

# THE IMPACT OF NATIONAL HEALTH INSURANCE ON COMMUNITY PHARMACIES:

## A CASE STUDY OF THE WESTERN REGION OF GHANA

by

Adjei, Moses Amoah.

(PG2020208)

A Thesis Submitted to the Institute of Distance Learning, Kwame Nkrumah University of Science and  
Technology in partial fulfillment of the requirements for the degree of

COMMONWEALTH EXECUTIVE MASTERS OF BUSINESS  
ADMINISTRATION

JUNE 2012

## DECLARATION

I hereby declare that this submission is my own work towards the Executive Masters of Business Administration and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

Moses A. Adjei 20090347

(Student's Name & ID)

Signature

Date

Certified by:

Dr Albert Obeng Mensah

Supervisor Name

Signature

Date

Certified by:

Prof.I.K. Dontwi

Dean, IDL

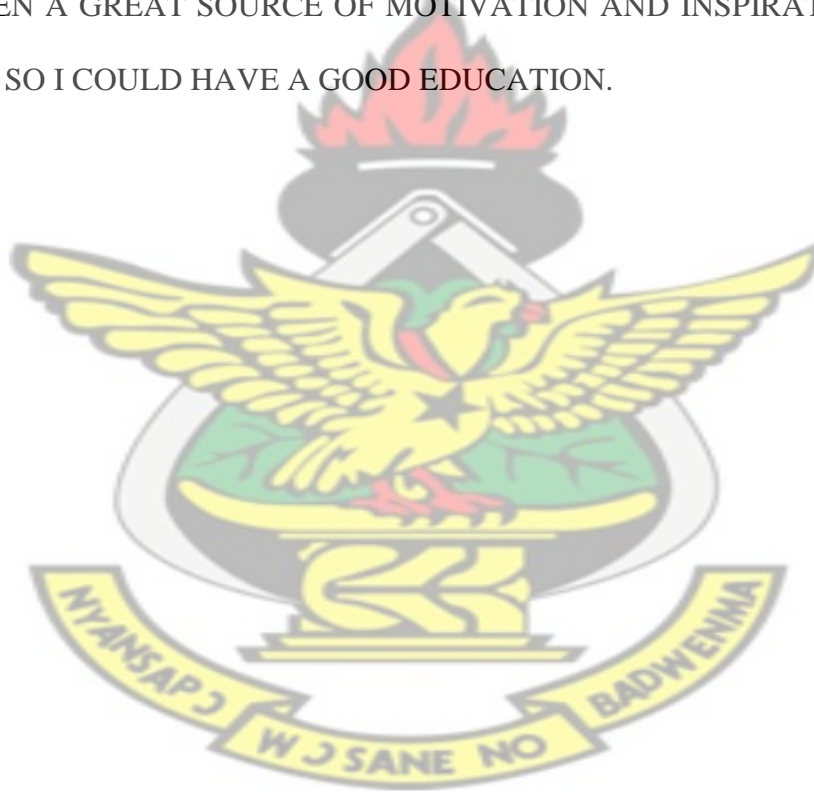
Signature

Date

## **DEDICATION**

TO GOD BE ALL THE GLORY.

I DEDICATE THIS WORK TO MY DEAR WIFE, ANNE AND PRECIOUS CHILDREN, EMMANUEL, ABIGAIL AND CHARLES NOT FORGETTING DEDICATED PEOPLE LIKE SARAH AND EMELIA. I CANNOT LEAVE OUT MY MOTHER, MRS COMFORT ADJEI, WHO HAS BEEN A GREAT SOURCE OF MOTIVATION AND INSPIRATION. SHE GAVE ALL SHE HAD SO I COULD HAVE A GOOD EDUCATION.



## **ACKNOWLEDGEMENT**

I would like to express my heartfelt appreciation to the many people who helped to make this work a reality.

Particularly, I am extremely grateful to my supervisor, Dr. Albert Obeng Mensah for his stimulating ideas and guidance and also for granting me the benefit of his expertise.

I am also grateful to all the CEMBA Lecturers who imparted their knowledge to me. I wish also to express my thanks to Ms Esi Ahema Koomson and Mr. Frederick Narkwa Anderson both of the Mathematics and Statistics Department of Takoradi Polytechnic for their superb assistance in the use of the Statistical Package for Social Science (SPSS)

My thanks furthermore, go to my research assistants Nana Abrokwa Eshun, Aaron Hackman and Sarah Bondah for helping to administer and retrieve questionnaires.

Finally, I wish to thank Ms. Sarah Gyan for her wonderful secretarial support.

To all the others too numerous to list, I offer my heartfelt thanks.

May God bless you all.

## ABSTRACT

The National Health Insurance Scheme (NHIS) has been implemented in the country for over six years now. The purpose is to reduce financial barriers in order to enable the citizenry to access quality health care. Community pharmacies are key partners in the health care delivery system. However since the implementation of the NHIS not much has been known about its impact on the community pharmacies with respect to their business operations. The present study was therefore undertaken to evaluate the impact of the NHIS on Community Pharmacies in the Western Region of Ghana. This was a qualitative case study method involving thirty five Community Pharmacies which were purposively chosen. Semi-structured questionnaires were administered to them and their responses collected and analyzed

The study indicated that as a result of the implementation of the NHIS, patronage of Community Pharmacies has gone down while OPD attendance at hospitals and clinics has gone up. Some of the challenges facing accredited community pharmacies were identified to be delays in reimbursement, tedious claim filing processes and the delay in adjusting health insurance medicine prices to reflect prevailing market prices.

It is concluded therefore that the implementation of the NHIS has led to a fall in the patronage of both accredited and non accredited Community Pharmacies in the Western Region leading to lower performance as business entities.

## TABLE OF CONTENT

TITLE.....	i
DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
LIST OF ACRONYMS.....	x
LIST OF APPENDICES.....	xi
<b>CHAPTER ONE.....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1. BACKGROUND.....	1
1.2. PROBLEM STATEMENT.....	4
1.3. OBJECTIVE.....	5
1.4. SIGNIFICANCE.....	5
1.5. SCOPE AND LIMITATION.....	6
1.6. ORGANISATION OF THE STUDY.....	7
<b>CHAPTER TWO.....</b>	<b>2</b>
<b>LITERATURE REVIEW.....</b>	<b>8</b>
2.1. HEALTHCARE FINANCING.....	8
2.2. INSURANCE.....	9
2.3. HEALTH INSURANCE.....	10
2.4. EVOLUTION OF HEALTH INSURANCE IN GHANA.....	11
2.5. COMMUNITY PHARMACIES.....	13
2.6. IMPACT OF NHIS ON UTILIZATION OF HEALTH SERVICES.....	16



2.7 IMPACT OF HEALTH INSURANCE ON COMMUNITY PHARMACIES .....	17
<b>CHAPTER THREE.....</b>	<b>20</b>
<b>MATERIALS AND METHOD.....</b>	<b>20</b>
3.1. STUDY AREA.....	20
3.2. STUDY DESIGN.....	20
3.3. POPULATION.....	21
3.4. SAMPLING .....	22
3.5. DATA GATHERING INSTRUMENTS.....	23
3.6. DATA PROCESSING ANALYSIS.....	24
3.7. DATA ANALYSIS.....	26
<b>CHAPTER FOUR .....</b>	<b>27</b>
<b>DATA ANALYSIS AND DISCUSSION OF RESULTS.....</b>	<b>27</b>
4.1 INTRODUCTION.....	27
4.2.0. RESULTS.....	27
4.2.1 DATA ANALYSIS.....	27
4.2.2. FACTORS LEADING TO CHANGES IN UTILIZATION OF COMMUNITY PHARMACIES.....	31
4.2.3. CHALLENGES FACING COMMUNITY PHARMACIES.....	33
4.2.4 PERCEIVED FUTURE OF COMMUNITY PHARMACY IN THE NEXT FIVE FIVE YEARS.....	35
4.3.0. DISCUSSION	
4.3.1. CHANGES IN UTILIZATION AND PATRONAGE OF COMMUNITY PHARMACIES.....	36

4.3.2	CHALLENGES FACING COMMUNITY PHARMACIES.....	39
4.3.3	HOW TO OVERCOME THE CHALLENGES.....	40

## **CHAPTER FIVE..... 43**

### **SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATION..... 43**

5.0.	INTRODUCTION.....	43
5.1.	SUMMARY OF FINDINGS.....	43
5.2.	CONCLUSION.....	43
5.3.	RECOMMENDATION.....	43





## LIST OF TABLES

Table 4.1 – Categorization of Respondents by Title	26
Table 4.2 – Distribution of Community Pharmacies in Western Region by Districts	27
Table 4.3 – Age of Community Pharmacies	28
Table 4.4 – Distribution of Accredited Community Pharmacies by Proportion Of Clients who are NHIS Card Bearers	28
Table 4.5 – Perceived Changes in the Patronage of Community Pharmacies since the Introduction of NHIS	29
Table 4.6 – Reasons Given for Increased Patronage.	30
Table 4.7 – Reasons Given for Decreased Patronage	31
Table 4.8 – Challenges Faced By Accredited Community Pharmacies	33
Table 4.9 – Challenges Faced By Non – Accredited Pharmacies	33
Table 4.10 – Time to Get Reimbursed	33
Table 4.11 – Has Implementation Increased Administration And Technical Workload	34
Table 4.12 – Future of Community Pharmacy in Next 5yrs (Accredited Pharmacies)	34
Table 4.13 – Future of Community Pharmacy In Next 5yrs (Non – Accredited Pharmacies)	34

## LIST OF FIGURES

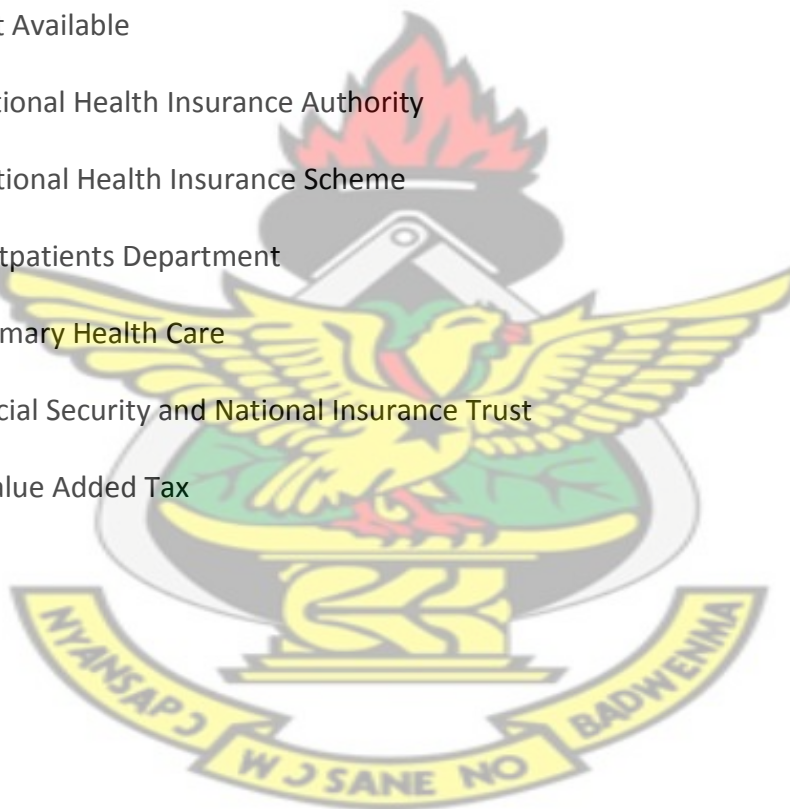
Fig 4.1	– OPD Attendance at Health Facilities in the Western Region	32
Fig 5.1	– Cash flow of NHIS	41

# KNUST



## LIST OF ACRONYMS

1. CHPS Community Health and Planning Services
2. FIP International Pharmaceutical Federation
3. MHO Mutual Health Organization
4. MOH Ministry of Health
5. NA Not Available
6. NHIA National Health Insurance Authority
7. NHIS National Health Insurance Scheme
8. OPD Outpatients Department
9. PHC Primary Health Care
10. SSNIT Social Security and National Insurance Trust
11. VAT Value Added Tax



## LIST OF APPENDICES

APPENDIX 1 - QUESTIONNAIRE	53
APPENDIX 2 - OPD ATTENDANCE IN WESTERN REGION	59
APPENDIX 3 - FUNCTIONAL COMMUNITY PHARMACIES IN W/REGION	60

# KNUST



## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND TO THE STUDY**

Health is a very important factor in the socio – economic development of every nation. The ultimate goal particularly as enshrined in the Ghana Growth and Poverty Reduction Strategy II is to ensure a healthy and productive population capable of contributing to the socio – economic development and wealth creation in the country.

Governments all over the world have therefore adopted policies and measures that would ensure the optimum health of the people. In Ghana, the government through the Ministry of Health (MOH) has established the Ghana Health Service that formally ensures that this objective is achieved. By the 1996 Ghana Health Service and Teaching Hospital Act, administrative and service delivery responsibilities were decoupled from the MOH and assigned to the Ghana Health Service while the MOH retained responsibility for policy formulation, donor coordination and resource mobilization (Gyapong et al, 2007)

Since government alone cannot bear the responsibility of ensuring optimum health for the citizenry, other measures have been put in place that would ensure that the private sector collaborates with government to ensure the optimization of health for the populace. In this regard, there are legal frameworks that ensure the effective functioning and operation of complementary and supplementary facilities like private clinics, Dental Clinics, Maternity Homes and Community Pharmacies.

Community Pharmacies are currently regulated by the Pharmacy Act, 1994; Act 498.

In Healthcare delivery Primary Healthcare (PHC) has become a very important cornerstone. According to Starfield (1992), Primary Care is the basic level of healthcare provided equally to everyone. It addresses the most common problems in the community by providing preventive, curative and rehabilitation service to maximize healthcare and wellbeing. He concluded by saying that it is the first port of call within the health system. Scahill et al, 2010 recognized that community pharmacy is integrated within primary healthcare.

Indeed in a survey conducted to document the PHC role of Pharmacists in London, the volume of primary contacts, and the type of problems handled, the advice given by pharmacists in their community pharmacies were found to be profound (Bass , 1975). The World Health Organisation has also long believed that pharmacists and for that matter community pharmacies could make greater contribution to the provision of healthcare (WHO 1988; WHO 1996). This is particularly so in developing countries where health care needs are greater and public sector healthcare provision is limited (Smith,2004).

However healthcare must be financed and in Ghana, this has gone through a chequered history. Immediately after independence, Ghana adopted the general tax revenue based system of financing health in the public sector. This, one way or the other, was to reflect the socialist orientation of the government at the time. Under this system people were treated freely at public health institutions.

This system continued until the 1970, where as a result of economic crises, it became difficult for government to maintain the momentum. The implication was that even though healthcare was free, the resources were simply not available for an efficient healthcare delivery system. Therefore basic drugs and other medical consumable were not available.



Government, as a result, had to come in with the Cash and Carry System where out of pocket payment was done by patients in respect of drugs while government bore other recurrent expenditures.

However, still in the 1970s when the impact of the global oil crisis and low prices of cocoa began having a telling effect on the economy, government began reneging on some of its financial commitment to the health facilities. This made healthcare to have a nightmarish experience and no wonder a former Head of State described the hospitals as graveyards. Under cash and carry, the health consumer at government facilities was expected to pay for every basic item from surgical gloves, cotton wool, needles, syringe, scalpel, blade, X- rays and drugs and this basically typified what was happening in private hospitals (Kwegyir – Aggrey 1998). This unsatisfactory system acted as a barrier denying access to good quality healthcare, particularly for the poor and limiting access generally. This situation became so critical that it became a topical issue in the electioneering campaign of 2000.

Government of Ghana therefore passed into law the National Health Insurance Act 2003 with the requisite Legislative Instrument, the National Health Insurance regulations in 2004. This in essence, replaced the user fees and increased access particularly for the poor.

With the implementation of the National Health Insurance Scheme therefore, it is important to find out whether the role of Community Pharmacies, as business and healthcare entities, is being enhanced or otherwise in the Healthcare Delivery System.

## **1.2 STATEMENT OF THE PROBLEM**

Community Pharmacies are not only business entities but a hybrid of business and professional entities managing disease of common occurrences, offering health education, filling out prescription for patients and offering employment.

By virtue of the Act regulating the practice of pharmacy (Pharmacy Act 1994), drugs are classified into three groups; Classes A,B and C. Class A drugs also known as prescription only medication are those that can be dispensed to a patient based only on a valid prescription issued by a Medical Officer, Dentist or Veterinary officer. Class B drugs (pharmacist drug) can be given to any responsible person based on the pharmacist's professional judgment. Finally there is the Class C Drug (over the counter drugs) that can be procured by the customer on his own volition. It must be emphasized that before the introduction of the NHIS and with the dearth of drugs at the hospitals, the procedure had been that most prescriptions issued by hospitals and clinics were filled out by the community pharmacies and payment effected there and then or arrangement made between the pharmacy and client with respect to method of payment. Again because Classes B and C drugs could be obtained directly from the pharmacies without the patient having to go through the hospital system to see a prescriber, most patients went directly to the community pharmacies for consultations and ultimately, if need be bought their medications.(Assenso-Okyerere & Dzator ,1997). But under health insurance, an insured patient/client at the community pharmacy must mandatorily go to an accredited health facility like a hospital, clinic or maternity home before his prescription can be filled out without out- of- pocket payment at the point of sale. Without going to the accredited health facility first, the patient/client (whether insured or otherwise) cannot have any medication obtained from the community pharmacy reimbursed by the NHIS.

Six years after the introduction of the NHIS it is important to review its impact on the operation of community pharmacies so they can continue to effectively contribute their quota towards national development.

### **1.3 OBJECTIVES OF THE STUDY**

The general objective of this study is to assess the impact of the National Health Insurance on Community Pharmacies.

The specific objectives are;

1. To determine whether there has been significant changes in the patronage and the utilization of community pharmacies.
2. To identify the factors leading to this, if any.
3. To identify the challenges facing community pharmacies as a result of the introduction of the NHIS.
4. To identify how these challenges, if any, can be overcome.
5. To make recommendations for improving community pharmacies as effective business entities and co-partners in the health care delivery system.

### **1.4 SCOPE AND LIMITATION OF THE STUDY**

The study is limited to the Western Region. The rationale behind this is that it is the resident region of the researcher and it will help the researcher get quicker clarification of issues from the respondents.

Resource constraints also compelled the researcher to limit the study to this area. Another compelling reason is the fact that the Western Region is one of the regions where Health Insurance got off to a quicker start. Its impact could therefore be felt more in the region than elsewhere.

## 1.5 SIGNIFICANCE OF THE STUDY

Community pharmacies and their pharmacists have been recognized as important partners in the healthcare delivery system. The implementation of an important national policy like the NHIS is likely to have both positive and negative impacts on the participants in the implementation system and this need to be examined. After six years in the implementation of the NHIS, this study will be able to provide an important feedback on such an important national policy initiative to the relevant policy makers, academicians (baseline report), practicing professionals like pharmacists and doctors, entrepreneurs (where to put their resources) and the general public (where and how to access their pharmaceutical needs). It will lay the foundation for similar studies into other pro-poor national policies that involve different professional and commercial actors in their implementation. The outcome of the study will inform modifications and other developments in the NHIS. It will also pre-empt policy makers on the necessary measures that have to be taken before starting similar programmes. The methodology will guide decisions on further research on the issue and similar research in other regions. Finally, it will serve as an academic document which will provide the necessary information on the impact of the NHIS on community pharmacies.

## 1.6 ORGANISATION OF THE STUDY

This study is divided into five main chapters. The introductory chapter explains the background of the study, statement of the problem, general and specific objectives, scope of the study, and the organization of the study. Chapter 2 reviews pertinent literature on health insurance and its impact on health facilities and community pharmacies. Chapter 3 presents the research methodology by

discussing the study area, research design, the population, sampling, data collection techniques, and data analysis. Chapter 4 presents data analysis and discussion of the results and finally, chapter 5 gives the summary of the findings, conclusions and recommendations of the study. It also gives suggestions for further study.

# KNUST





## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

This chapter looks at healthcare financing, community pharmacies and the relevant literature on the impact of health insurance on health facilities and community pharmacies.

#### 2.2 HEALTHCARE FINANCING

Healthcare financing has been a major challenge confronting many countries. With a healthy population being a sine qua non for national development, countries not excluding Ghana, have had to make decisions about how best to raise funds to support healthcare. Globally there are four main ways of financing health by nations. These are from general tax revenue, social health insurance, private health insurance and private out of pocket payments (Glied, 2008). Countries therefore make choices from these areas so that the resulting financing systems differ in areas as the mix between taxes and insurance and between public and private funding and provision.

In Ghana with the general tax revenue and out of pocket payments impacting negatively on healthcare delivery, government had to adopt the health insurance mechanism in addressing the health challenges facing the healthcare delivery system.



## 2.3 INSURANCE

The Commission on Insurance Terminology of American Risk and Insurance Association has defined insurance “as the pooling of fortuitous losses by transfer of such risks to insurers who agree to indemnify insureds for such losses, to provide pecuniary benefits on their occurrence or to render service connected with the risk.”

The concept underlying insurance is risk which is also defined as the uncertainty concerning the occurrence of a loss. Therefore in any kind of insurance arrangement all parties, i.e. consumers (insured), service providers and the insurers seek to minimize their own risk.

The basic characteristics of any insurance plan therefore includes the pooling of losses, payment of fortuitous losses, risk transfer, and indemnification (Rejda, 2011).

Pooling or sharing of losses refers to the spreading of losses incurred by the few over the entire group so that in the process average loss is substituted for actual loss. This involves the grouping of a large number of exposure units so that the law of large numbers can operate in order to provide substantially accurate prediction of future loss as well as reduce the impact of the sharing of losses by the entire group.

The second characteristic is the payment of fortuitous loss. A fortuitous loss is one that is unforeseen and unexpected by the insured and occurs as a result of chance. Thus a person may be involved in road traffic accidents or be down with malaria. Such occurrence should be accidental to warrant the derivation of any insurance benefits.

Risk transfer is another essential ingredient of insurance. This means that a pure risk is transferred from the insured to the insurer who typically is in a stronger position to pay the loss than the insured. These involve the transfer of risks of premature death, poor health disability, theft of property etc.

Finally, indemnification means that the insured is restored to his or her approximate position prior to the occurrence of the loss. Thus if a person fell sick, the insurance policy should be able to restore him to his previous healthy position.

Insurance can be classified as both private and governmental. The laws setting up health insurance in Ghana, the National Health Insurance Act 2003, (ACT 650) makes provision for both private and government health insurance.

## **2.4 HEALTH INSURANCE**

It is postulated that every individual at one time or the other may require some form of medical care, be it preventive or curative. The cost involved might go beyond the individual's own ability or that of the immediate relations. Such lives cannot be left to chance. People therefore buy insurance to protect themselves against possible financial loss in future. With respect to patients, these losses may result from use of medical services and medication. Health insurance then provides protection against the possibility of financial loss due to healthcare use. Furthermore, since people do not know ahead of time what exactly their healthcare expenses will be, paying for health insurance on regular basis helps smooth out their spending. Ghana's Health Insurance policy is both the social type and private, with the social type predominating.

## 2.5 EVOLUTION OF HEALTH INSURANCE – GHANA

Healthcare system under colonial rule was primarily organized to benefit a small elite group of the colonials and their workers (Arhin – Tenkorang, 2001). This was and has been effected mainly through hospitals and other health facilities particularly in the urban areas with direct payment at the point of use. The rest of the citizenry depended on traditional healers or other missionary health centres. However post independence nationalism led to the adoption of free service in health, education and other social services.

Healthcare was financed by general tax revenue and external donor support. User fees were removed and attention was focused at developing a wide range of primary healthcare facilities across the country.

But building healthcare infrastructure is expensive and the cost of operating a free open system in a high recurrent cost sector such as health is also overwhelming. (Kori, 2004) Thus, by the early 1970's, general tax revenue from the stagnating economy, could not support a tax based health financing system. Furthermore, the global oil crisis and low price of cocoa, the mainstay of the economy began having a telling effect on the economy. Shortages of essential medicines and supplies became the order of the day thus quality of care also suffered.

Major health sector reforms were thus initiated in 1985 as part of a broader structural adjustment program aimed primarily at reducing government spending, to addressing budget deficits, introducing cost recovery mechanisms through user fees (popularly known as cash and

carry). The health sector was also liberalized to allow for private sector involvement. Even though the financial aims of the reforms were achieved and shortages of essential medicines and some supplies improved, these achievements were accompanied by inequities in financial access to basic and essential clinical services (Waddington and Enyimayew, 1990). Successive governments recognized the unsatisfactory nature of the system which acts as a barrier to the use of healthcare facilities, excluding the poor and limiting access generally. “There is both anecdotal and empirical evidence that more and more patients attempted to solve this financial problem by absconding from wards without paying their bills even before they were due for discharge. For ambulatory patients, the prohibitive prices of drugs and health services sent some seeking for alternative sources of treatment, forgetting about treatment at all or buying their medications in bits.” To help override this, several community health insurance schemes popularly referred to as Mutual Health Organization (M.H.O.) were developed in Ghana with some external funding and technical support.

Providing accessible and affordable healthcare became a key issue in the 2000 national electioneering campaign. Therefore on assumption of office, the NPP government in fulfillment of its electoral promises passed into law the National Health Insurance Act, Act 650 with the requisite legislature instrument “The National Health Insurance Regulation – 2004. The act replaced the user fees and is particularly concerned with enhancing access to healthcare by the poor. Unlike the user fees system, the National Health Insurance Scheme which was implemented in 2005 aims at providing universal coverage to all resident in Ghana, regardless of their ability to pay (Sulzbach, Garshong and Owusu – Banahene, 2005)

## 2.6 COMMUNITY PHARMACIES

Community Pharmacies are recognized as the most accessible healthcare facilities to the general public in many parts of the world and with their pharmacists, are increasingly being recognized as a source of professional health – related advice (Smith 2004). They are patronized by both healthy and sick people thus having to access a large section of the population before a major illness or disease is evident (Blenkinsopp et al 2000). In other jurisdictions they have been able to capture population who are not motivated to use other healthcare services (McGynn et al, 2000) The mission of pharmacy practice, and for that matter community pharmacy according to the International Pharmaceutical Federation (FIP), is to provide medication, other healthcare products and services and to help people and society to make the best use of them.

The operation of community pharmacy in Ghana is regulated by the Pharmacy Act of 1994, Act 489. They play a key role in supplying essential medicines on prescription, or otherwise when legally permitted, to patients. Pharmacies also maintain links with other health professionals in the Healthcare delivery system to ensure that patient outcomes are optimized. In recent years, the community pharmacy has become increasingly involved in patient care particularly with the management of endemic conditions like malaria and sexually transmitted infections using the syndrome approach.

They are found in high street locations, neighbourhood centres, in supermarkets and in the heart of most deprived communities even though in the Western Region majority are found in the Sekondi



– Takoradi Metropolitan Assembly. They are often open long hours when other healthcare professionals are unavailable, all in an effort to contribute to the healthcare needs of the populace.

The usual traditional role of the community Pharmacist as the healthcare professional in charge of dispensing prescriptions written by doctors has expanded. Some clinical services like managing diseases of common occurrence e.g. malaria, coughs, diarrhea, and syndromic management of Sexually Transmitted Infections (STI'S) have become significant. Community pharmacies also provide ease of access into the formal healthcare system where there are no appointments and care can be sought even on behalf of other people. A friendly, relaxed and approachable service is provided where the pharmacy staff can spend more time with their clients (School of Pharmacy and PharmaScience, 1999). Furthermore, Community Pharmacies have become a setting through which to address key health behaviours like Smoking cessation, healthy nutrition, alcohol consumption cessation, and physical exercise. General Practitioners have thus been provided with a support guide for addressing these four health behavioral issues. This is based on the contribution of these behaviours towards the burden of disease and the evidence base for general practitioners targeting these risk and protective factors.

The Community pharmacy represents a valuable health promotion setting and there is growing research to recommend health promotion pharmacy practice. Community pharmacies play a vital role in the healthcare of patients in the region. Currently they are operating as small and medium scale businesses and providing jobs for quite a number of people. They are an accessible healthcare point that provides valuable services to their patients. They help to promote the optimal use of prescription drugs thus lowering healthcare costs by reducing the incidence of much more costly forms of treatment such as hospitalization and emergency room visits that can occur due to



inadequate drug use and adverse drugs events. The success of such medication therapy management programs have also been shown to raise productivity by reducing the number of sick days taken by these patients. Intervention in prescriptions related problems by community pharmacies have also helped to reduce adverse drug reactions. Suggestions have been made as to how to increase research and interventions on healthy behaviours in community pharmacies (Anderson 2000). Preventive care services for patient suffering from chronic diseases like asthma (Erckhoff & Schulz 2006) have also gained currency in community pharmacies. This quoted project demonstrated that community pharmacy based intervention significantly improved clinical parameters. Community pharmacy service and involvement in patient centered care have been associated with improved health and economic outcome and a reduction in medicine related adverse events, improved quality of life and reduced morbidity and mortality (Berenquer et al 2004,Cipolle et al 2004) In a review that investigated the effectiveness of professional pharmacy services in terms of consumer outcome and where possible the economic benefit, the key finding illustrates the value of a range of services, including continuity of care after hospital discharge and education to consumers and health practitioners. This review as quoted by Bulajeva,(2010) demonstrated that there is a considerable high quality evidence to support the value of professional pharmacy service in improving patient outcome or medicine use in the community setting (Wiedenmayer et al, 2006). An Australia study on the economic impact of increased clinical intervention rates in community pharmacy observed that adequately trained and remunerated pharmacists generated savings (on healthcare, medicines and pharmacy practice costs) six times greater than those of a control group with no access to the same education and remuneration. Health education roles of community pharmacies have also gained considerable attention globally. This involves education on hypertension, diabetes, tobacco smoking, family planning, among

many others. The wide range of services provided by community pharmacies includes health promotion activities e.g. rational prescription and appropriate use of medicine (Erckhoff & Schulz 2006.)

In countries like UK Spain, Portugal, Scotland community pharmacies are engaged in providing methadone – supply services to appropriate addicted patients (Gastelluritia et al 2005, Coasta et al 2006, Noyce 2007). As our society becomes more complex, such a role for community pharmacies in the future should not be ruled out. Also in Ghana where management of malaria constitutes about 40% of Out Patient Department (OPD) of hospital attendance, the role of community pharmacies have towards bringing this down has been noted.

## **2.7 IMPACT OF NHIS ON UTILIZATION OF HEALTH SERVICES**

The implementation of Health insurance generally increases access and therefore utilization of health services (Sulzbach, 2008).The experience in countries that have removed user fees has revealed that there were rapid and large utilization increases especially for the poor. For example in Uganda an extensive study using the first and second Ugandan National Household Survey (conducted in 1999/2000 and 2002/3 respectively) and data from Health Management Information Systems indicated that the poor had particularly benefitted from the removal of fees (Deininger and Mpuga 2004). In a study conducted at Unillorin Teaching Hospital Staff Clinic for example, it was found that utilization increased by about 144% after the introduction of NHIS (Akande et al 2011).This was actually in conformity with various other studies where utilization of health facilities was found to increase as a consequence of the implementation of health insurance (Sanusi and Awe, 2009, Speck et al, 2003, Luo et al, 2003). Similarly in a study in Baltimore USA, health

insurance was found to have resulted in an increase in non-urgent utilization of health facilities (Collins et al, 2007). In another study in Taiwan, it was observed that the utilization of most prenatal and intrapartum care services increased after the commencement of NHIS (Li-mei et al 2001,).In Ghana, the introduction of NHIS also appears to have brought an increase in the utilization of formal health facilities. The use of OPD and In-patient Department services almost doubled between 2005 and September 2007 (MOH Annual Report, 2008). Ekman, (2007) also found that health insurance increased the intensity of health facility utilization and reduced the out of pocket spending on health care. In the western region of Ghana, increases in the utilization of health care facilities have been phenomenal. (Ghana Health Service Annual review report, 2009)

## **2.8 IMPACT OF HEALTH INSURANCE ON COMMUNITY PHARMACIES**

The implementation of health insurance appears to have a varied impact on community pharmacies.

In South African public hospitals, drug supplies were quickly exhausted as utilization increased (McIntyre 2005) creating business opportunities for community pharmacies. In the United States of America (U.S.A.) the introduction of Medicare Part D programme in 2006, was expected to similarly increase business and generate operational processing time for Pharmacies because it provided prescription drug coverage to millions of elderly beneficiaries (National Community Pharmacies Association).

However soon after the introduction of Medicare Part D several studies indicated that the plan was associated with several challenges like lower reimbursements rates and delayed prescriptions

processing times which severely affected the profitability and financial stability of independent pharmacies across the nation (Spoonor, 2008 & Carroll 2008).

Medicare Part D implementation resulted in 22% mean decrease in the profitability of independent pharmacies primarily because of lower reimbursement rates ([www.nacds.org/user\\_assets/pdf.](http://www.nacds.org/user_assets/pdf.))

The National Community Pharmacists Association (NCPA), a representative body of independent community pharmacies, stated in its annual report 2007, that before the implementation of medicare part D program, an average of 12.4% of its pharmacies were operating at a loss but after implementation 22.9% operated at a loss in 2006.

Still another national study that analysed Medicare Part D reimbursement processing time indicated that approximately 40% of the prescription drug claims were not reimbursement within 40 days (Shepherd et al, 2007). Since pharmacies were required to make payments to wholesalers every two weeks, such delays forced independent pharmacies to take short term loans to manage their operating expenses.

Research work also indicated that 1153 independent pharmacies run out of business in the year 2006 (Norwalk, 2006). The NCPA attributed this mainly to financial instability caused by Medicare Part D reimbursement related issues. Even though the Centre for Medicare and Medicaid Services (CMS) denied the delay and claims reimbursement, the Association still held on to that fact. The economic impact of Managed Care on community pharmacies had also been found to be dramatic. Reimbursement for pharmacies in respect of prescriptions was reduced by 25 - 30% (Johnson, 1995). Both chain and independent pharmacies experienced economic setbacks with the greatest toll being on independent pharmacies with about 2000 folding up per year. Chain

pharmacies too were a victim of this economic erosion resulting in mergers and closings (Johnson op cit). The pharmaceutical industry generally experienced declining profits, layoffs and mergers. However in the United Kingdom because of separation of services where General Practitioners (doctors) prescribe and the pharmacies dispense, the National health scheme has had a positive impact on community pharmacies (Twumasi, personal communication)

# KNUST





## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter describes the study area, population and sampling method used in the study. It also indicates why a particular design and data gathering instrument were used as well as how data were collected, edited and analyzed.

#### **3.2 THE STUDY AREA**

The Western Region covers an area of approximately 23,921 square kilometers which is about 10% of the total land area of Ghana. The region has about 75% of its vegetation within the high forest zone of Ghana characterized by moderate temperatures. It is also the wettest part of Ghana with an average rainfall of 1600mm per annum. It is bordered in the west by Cote d'Ivoire, east by Central Region and to the north by Ashanti and Brong Ahafo Regions and to the south by the Gulf of Guinea. The population of 2,325,597 (Ghana Statistical Service 2010) constitutes about 10% of the total population of Ghana.

The region has seventeen Administrative districts with 89 sub health districts. Various types of medical facilities and personnel provide primary health care in the region. These include hospitals and orthodox doctors and their support staff including nurses, pharmacists, and public personnel on the one hand and traditional healing facilities and traditional healers including herbalists, spiritualists, homeopaths and other non – conventional health service providers (Ghana Statistical Service 2005). There are a total of 354 health facilities made up of 28 hospitals, 57 Health Centres, 109 clinics, 123 functional CHPS compound and 37 maternity homes (Ghana Health



Service, 2010 Annual Review Report). There were 36 functional community pharmacies, 2 non functional ones and one thousand five hundred and forty four Chemical Sellers (Source: Pharmacy Council, Western Region Office). The main cause of morbidity and mortality in the region is malaria.

The rich natural resources of the region like gold, manganese, timber, cocoa, the recently discovered oil and the availability of an Airport and international harbour provide the basis for the assertion that the region holds the key to Ghana's eventual economic breakthrough if these resources are harnessed and managed effectively.

### **3.3 POPULATION AND SAMPLING TECHNIQUES**

The target group was the functional community pharmacies in the Western Region. (Purely wholesale facilities and the facility of the researcher were excluded from the study).

The sampling method used was purposive. This was done to exclude the various pharmacies outside the region and those that were not functional at the time of the research. Factors such as accessibility, time and budget constraints were taken into consideration when choosing the respondents. The total sample size was 35 out of 38. The excluded ones were the 2 non-functional ones and the facility of the researcher. The participants were chosen using purposive and criterion sampling as indicated. The sample was appropriate for the purpose of the study and met certain criteria. For instance the pharmacies met the definition of Community Pharmacies and location in terms of their location in the western region. Also since the purpose of the study was to gain an understanding of a particular phenomenon, that is the impact of NHIS on Community Pharmacies, participants who were key players in the phenomenon were chosen. The relatively small sample of

35 was chosen for the phenomenological qualitative study because Patton (2002) states that “qualitative methods typically produce a wealth of detailed data about a much smaller number of people and cases” (p.227). The focus of the study is not necessarily to generalize but to gain an in-depth understanding of the situation. Furthermore, Glesne and Peshkin (1992) argue that qualitative researchers do not need to depend on a particular numerical basis for generation of generalizations. For in depth understanding one should repeatedly spend extended periods with few respondents. In agreement with the above assertion by Glesne and Pershkin, Patton (op cit) maintains that qualitative inquiry focuses in depth on relatively small samples selected purposively.

### **3.4 DATA COLLECTION PROCEDURE**

The semi-structured questionnaires were hand delivered to the respondents within the Sekondi Takoradi metropolis. In instances where the respondents were afar off, they were mailed. In all cases telephone calls were made to ensure that all the 35 respondents had received their questionnaires. The trained research assistants were then assigned the responsibility of retrieving the answered questionnaires. It took three months to administer and retrieve the questionnaires, from July ending to October 2011. Where clarifications were needed the research assistants provided them appropriately through face to face interviews or telephone interviews. Further interviews were also held with some hospital pharmacists and a health insurance scheme manager separately. These were done to seek their opinions on the subject matter and also to gain more insight.

Two separate focus group discussions were also held. One involved five community pharmacists and the other group involved three community pharmacists and three business managers of community pharmacies. One of the research assistants recorded the proceedings.

Secondary data was obtained upon request to the Regional Health Directorate where various Annual Review reports were made available to the researcher on Compact Discs. Other sources of secondary data were the regional office of the Ghana Statistical Service.

### **3.5 RESEARCH INSTRUMENTS**

Questionnaires and interviews constituted the primary data collection tools. The questionnaire was designed to enable the researcher to generate relevant data necessary for the research. The purpose was to enable respondents to answer at their own leisure. The variables were measured using both 2 point and 4 point Likert scales which were adapted from Blodjet et al (1997).

Both close ended and open ended question were used. Close ended questions were used because they are easier to answer and also less time consuming. It is also less difficult to analyze and thus less expensive. The study did not rely only on close ended questions because of its drawbacks. Apart from requiring categorization of such responses, it limits the respondents and therefore does not give a true reflection of the respondents' views.

Therefore in order to ensure that respondents true feelings, experiences and opinions regarding their appreciation of NHIS was gathered, open ended questions were also incorporated. This gave the researcher a better insight and understanding into the study.

The questionnaire developed was pretested for validation. On the basis of the feedback obtained, changes were made in the definitions and terminologies used in the questionnaire. Persistent calls and follow ups ensured that almost all the questionnaires were retrieved.

Secondary data was also collected from the regional health directorate to help assess changes in hospital attendance both before and after the implementation of the NHIS.

### 3.6 RESEARCH DESIGN

The design adopted for this was the case study method.

A case study according to Yin (1994) is an empirical enquiry that investigates a contemporary phenomenon within its real life context when boundaries between phenomena and context are not clearly evident and in which case multiple sources of evidence are used.

Anderson (1993) sees case studies as being concerned with how and why things happen, thus allowing the investigation of contextual realities and the difference between what was planned and what actually occurred. Case study is not intended as a study of the whole organization / system. Rather it is intended to focus on a particular issue, feature or unit of analysis. Thus, in order to understand the impact of NHIS on community pharmacies, the case study method was chosen.

Hartsfield, (1982) and Yin, (1994) suggest that case study analysis is a type of research that is different from other forms of investigation and demonstrates the following distinguishing characteristics.

1. It studies whole units in their totality and not aspects thereof or variables of these and employs several methods primarily to avoid or prevent errors and distortion.
2. It often studies single units and perceives the respondent as an expert and not just a source of data.

Case study is also used for the purpose of exploration and to gain more information about the structure, process and complexity of the research object when relevant information is not available or sufficient as it is in this study. It also helps to facilitate conceptualization and to assist in formulating hypothesis, guide operationalization of the variables and to explain, illustrate and offer more detail or expand quantitative finding and to test the feasibility of quantitative study.

The use of Case Study to probe an area of interest in depth is particularly appropriate. As detailed by Patton (1987), Case Studies become particularly useful where one needs to understand some particular problem or situation in great depth and where one can identify cases rich in information.

Case study was used for this study because there was the need to find out what really is happening to the community pharmacy business as a result of the implementation of the National Health Insurance Scheme. Even though Case Studies have been criticized by some as lacking scientific rigour and reliability, and the fact that they do not address the issue of generalizability (Johnson, 1994), there are still some strengths of case study. For example it enables the researcher to gain a holistic view of certain phenomena or series of events and can provide a round picture since many sources of evidence are used. A further advantage is that it can be useful in capturing the emergent and immanent properties of life in organization and the ebb and flow of organization activity especially where it is changing very fast. (Hartley 1994)

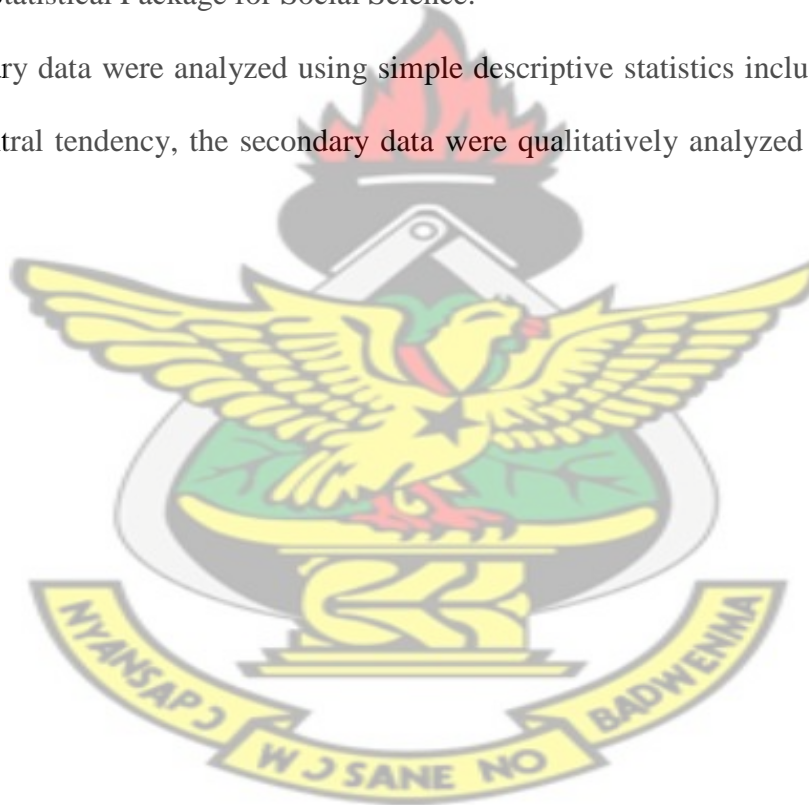


There are three types of Case Study research (Yin, 1984). These are exploratory, descriptive and explanatory. In this research the researcher used the descriptive method which is an attempt to describe what really is happening on the field.

### **3.7 DATA ANALYSIS**

After collection of the questionnaires, they were edited to ensure that typographical errors were corrected without altering the views of respondents. Thereafter, the responses were coded and analysed using Statistical Package for Social Science.

While the primary data were analyzed using simple descriptive statistics including frequency and measures of central tendency, the secondary data were qualitatively analyzed and integrated into the findings.





## CHAPTER FOUR

### DATA ANALYSIS AND DISCUSSION OF RESULTS

#### 4.1 INTRODUCTION

This chapter presents the results based on the objectives of the study as well as a discussion of the results

#### 4.2.0 RESULTS

##### 4.2.1 DATA ANALYSIS.

Out of the 35 questionnaires administered to the 35 functional community pharmacies over the period, 30 pieces were retrieved giving a return rate of 85.7%. All the community pharmacies were privately owned. 66.7% of respondents were pharmacists and 20% business managers. Accountants and others constituted the remaining 13.3%. Table 4.1

Table 4.1: Categorization of Respondents by their Title.

Title	Frequency	Percent
Pharmacists	20	66.70
Business Manager	6	20.00
Accountant	1	3.30
Others	3	10.00
Total	30	100.00

Source: Field data, 2011

Table 4.2: Distribution of Community Pharmacies in Western Region by Districts

District	Frequency	Percent
Sekondi –Takoradi	25	83.34
Tarkwa Nsuaem	3	10.00
Bibiani Ahwiaso Bekwai	1	3.33
Shama	1	3.33
Total	30	100.00

Source: Field data,2011

Of the 30 respondent Community Pharmacies, 25(83%) were located in the Sekondi- Takoradi Metropolis, 3(10%) in Tarkwa- Nsuaem Municipal Assembly, and 1 (3%) each in the other two districts as shown in the above table (Table4.2). Ironically, the other fourteen remaining districts had no Community Pharmacies.

Twenty (66.7%) of the facilities operated as purely community (retail) while 10 ( 33.3%) operated as both wholesale/retail facilities and over 80% of the facilities have operated for a period of over four years Table 4.3

Table 4.3: Age of Community Pharmacies

Period	Frequency	Percent
1-2years	2	6.70
3-4years	4	13.30
Above 4 years	24	80.00
Total	30	100.00

Source: Field data, 2011

76.7 %( 23) of the community pharmacies are facilities that have been accredited (registered) by the NHIA to provide services to subscribers. The remainders were not accredited.

For the accredited facilities, 47.8% said that less than 25% of the clientele base was made up of NHIA card bearers and 43.5% had NHIA clientele base of 25 – 50%. Table 4.4

Table 4.4: Distribution of Accredited Community Pharmacies by proportion of clients who are NHIS card bearers

Percentage of NHIS card bearing clients	Frequency	Percent
Less than 25%	11	47.80
25-50%	10	43.50
Above 75%	2	8.70
Total	23	100.00

Source: Field data, 2011

Of the 23 accredited service providers, 7 (29.2%) said the proportion of clients who use the facilities had increased significantly by about 25% while the same number also said it had not increased significantly at all i.e. less than 5% increase.

56.7% of the respondents said the proportion of general customers who use the facilities have decreased while 43.3% said it has increased. Table 4.5

Table 4.5: Perceived changes in the patronage of Community Pharmacies since the introduction of NHIS

	Frequency	Percent
Decreased very significantly (50%)	5	16.67
Decreased significantly (25%)	10	33.33
Decreased but not significantly (5%)	2	6.67
Increased very significantly (50%)	4	13.33
Increased significantly (25%)	7	23.33
Increased but not significantly (5%)	2	6.67
Total	30	100.00

Source: Field data, 2011

On the question of whether the introduction of NHIS has been beneficial to the business operations, opinions appeared to be equally divided. 50% disagreed while 42.9% agreed that it has been beneficial.

#### 4.2.2 FACTORS LEADING TO CHANGES IN UTILIZATION OF COMMUNITY PHARMACIES.

In order to know the factors which have led to changes in the utilization of community pharmacies, respondents were requested to assign reasons. Out of the 12 who said patronage has increased 75% said it was as a result of filling more NHIS prescription while the remaining said it was due to improved stocking and improved service. (Table 4.6)

Table 4.6: Reasons Given for Increased Patronage

Reason	Frequency	Percent
More NHIS prescriptions	9	75.00
Improved stocking	2	16.67
Improved services	1	8.33
Total	12	100.00

Source: Field data, 2011

Out of the 16 who believed that patronage has decreased the reasons assigned were as detailed in the Table 4.7 below.



**Table 4.7: Reasons Given for Decreased Patronage**

Reason	Number	Percent
More clients going to hospitals under NHIS	12	75.00
Competition from other community pharmacies	2	12.50
Competition from private clinics('pseudo-pharmacies')	1	6.25
Relocation	1	6.25
Total	16	100.00

Source: Field data, 2011

Indeed secondary data from the Regional Health Directorate also indicated the fact that there Had been tremendous increases in the patronage of hospitals and clinics in the region as indicated in Figure 4.1 below.

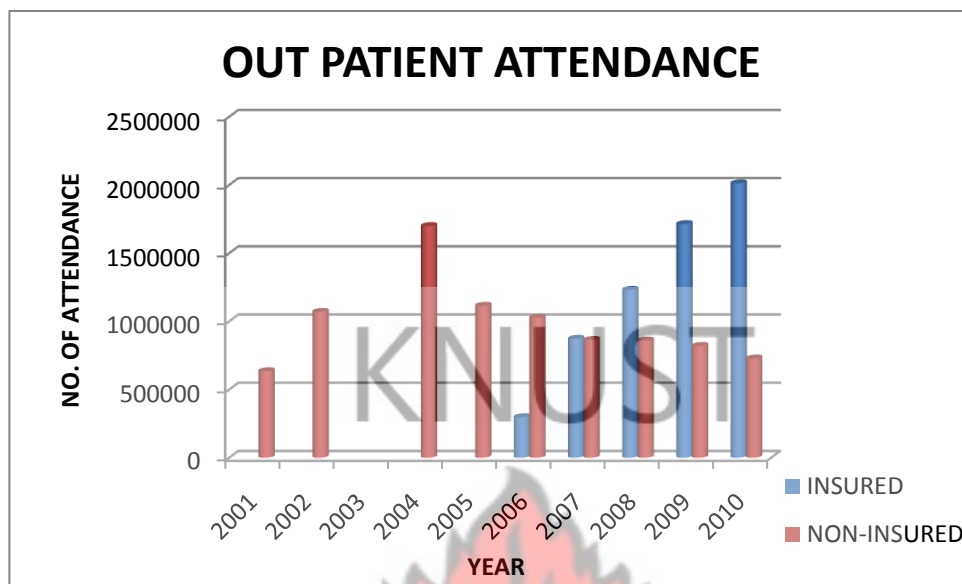


Figure 4.1: Outpatient attendance at Health Facilities in the Western Region.

(2003 figure absent because the figure was not available.)

{ Source: Western Regional Health Directorate Annual Reports, (2001-2010).  
Detailed figures are attached as Appendix 2 }

#### 4.2.3 CHALLENGES FACING COMMUNITY PHARMACIES

The major challenge identified by accredited community pharmacies with respect to the introduction of the health insurance was the delay in reimbursement. Table 4.8

**Table 4.8: Challenges Faced by Accredited Community Pharmacies**

CHALLENGE	FREQUENCY	PERCENT
Delay in reimbursement	17	36.17
Tedious claim filling process	14	29.79
Delays in adjusting NHIS prices of medicines	12	25.52
Lack of explanation on rejection of claims	2	4.26
Lack of information flow between NHIS and service providers	2	4.26
TOTAL	47*	100.00

\*Multiple responses from 23 accredited respondents. (Source: Field data, 2011)

For the non accredited it is generally low patronage (Table 4.9)

**Table 4.9: Challenges Faced by Non-Accredited Pharmacies**

CHALLENGE	FREQUENCY	PERCENT
Reduction in number of prescriptions	6	54.55
Low patronage	5	45.45
TOTAL	11*	100.00

\*Multiple responses from 7 non-accredited respondents. (Source: Field data, 2011)

Even though most accredited pharmacies said they were able to submit claims within 1 – 2 months, time to get reimbursed was usually above 2 months, table 4.10

**Table 4.10: TIME TO GET REIMBURSED**

TIME	FREQUENCY	PERCENT
Less than 1month	1	4.35
1-2months	3	13.04
2-3months	9	39.13
Above 3 months	10	43.48
TOTAL	23	100.00

Source: Field data, 2011

Administrative and technical work loads on the accredited pharmacies have also increased, Table 4.11

Table 4.11: Has implementation increased administrative and technical workload?

Response	Frequency	Percent
Strongly agree	9	39.13
Agree	12	52.17
Disagree	1	4.35
Strongly disagree	1	4.35
Total	23	100.00

Source: Field data, 2011

#### 4.2.4 PERCEIVED FUTURE OF COMMUNITY PHARMACY IN THE NEXT FIVE YEARS

On the future of community pharmacies should the status quo be maintained, the general response was that it was going to be bleak. This was in response to a question on “how do you see the future of community pharmacy in the next 5years if things should go on the way they are going on”.

Sample of the responses are as follows:

Table 4.12: Future of community pharmacy in next 5 yrs (Accredited Pharmacies)

RESPONSE	FREQUENCY	PERCENT
Bleak/collapse of pharmacies	18	78.26
Will improve/ with increased NHIS patronage	5	21.74
TOTAL	23	100.00

Source: Field data, 2011

Table 4.13: Future of Community Pharmacy in next 5yrs (Non-Accredited Pharmacies)

RESPONSE	FREQUENCY	PERCENT
Bleak/ collapse of pharmacies	6	85.00
Good	1	15.00
TOTAL	7	100.00

Source: Field data, 2011

### **4.3 .0 DISCUSSION**

The study explored the impact of the National Health Insurance Scheme on the operations of community (retail) pharmacies in the Western Region of Ghana. The discussion is based on the objectives of the study.

#### **4.3.1 CHANGES IN THE UTILIZATION AND PATRONAGE OF COMMUNITY PHARMACIES**

The research revealed that there are two main types of community pharmacies in the region; those accredited by NHIA and those not accredited.

The findings indicate that as a result of the implementation of NHIS, utilization of community pharmacy for the accessing of medicines has gone down for both of these facilities (Table 4.5) for which reason they claimed the future of community pharmacy was bleak (Tables 4.12&4.13). The study also showed from secondary data (Fig 1& appendix 2) that outpatient department attendance at hospitals/clinics in the region has gone up tremendously. This finding was in accordance with a similar study by Abugri, (2010) that showed an increase of 33.3% in hospital attendance in the Kumasi Metropolis and another by Sulzbach et al, (2005) that showed that introduction of health insurance led to an increase in the patronage of health facilities as a result of the lowering of financial access to the facilities. It was anticipated that this increase in hospital attendance should have also led to an increase in the generation of prescriptions for a consequential increase in the patronage of community pharmacies for clients to access their medications. However, this has not been the case. When more clients go to the hospitals/clinics (Table 4.7), the implication is that they also obtain their medications freely from there. Focus group discussions indicate that the introduction of NHIS has led to a significant improvement in drug levels at health facilities since they also get directly reimbursed by the scheme for the drugs they dispense. It appears that since funds to the Ghana Health Service from Central Government has declined and continues to



indicate a declining trend (GHS Annual Report 2007,) stocking and sale of medicines has become a viable means of generating revenue to support healthcare delivery activities by the various health facilities in the region. For example there was a considerable reduction in fund flow, especially the Government of Ghana Service Funds to the Regional Health Directorate by 47% (GHS WR Annual Report 2010). Revenue from insured clients at the various government health facilities constituted 81.8% of total internally generated funds (IGF) revenue in 2009, ( GHS WR Annual Report, 2009) and “this trend shows that revenue from insured clients will continue to be the major source of funding health delivery in the region”.

It therefore appears that community pharmacies are in serious competition with health facilities to obtain prescriptions generated by the latter. This is in sharp contrast to pre- NHIS times when Assenso-Okyere and Dzator (1997) reported that for several reasons including availability, convenience, quick service, and non-payment of consultation fees, patronage of drug store and pharmacies was increasing both in the rural and urban areas. The situation has reversed. It is even revealed that unless hospitals do not have the drug in question, they do not give the patient the choice to procure medication from a place of his choice. It is worthy of note that successful practice of community pharmacy business is dependent on filling enough prescriptions. The retention and filling of prescriptions by the various health facilities is therefore “counter productive” to successful community pharmacy business.

Evidently, again, with the introduction of the NHIS, the barriers required for provision of pharmaceutical services have been lowered. Whereas the Pharmacy Act 1994, Act 489, that regulates and controls the practice of pharmacy in the country stipulates in section 24 subsection (2) that “no person shall open or permit any other person to open any premises to the public under the description of ‘pharmacy’, ‘dispensary’ ‘chemist’ ‘drug store’ or any other similar description

unless a registered pharmacist is on the premises to supervise the dispensing of drugs or medication”, the NHIS allows private clinics and Maternity homes without pharmacists to dispense various classes of drugs. Thus new entrants to the pharmaceutical business have been freely introduced leading to an increase in the level of competition. Prescriptions of these Private Clinics and Maternity Homes no longer get to the community pharmacies. One respondent referred to this practice as the springing up of “Pseudo- pharmacies.”(Table 4.9)

The general procedure before NHIS came into being had been that most prescriptions issued by the hospitals and clinics were filled out by the community pharmacies (Assenso-Okoye and Dzator, op cit). And again because Classes B and C could be obtained directly from pharmacies without the patient going through the hospital system (to see a prescriber), most patients went directly to the pharmacies for consultations and ultimately if need be, bought their medications. However under health insurance, a patient must mandatorily go to an accredited health facility like a hospital, clinic or maternity home first, before his prescription can be filled out without out- of-pocket payment. Without going to the health facility first, the patient cannot have any medications obtained from the community pharmacy reimbursed by the Health Insurance Scheme. But going through the health facility system, also led to their obtaining their drugs there so there was no point going to the pharmacies.

The general opinion of the community pharmacies that if no interventions were made their facilities would ultimately fold up in five years time (Tables 4.12 & 4.13) is quite worrisome. Quite apart from depriving society of the benefits of pharmaceutical services within the immediate communities as discussed in chapter 2, the added dimension of job losses cannot also be overemphasized.

### 4.3.2 CHALLENGES FACING COMMUNITY PHARMACY

The major challenge identified as facing community pharmacies accredited by NHIS was the delay in reimbursement, tedious claim filling processes and delays in adjusting NHIS medicines price list to reflect prevailing market trends (Table4.10). For the non-accredited, the major challenge was the low patronage and lack of adequate prescriptions (Table4.11) which formed part of the earlier discussion.

The delay of reimbursement which was about three months and above affected cash flow and thus eventually impacted negatively on community pharmacy operation. Delays in reimbursement has also been noted by other researchers, {Abugri (2010), and ([www.edition.myjoyonline.com/page/news/201112/77581.php](http://www.edition.myjoyonline.com/page/news/201112/77581.php) assessed on 4/03/12)}. Drugs typically are paid for on a fee for service basis (McIntyre et al 2008). These delays are detrimental to small pharmacies that are more dependent on the revenues. Their liquidity is affected if the NHIS failed to pay for the reimbursed drugs within the reasonable time frame of four weeks specified in section 71 of the National Health insurance Act. The trend was that most community pharmacies were able to obtain their products on credit from wholesalers for a thirty day period. Then it takes them about a further one month to submit claims. Any further delays in reimbursement means they have to look elsewhere for short term loans often at higher interest rates to manage their operating expenses and also to replenish stocks. In a similar work in the U.S Pharmacists reported that they were dissatisfied with the process of reimbursement in general and believed that they face cash flow problems. (Goyal and Patel, 2010)

Focus group discussions and interviews revealed a number of reasons why reimbursement delays occur. These include the fact that claims processing have been a manual process both at the

pharmacy level and more particularly at NHIS level where several claims are received monthly from all the accredited facilities within the jurisdiction, late submission of claims by service providers and late release of subsidies and reinsurance funds by NHIA. Thus in some instances reimbursement cheques typically come 6 months after claims were submitted.

The tedious claims processing arising from increased book work, leading to increased work load, is another major challenge affecting accredited community pharmacies. About 90% of the facilities 'strongly agreed and agreed' that work load had increased (Table 4.13). These have in some instances necessitated the employment of more staff like Pharmacists, Medicine Counter Assistants and Accounts Officers leading to a further increase in operating costs without a reciprocal increase in revenue.

The third challenge facing the accredited community pharmacies was the inability of NHIA to quickly effect changes in prices in tandem with prevailing market prices. Hitherto under cash and carry, and for private pay prescriptions, prices were set by the pharmacy in response to the competitive market. This challenge, quite apart from the lost sale, also creates misunderstandings between the insureds and the pharmacies. Even though co-payment is not acceptable under the law, in some instances insureds have had to resort to this in order to obtain their medications.

#### **4.3.3 HOW TO OVERCOME THE CHALLENGES**

The primary challenge as identified by this work was the delay in reimbursement of claims. This has essentially been attributed to the manual nature of claim processing and vetting. It is submitted that in order to reduce the time of reimbursement, it is important that both the NHIS and the pharmacies move unto ICT platform. Through this, the participating pharmacies will dispense prescriptions to eligible beneficiaries and then send electronic claims through the pharmacies'

computer at the time the prescription is dispensed. This is referred to as “on line, real time claims adjudication”(Schafermeyer ,1999).With such a system, it is possible for the schemes to vet and process claims at a faster rate ,at least within the four weeks specified by law.

The focus group discussion also revealed that a major component of the schemes funds (Health Insurance Levy and SSNIT contributions) are channeled through the consolidated fund and must be released at the behest of the Ministry of Finance and Economic planning as shown in the diagram below which is an illustration of the financial structure of the NHIS including sources of cash flow and the organizational structure of the management of NHIS financial resources.





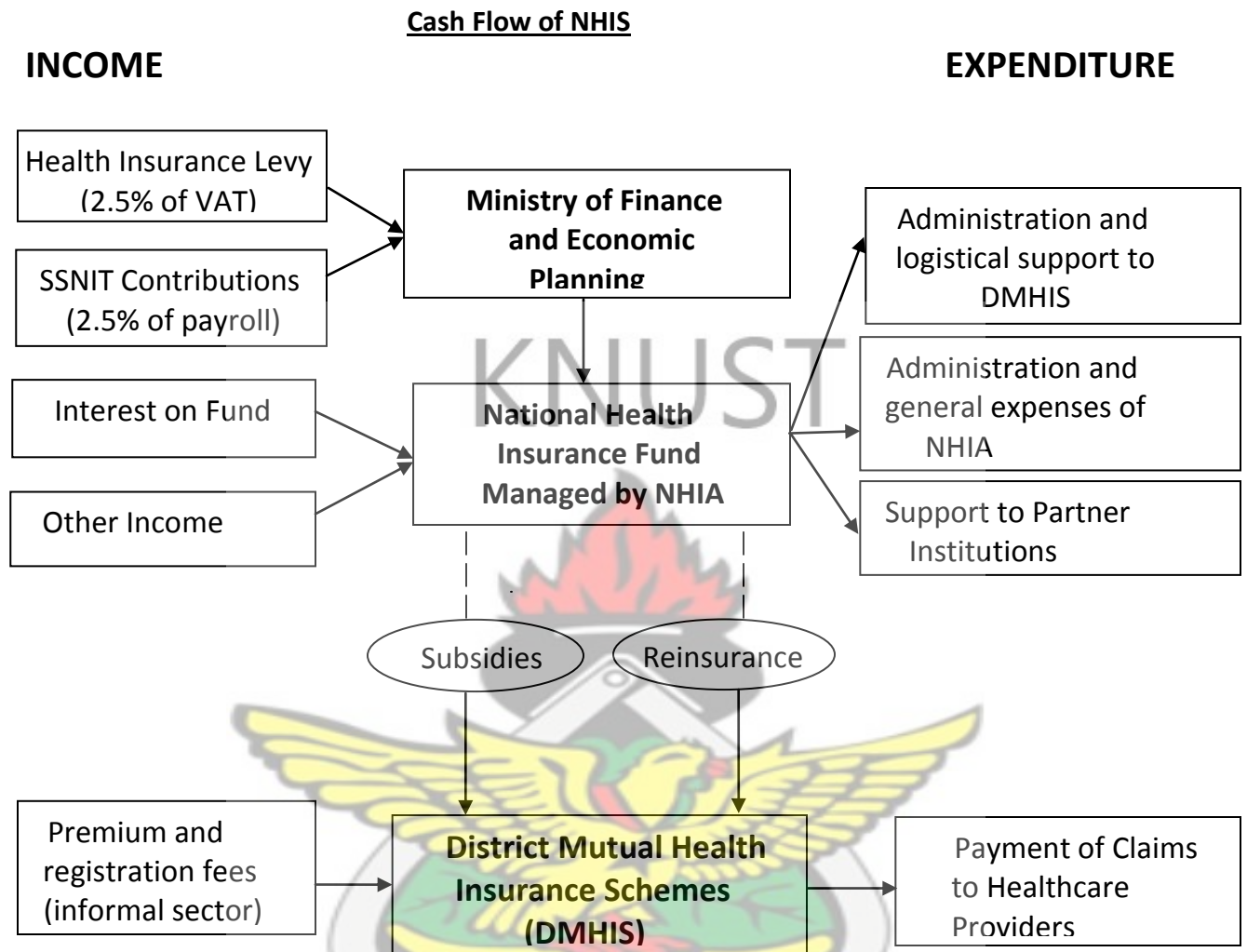
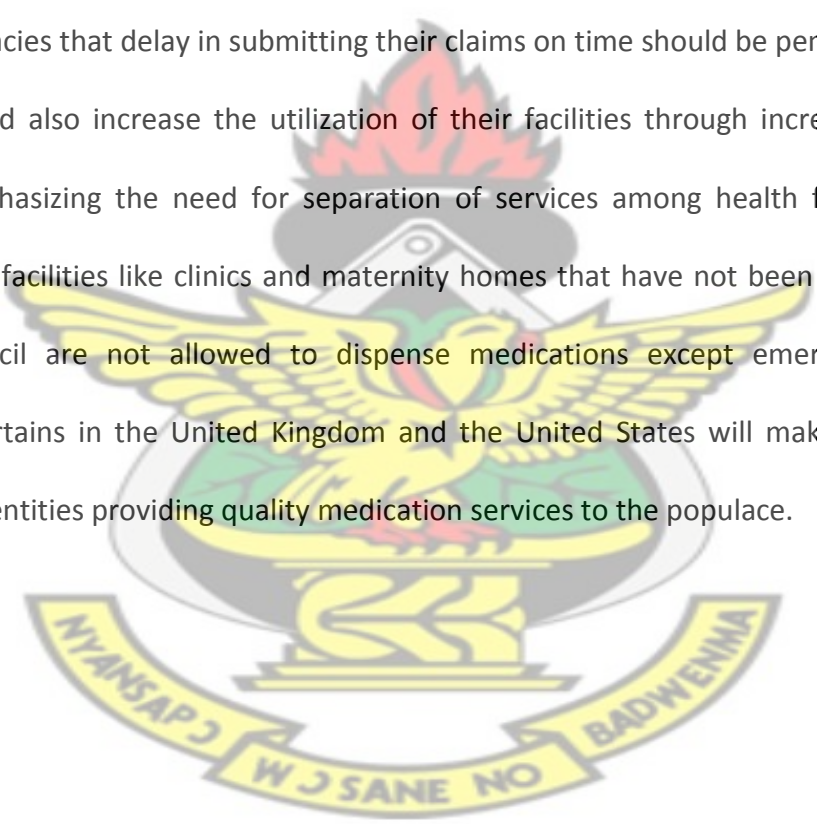


Figure 4.2: Cash Flow of NHIS

Source: Results for Development Institute

From the diagram it is observed that the Health Insurance levy and SSNIT contribution which forms about 92.7% of the NHIA funds do not come directly to the Authority. It goes to the consolidated fund first before being released through the Ministry of Finance and Economic Planning to the NHIA.

A variation in the cash flow pattern will help tremendously to ease the delay in reimbursement. The National Health Insurance Levy of 2.5% VAT and the SSNIT contribution of 2.5% payroll should be channeled directly to the National Health Insurance Fund (NHIF) managed by the NHIA. In this way, the funds could quickly be used for their intended purposes, particularly reimbursement. Should this become difficult then the schemes should be made to pay the prevailing bank interest rate on the outstanding balance after the statutory one month period. Similarly pharmacies that delay in submitting their claims on time should be penalized. Pharmacies could also increase the utilization of their facilities through increased prescription volume by emphasizing the need for separation of services among health facilities. This is a situation where facilities like clinics and maternity homes that have not been accredited by the Pharmacy Council are not allowed to dispense medications except emergency ones. This situation, as pertains in the United Kingdom and the United States will make the pharmacies viable business entities providing quality medication services to the populace.



## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

#### 5.0 INTRODUCTION

This chapter summarizes the entire study; the findings of the study, conclusion and Recommendations.

#### 5.1 SUMMARY OF FINDINGS

The research work identified two main types of community pharmacies in the region; NHIA accredited and non-NHIA accredited ones. The study results indicate that utilization and patronage of both accredited and non accredited ones have gone down in the Western Region as a result of the introduction of the National Health Insurance Scheme. However secondary data shows that patronage of health facilities like hospitals, clinics and maternity homes have gone up. Some of the challenges facing accredited pharmacies were delays in reimbursement, tedious claim filing processes and the delay in adjusting health insurance medicine prices to reflect prevailing market prices. For the non accredited ones, the low patronage was the major challenge. It was the opinion of both accredited and non- accredited community pharmacies that if no interventions were made, community pharmacy will collapse as business entities in five years time.

#### 5.2 CONCLUSION

It can be concluded that the most prominent effect of the introduction of the NHIS on the community pharmacies in the Western Region is the fall in patronage of both accredited and non-accredited pharmacies which has led to lower performance as business entities.

### 5.3 RECOMMENDATIONS

The research revealed that too many of the pharmacies are located in the Sekondi Takoradi Metropolis while most of the other districts were less served or had none at all. In order to improve community pharmacies as effective business entities the following measures are recommended:

- 1) Some of the pharmacies should become daring enough to relocate in the other districts that have fewer pharmaceutical services.
- 2) Some of the pharmacies could also look at the possibility of merging. This will provide the synergy that will inure to the common good of the merged companies. Some of the benefits to be derived from such mergers are
  - i) Staff cost reduction: some monies could be saved from reducing the number of staff members. Even though one of the managing directors may leave with a compensation package, if worked out well staff reduction will ultimately lead to cost reduction.
  - ii) Economies of scale: In purchasing, bigger companies can save on cost which will translate into higher profits, all other things being equal. Mergers lead to improved purchasing power to buy equipment, stocks or office supplies because when placing orders, bigger companies have a greater ability to negotiate prices with suppliers.
  - iii) Improved market reach and visibility: mergers help companies to reach new markets and also expand their range of products. A merger can also improve a company's standing in the investment community. They become visible and bigger firms often have an easier time raising capital than smaller ones.
- 3) That the co-operative system that provides them with greater economies of scale be revisited. They can buy in bulk and hence negotiate prices downward.

- 4) That this research work be repeated at the national level in order to have a better picture of the impact of the National Health Insurance on Community Pharmacies in the country

# KNUST





## REFERENCES

- Abugri, A. (2010). *Impact of NHIS on the performance and financing of Government Hospitals. The case of Hospitals in Kumasi Metropolis*. A Thesis submitted in partial fulfillment of the requirements of KNUST for the Masters of Business Administration. Kumasi: KNUST
- Akande, T.M. & Bello, O. (2002). National Health Insurance Scheme in Nigeria. *Medilor Journal*; (7) p. 21-26
- Anderson, G. (1993). *Fundamentals of Educational Research*, London. Falmer press
- Arhin – Tenkorang, D. (2001). Mobilizing resources for health: the case of user fees revisited [working Paper No 8177] Cambridge MA: Harvard University. 2001
- Assenso - Okyere, W.K. & Dzator, J. (1997). Household cost of seeking malaria care: A retrospective study of two districts in Ghana. *Social Science and Medicine* 45 (5) p 659-67
- Berenguer, B. Lacasa, C. dela Matta, M.J. & Martin – Calero, M.J. (2004). Pharmaceutical care: past present and future. *Curr. Pharm Dis* 10 (31) p 3931 – 46
- Blodget, J.G. Hill, D.J. & Tax, S.S. (1997). The effect of distributive procedural and interactional justice on post compliant behaviours. *Journal of Retailing* 73 (2) 185 – 210.
- Bass, M. (1975). The Pharmacist as a provider of primary healthcare. *Canada Med. Association*. 112 (1) p 60-64
- Bulajeva, A., (2010). *Pharmaceutical care service and quality management in community pharmacies – an international study*. A Thesis submitted in partial fulfillment of the requirements of Helsinki university for the Degree of Master of Arts. Helsinki: University of Helsinki
- Carroll, N.V. (2008). Estimating the impact of Medicare part D on the Profitability of independent community pharmacies. *J. Managed Care Pharm.* 14 p 768 – 779

Coasta, S. Santos, C. & Silveira, J. (2006). Community pharmacy services in Portugal. *Ann of Pharmacotherapy*. 40 (12) p 2228 – 34

Collins, S.R. White, C. & Kriss, J.L. (2007). Wither employer based health insurance? The current and future role of United States Companies in the provision and financing of health insurance. *The commonwealth fund Publication*. [www.commonwealthfund.org](http://www.commonwealthfund.org) [25/10/10]

Denninger, K. Mpuga, P. (2004). Economic and welfare effect of the abolishing of health user fees: Evidence from Uganda. World bank policy research working paper 3276. Washington Dc. World Bank

Ekman, B. (2007). The Impact of Health Insurance on outpatient utilization and expenditure: evidence from one middle – income country using national household survey data. *Health Research Policy systems*. 5 p 6

Eickhoff, C. & Schulz, M. (2006). Pharmaceutical Care in Community Pharmacies: Practice and Research in Germany. *Ann Pharmacoth*. 40 p 729 – 35

Gastellurutia, M.A. Faus, M.J.& Fernandez- Llimas, F. (2005). Providing patient care in community pharmacies in Spain. *Ann. Pharmacotherapy*. 39 p 2105 – 2109.

Ghana Health Service, Western Region (2007) Annual Review Report

Ghana Health Service, Western Region (2009), Annual Review Report

Ghana Health Service Western Region (2010), Annual Review Report

Ghana Growth and Poverty Reduction Strategy

Ghana. *National Health Insurance Act 2003: John Agyekum Kufuor*. (2003). Accra: Ghana Publishing Corp.

Ghana. *Pharmacy Act 1994: Jerry John Rawlings*. (1994). Accra: Ghana Publishing Corp.

Glesne, C. and Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. White plains NY: Longman

Glied , A.S. (2004).Health care financing: efficiency and equity . Working paper 13881. National bureau of economic research. [http:// www.nber.org/papers/w13881](http://www.nber.org/papers/w13881)[assessed: 12th Feb. 2010 February 12]

Goyal, R.K. Patel, J.G.& Sansgiry, S.S. (2010). Pharmacists' Perception of Drug Reimbursement Rates and Processing Times among Managed Care Plans. *Drug Benefits Trends*. 22 (4)

Gyapong, J.Garshong, B. Akazilli, J. Aikins, M.Agyapong, I. & Nyonator,F.(2007). Critical Analysis of Ghana's Health Insurance system with a focus on equity challenges and National Health Insurance. SHIELD Workpackage 1 Report.

Hartley, J. (1994). Case Studies in Organizational Research. In: Casel and Syman 1994.*Qualitative Methods in Organizational Research*. London: Sage Publications

[http://www.nacds.org/user\\_assets/pdf](http://www.nacds.org/user_assets/pdf). [assessed on 14th June,2010 ]

Johnson, D. (1994). *Research Methods in Educational Management*. Longman Group,Essex

Johnson, C.R. (1995). Managed care impact on Pharmacy. *American Journal of Pharm. Education*. 159 p 401 – 402.

Kori, M. (1997).*A Study of the Health Insurance for the Informal Sector*. A dissertation submitted in partial fulfillment of the Requirements of University of Ghana for the Degree of Masters of Business Administration. Legon: University of Ghana.

Li – Mei, C. Shi, W.W. & Chung, Y. L. (2001). The impact of National Health Insurance on the utilization of healthcare services by pregnant women: The case in Taiwan. *Maternal and Childhealth Journal*. 5(1) p 35 – 42

Luo ,X. Liu, G. Frush, K. & Hey, L.A. (2003).Children's health insurance status and emergency department utilization in the United States. *Paediatrics*. 112 (2) p 314 – 9.

McIntyre, D. and Gilson, L. (2005). Equitable healthcare financing and poverty challenges in the African context. Paper presented to Forum 9, Global forum for Health Research Mumbai Sept. 12 – 16

Ministry of Health. (2008). Annual report

National community pharmacists association. (2007). Preliminary data shows independent community pharmacies have been hurt by Medicare Part D prescription drug plan. *NCPA-Pfizer Digest*. Alexandria VA:

Norwalk, L. (2006). Centres for Medicare & Medicaid Service. Pharmacists and Part D. <http://www.cms.hhs.gov/apps/media/press/testimony.asp?counter=1864>. [accessed 12 Dec. 2010]

Noyce, P.R. (2007). Providing Patient care through community pharmacies in UK: policy, practice and research. *Ann Pharmacotherapy*. 41 (5) p 861 – 8

Patton, M. (1987). How to use qualitative Methods in Evaluation. California :Sage

Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. (3<sup>rd</sup> Ed) Thousand Oaks, CA: Sage.

Rejda, G.E. (2011): *Principles of Risk Management and Insurance*, 11th edition. New Jersey: Pearson.

Sanusi, R.A. and Awe, A.T. (2009). An assessment of Awareness level of National Health Insurance Scheme among Healthcare consumers in Oyo state, Nigeria. *The Social Science*. 4(2) p 143 – 148

Schafermeyer, K.W. (2000). The Impact of Managed Care on Pharmacy Practice. *Pharm Practice Management*. 19 (4) p 99-116

School of Pharmacy – Pharmaceutical Science. (1999). The Public's use of community Pharmacies as a Primary Healthcare resource. *The Pharmaceutical Journal*.

Shepherd, M.D.Richard, K.M. Winegar, A.L. (2007). Prescription drug payment times by Medicare Part D Plans: Results of national study. *J. American Pharm. Association*.47 p e20-e26.

Smith, F. (2004). Community Pharmacy in Ghana: enhancing the contribution to primary healthcare .*Health Policy and Planning*. 19 (4) p 234-241

Speck, S.K. Payroll, M. and Hsaw, C.W. (2003). Insurance coverage and healthcare consumers' use of emergency department: has managed care made a difference? *J. Hosp. Mark Public Relations*. 15 (1) p 3 – 18

Spooner, J.J. (2008). A bleak future for independent community pharmacy under Medicare Part D. *J. Manag Care Pharm*. 14 p 878 – 881

Starfield, B. (1992). *Primary Care: Concept Evaluation and Policy*. New York: Oxford University Press

Sulzbach, S. Garshong, B. and, & Owusu – Banahene, G. (2005). Evaluating the effect of the National Health Insurance Act in Ghana: baseline Report: United States Agency for International Development.

Sulzbach, S. (2008). Evaluating the impact of National Health Insurance in Ghana .*Health Systems*. P 20/20

Waddington C, Enyimayew K. (1990). A price to pay, Part 2: the impact of user charges in the Volta Region of Ghana. *Int. J. Health Plann Manage*. 5 p 287 – 312.

WHO Annual Report. 1996

WHO. (1998). Good Pharmacy practice: guidelines in community and hospital pharmacy setting. Geneva: World Health Organization

Wieddenmayer, K. Summers, R.S. Mackie, C.A. Andries, G.S.G. Everard, M. & Tromp D. (2006). Developing Pharmacy Practice – A focus on patient care. World Health Organization in collaboration with International Pharmaceutical Federation.



Yin, R.K. (1994). *Case Study research: Design and Methods*. 2<sup>nd</sup> edition

Thousand Oaks. CA: Sage

Yin, R.K. (1993). *Application of Case Study Research*. Sage Publications. California 33 – 35.

# KNUST



## APPENDIX 1

### COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION (PROJECT WORK)

#### QUESTIONNAIRE

This questionnaire is designed to enable me fulfill an academic requirement for the award of an Executive Masters in Business Administration. Its aim is to solicit your response in gathering relevant information on the topic “The impact of National Health Insurance on Community Pharmacies – Case Study of the Western Region”

Your candid responses and views shall be treated confidentially and anonymously.

Thank you for your cooperation

1. Name of pharmacy..... 1a. Town.....
2. Region:..... 3. District:.....
4. Ownership:.....  
a) Government: ☐ b) Private: ☐
5. Title of Person answering questionnaire: a) Pharmacist b) Business Manager c) Accountant  
d) Others (state).....
6. Date of answering questionnaire:.....
7. Business orientation a. Wholesale b. Retail c. Wholesale / retail
8. When was your facility established?  
a) Don't know b) 0 – 1 year c) 1 – 2 years d) 3 – 4 years e) Above 4 years
9. Are you registered with the National Health Insurance Authority (NHIA) as a  
service provider?  
a) Yes b) No
10. When were you accredited?.....
11. Do you fill out prescription for clients of National Health Insurance Scheme (N.H.I.S.)?  
a) Yes b) No

12. When did you start providing services?.....

13. What proportion of your clients are NHIS card bearers?

- a) Less than 25%      b) 25 – 50%      c) 50 – 75%      d) Above 75%

14. Has the proportion of NHIS clients who use your facility increased over the past years?

- a) Very significantly - 50%      b) Significantly – 25%  
c) Not significantly – 5%      d) Not at all

15. Has the proportion of general customers who use your facility increased or decreased

- a) Increased      b) decreased

16. If it has decreased by what proportion?

- a) Very significantly - 50%      b) Significantly – 25%      c) Not significantly – 5%  
d) Not at all

16a.If it has increased by what proportion?

- a) Very significantly - 50%      b) Significantly – 25%  
c) Not significantly – 5%      d) Not at all

17. Could you give any reasons for the change.....  
.....  
.....

18. What percentage of the increased customers are NHIS card holders

- a) Less than 25%      b) between 25 – 50%      c) 50 – 75%      d) above 75%

Kindly rank the following statements in order of

- i) strongly agree      ii) Agree      iii) Disagree      iv) Strongly disagree

19a. The introduction of NHIS has been beneficial to your business

- i) strongly agree      ii) Agree      iii) Disagree      iv) Strongly disagree

19b. Briefly explain your answer to 19a

.....  
.....  
.....  
.....

.....  
.....  
20. The NHIA has actively and effectively supported your pharmacy in implementing the NHIS.

i) Strongly agree    ii) Agree    iii) Disagree    iv) Strongly disagree

21. How was the NHIS/A actively supported your facility in implementing the NHIS?

.....  
.....  
.....

22. Has the implementation of NHIS changed your way of managing the facility.

i) strongly agree    ii) agree    iii) disagree    iv) strongly disagree

22a. How has it changed your way of managing the facility.

.....  
.....  
.....

22b. Has the implementation increased the technical and administrative workload of the facility

a) Strongly agree    b) agree    c) disagree    d) strongly disagree

22c. Briefly explain your choice of response:.....

.....  
.....

23. Do you receive any financial support from any organization specifically for the implementation of NHIS    a) Yes    b) No

24. Have you recruited new staff since you started providing service under NHIS?

a) Yes    b) No

25. If yes how many

i) less than 3    ii) 3 – 5    iii) 6 – 7    iv) above 7

26. If yes what category of workers

- |   |                                 |
|---|---------------------------------|
| i) Counter salespersons                   | ii) Medicine Counter Assistants |
| iii) Dispensing Technicians/Technologists | iv) Pharmacists                 |
| vi) Accountants/ Claim Manager            | Others, kindly explain.         |

.....

.....

.....

.....

.....

27. Would you have recruited them anyway without the implementation of NHIS?

- a) Yes                      b) No

28. Is your facility able to meet the drug requirement of NHIS card holders?

- i) Very adequate              ii) Adequate      iii) Minimum adequate      iv) Not adequate

29. Does your facility have any challenges with the NHIS?

- i) strongly agree      ii) agree      iii) disagree      iv) strongly disagree

30. Kindly explain response to 29

.....

.....

.....

Finance and claims management

31. Is your facility able to make accurate claims for drugs supplied?

- i) very often      ii) often      iii) rarely often      iv) not at all

32. Your claims information has often been challenged by the scheme

- i) very often      ii) often      iii) rarely often      v) not at all

33. How long does it take you to submit claims?

- i) less than one month      ii) 1 – 2 month      iii) 2 – 3      iv) above 3 month



34. How long does it take you to get reimbursed?

i) less than 1 month   ii) 1 – 2 month   iii) 2 – 3 month   iv) above 3 month

35. Does the NHIS reject claims submitted by the facility?

i) very frequently   ii) frequently   iii) rarely frequently   iv) not at all

36. On average what proportion of claims will you say were rejected by NHIS last year. (N/B withholding tax is not a rejection)

i) less than 25%   ii) 25 – 50%   iii) 50 – 75%   iv) Above 75%

37. Are you offered any reasons as to why portions of your claims are rejected?

a. Yes ☐

b. No ☐

38. If yes what are some of the reasons

.....

.....

.....

.....

39. Do drugs expire in your facility?

a) Yes   b) No

40. Has the proportion of expiration increased or decreased

a) Increased   b) decreased

41. If it has increased, by about what proportion?

a) less than 25%   b) 25 – 50%   c) 50 – 75%   d) Above 75%

42. How has cash flow to your business been since introduction of NHIS ? a) excellent

b) Very good   b) good   c) fair   d) poor

43. How do you see the future of community pharmacy in the next five years if things should go on the way they are going?

.....

.....

.....

44. Do you have any other comments you might want to add?

.....

.....

.....

.....

# KNUST



---

MOSES A. ADJEI (0208160001)

## APPENDIX 2

### OPD ATTENDANCE IN WESTERN REGION

YEAR	INSURED	NON-INSURED	TOTAL
2001	-	635,359	635,359
2002	-	1,069,974	1,069,974
2003	NA	NA	NA
2004	-	1,699,449	1,699,449
2005	-	1,115,114	1,115,114
2006	297609	1,027,476	1,325,085
2007	872997	864,534	1,737,531
2008	1231900	859,461	2,091,361
2009	1714220	820,929	2,535,149
2010	2012677	728,271	2,740,948

SOURCE: Western Regional Health Directorate Annual Review Reports

### APPENDIX 3

FUNCTIONAL COMMUNITY PHARMACIES IN THE WESTERN REGION AS AT 20 <sup>TH</sup> JUNE, 2011.		
NO	NAME OF PHARMACY	DISTRICT
1	A. A. A. MENSAH PHARMACY	SEKONDI-TAKORADI
2	ABUAKWA PHARMACY	SEKONDI -TAKORADI
3	ADRA STATION PHARMACY	SEKONDI -TAKORADI
4	ALFDAD PHARMACY	SEKONDI -TAKORADI
5	ANAJI PHARMACY	SEKONDI -TAKORADI
6	ANDOKWOFF PHARMACY LTD	SEKONDI -TAKORADI
7	ATLANTIC CHEMISTS	SEKONDI -TAKORADI
8	DALVU PHARMACY	SEKONDI -TAKORADI
9	DANALIZABETH CHEMISTS	SEKONDI -TAKORADI
10	DAY BY DAY PHARMACY	SEKONDI -TAKORADI
11	EDDYAMPS PHARMACY	SEKONDI -TAKORADI
12	EFF – ESS PHARMACY	SEKONDI -TAKORADI
13	EFFIAKUMA PHARMACY	SEKONDI -TAKORADI
14	FIRST STOP PHARMACY	SEKONDI -TAKORADI
15	FRANCA PHARMACY	SEKONDI -TAKORADI
16	GOODBRAND PHARMACY	SEKONDI -TAKORADI
17	GRACEWILL PHARMACY	SEKONDI -TAKORADI
18	JEMOZ PHARMACY	TARKWA NSUAEM
19	JOPIZO PHARMACY	SEKONDI -TAKORADI
20	KABMORE CHEMISTS	SEKONDI -TAKORADI
21	KAVKAZ PHARMACY	BIBIANI AHWIASO
22	KENDICKS PHARMACY	SEKONDI -TAKORADI
23	KOJOKROM PHARMACY	SHAMA
24	MILLENNIUM PHARMACY	SEKONDI -TAKORADI
25	NAS – MATSON PHARMACY	SEKONDI -TAKORADI
26	NOCK PHARMACY	SEKONDI -TAKORADI
27	NUMAT PHARMACY	SEKONDI -TAKORADI
28	BRAKATU PHARMACY	TARKWA NSUAEM
29	O- NART PHARMACY	SEKONDI -TAKORADI
30	PRINCESS CHEMISTS LTD	SEKONDI -TAKORADI
31	VEKPARM PHARMACY	SEKONDI -TAKORADI
32	WESTLINK CHEMISTS	TARKWA NSUAEM
33	ACLE PHARMACY	SEKONDI -TAKORADI
34	WESTRIDGE PHARMACY	SEKONDI -TAKORADI
35	WESTSTAR PHARMACY	SEKONDI -TAKORADI
36	FONTLIFE PHARMACY LTD*	SEKONDI-TAKORADI

\*FACILITY OF RESEARCHER--EXCLUDED

# KNUST

