHS 8-10 (Blanchet *et al.,* 2012). It would be recalled that the NHI Act 852 implemented in 2012, seeks to rectify some of the challenges faced under the implementation of the NHI Act 650 of 2003 (Agyepong *et al*., 2016). Agyepong *et al*. (2016), argue however, that universal health coverage (UHC) policy and programme design needed to be such that enrolment was effectively compulsory in practice. It also requires careful attention and responsiveness to actual and potential subscriber, purchaser and provider (stakeholder) incentives and related behaviour generated at implementation levels (Agyepong *et al*., 2016).

In the Denkyembour District, which is used as a unit of analysis for this study, the average premium was GHS5 and GHS20 respectively for children and adults as at 2017. . Official insights on NHIS enlistment outlined by the National Health Insurance Authority demonstrated that there was an expansion in enlistment since activities started in late 2005. As table 2.1 shows, the aggregate number of dynamic individuals purportedly expanded from three million in two thousand and six to eleven million in two thousand and nine, recommending that near 50percent of the populace was secured by the protection by two thousand and nine. All the more as of late, in any case, the NHIA changed its system for figuring dynamic individuals and projected in its two thousand and ten yearly report that

around 34percent of Ghanaians were dynamic enrollees toward the finish of 2010 (NHIA, 2010).

Table 2.1: Ghana's NHIS and Percentage ages of the population enrolled

Year	Estimated population of Ghana	Total registered members	Total active members	percent of population registered	percent of population active
2006	21,876,031	3,867,862	2,422,097	18	11
2007	22,387,911	8,184,294	6,674,270	37	30
2008	22,876,031	12,518,560	9,969,846	55	44
2009	23,416,518	4,511,777	11,132,981	62	48

Source: NHIA (2009).

2.3. Socio-demographic characteristics influencing enrolment of children onto NHIS

Studies indicate that socio-demographic status plays a large role in access and the use of healthcare, thus, the poor generally have far less access (Ghana Health Service, 2008; Simkhada *et al*., 2008; Doku *et al*., 2012), as do those in rural areas (Arthur, 2012; Atunah-Jay *et al*., 2013). Some of these have been explained below.

Income

Health insurance premiums in the United States of America (USA) is cheap for majority of the uninsured, including some low income families (Levy & DeLeire, 2009). Chankova, Sulzbach, and Diop (2008) account that premiums are very expensive to a lot of households, even those with small family size. Thus, this poses a major hindrance to enrolment. Nevertheless, Diop in a research noticed that "most homes investigated in Senegal could pay insurance contributions as the incidence of insurance contribution was about 1.2percent of total household expenditures and about 5percent of non-food expenditures" (Diop, 2005). Other study conducted in Burkina Faso revealed that minimum demand for community-based insurance is as a result of institutional inflexibility and not poverty as such (WHO, 2000).

Studies done on equity in the NHIS at both the individual or household levels revealed a firm correlation between high socio-economic status and NHIS membership. This therefore shows that the 'poor' are omitted from the NHIS because they cannot pay for membership (Asante & Aikins, 2008; Jehu-appiah *et al*., 2011). Specifically, poverty is what bar poor individuals in the southern part of the country from enrolling onto the NHIS, though the probability of poor individuals in Ghana as a whole registering with NHIS, to access healthcare is low (Dixon *et al.,* 2014).

Education

A study conducted by Olaniyan and Sunkanmi (2012) investigated demands of child healthcare in Nigeria using the Nested Multinomial Logit Model estimation technique. The study used parents' education as a proxy for child education, while the decision to make a choice of the health facilities was also assumed to be that of the house-hold head. The findings for this study revealed that there is a very high likelihood for a female child to seek healthcare at a facility than the male child. Furthermore, the educational level of the head of a household influenced the healthcare seeking behaviour of the child. The study also revealed that the probability of seeking healthcare increased with household size and that demand for child healthcare in Nigeria was non-linear in nature.

Kevany *et al.* (2012) in a study, examined the socio-economic status and the use of healthcare in rural Zimbabwe. Information were gathered from a random probability sample household survey conducted in the Mutoko District of north-western Zimbabwe in 2005. Majority of

respondents of low socio-economic status (SES) used government providers. Utilization was strongly associated with SES and employment status, particularly for services with user fees.

Religion

A study was conducted by Adamu (2011) examining the different elements that influence the use of maternal health services across the six geopolitical zones in Nigeria. The study adopted an analytical ecological study design, which involved the analysis of secondary data on utilization of maternal health services based on Andersen's Health-seeking Behavioural Model. Conclusion drawn by this study was that employment in the northern region; and mother's age and religion in the south influenced accessibility to healthcare.

Another study investigated the elements that influenced the health of children between ages 6 and 19, as cited in the Child Development Supplements (CDS) to the Panel Study of Income Dynamics (PSID) (Chiswick, & Mirtcheva, 2010). The study mainly touched on the impact religion has on the total health and psychological health of the child. Result of the study was that children and adolescents who considered religion as highly essential among those ages 6 to 19, and subset ages 12 to 15, had their total health and psychological health improved than those who considered it not as essential.

Occupation

There was a study done to assess the function of the National Health Insurance Scheme in effective child healthcare delivery in the Ga East District of Ghana (Asah, 2013). Overall questionnaires distributed to respondents were 300. Data from study revealed that socio-

economic factors has a strong impact on child registration and the use of the scheme (Asah, 2013).

Additional studies done "on equity in the NHIS at both the individual or household levels" revealed a firm correlation among being able to enrol onto NHIS and being financially sound. This therefore showed the financially unsound individuals are omitted from the NHIS for their inability to pay (Asante & Aikins, 2008; Jehu-appiah *et al*., 2011; Sarpong *et al*., 2010; Witter & Garshong, 2009). Nonetheless, "a recent anthropological study in the Central and Eastern Regions of Ghana revealed that registration did not greatly correspond to economic status and that the 'no money to pay' premium' response often cited by majority of the uninsured was a convenient excuse to rationalize non-enrollment and non-renewal of membership" (Kotoh, 2013). Another study conducted on equity in NHIS in the two major cities in Ghana – Accra and Kumasi – reported that the premium was likely to impose catastrophic expenditure on a small minority of the poor (Amporfu, 2013).

The present study seeks to add to literature by assessing the effect of socio-economic characteristics of parents on enrolling their children onto the NHIS in the Denkyembour District in the Eastern Region of Ghana.

2.4 Geographic (accessibility) factors to healthcare

Healthcare accessibility is a significant constituent of an overall health system and it directly affect the weight of disease lots of developing countries encounter (Asah, 2013). Asah further stated that measurement of healthcare access helps widen the understanding of the operation of health systems, which ease the development of evidence based health policies. According

to Olujimi (2007), one of the commonly used terms with scanty definition in urban and regional studies is accessibility. Accessibility as defined by WHO is a measure of the proportion of the population that reaches appropriate health services (WHO, 2002).

Distance to accredited health facility

Ali, Bhatti and Kuroiwa (2008) in their study conducted in Pakistan, assessed the problems and usage of reproductive healthcare a cross-sectional survey to enroll 170 health facilities from nineteen randomly selected districts in the Punjab and North-West Frontier Province (NWFP). They discovered that distance impedes accessibility to healthcare as well as slows the process of transferring seriously ill patients to higher level care facilities for treatment.

Awoyemi, Obayelu, and Opaluwa (2011) conducted a study in a rural area involving 160 households through randomly selected agricultural zones in Kogi State, Nigeria. In their study they examine the effect distance has on healthcare usage and urged that distance to health facilities and the overall cost of seeking healthcare needed to be cut down to the lowest minimum so as to ameliorate health service patronage and accessibility to various socio-economic groups in the area. A study, as reported by Asah (2013), discovered that respondents' place of abode to NHIS accredited health facilities greatly affected child enrollment and utilization of the scheme (Asah, 2013).

Availability of NHIS accredited health facilities

A study undertaken in Nigeria in nineteen eighty seven by Stock, found that at a distance of 5 kilometres from a dispensary, per capita utilization fell to less than one-third of the 0-km rate.

In Rwanda individuals living closer to a recognized health facility have higher chances of subscribing to the community's health insurance scheme than individuals living faraway (WHO, 2003).

Data collected from a study conducted at Nsawam in Ghana, on the maternity home waiting concept, revealed distance from health facility as one of the factors associated to poor usage (Wilson *et al*., 1997). Distance is reported to be the major contributing factor in the usage of health service in the Jasikan District in Ghana (Institute of Development Studies, 1978). About 3/4 of all enrolled patients travelled a distance of 4 miles; thus majority of individuals (over 90 percent) living within 4 miles enrolled with a health unit. Nevertheless, there was an abrupt decline for individuals living farther away; only about 1/10 of individuals who live beyond 6 miles from a health unit had registered at Jasikan.

Buor (2003) asserts that the use of health services in the south district of Ghana is chiefly affected by distance. Poor accessibility to health facilities has considerably lowered the life expectancy of individuals living in rural areas while increasing the rate of child death. Also, this researcher discovered that the challenge of reliable means of transportation causes individuals living in rural areas to frequently waste great deal of time when visiting nearby health facility.

The above studies review (section 2.4) clearly reveals that distance directly affect accessibility to healthcare. Could it be the same situation for NHIS cardholder? Nevertheless, there is no much information on the implication of distance on NHIS registered children seeking healthcare. This study therefore seek to add to the existing literature by examining

the implication of distance on parents enrolment of their children onto the NHIS to access healthcare services for them in the Denkyembour District.

2.5. Healthcare facility factors

Studies suggest that waiting time, poor attitude of health professionals, long queues, unavailability of medicines at health facilities play a role in access and utilisation of healthcare (Swami *et al*., 2012; Kumari *et al*., 2009; Nwankwo *et al*., 2010; Cobah & Liang, 2011). Some of these have been explained below.

Waiting time

According to Anderson (2004), without good health, people may experience debilitating diseases and an unnecessarily short life span. Fortunately, health insurance has become one panacea to this concern. Yet, the burden of workload on the healthcare practitioners and other ancillary staff has increased tremendously and this has caused the waiting times at health centres to be extremely high. Swami *et al*. (2012), looked at the problems and prospects of micro health insurance in Botswana, and reported that increased utilization of health services had led to an increased workload for hospital staff. Thus, patients who visited public healthcare facilities were made to wait for a considerable longer time before they were attended to by a doctor and this affected the quality of care received. Therefore, most of the people joined the Itekanele scheme to enjoy the services that came with it. The waiting time in this regard was not disaggregated according to sex.

However, in terms of the differences in waiting time between men and women at the service centres, Kazanjian, Morettin and Cho (2004), asserted that women waited much longer than

men when accessing healthcare. They studied Canadian women and healthcare utilization and concluded that women waited longer when it comes to treatment of diseases like asthma and waiting time was longer for men concerning mental health sickness.

Poor attitude of health personnel

"Rao *et al.* (2006), surveyed inpatients and outpatients who visited primary health centres, community health centres, district hospitals and female district hospitals in the state of Uttar Pradesh, India". "They identified five dimensions of service quality - medicine availability, medical information, staff and doctor behaviour and hospital infrastructure". "Patients' perception of service quality was found to be marginally better than average. For outpatients, doctor behaviour was the key determinant of patient satisfaction". "Kumari *et al.* (2009), examined patients attending the outpatient department (OPD) of government allopathic health facilities of Lucknow District, the capital city of Uttar Pradesh". "Although the overall satisfaction of the patients was satisfactory, there were deficiencies in certain areas such as short OPD hours, availability of drinking water, availability of clean toilets and doctor–patient communication".

Long queues at hospital

Nwankwo *et al*. (2010) discovered that public hospitals render disappointing service to patients in the area of health personnel interactions, duration to secure a schedule, admittance to essential cure and time spent in accessing heathcare (Yousapronpaiboon & Johnson, 2013; Bisschoff & Clapton, 2014). According to Al-Hawary *et al.,* (2011), hospitals in Jordan that are considered to provide high quality service was due to hospital staff (including academic/professional qualifications and sound medical experience), comfortable accommodations for in-patients and caring staff (including doctors, nurses, and health

professionals) but hospitals thought to provide low quality health service is because of an unsatisfactory amount of dispensing channels to give out prescription and time spent to book an appointment with a health expert.

Unavailability of prescribed medicines

In a study to interrogate the health seeking behaviour of uninsured NHIS cardholders, majority of the insured indicated that they received good quality of service in contrast to uninsured NHIS cardholders (Cobah & Liang, 2011). "Unavailability of essential drugs and long waiting time respectively, were the major reasons stated for the low quality of service received. From the perspective of the non-NHIS members, quality of healthcare delivery in the district was rated as low" (Cobah & Liang, 2011: 46).

2.6. Perception of benefits of enrolling children onto NHIS

The 2008 Citizens' Assessment (NDPC, 2009) report that individuals enrolled onto NHIS has a higher prospect of seeing high-quality health professional (doctors and medical assistants versus consult drugstores and traditional providers). In like manner, individuals who are enrolled onto the DMHIS have higher chances of seeking higher quality maternal healthcare. In addition to the above, there is high probability for parents to carry their children to health facilities frequently for both curative and preventive care (Gajate-Garrido & Ahiadeke, 2015). Blanchet *et al.,* 2012 assert that individuals enrolled onto NHIS have greater chances of obtaining prescriptions, visiting clinics, and seeking formal healthcare when sick. Being covered by insurance helps people with positive expenses minimize out-of-pocket payment as well as better health outcome; that is fewer days of illness suffered.

Access to healthcare

Cobah and Liang (2011) conducted a study in the Akatsi District of the Volta region of Ghana, on how the NHIS influences accessibility and utilization of healthcare services. Findings from the study revealed that majority of the registered NHIS members consult formal care when sick than non-NHIS members. Registered individuals who utilized health centres situated closer to communities were 6.6 percent. Several reasons were cited for choosing these facilities. Chiefly among the reasons cited were competence and friendly staff, reputation of provider, availability of medicines, prompt attention, and cost and proximity to a health facility.

Healthcare utilization

A study which examined the impact Ghana's National Health Insurance Scheme (NHIS) has on healthcare usage was conducted in Accra (Blanchet et al., 2012). Using information gathered from the Women's Health Study of Accra Wave II, Wang, Temsah, & Mallick, 2016, assessed how insurance influenced the health seeking behaviour using propensity score matching. Wang et al. (2016) discovered that, averagely, individuals registered onto NHIS have greater chances of obtaining prescriptions, visiting clinics, and seeking formal healthcare when sick. Questioning the health seeking behaviour of non-NHIS member, it was discovered that lack of health insurance was the single most important reason for not seeking formal care among the non-NHIS members (Cobah & Liang, 2011).

Cobah and Liang (2011), found that majority of the non-NHIS members who did not seek care either delays or postpones treatment. The result revealed that health insurance was a key determinant in seeking healthcare and using modern health faculties (Cobah & Liang, 2011).

This study seeks to compare the difference in perception among insured and uninsured parents in accessing healthcare in the Denkyembour District for enrolling their children onto the NHIS taking into consideration, the benefits of children accessing quality healthcare.

2.7. Conceptual Framework

Based on the review of literature, the conceptual framework in figure 2.1 was developed for the conduct of this study. That is, the conceptual framework in figure 2.1 presents the factors that could influence access to quality child healthcare services. It is believed that parents/socio-economic factors, such as age, education, occupation, income levels and religious beliefs to a large extent affect parents' use of NHIS services. The occupation and income levels of parents are influenced by their educational level and these to a large extent impact on the knowledge of parents, their choices and perception of their children's healthcare. Thus, the probability of parents to enroll their children onto the NHIS or not is largely dependent on the parents' socioeconomic factors.

The geographical location of parents, for example, distance to an NHIS accredited health facility, affects their perception in terms of enrolling their children onto the NHIS. Thus, it is easy for parents in close proximity to an NHIS accredited healthcare facility to have easy access to health personnel and improved health facilities compared to those far off from an NHIS accredited facility. Similarly, the availability of NHIS accredited health facilities informs parents to register their children in order to access healthcare at no charges. In effect, registration with the NHIS could be hampered by one's location to an NHIS accredited healthcare facility.

Healthcare facility factors influence parents' perception of registering their children onto the NHIS. Joining long queues at all times and waiting for longer hours at an NHIS accredited healthcare facility to access health can affect other parents from enrolling their children onto the NHIS. The attitude of healthcare personnel towards NHIS cardholders will likely influence 'cash and carry' parents not to register their children onto the NHIS. Similarly, the continuous unavailability of prescribed medicines that NHIS cardholders can access for free for their children can discourage other non-cardholders from enrolling their children onto the NHIS.

In the nutshell, the use of NHIS services is influenced by socioeconomic, geographic and healthcare facility factors. All of these factors have individual components, which link up to influence the final output, which is enrollment of children onto National Health Insurance Scheme (NHIS) and quality of child healthcare delivery in the Denkyembour District.

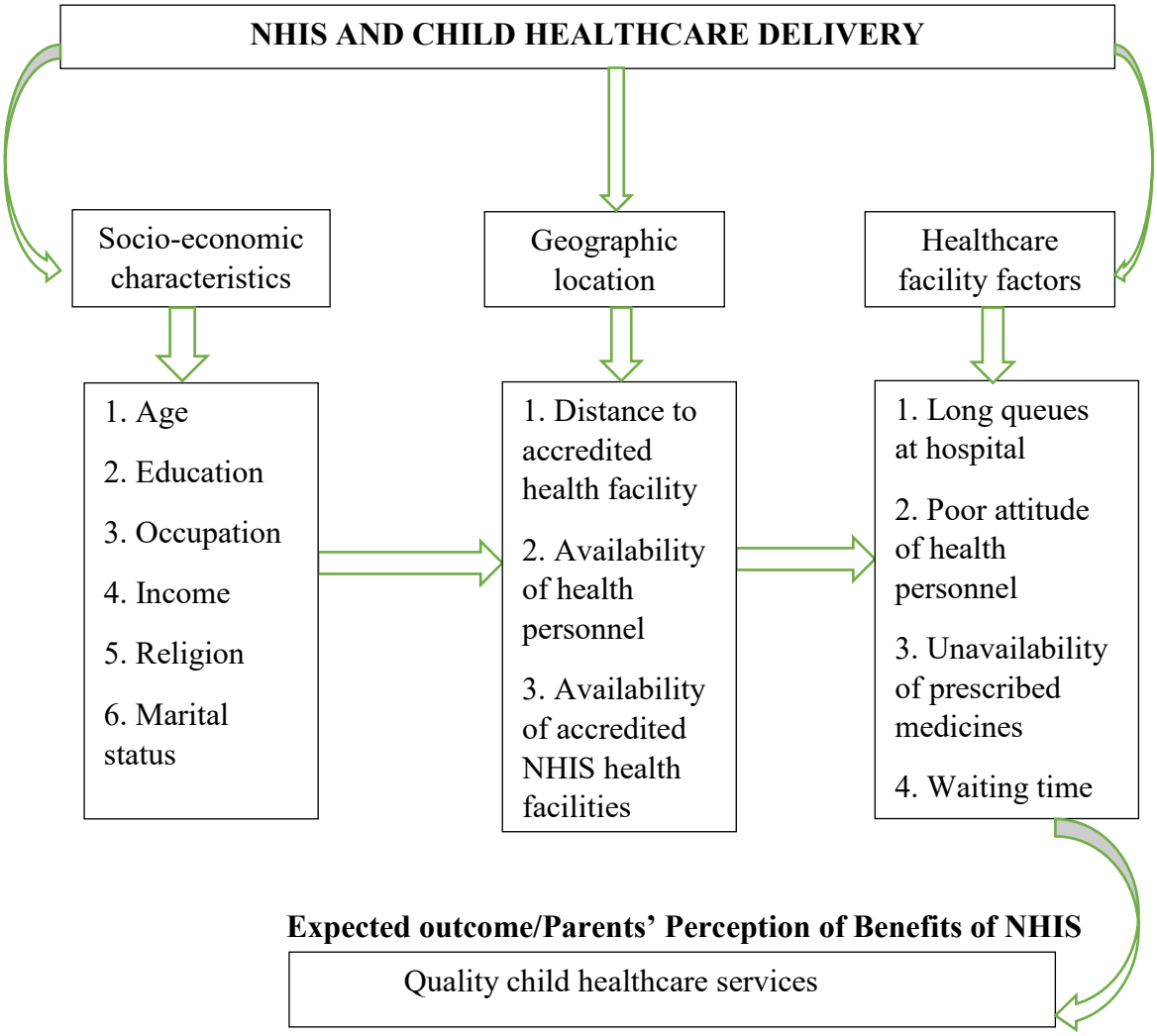

Figure 2.1: Conceptual framework showing NHIS and child healthcare delivery in Denkyembour District. (Source: Researcher's own construct)

2.8. Summary of the chapter

The importance of the NHIS in facilitating the delivery of quality healthcare in Ghana cannot be overlooked. However, the Denkyembour District continues to face huge challenges with the health of its people. Generally, the doctor to patient ratio is low (GSS, 2014), and this can adversely affect healthcare delivery for children. The results of this study can help provide a better understanding on whether children enrolled onto the NHIS by their parents receive quality healthcare. This research can contribute to the practical and effective way of ensuring that all children 'captured' on the NHIS receive quality healthcare to reduce the incidence of preventable deaths from the society.

CHAPTER THREE

METHODOLOGY

3.0. Introduction

This chapter presents the methods that was used to gather data for analysis in the study. It is divided into 11 sections. This comprised study design, study area, study population, study variables, sampling procedure, data collections techniques and tools, quality control, pretesting, data processing and analysis and ethical consideration.

3.1. Study design

A cross sectional study is a study that assess all variables in a sample systematically, often to quantify potential causative associations between exposures and outcomes (Vandenbroucke *et al.,* 2007). Cross sectional study is ideal for this study because it is generally quick, easy and often based on a questionnaire survey and inexpensive to perform (Sedgwick, 2014). The deductive approach towards research according to Rovai, Baker and Ponton (2014), is regarded as a quantitative research. Thus, quantitative research mainly centres on numerical evaluation (Research Design Service, 2012). Quantitative methods aim to answer a specific research question and it is numerical in nature, making them potentially reproducible (Almalki, 2016). Therefore, the study adopted a facility based cross-sectional study design, which used quantitative methods to assess the contribution of NHIS towards access to quality child healthcare delivery at the St. Dominic Hospital in the Denkyembour District.

3.2 Study area

The Denkyembour District is one of the twenty-six directorial districts in the Eastern Region. On the 9th of February, 2012, it was created from the Kwaebibirem District (GSS, 2010). It was set up by the Legislative Instrument (LI) 2042 and Akwatia serves as the central point

(GSS, 2010). The District is situated at the South-Western part of the Eastern Region. It is sandwiched between Kwaebibirem and Akyemansa Districts toward the North, West Akim Municipality toward the South and Birim Central Municipality toward the South-West (GSS, 2010). The Ghana Statistical Service Population and Housing Census (PHC) (GSS, 2010), perks the number of inhabitants in the locale at seventy-eight thousand eight hundred and forty-one. There are more females than men in the District (49.2 percent, 38,814/78,841) vrs (50.40, 027/78,841 50.8 percent). There is an annual birth of 2.4percent. Consequently, the evaluated populace as at 2016 was ninety thousand eight hundred and ninety seven. The district has fifty-four communities.

The area exists in the semi-deciduous timberland zone and the vegetation comprises low-lying types of hardwood. Expansive ranches of oil palm have been developed in Okumaning and Kusi and different parts of the area. Temperature extends between 26.5^0C and a most extreme of 27^0C. The district exists in the semi-tropical atmosphere zone with a twofold maxima precipitation pattern (GSS, 2010). The most elevated month to month precipitation is 414.0mm. The main mountain, the Atiwa Range, is found in the North-East of the area around Dwenase and Apinamang, which are remarkable towns. Aside from this territory, the general stature in the region is under five hundred meters above ocean level. The Birim River crosses the district from the North toward the South. Other than the Birim River, there are other prominent waterways, for example, Mmo, Abanza, Subinsa, Aweasua and Supong (GSS, 2010).

The region has various healthcare centres where patients are examined and treated from different diseases. It has an aggregate number of thirteen Community-Based Health Planning

and Services (CHPS) Compounds, two Clinics and two Hospitals. There is a 1:54 patient doctor ratio in the district. Intestinal sickness, Diarrhea, Urinary Tract Infections, Anaemia, Hypertension and HIV and AIDS are among the best 10 illnesses in the district (GSS, 2010). Among the numerous health facilities in the district, St. Dominic Hospital will be used as a unit for data collection. Figure 3.1 shows the map of the Denkyembour District.

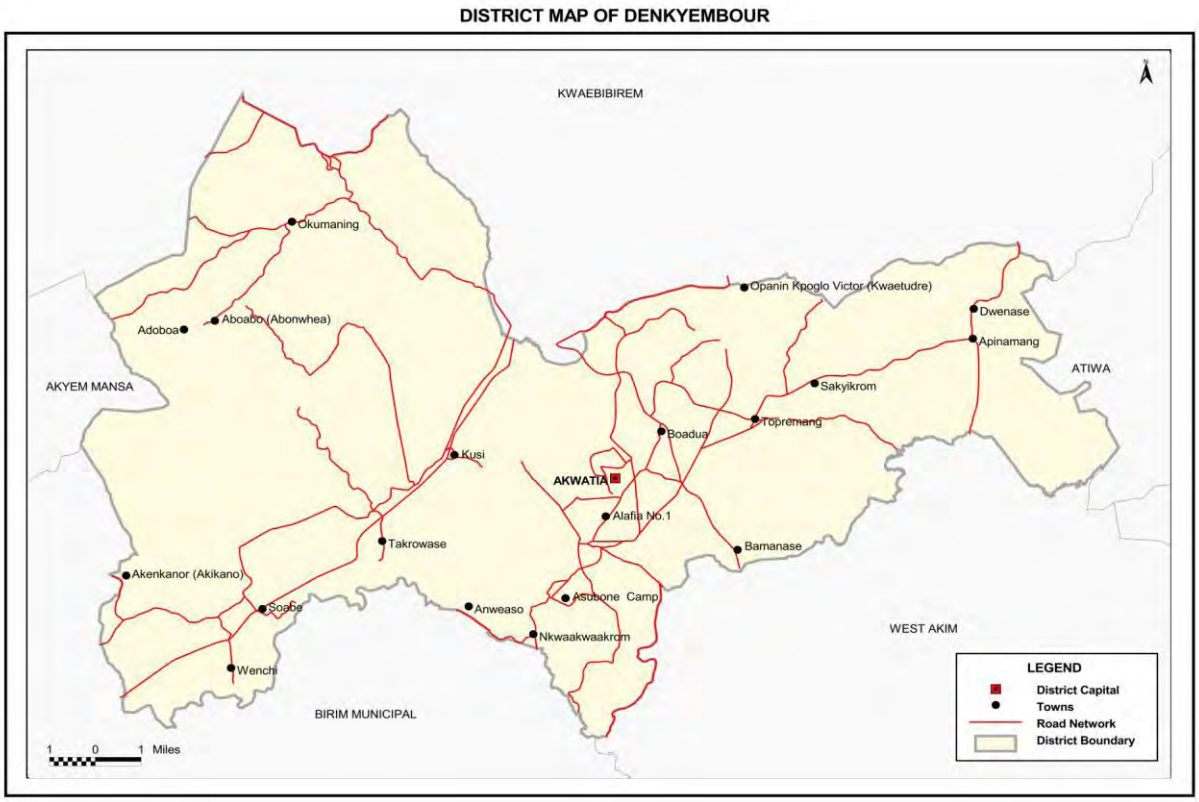

Fig. 3.1: Map showing Denkyembour District. Source: Ghana Statistical Service (2010).

3.3. Study population

The study population included mothers and/or caregivers of children who were not registered onto the NHIS and mothers and/or care givers of children enrolled onto the National Health Insurance Scheme who attend the St. Dominic Hospital in the Denkyembour District.

3.3.1. Inclusion criteria

Parents (mothers and/or caregivers) of all children aged 1-14 years registered onto the NHIS as well as parents (mothers and/or caregivers) of all children aged 1-14 years not registered onto the NHIS. Once these parents agreed to be interviewed, they were eligible and included in the study. Their children should be on treatment for at least, 12 months (January–December, 2016). Parents of children who lived in any part of the study area (Denkyembour District) and accessed healthcare in the NHIS accredited facility (St. Dominic Hospital) being used for the study were included.

3.3.2. Exclusion criteria

Parents (mothers and/or caregivers) of children who were 15 years and above were excluded from the study. Parents (mothers and/or caregivers) of children described as first timers seeking healthcare at the facility were excluded as well.

3.4. Study variables

The variables that were measured in the study have been divided into dependent and independent as shown below.

Dependent variable

Quality child healthcare services, defined as enrolment and utilization of NHIS.

Independent variables

The independent variables were as follows:

Socio-demographic factors: age, marital status, education, income, occupation, religion, NHIS status.

Geographic location: distance to accredited facility, availability of health personnel and availability of accredited NHIS health facilities.

Healthcare facility factors: long queues, poor attitude of health personnel, unavailability of prescribed medicine, waiting time.

The above variables and their operational definitions as well as scale of measurement are detailed in table 3.1.

Table 3.1: Study variables showing dependent and independent variables

Independent variables	Operational definition	Scale of measurement
Socio-demographic factors		
Age	Age at last birthday	Continuous
Marital status	Married, single, divorced	Nominal
Occupation	Self-employed and salary work	Nominal
Education	None, primary, secondary/vocational/technical, tertiary	Ordinal
Income	Monthly profit	Nominal
Religion	Christian, Muslim, Traditionalist	Nominal
NHIS status	Registered and unregistered users	Nominal
Geographic location		
Distance to NHIS accredited facility	Proximity to an NHIS accredited facility	Ordinal
Availability of health personnel	Prompt treatment of sickness	Ordinal
Availability of NHIS accredited health facilities	Accessibility to NHIS accredited facility	Ordinal
Healthcare facility factors		
Long queues	Provision of quality care	Ordinal
Poor attitude of health personnel	Work overload and patients impatience	Nominal
Unavailability of prescribed medicine	Poor NHIS financing	Nominal
Waiting time	Limited resource personnel	Ordinal
Dependent variable		
Quality healthcare delivery	Enrollment and utilisation of NHIS	Categorical

3.4.1 Hypothesis of the study

The overall hypothesis of the study was that: there is no significant differences in perception of the benefits of bearing an NHIS card.

3.5. Sampling procedure

Multistage sampling strategy was adopted in selecting the research participants. A multistage random sampling, according to Ajay and Micah (2014), is a sampling technique that allows variables to be selected at various stages. The choice for a multistage sampling technique was that it permits available resources to be concentrated on a limited number of variables of the sample frame.

It involved simple random sampling and stratified sampling techniques to select participants (children and their parents). Simple random was ideal for the reason that it provides an unbiased and better estimate of the parameters, especially for a homogenous population (Ajay & Micah, 2014). According to Ali (2014), stratified sampling involves dividing a population into distinct subgroups according to some important characteristics, such as socioeconomic status and selecting a random number from each subgroup.

Stratified sampling technique was used to sample parents who had enrolled their children onto the NHIS and parents who had not enrolled their children onto the NHIS that sought healthcare at St. Dominic hospital; to solicit their views on the topic under study. Simple random sampling was used to select the children enrolled onto NHIS. This was done by getting the data of all the 'active' children who had been enrolled onto the NHIS for at least, one year (2016) as well as children who had not been enrolled on the NHIS for the same period. These were selected from the folders of all children who accessed healthcare services with or without NHIS cards at the St. Dominic Hospital.

A list containing a total of eleven thousand, six hundred and thirty seven (11,637) children who had enrolled on the NHIS was obtained from the statistical/biostatistics department of the hospital, which served as the sample frame. The selection of patients from the database was done by generating 258 children from a sample frame of 11,637 with the help of google random number generator. Parents (mothers or caregivers) of children whose numbers were selected were then identified and subsequently included in the study.

3.6.1. Sample size determination

The sample size for the study was calculated using the Cochran's (1975), formula;

$n = (Z \times Z \times PQ) / (D \times D)$,

Where:

n = desired sample size,

Z = Reliability coefficient for 95percent confidence interval usually set at 1.96.

P = proportion of children under 18 years enrolled on NHIS 0.20 (MoH, 2004).

Q= (1-0.20)

d = degree of accuracy desired set at 0.05 probability level.

Substituting,

$$n = \frac{1.96 \times 1.96 \times (0.20)\,(0.80)}{0.05 \times 0.05}$$

= 245.9~246 Using a 5percent non-response rate, the final sample size for the study is 258.

Using the finite population correction factor, the estimated final sample size was 127

$n = n/1+n/N$

= 258/1+ 258/11632 =252

A further population correction factor,

=252/1+252/258

=127

3.7. Data collection techniques and tools

Data collection was done over two weeks, starting from 8th June to 22nd 2018.

A quantitative approach was adopted for this research, which is the means of testing objective theories by examining the relationship among variables (Polit & Hungler, 2013; Moxham, 2012). The quantitative approach helped the researcher to generate statistics through the use of a close and open-ended questionnaire. The questionnaire was structured in a way that sought relevant information to address the specific objectives of the study.

The questionnaire was divided into three sections to collect information. Section A collected information relating to: Parents factors/socio-demographic (socio-economic) characteristics: age, marital status, religion, education, employment/occupation, income, and NHIS status. Section B collected information on Geographic factors: distance to accredited health facility, availability of health personnel, and availability of NHIS accredited health facilities. Section C gathered data on: Healthcare facility factors: long queues at hospital, poor attitude of health personnel, unavailability of prescribed medicines, and waiting time.

To administer the questionnaire, respondents were issued with an informed consent form to sign after reading the content contained in the letter (see Appendix A). Additionally, the informed consent form was read to respondents who could not read but requested to see

documentation that guided the study. Interviewer-administered strategy was used to collect information from the participants. That is, the questionnaires for the parents/care givers of the selected children were administered from Monday to Friday from 7am to 4pm each day. The parents/mothers were served with a questionnaire after they had been attended to. Each questionnaire was administered within 30-40 minutes at the St. Dominique Hospital. A research questionnaire adapted and modified by Noi (2012), was used for the study.

3.8. Quality Assurance

The researcher selected three research assistants who had public health background and adequate training was given to them. The content of the training included; data collection techniques, hospital entry ethics, translation of questionnaire into various local languages and ethical guidelines. The principal researcher was part of the team during the entire questionnaire administration to ensure that relevant information in line with the objectives of the study was captured. The questionnaire was checked for errors and completeness before final entry into appropriate software (Microsoft Excel) for statistical analysis.

3.9. Pretesting

This was undertaken at the Great Consolidated Diamonds Limited Hospital. It included twenty respondents. This was undertaken to ensure the wordings, phrases and sentences were understandable and directed at the outcome of the study. it was also done to ensure that poorly worded questions, phrases and sentences that did not answer to the objectives of the study was deleted.

3.10. Data processing and analysis

Simple proportions and means were used to describe categorical and numerical data, respectively. The relationship between the parent/socio-economic/demographic factors, geographic factors and institutional/health facility factors and quality of healthcare delivery were analysed initially using the simple descriptive statistics. The completed questionnaires were analysed using STATA 15. Chi square test and/or cross tabulation was used to estimate quality healthcare defined as enrolment and utilization of NHIS (dependent variables) and socio-demographic factors (independent variables).

Chi square analysis was done to measure the association between independent variables (socioeconomic factors) and dependent variable (quality healthcare). Similarly, chi square was used to measure the effect of distance to facility and enrolling children onto the NHIS. T-test statistic was used to measure difference in perception among parents who had insured their children and vice versa. A confidence interval of 95 percent was used to show significant relations between the dependent (quality healthcare) variable and the independent variables (socio-economic factors, geographic factors and institutional/health facility factors).

3.11. Ethical considerations

Ethical issues involved in the study were addressed by doing the following.

Ethical clearance

Ethical clearance was obtained from the Local Ethics Review Committee of the Ministry of Health/Ghana Health Services as a requirement to conduct a research in a health facility (see ERC/GHS approval with reference number: 022/03/18).

Approval from study area

A letter of introduction from the School of Public Health (SPH) was sent to the Regional Director of Health Services, Eastern Region, to seek permission to collect data from the St. Dominic Hospital for the study. A similar letter was sent to the Medical Director of the St. Dominic Hospital to disseminate the information to the various departments for easy access to information needed to complete the study.

Description of subjects involved in the study

Consent was sought from parents of children who had enrolled onto the NHIS. Similarly, consent was sought from parents of children who had not enrolled onto NHIS. That is to say that, the subjects of the study were parents and caregivers of children enrolled onto the NHIS as well as parents and caregivers of children not enrolled onto the NHIS in the Denkyembour District of the Eastern Region.

Potential risks/benefits

The researcher does not anticipate any potential risks of participation to participants. Most of the questions were not sensitive to inflict any emotional injury on participants.

Privacy/Confidentiality

Participants were assured of confidentiality and privacy of the information provided.

Data storage and usage

Information was gathered with a structured questionnaire. The research instrument (questionnaire) containing the data would be saved in a locker for two years before disposing

them off. Analysed data/information saved on laptop and memory sticks/pen drives would be kept under protected password and discarded after five years.

Description of the consenting process

The purpose of the study was provided to the research participants. A participant's consent form (Appendix A) was designed and used for the participants.

Voluntary withdrawal

Participants were assured that participation in this research was entirely voluntary. They were free to withdraw their consent and discontinue participation in this study at any time without prejudice from the study team.

Compensation

Respondents were not provided any reward/compensation to respond to the questionnaire.

Protocol amendments

As per the recommendation from the Ghana Health Service Ethical Review Committee, the protocol was amended to ensure easy assistance from personnel in the study area during questionnaire administration.

Declaration of conflict of interest

There was no conflict of interest.

Funding information

The entire work was funded by the principal investigator.

3.12. Summary of the chapter

The study employed a cross sectional study design which comprised 127 parents who have either enrolled their child (ren) or not onto NHIS in Denkyembour District. Multistage sampling technique was used to sample the participants. Structured questionnaire was used to solicit their views on the topic under investigation. The next chapter presents the results after the data collected had been coded, entered into Microsoft Excel and cleaned.

CHAPTER FOUR

RESULTS

4.0. Introduction

The chapter present the results arrived at after data analysis. It is divided into seven sections. These included socio-demographic characteristics of study participants; bivariate analysis of Parent's socio-demographic characteristics and parents' decision to enroll their children onto NHIS; bivariate analysis of geographic factors and access to quality child healthcare services for children enrolled onto NHIS; bivariate analysis of Healthcare facility factors and access to quality child healthcare services; difference in perceptions between insured and uninsured parents on the benefits of enrolling children onto the NHIS; multiple logistic regression: strength of association between quality healthcare delivery and independent variables and patients satisfaction with quality of care delivered.

4.1. Socio-demographic characteristics of study participants

All the 127 participants agreed to take part in the study, the return rate was 100% (127/127). The results of the socio-demographic characteristics of participants are presented in table 4.1. Most of participants, 59.06 percent (75/127) were married, aged between 35-44 years, 41.27 percent (52/127), had children aged between 0-3 years, 40.16 percent (51/127) who were NHIS card bearers, 69.29 percent (88/127). Additionally, majority were Christians, 92.91 percent (118/127); had JHS education, 29.37 percent (23/127), were self-employed, 37.80 percent (48/127) and earned between 100-500GHS on monthly basis, 51.04 percent (49/127).

Table 4.1: Socio-demographic characteristics of study participants (n=127)

	Frequency	Percentage
Age of child (years)		
0-3	51	40.16
4-7	38	29.92
8-11	29	22.83
12-15	9	7.09
Age of parent (years)		
18-24	11	8.73
25-34	48	38.10
35-44	52	41.27
≥45	15	11.90
Educational level		
No formal education	22	17.46
Primary	23	18.25
JHS	37	29.37
SHS/Tech/Voc	15	11.90
Tertiary	29	23.02
Marital status		
Single	51	40.16
Married	75	59.06
Divorced	1	0.79
Employment status		
Civil servant	38	29.92
NGO	12	9.45
Self-employed	48	37.80
Unemployed	29	22.83
Religious affiliation		
Christian	118	92.91
Muslim	9	7.09
Salary (GHS)		
100-500	49	51.04
600-1000	13	13.54
≥1000	34	35.42
NHIS registered		
Yes	88	69.29
No	39	30.71

4.1. Bivariate analysis of Parent's socio-demographic characteristics and parents' decision to enrol their children onto NHIS in Denkyembour District

Details on parents' factors that influence their decision to enrol their children on NHIS are presented in table 4.2. A child's age was not associated with enrolment onto NHIS ($\chi2=6.5264$, $p=0.095$). Religious affiliation of parents was not associated with child enrolment onto NHIS ($\chi2=0.0314$, $p=0.561$). The salary of parents was not related with enrolment of child (ren) onto NHIS ($\chi2=3.0769$, $p=0.233$).

Parent's age was positively related to child (ren)'s enrolment ($\chi2=17.0412$, $p=0.001$). Educational level of parents was positively related to child (ren)'s enrolment ($\chi2=16.5983$, $p=0.000$). In addition, the marital status of parents was associated with child (ren)'s enrolment onto NHIS ($\chi2=6.5264$, $p=0.095$). Being employed was positively associated with child (ren)'s enrolment onto NHIS ($\chi2=23.8400$, $p=0.000$).

Table 4.2: Bivariate analysis of Parent's socio-demographic characteristics that influence parents' decision to enrol their children onto NHIS in Denkyembour District

		Enrolment and utilization of NHIS			
	N (percent)	**Enrolled**	**Not enrolled**	**χ2**	**p-value**
Age of child (years)				6.526	0.095*
0-3	51 (40.16)	40 (45.45)	11 (28.21)		
4-7	38 (29.92)	26 (29.55)	12 (30.77)		
8-11	29 (22.83)	15 (17.05)	14 (35.90)		
12-15	9 (7.09)	7 (7.95)	2 (5.13)		
Age of parent (years)				17.041	0.001*
18-24	11 (8.73)	4 (4.55)	7 (18.42)		
25-34	48 (38.10)	41 (46.59)	7 (18.42)		
35-44	52 (41.27)	30 (34.09)	22 (57.89)		
≥45	15 (11.90)	13 (14.77)	2 (5.26)		
Educational level				33.679	0.000*
No formal education	22 (17.46)	9 (10.34)	13 (33.33)		
Primary	23 (18.25)	10 (11.49)	13 (33.33)		
JHS	37 (29.37)	31 (35.63)	6 (15.38)		
SHS/Tech/Voc	15 (11.90)	8 (9.20)	7 (17.95)		
Tertiary	29 (23.02)	29 (33.33)	0 (0.00)		
Marital status				16.598	0.000*
Single	51 (40.16)	26 (29.55)	25 (64.10)		
Married	75 (59.06)	62 (70.45)	33 (33.33)		
Divorced	1 (0.79)	0 (0.00)	1 (2.56)		
Employment status				23.840	0.000*
Civil servant	38 (29.92)	27 (30.68)	11 (28.21)		
NGO	12 (9.45)	11 (12.50)	1 (2.56)		
Self-employed	48 (37.80)	40 (45.45)	8 (20.51)		
Unemployed	29 (22.83)	10 (11.36)	19 (48.72)		
Religious affiliation				0.031	0.561*
Christian	118 (92.91)	82 (93.18)	36 (92.31)		
Muslim	9 (7.09)	6 (6.82)	3 (7.69)		
Salary (GHS)				3.077	0.233*
100-500	49 (51.04)	42 (54.55)	7 (36.84)		
600-1000	13 (13.54)	11 (14.29)	2 (10.53)		
≥1000	34 (35.42)	24 (31.17)	10 (52.63)		

* Fisher's exact

4.2. Bivariate analysis of geographic factors and access to quality child healthcare services for children enrolled onto NHIS

The results in table 4.3 show geographic factors that affect quality child healthcare delivery. The results for the following variables were: having access to an accredited NHIS facility enhances quality healthcare delivery for children ($\chi2=2.645$, $p=0.002$); accepting NHIS at all times enhances quality healthcare delivery for children ($\chi2=109.288$, $p=0.000$); getting into an NHIS accredited facility by car in times of emergency enhances quality healthcare delivery ($\chi2=38.7078$, $p=0.000$; and living close to an NHIS accredited facility were associated with quality healthcare delivery ($\chi2=34.5194$, $p=0.000$).

It was also observed that the availability of health professionals at NHIS accredited facility influenced quality healthcare delivery, though insignificant ($\chi2=0.0633$, $p=0.640$); and receiving quality healthcare was not associated with time spent to reach nearest NHIS accredited health facility ($\chi2=7.5380$, $p=0.007$).

Table 4.3: Bivariate analysis of geographic factors and access to quality healthcare services for children enrolled onto NHIS

			Quality of child healthcare			
	Enrolled	**Not enrolled**	**Poor**	**Good**	**χ2**	**p-value**
An NHIS accredited facility close by					2.6450	0.002*
Yes	78 (88.64)	38 (97.44)	9 (64.29)	107 (94.69)		
No	10 (11.36)	1 (2.56)	5 (35.71)	6 (5.31)		
Availability of health professionals at NHIS accredited facility					0.0633	0.640*
Yes	85 (96.59)	38 (97.44)	13 (92.86)	110 (97.35)		
No	3 (3.41)	1 (2.56)	1 (7.14)	3 (2.65)		
Continuous use of child's NHIS card in a health facility all the time					109.288	0.000*
Yes	85 (96.59)	1 (2.56)	10(71.43)	76 (67.26)		
No	3(3.41)	37 (97.44)	4 (28.57)	37 (32.74)		
Means of transport used to access a health facility					38.7078	0.000*
Bicycle	2 (2.27)	0 (0.00)	0 (0.00)	2 (1.77)		
Motorcycle	1 (1.14)	0 (0.00)	0 (0.00)	1 (0.88)		
Car	74 (84.09)	13 (33.33)	12 (85.71)	75 (66.37)		
Foot	11 (12.50)	26 (66.67)	2 (14.29)	35 (30.97)		
Distance from home to an NHIS accredited health facility					34.5194	0.000*
<1km	13 (14.77)	26 (66.67)	2 (14.29)	37 (32.74)		
1-5km	72 (81.82)	72 (33.33)	12 (85.71)	73 (64.60)		
>5km	3 (3.41)	0 (0.00)	0 (0.00)	3 (2.65)		
Time spent to reach nearest NHIS accredited health facility					7.5380	0.007*
Minutes	73 (82.95)	39 (100)	10 (71.43)	102 (90.27)		
Hours	15 (17.05)	0 (0.00)	4 (28.57)	11 (9.73)		

* Fischer's exact

4.3. Bivariate analysis of Healthcare facility factors and access to quality child healthcare services

Healthcare barriers that influence quality healthcare delivery connotes rude and unfriendly health personnel, long queues at health facility, poor attitude of health personnel, unavailability of doctors, continuous shortage of essential drugs and long waiting time to see a health personnel. The results relating to these are shown in table 4.4.

The results revealed the following: rude and unfriendly health personnel influence good quality healthcare delivery ($\chi2=5.3269$, $p=0.037$); poor attitude of health personnel towards parents and their children mar good quality healthcare delivery ($\chi2=4.1935$, $p=0.041$); the unavailability of doctors and/or health personnel mar good quality healthcare delivery ($\chi2=7.7747$, $p=0.005$); and continuous shortage of essential drugs hampers good quality of healthcare delivery ($\chi2=3.6924$, $p=0.055$).

It was also found that long queue at an accredited NHIS facility influence good quality healthcare delivery though insignificant ($\chi2=0.0802$, $p=0.779$); and the length of time spent waiting time to see a health personnel does not hamper quality healthcare delivery ($\chi2=0.0244$, $p=0.549$).

Table 4.4: Bivariate analysis of health facility factors and access to quality child healthcare services

		Quality of child healthcare			
	N(percent)	Poor	Good	$\chi 2$	p-value
Rude and unfriendly health personnel				5.3269	0.037*
Yes	19 (14.96)	5 (35.71)	14 (12.39)		
No	108 (85.04)	9 (64.29)	99 (87.61)		
Long queues at the facility at all times				0.0802	0.779*
Yes	77 (60.63)	8 (57.14)	69 (61.00)		
No	50 (39.37)	6 (42.86)	44 (38.94)		
Poor attitude of health personnel to me and my child				4.1935	0.041*
Yes	21 (16.54)	5 (35.71)	16 (14.16)		
No	106 (83.46)	9 (64.29)	97 (85.84)		
Unavailability of doctors to attend to my child				7.7747	0.005*
Yes	42 (33.07)	0 (0.00)	42 (37.17)		
No	85 (66.93)	14 (100)	71 (62.83)		
Continuous shortage of essential drugs for my child's treatment				3.6924	0.055*
Yes	60 (52.76)	10 (71.43)	50 (44.25)		
No	67 (47.24)	4 (28.57)	63 (55.75)		
Waiting time to see a health personnel is too long				0.0244	0.549*
Yes	66 (51.97)	7 (50.0)	59 (52.21)		
No	61 (48.03)	7 (50.0)	54 (47.79)		

4.4. Difference in perceptions between insured and uninsured parents on the benefits of enrolling children onto the NHIS

The results obtained for the difference in perception among parents who had enrolled and those who had not enrolled onto NHIS are presented in table 4.5. There was a negative significant difference between parents who had enrolled their children and those who had not enrolled their children onto NHIS on the benefits of enrolling children onto NHIS. That is, the null hypothesis that 'there is no significant differences in perception of the benefits of bearing an NHIS card' was rejected in favour of the presence of negative significant association between their perceptions.

Table 4.5: Difference in perceptions between insured and uninsured parents on the benefit of enrolling children onto the NHIS

	Enrolled		Not enrolled		Mean difference
	Mean	SD	Mean	SD	
Easier access to healthcare	0.818	0.388	0.769	0.280	0.741*
Waiting time	0.736	0.444	0.103	0.307	0.784*
No added cost for treatment	0.125	0.333	0.051	0.223	-0.074**
Special care for "cash and carry" services	0.511	0.503	0.538	0.505	-0.027**
Access to essential drugs	0.898	0.305	1.00	0.000	-0.102*
NHIS covers cheap drugs	0.784	0.414	0.949	0.233	-0.165*

* Significance at 5% ** Significance at 1%

4.5. Multiple logistic regression: Strength of association between quality healthcare delivery and independent variables

Details of the strength of association between independent variables and the dependent variable are shown in table 4.6. Generally, there was no significant association between parents' socio-demographic characteristics, healthcare factors and quality of care after adjusting for all other variables ($p>0.05$). However, there was a significant association between marital status and NHIS utilization. That is, the odds of enrolling and utilizing NHIS to access healthcare was 0.02 times higher among married parents than unmarried parents. Furthermore, the odds of enrolling and utilizing NHIS to access healthcare was 26.80 times higher among parents who had an accredited NHIS facility close to them than those who did not have an accredited NHIS facility close to them.

With the crude odds ratio, it was observed that the odds of enrolling and utilizing NHIS to access healthcare was 0.21 times higher among married parents than unmarried parents. Yet again, the odds of enrolling and utilizing NHIS to access healthcare was 9.91 times higher among parents who had an accredited NHIS facility close to them than those who did not have an accredited NHIS facility close to them. The odds of not accessing quality healthcare for children was 0.25 times higher among rude and unfriendly health personnel compared to polite and friendly health personnel. The poor attitude of health personnel to parents and their children was 0.30 times higher to truncate quality healthcare delivery.

Table 4.6: Multiple logistic regression: Strength of association between quality healthcare delivery and independent variables

	Adjusted OR	P-value	Crude OR	P-value
Age of parents				
18-24	1.00		1.00	
25-34	0.69	0.771	0.53	0.300
35-44	12.77	0.091	---	
≥45	0.18	0.367	---	
Educational level				
No formal education	1.00		1.00	
Primary	2.08	0.802	1.15	0.882
JHS	33.89	0.352	0.36	0.228
SHS/Tech/Voc	20.65	0.073	1.40	0.792
Tertiary	0.87	0.882	0.87	0.882
Marital status				
Single	1.00		1.00	
Married	0.02	0.010**	0.21	0.050**
Divorced	--	--	--	--
Employment status				
Civil servant	1.00		1.00	
NGO	85.11	0.071	1.30	0.826
Self-employed	14.36	0.171	0.69	0.577
Unemployed	14.01	0.286	1.59	0.609
An NHIS accredited facility close by				
No	1.00		1.00	
Yes	26.80	0.003**	9.91	0.001**
Continuous use of child's NHIS card in a health facility all the time				
No	1.00		1.00	
Yes	1.01	0.996	0.82	0.753

Means of transport used to access a health facility				
Bicycle	1.00		1.00	
Motorcycle	--		-	
Car	0.40	0.46	0.36	0.193
Foot	--	--	-	-
Rude and unfriendly health personnel				
No	1.00		1.00	
Yes	0.72	0.771	0.25	0.029**
Poor attitude of health personnel to me and my child				
No	1.00		1.00	
Yes	0.22	0.164	0.30	0.050**
Continuous shortage of essential drugs for my child's treatment				
No	1.00		1.00	
Yes	0.38	0.288	0.32	0.065

** Significance at 5%

4.6. Quality of healthcare delivery

The overall quality of healthcare delivery was measured on nine (9) questions (Table 4.7). A correct response for each question was assigned '1' and a wrong response assigned '0'. These scores were added up to score quality of healthcare delivery. Good quality of healthcare delivery was scored "8"; moderate quality of healthcare delivery was scored "5-7" and poor quality of health delivery was scored "0-4". The contribution of NHIS to the quality of child healthcare delivery in Denkyembour District was good.

Table 4.7 Quality of healthcare delivery score

Quality of healthcare delivery score	Score range	Frequency	Percentage
Low	0-4	9	7.09
Moderate	5-7	27	21.26
Good	>8	91	71.65
Total		127	100

4.7. Summary of the chapter

The stated objectives and hypothesis of the study have been answered. The next chapter presents a discussion of the results obtained as per the stated objectives for the study and their relationship with current literature.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0. Introduction

The chapter presents a discussion of the results obtained on the contribution of national health insurance scheme towards access to quality child healthcare services in the Denkyembour District, Eastern Region. This is done by comparing the results with previous studies on the topic. The chapter is divided into sections.

5.1 Influence of socio-demographic/economic characteristics on parents' decision to enrol their children on NHIS

A child's age was not associated with enrolment onto NHIS in the study area. Enrolling children onto NHIS was not age bound. This means that the likelihood of enrolment of children onto NHIS increases with age is flawed. Thus, age does not influence enrolment onto NHIS. This can attributed to the alternative means of seeking 'cheaper' healthcare services. This disagrees with a study, which found a negative relationship between age of children and enrolment (Asah, 2013).

Religious affiliation of parents was not associated with child enrolment onto NHIS. This means that enrolling parents' religious belief has no direct influence on increase in enrolment onto NHIS. This could be attributed to the teachings and belief system that prohibit members from seeking medical healthcare. Having easy and cheaper access to healthcare also contributes to the non-existent association between religion and child enrolment onto NHIS. This is contrary to a study by Chiswick and Mirtcheva (2010), which found that children and adolescents who viewed religion as very important had better overall and psychological health than those who viewed it as not important.

The salary of parents was not related with enrolment of child onto NHIS. This means that parents are reluctant to enrol their children onto NHIS no matter how their income levels changes. This could be attributed to the varied means of seeking healthcare services for their children. It could also be as a result of parents' mistrust in the health system considering the fact that the NHIS registration is 'free' for children under 18 years. This corroborates the study of Kotoh (2013), who observed that enrolment did not correlate with economic status and that the 'no money to pay premium' response often cited by majority of the uninsured was a convenient excuse to rationalise non-enrolment and non-renewal of membership.

Parents' age was positively related to child enrolment. This implies that older parents are likely to enrol their children onto NHIS. This could be attributed to parents' preference for orthodox medicine to traditional medicine. Educational level of parents was positively related to child enrolment. The more parents acquire knowledge, the more likely they are to enrol their children onto NHIS. That is, 'educated' parents prioritise the health of their children, thus reposing confidence in NHIS to deliver quality services to their children. This agrees with a study, which found household head's educational level to be a determinant of healthcare seeking behaviour of the child (Olaniyan & Sunkanmi, 2012)

Additionally, the marital status of parents was associated with child enrolment onto NHIS. There are added responsibilities with being married and having children. It therefore, becomes convenient for parents to enrol their children onto NHIS to 'free' the household budget. Being employed was positively associated with child enrolment onto NHIS. Healthcare is an expensive commodity, as such, parents who are employed and earn salaries are more likely to enrol their children onto NHIS to save the high cost of treatment from a

private facility. This corroborates the findings of Amporfu (2013), that the premium was likely to impose catastrophic expenditure on a small minority of the poor.

5.2 Influence of geographic factors on access to quality child healthcare services for children enrolled onto NHIs

Having access to an accredited NHIS facility enhances quality healthcare delivery for children. It is of no use to acquire and or register children onto NHIS without having access to an accredited facility. Considering the fact NHIS provides a hugely subsided healthcare, having access is more likely to enhance members' utilisation of good health services. This is because it is cost effective for parents. This agrees with a study, which found that access to healthcare was an important component of an overall health system and has a direct impact on the burden of disease that affects many countries in the developing world (Asah, 2013).

Accessing NHIS at all times enhances quality healthcare delivery for children. This is because parents are assured of receiving treatment for their ailing children at lower charges. It is also because of the superior and safe services provided by an accredited NHIS facility compared with the 'risky' herbal medicine/medical practitioner. This concurs with a study, which found that inadequacies in the access to healthcare facilities had drastically reduced the life expectancy of rural dwellers and increased infant mortality (Buor, 2003).

Getting into an NHIS accredited facility by car in times of emergency enhances quality healthcare delivery. Emergency services are crucial to the survival of victims, as such, the means of arriving at the facility is crucial. Moreover, early treatment is key to avoiding untimely death. To receive quality services, arriving at the facility early is key as the facility serves equally 'qualified' patients. This concurs with the observation that rural people often

wasted a lot of time getting to the nearest available healthcare centre due to the problem of reliable means of transportation (Buor, 2003)

Living close to an NHIS accredited facility was associated with quality healthcare delivery. Living close by an accredited facility means that the hassle and tussle of getting to the facility early is avoided. This also increases enrolment as parents have to travel short distances to receive treatment for their children. This agrees with a study, which argues that geographical remoteness (distance) hinders access and also delays the process of transferring seriously ill patients to higher level care facilities for treatment. It was also observed that the availability of health professionals at NHIS accredited facility influenced quality healthcare delivery, though insignificant. The dexterity with which health professionals execute their responsibilities is key to receiving treatment. As such, being available and not receptive defeats the purpose of delivering quality services to patients.

Receiving quality healthcare was not associated with time spent to reach the nearest NHIS accredited health facility. Having incessant access to an NHIS accredited facility does not guarantee quality service delivery because it serves numerous people. It could be attributed to experiencing bad service when it mattered most. This is contrary to the assertion that families who lived within the range of 30 minutes from an accredited health facility had a considerably superior likelihood to be enrolled in the community health insurance scheme as opposed to people who lived distances away (WHO, 2003).

5.3 Healthcare facility factors influencing access to quality child healthcare services

The study found that rude and unfriendly attitude of health personnel influenced good quality healthcare delivery. This means that less parents are likely to use NHIS when they are

continuously treated with contempt. This corroborates the finding that health personnel's behaviour was the key determinant of patient satisfaction (Rao *et al.*, 2006). Poor attitude of health personnel towards parents and their children mar good quality healthcare delivery.

The study observed that unavailability of doctors and/or health personnel mar good quality healthcare delivery. This means that being treated by 'unqualified' personnel because of the lack of qualified personnel deters parents from enrolling their children onto the NHIS. This agrees with another study, which found that high perceived quality was based on availability of hospital staff (Al-Hawary *et al*., 2011). Continuous shortage of essential drugs hampers good quality of healthcare delivery. Though the NHIS provides free quality healthcare, not everything is free under it when the 'free' aspect of the scheme is continuously not present, it defaces the importance of the service.

It was observed that long queues at an accredited NHIS facility influence good quality healthcare delivery though insignificant. Having to join long queues to access healthcare is not 'cool' as productive hours is 'wasted'. This affects enrolment onto the scheme and mars the quality of service provided. This is consistent with the finding that public hospitals were providing largely unsatisfactory services to patients in regards to length of getting an appointment time, access to core treatment and hours of operation (Nwankwo *et al*., 2010).

5.4 Difference in perceptions among insured and uninsured parents on the benefits of enrolling children onto the NHIS

The study found that there was a positive significant difference between parents who had enrolled their children and those who had not enrolled their children onto NHIS on the issue of the benefits of enrolling children onto the NHIS. That is, the null hypothesis that there was

no significant differences in perception of parents of the benefits of bearing an NHIS card was rejected in favour of the presence of positive significant relationship between their perceptions. That is, there is differing perception of the benefits of enrolling children onto the NHIS among parents who had enrolled and parents who had not enrolled their children onto the NHIS.

This implies that a difference in satisfaction between parents who had enrolled and parents who had not enrolled their children onto the NHIS with healthcare services their children received. This contradicts a study, which found that unavailability of essential drugs and long waiting time respectively, were the major reasons for the low quality of services received (Cobah & Liang, 2011). Cobah and Liang (2011), reported that from the perspective of the non-insured, quality of healthcare delivery in the district was rated as low. The findings further contradict a study, which found that perceived healthcare delivery was not different in some selected rural communities (Turkson, 2009).

5.5 Summary of the chapter

There was significant association between parents socio-demographic characteristics and enrolment of children onto the NHIS ($p<0.005$). Significant association was observed between geographic factors and enrolment of children onto NHIS ($p<0.005$). Health facility factors influenced children onto NHIS ($P<0.005$). There was difference in satisfaction between parents who had enrolled and parents who had not enrolled their children onto NHIS.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary, and conclusions based on the results. Recommendations are also made based on the results and objectives of the study.

6.1. Summary of the study

The general objective of the study was to assess the contribution of NHIS towards access to quality child healthcare services at the St. Dominic Hospital in the Denkyembour District. Quantitative research methods were applied to collect empirical data for subsequent analysis. Generally, the study concludes that the contribution of national health insurance scheme towards access to quality child healthcare services in the Denkyembour District was perceived to be good, especially among parents who lived close to an accredited NHIS facility. In addition, it concludes that the rude and inconsiderate attitude of health personnel could threaten the contribution of NHIS towards access to quality child healthcare services. Overall, the benefits derived from enrolling children onto NHIS was good. The conclusions of the study based on the specific objectives have been presented below.

6.2 Conclusion of the study

This section presents the key conclusions of the study based on the specific objectives as explained below.

6.2.1. Influence of parents'/socio-demographic characteristics on decision to enrol children on NHIS

The study concludes that parent's socio-demographic factors (age, educational level, marital status and current employment status) influenced their decision to enroll their children onto NHIS. This conclusion is similar to findings documented in the literature (Ansah, 2010; Olaniyan & Sunkanmi, 2012; Amporfu, 2013).

6.2.2. Influence of geographic factors on access to quality child healthcare services for children enrolled onto NHIS

The study observed and concludes that having access to an accredited NHIS facility enhances quality healthcare delivery for children. That is, considering the fact NHIS provides a hugely subsided healthcare, having access enhance members' utilisation of good health services. Similar evidence has been reported by previous researchers (Asah, 2013; Buor, 2003).

6.2.3. Influence of healthcare facility factors (barriers) on access to quality child healthcare services without NHIS registration

The study concludes that healthcare facility factors such as rude and unfriendly health staff; poor attitude of health staff; unavailability of essential drugs and continuous shortage of essential drugs hampers quality of care delivery for children enrolled onto NHIS. This issue seems to be recurring in a lot of studies conducted in this field of research (Rao *et al.*, 2006; Al-Hawary *et al*., 2011; Nwankwo *et al*., 2010).

6.2.4. Perceptions of parents/caregivers of the benefits of enrolling children onto the NHIS among insured and uninsured parents

Due to the observations made in earlier chapters, the study concludes that there was a positive significant difference between parents who had enrolled their children and those who had not enrolled their children onto NHIS on the issue of the benefits of enrolling children onto the NHIS. This important finding could encourage parents who have yet to enrol to do so in order that they would enjoy the benefits of membership for their children, which earlier studies have placed emphasis on as a way of improving access to quality healthcare for children (Cobah & Liang, 2011).

6.3. Contributions to knowledge

This study findings make some relevant contribution to policy and practice, management of healthcare institutions and NHIS as well as methodology. These have been explained below.

6.3.1. Contribution to policy and practice

Considering the fact that the NHIS registration is 'free' for children under 18 years, the National Health Insurance Authority should ensure that every child is registered onto the scheme. This could improve healthcare delivery for children, thus, supporting and realizing the objective of the policy. This will further enhance the implementation of the policy.

6.3.2. Contribution and implications for the management of healthcare institutions

Management of accredited NHIS facilities should 'educate' its health personnel to be considerate in discharging their duties. A strict monitoring of health personnel to ensure that they provide the required services for NHIS registered members, which will ensure the provision of quality healthcare to clients, especially children in their facilities.

6.3.3. Contribution and implications for the management of NHIS

The study argues that reducing the monthly premium and diversifying payment options will ensure prompt payment from users. This will contribute to the management of the NHIS in terms of implementing the free child healthcare policy under the NHIS as well as the prompt payment of premiums to healthcare institutions towards providing quality healthcare to clients, especially children in their facilities.

6.3.4. Contribution to methodology

Employing quantitative methods in the data collection enhanced easy collection of data from participants. This enhanced the collection of responses from participants for data analysis to address the questions and objectives of the study. The application of quantitative research methods as opposed to qualitative research method enabled the researcher to quantify the responses obtained from the research objects. Thus, the findings of this study could be generalised to the population of interest. Strict observance of the validity and reliability criteria means that the researchers was able to minimise biases in this study.

6.4. Recommendation

The study has unearthed some relevant issues with the operations of the NHIS towards improving access to healthcare for citizens of Ghana, including children under 18 years whose parents have either enrolled or not. Policy makers and stakeholders in the healthcare environment should consider the following recommendations when taking decisions regarding attempts to improve access to quality healthcare in the country.

1. The National Health Insurance Authority should grant accreditation to health facilities who satisfy the accreditation criteria in the District. This will ensure accessibility, enrollment and utilization of the scheme.

2. Parents who have not registered their children onto NHIS but seeking treatment should be offered the same level of service similar to those insured with the NHIS. This will enhance an all-inclusive healthcare delivery and save the country from reverting to the cash and carry system of healthcare delivery.

3. The management of the St. Dominic Hospital should ensure strict monitoring of health personnel to ensure that they treat patients with respect. Thus, the 'rotten' attitude of health personnel threatens new enrollment and utilization of the scheme.

6.5. Study limitations

The influence of the interviewer on parents' answers was a limitation in such type of studies because of participants' reluctance to divulge information. Another limitation was that the study did not compare equal numbers of parents who were insured against parents who were not insured with the NHIS. Another limitation was that the study covered parents of children up to only 15 years. This makes the results indicative but not applicable to the entire district. This means that the sample size was also restricted to a cross section of the population as the chosen methods indicated. It would be realised that only the Denkyembour District was selected out of the over 170 metropolitan, municipal, sub-metropolitan and district Assemblies in the country. This means that comparison beyond the Denkyembour District was somehow restricted. Nonetheless, the methods applied were robust and ensured the realisation of the objectives of the study.

6.6. Future Research

In view of the limitations to this study, it is recommended that similar studies should be undertaken to describe the contribution of NHIS in delivering quality healthcare by increasing the sample size and using more than one health facility in one district considering the fact there are over 170 municipal, metropolitan and district Assemblies in the country. In this respect, it is suggested that future studies should seek to examine other variables such as children between ages 16 and 18 years who are supposed to access healthcare free under the NHIS. This will help to ascertain how their parents' registration or otherwise is influencing their access to quality healthcare in the country.

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APPENDICES

Appendix A: Participant's Consent form

School of Public Health

College of Health Sciences, University of Ghana

Tittle of study	**THE CONTRIBUTION OF NHIS TOWARDS ACCESS TO QUALITY CHILD HEALTHCARE SERVICES IN THE DENKYEMBOUR DISTRICT, EASTERN REGION**	
Researcher	**Department**	**Phone**
Lawrencia Apeadu	**Health, Policy and Planning Management**	**0244645251/0500437607**

Purpose of the study

Dear participant, Lawrencia Apaedu is my name, a student of the School of Public Health, University of Ghana, Legon. I am undertaking a study on NHIS and quality child healthcare delivery. The study hopes to assess the indicators of NHIS that influence quality child healthcare delivery in Denkyembour District.

Potential risks/benefits

The study will not cause any discomfort to participants. It is hoped that results obtained for this study will be used by policy makers and the community in particular to either improve upon existing measures of receiving healthcare with NHIS or to enforce existing ones with the objective of better improving access to quality child healthcare delivery.

Privacy/Confidentiality

I would like to assure you that whatever information provided will be handled with strict confidentiality and will be used purely for the research purposes. Your data will not be shared with anybody who is not part of the research team. Data analysis will be done at the aggregate level to ensure anonymity. Your identity will not be disclosed in the material that will be published.

Data storage and usage

Information will be gathered with a structured questionnaire. The research instrument (questionnaire) containing the data will be saved in a locker for two years before disposing them off.

Voluntary withdrawal and compensation

Participation in this study is voluntary and participants can choose not to answer any particular question or all questions. You are at liberty to withdraw from the study at any time without prejudice from the study team. However, it is encouraged that you participate since your opinion is important in determining the outcome of the study. Respondents will not be provided any reward/compensation to respond to the questionnaire.

Dissemination of results

The results of this study will be mailed to you if you provide your address below. Before taking the consent, do you have any question you wish to ask about the study?

Yes ☐

No ☐

Participant's Consent

I……., declare that the purpose of the study has been thoroughly explained to me in English language and Twi and I have understood. I hereby agree to answer the questions.

Signature……. Date……

Thumb print ☐

Interviewer's Statement

I, the undersigned, have explained this consent form to the subject in the English language that he/she understands the purpose of the study, procedures to be followed as well as risks and benefits involved. The subject has freely agreed to participate in the study.

Interviewer's signature……

Date…….. Address……

If you have questions later, you may contact me on 0244645251/0500437607 or the Administrator, Ghana Health Service Ethical Review Committee, Miss Hannah Frimpong – (0507041223/0243235225).

School of Public Health

College of Health Sciences

University of Ghana

Appendix B: Research Questionnaire

THE CONTRIBUTION OF NHIS TOWARDS ACCESS TO QUALITY CHILD HEALTHCARE SERVICES IN THE DENKYEMBOUR DISTRICT, EASTERN REGION			
PARTICIPANT CONSENT I am a student of the School of Public Health, University of Ghana**.** The administration of this questionnaire is to solicit your response on the above topic. All the information is strictly for academic purposes and will be highly treated with the greatest level of confidentiality. Thank you.			
Questionnaire ID	QID	Interview code	ICODE

QID	**QUESTIONS**	Coding categories	Skip to	CODES
Section A: Parents/Socio-Economic Characteristics				
1	Age of children	0-3……1 4-7……2 8-11……3 12-15……4		AGE
	Age of parents	18-24……1 25-34……2 35-44……3 45 and above……4		AGE_PARENTS
2	Educational level of respondents	No formal education…….. 1 Primary…… 2 JHS……3 SHS/Tech/Voc…….. 4 Tertiary…….. 5		EDU
3	Marital status	Single……1 Married……2 Divorced ……..3		MARITAL
4	Employment	Civil servant……..1 Nongovernmental employee….2 Self-employed……...3 Student……..4 Unemployed……5		EMPLOY

5	Religion	Christian……1 Muslim……..2 Traditionalist…….3 Others (specify)…….		REL
6	Average income	GH¢100 -500……1 GH¢ 600- 1000…….2 Above GH¢ 1000……..3		INCOME
7	Are you registered with the national insurance scheme?	Yes……1 No…….2		NHIS_REG

	SECTION B. Geographic location factors			
8	Do you have an NHIS accredited facility close to where you live?	Yes……1 No…….2		ACCREDITED NHIS_FACILITY
9	There are health professionals available at all times at the NHIS accredited facility?	Yes……..1 No……. …….2		AVAILABLE_ HEALTH_PROF
10	Do you use the child's NHIS card in a health facility all the time?	Yes……..1 No……. …….2		NHIS_USE
11	What means of transport do you use to access a health facility?	Bicycle……...1 Motorcycle…….2 Car…….3 Foot……4		MEANS_TRANSPORT
12	How far is the NHIS accredited health facility from your home?	Below 1km……1 1-5km…….2 Above 5km……3		DISTANCE_NHIS_FACILITY
13	How long does it take to reach the nearest NHIS accredited health facility?	Minutes……...1 Hours……..2		TIME_REACH_HOSPITAL

SECTION C. Healthcare facility factors				
14	Health personnel are rude and unfriendly	Yes……..1 No……. …….2		RUDE_UNFRIDLY
15	There are long queues at the facility at all times	Yes……..1 No……. …….2		LONG_QUES
16	The attitude of health personnel to me and my child is poor	Yes……..1 No……. …….2		POOR_ATT
17	Doctors are most times not available to attend to my child	Yes……..1 No……. …….2		AVA_DR
18	There is always a shortage of essential drugs for my child's treatment	Yes……1 No……..2		DRUGS_SHORT
19	Waiting time to see a health professional is too long	Yes……..1 No……. …….2		WAITING

	SECTION D. Difference in perception of benefits of registering children with NHIS			
20	My child have easier access to healthcare than non-subscribers	Yes……..1 No……. …….2		EASY_ACCESS
21	My child and I spend less time at the health facilities than non-subscribers	Yes……..1 No……. …….2		WAITING_TIME
22	All health expenses are covered by NHIS and I don't have to pay extra money for my child's healthcare	Yes……..1 No……2		ADD_COST
23	NHIS non-subscribers who pay money instantly are given much more attention at health facilities than subscribers	Yes……..1 No……. …….2		ATTENTION_PAYING_MORE
24	My child has free access to essential drugs but non-subscribers would have to pay for	Yes……..1 No……. …….2		FREE_ACCESS_DRUGS
25	The scheme covers only cheap drugs	Yes……..1 No……2		CHEAP_DRUGS

SECTION E. Quality healthcare delivery Which of these experiences did your child have at the health facility?				
26	Have you accessed healthcare for your child in the past one year?	Yes……1 No……. …….2	If NO, don't continue	ASSESSED_HEALTH_CARE
27	Prompt attention	Good……1 Poor……. …….2		PRT_ATT
28	Doctor or medical assistant's examination	Good……..1 Poor……2		DR_EXAM
29	Diagnosis information provided	Good……..1 Poor……2		DIAGNOSIS
30	Understanding of treatment advise	Good……1 Poor……. …….2		TRTMENT_ADVISE
31	Treatment advise given	Good……1 Poor ……. …….2		TREATMENT_ADVISE
32	Information of follow up given	Good ……1 Poor ……. …….2		FOLLOW_UP INFO
33	Privacy during consultation	Good ……1 Poor……. …….2		PRIVACY
34	Availability of all prescribed drugs	Good ……1 Poor ……. …….2		ALL_PRES_DRUGS

Thank you very much for responding to this survey!!!!!!

Appendix C: Approval letter from Ghana Health Ethics Review Committee