KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI, GHANA

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF HEALTH POLICY, MANAGEMENT AND ECONOMICS

PROVIDERS' AND CLIENTS' PERCEPTION AND EXPERIENCE ON NATIONAL HEALTH INSURANCE SCHEME MEDICINES LIST IN PUBLIC AND PRIVATE PHARMACIES IN BANTAMA SUB-METRO: CASE STUDY OF KOMFO ANOKYE TEACHING HOSPITAL AND NIMO PHARMACY LIMITED IN ASHANTI REGION.

BY

BERTHA NIMO OPOKU

NOVEMBER, 2015

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI, GHANA

PROVIDERS' AND CLIENTS' PERCEPTION AND EXPERIENCE ON NATIONAL HEALTH INSURANCE SCHEME MEDICINES LIST IN PUBLIC AND PRIVATE PHARMACIES IN BANTAMA SUB-METRO: CASE STUDY OF KOMFO ANOKYE TEACHING HOSPITAL AND NIMO PHARMACY LIMITED IN ASHANTI REGION.

BY

BERTHA NIMO OPOKU (BSC. BIOCHEMISTRY AND BIOTECHNOLOGY)

A THESIS SUBMITTED TO THE DEPARTMENT OF HEALTH POLICY, MANAGEMENT AND ECONOMICS, COLLEGE OF HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN HEALTH SERVICES PLANNING AND MANAGEMENT

NOVEMBER, 2015

DECLARATION

I hereby declare that this submission is my own work towards the MPH 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.

SIGNATURE……DATE……

BERTHA NIMO OPOKU (PG9904213)

(CANDIDATE)

SIGNATURE……DATE……

DR. KOFI AKOHENE MENSAH

(ACADEMIC SUPERVISOR)

SIGNATURE……DATE……

DR. KOFI AKOHENE MENSAH

(HEAD OF DEPARTMENT)

ACKNOWLEDGEMENT

I would like to express my heartfelt appreciation to the many people who helped to make this work a reality. First and foremost, I am extremely grateful to the Almighty God for His unfailing love and grace that has brought me this far. I am grateful to my supervisor, Dr. Kofi Akohene Mensah for his stimulating ideas and guidance and also for granting me the benefit of his expertise to do this research. I am also grateful to all Department of Health Policy, Management and Economics lecturers who imparted their knowledge to me throughout the course work. I am grateful to my husband Jerry Asamoah and my family for their love, encouragements, prayers and support. Also to William Ofori Appaw who helped me to edit my work and to my research assistants Ernest, Isaac and Aliyu Mohammed for helping to administer and retrieve questionnaires.

May God bless you all.

ABSTRACT

Background: National Health Insurance Scheme is improving health care in Ghana. However, the use of the NHIS medicines list which come in their generic forms has increased significantly in recent years. Since generic drugs are available at a lower cost, they provide an opportunity for savings in drug expenditure and its usage are being encouraged especially in developing countries. This study therefore determines the perceptions and experiences of the healthcare providers and clients towards the NHIS medicines list.

Methods: A descriptive cross-sectional design study was employed using both quantitative and qualitative methods for this study. The quantitative data were gathered using structured questionnaire administered to four hundred and twenty clients whereas thirty-five providers, in-charges from both facilities and a NHIS representative in the Bantama sub-metro were interviewed to gather the qualitative data. The quantitative were analysed using STATA software (version 11) and the qualitative data were analysed using thematic analysis. Statistical significance for all testing was set at 0.05.

Results: Majority of the clients (77.1%) were aware of NHI medicines or generics medicines and branded medicines. However, most of them preferred NHI medicines (23.8%) to branded medicines (19.1%). The reasons provided for opting for NHI medicines were effective (80.5%), affordable (89.5%), available (76.7%), safe (96.9%) and fewer side effects (97.1%). Majority of providers disagreed to the statement, NHIS medicines or generic medicines are more effective than branded ones (68.7%) and they may substitute NHIS medicines for branded ones when NHIS medicines are out of stock (45.7%). While 48.6% of providers agreed to their

uncertainty about the quality of the NHIS medicines, 34.3% of providers' opinion were neutral about the bioequivalence of generic and branded medicines. Also, majority of providers agreed that provider's personal preference (37.1%), clients' preference (54.3%), confidence in the generic company (60.0%) and advertisement by generic company (31.4%) would influence their prescription pattern. There was no significant difference between clients' perception and experience and their socio-demographic characteristics. On the other hand, with exception of gender which was statistically significant (p-value= 0.025), none of the socio-demographic characteristics of the providers was found to have any statistically significant difference between perception and experience on NHIS medicines. There was a significant difference with regards to clients opinion on availability of NHIS medicines list in terms of getting all their prescriptions for free using NHIS cards (p-value= 0.038); medicines preference if paying out-of-pocket (p-value= 0.002); insurance pays if one choose to take branded medicines (p-value= 0.001) and medicines mostly prescribed by health providers (0.001).

Conclusion and recommendation: The findings of the study demonstrated that clients and providers have insufficient knowledge about NHIS medicines. Therefore, they should be better educated with respect to the medicines list to promote confidence in the NHIS as well as its sustainability for the achievement of universal coverage.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CBHI	-	Community Based Health Insurance
DMHIS	-	District-level Mutual Health Insurance Scheme
GOG	-	Government of Ghana
GPRS	-	Ghana Poverty Reduction Strategy
JHS	-	Junior High School
KATH	-	Komfo Anokye Teaching Hospital
MOH	-	Ministry of Health
NHI	-	National Health Insurance
NHIA	-	National Health Insurance Authority
NHIL	-	National Health Insurance Levy
NHIS	-	National Health Insurance Scheme
OOP	-	Out-of-pocket
PHI	-	Private Health Insurance
SHI	-	Social Health Insurance
SHS	-	Senior High School
WHO	-	World Health Organization

CHAPTER ONE: INTRODUCTION

1.0 Background

The socio-economic development of a nation to a large extent depends on the wellbeing of the people. With knowledge and requisite skills, the people become the backbone through which the development agenda of any society is implemented efficiently to increase productivity (Kwarteng, 2012). It is in this light that every country in the world places much premium on the health of its people. As a result, the United Nations and other organizations representing the continents of the world are developing strategies for a sustainable health care financing (Mossaialos *et al.*, 2002). The World Health Organization (WHO) as part of their goal is also supporting adequate, sustainable, equitable and effective health financing to improve health outcomes (WHO, 2005). Ghana is one of the very few countries in sub-Saharan Africa who has implemented a universal health insurance program at the national-level (Blanchet and Osei-Akoto, 2012).

The National Health Insurance Scheme (NHIS) in Ghana is a mechanism of health care financing which does not discriminate against the poor and vulnerable from seeking health care when the need arises. It is aimed at addressing the problem of financial barriers to health care access within the context of the Ghana Poverty Reduction Strategy (GPRS) (Send-Ghana, 2010).

The NHIS was adopted by the Government of Ghana in 2003 and fully implemented in 2005 to promote equitable and universal health coverage for all residents of Ghana irrespective of their socio-economic background (GOG, 2003). The intention was to provide quality, affordable, basic and essential health care services. The implementation of the NHIS has led to significant increase in facility attendance and

as a result, clients spend longer time at hospitals due to the schemes long documentation and large patient attendance. This has resulted in extra workload, over-stressed staff, and excessive pressure on existing services and reduced attention to patients (Send-Ghana, 2010).

The NHIS medicines list was established in 2008 as a guide to health providers in providing healthcare services to NHIS subscribers. The list covers medications in the various therapeutic groupings used in managing disease conditions covered under the benefit package of the NHIS, which forms over 95% of disease condition in Ghana (NHIA, 2010). Mental health drugs which are used in general practice are recognized under the NHI medications list. A Specialist group involving medical doctors or clinicians, pharmacists and a midwife reviewed the various health problems and medications needed to manage the problems and eventually developed the NHIS medicines list. The existing NHIS medicines list contains a total of five hundred and forty-eight (548) formulations (NHIA, 2013). However, medicines used for public healthcare programs are considered as exceptions and are thus excluded from the list. These include childhood immunizations, tuberculosis and mental health care (NHIA, 2010). The list also excludes medical devices and supplies and all anesthetic agents because their prices are included in the tariffs for services (NHIA, 2010).

1.2 Problem Statement

Government, health authorities and health insurance agencies in both developed and developing countries are concerned with high cost of pharmaceutical products especially the branded medicines. As a result, the use of generic medicines which is currently being used under the Ghana National Health Insurance Scheme (NHIS) is being promoted globally for medical treatment because it is cheap and can be afforded

by many people in developing countries. Therefore, this study which assessed providers' and clients' perception and experience on National Health Insurance Scheme medicines list in Public and Private Pharmacy in Kumasi, Ghana was very important to the development of Ghana and more especially in planning for the patronage and sustainability of the NHIS medicines.

1.3 Rationale of the study

The findings of this study will provide an important feedback to the relevant policy makers like the Ministry of Health (MOH) and the National Health Insurance Authority (NHIA) in planning for the patronage and sustainability of the NHIS medicines. Also, the study will provide lesson learning to health managers to design programs to educate health care providers and clients on generic medicines and NHIS medicines list to facilitate the awareness and responsiveness. This will improve public knowledge and understanding of NHIS medicines list and ultimately reduce high pharmaceutical expenditure which is a major challenge to Governments and health authorities like the National Health Insurance Authority in Ghana. This may provide the prospect for major savings in healthcare drug expenditure.

1.4 Research Questions

1. What is the perception and experience on NHIS medicines list among providers and clients in both public and private Pharmacy?

2. What are the clients and providers' challenges with the NHIS medicines list?

3. How can these challenges be minimized to improve providers and clients' confidence in NHIS medicines list?

1.5 Objectives

1.5.1 Main Objective

To determine providers and clients' perception and experience on NHIS medicines list in both public and private pharmacy.

1.5.2 Specific Objectives

1. To determine clients' perception and experience on NHIS medicines list in both facilities
2. To determine providers' perception and experience on NHIS medicines list in both facilities
3. To establish any relationship between clients or providers' perception and experience on NHIS Medicines List and their socio-demographic characteristics
4. To determine availability and non-availability of NHIS medicines list in both facilities
5. To identify challenges with the implementation of NHIS medicines list

1.6 Conceptual Framework

The figure below describes providers and clients factors that can influence their perception, stocking and patronage of the NHIS medicines list. Some factors such as availability and efficacy of the drug, bioequivalence of the generic and branded, inadequate drug information, safety as well as quality of the drug, confidence in the generic manufacturers and others may influence providers' perception on the NHIS medicines list. The outcome of the aforementioned factors may positively or negatively affect providers purchasing and pricing behavior, stocking of NHIS medicines, compliance and ultimately the sustainability of the health insurance. Also,

clients' factors that can influence their perception on the NHIS medicines list are availability, efficacy of medicines, treatment from providers, external communication by providers and their own preferences as well as past experiences with providers prescriptions. These factors may lead to clients' satisfaction, compliance and sustainability of the health insurance.

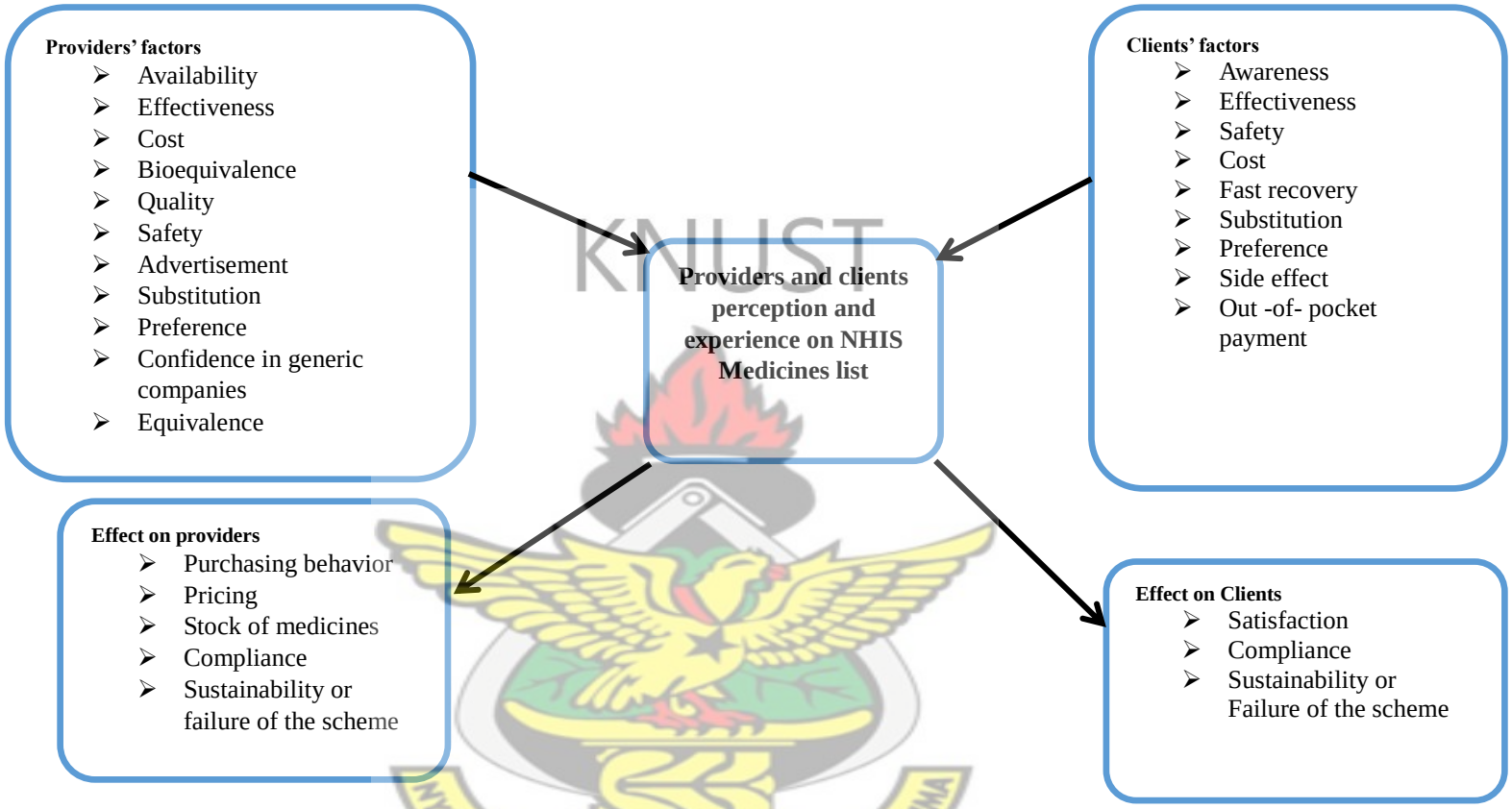

Figure 1.1: Providers and clients perception and experience on NHIS medicines list

Source: Health survey 2014

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews a wide range of literature pertinent to Health Insurance Schemes. The chapter looks at the history, corporate goals and objectives of the National Health Insurance Scheme in Ghana. This is followed by the development and policy of the NHIS Medicines list. Also relevant literature on providers and clients perception on the NHIS Medicines list as well as its availability and non-availability in health facilities and challenges with the implementation of NHIS medicines list are also reviewed.

2.2 Health Insurance Schemes in Developed and Developing Countries

There are several health care systems in the world, each with unique characteristics to address specific health needs of individual countries. The health insurance scheme was however formed in both developed and developing countries as a result of the existing challenges in the health care financing system stemming from uneven social and economic distribution such as low economic growth, huge variations in income level and poor infrastructure (Carrin ,2003). Health insurance schemes are therefore seen as an opportunity for extending insurance coverage in low-income countries, mostly among rural and informal sectors of society (Kelley and Diop, 2006).

There are various types of health insurance existing in both developed and developing countries. These are the National /Social Health Insurance (NHI/SHI) which is basically health insurance schemes provided by governments to its citizens, especially to low and middle income populaces (Churchil, 2006), the Private Health Insurance (PHI) which mainly serves the affluent parts of a population and the Community

Based Health Insurance (CBHI) which is a health financing mechanism that especially benefits the poor (Smith, 2008).

Developed countries like the United Kingdom depend heavily on general taxation while France and Germany rely on mandated Social Health Insurance (SHI) for health care financing (Saltman *et al.*, 2004). These countries have shown great interest in health insurance as a mechanism to collect and distribute resources for the health sector in a more equitable way (Huber *et al.*, 2003). Also, voluntary insurance mechanisms such as the Private Health Insurance (PHI) are implemented on a large scale in countries like Brazil, Chile, Namibia and South Africa (Smith, 2007) and community-based health insurance (CBHI) now available in developing countries like the Democratic Republic of the Congo, Ghana and Senegal (Bennet and Monasch, 1998).

In Africa, there is however, strong evidence that CBHI and SHI provide quality healthcare and financial protection for their members in terms of reducing their out-of-pocket payments (Spaan *et al.*, 2012). In the past 25 years, several countries in Sub-Saharan Africa introduced a form of SHI. The major obstacle with SHI schemes in Africa was the limited number of enrolled people (Spreeuwers and Geert-Jan, 2012). Therefore, implementing a national health insurance which enrolls large number of people may be an ideal solution for African countries on their way to universal health coverage. Also, some schemes in Africa have documented other challenges. Countries such as Rwanda (Criel, 1998) and Uganda (McCord and Osinde, 2003) showed weak financial sustainability because of low renewal rates, high claims-to-revenue ratios and high operational costs. Presently, Ghana is the only country in sub-Saharan Africa that has successfully implemented a national health insurance scheme (Spreeuwers and Geert-Jan, 2012).

The NHIS in Ghana is intended to provide financial risk protection against out- of-pocket health care expenditure for all Ghanaians. This is operational in over 145 districts across the country with a total cumulative membership of over 18 million. Out of which over 8 million, representing 34% of Ghana's current population are active card bearing members (NHIA, 2010).

2.3 History, Corporate Goals and Objectives of NHIS in Ghana

2.3.1 History of NHIS in Ghana

The National Health Insurance Scheme (NHIS) formed in 2003, was fully implemented in 2005 by the government of Ghana. The intent was to promote universal health coverage and equity for all Ghanaians irrespective of the socio-economic background (WHO, 2005). The NHIS aims to assure fair and universal access for residents of Ghana to an acceptable quality package of essential health care services without out-of-pocket (OOP) payment being required at the point of use (Government of Ghana, 2003). The NHIS is financed from four main sources: a value added tax on goods and services, a reserved portion of social security taxes from formal sector workers, individual premiums, and other funds from investment returns, Parliament, or donors (Frimpong, 2013). The main sources of funding for the NHIS is the 2.5% National Health Insurance Levy (NHIL) on goods and services which forms 70% of the total revenue, social security taxes forms about 23%, premium forms about 5% and other funds contributing 2% (Yankah, 2009).

The National Health Insurance Authority (NHIA) was created "to secure the implementation of a national health insurance policy that guarantees access to basic healthcare services to all citizens of Ghana" (National Health Insurance Act, 2003). The NHIA licenses and regulates District-level Mutual Health Insurance Schemes

(DMHISs) as well as other schemes allowed under the Act, accredits providers and determines in consultation with DMHISs premium levels and in general oversees and reports on NHIS procedures (Blanchet and Osei-Akoto, 2012). Ghanaians enrolled in the scheme are eligible to the minimum health care benefits of the scheme. The minimum benefits package includes (Ramachandra and Hsiao, 2007):

1. Certain outpatient services including general and specialist care, demanded investigations (e.g. X-rays and ultrasound), medications listed on the NHIS medicines list, symptomatic treatment for opportunistic infections of HIV/AIDS, simple surgeries and physiotherapy
2. Certain inpatient services similar to those included for the outpatients including cervical and breast cancer treatment
3. Eye care services including cataract and eyelid surgery
4. Maternity care including prenatal, postnatal and delivery services
5. All emergencies or crisis situations that demand urgent intervention

2.3.2 Corporate Goals and Objectives of NHIS in Ghana

Corporate Goals

The key corporate goals of the National Health Insurance Scheme are (NHIA, 2010):

1. To attain a financially sustainable health insurance scheme

2. To achieve universal financial access to basic health care

3. To secure stakeholder satisfaction

Corporate Objectives for 2010-2014

The NHIS developed a strategic plan to provide direction for the period 2010-2014 to enable management focus on its core mandate. The plan envisions achieving the following corporate objectives (NHIA, 2010):

1. To mobilise 100% of the required funds by the end of 2014
2. To increase efficiency in the financial operations of the scheme
3. To increase active membership to 60% of the population by 2014
4. To increase coverage of the vulnerable including the poor and the indigent to 70% by 2014
5. To provide support to increase access to quality basic health care services in all districts
6. To strengthen governance systems and improve human resource capacity
7. To improve the quality of services accessed by members in the national health insurance system
8. To improve the level of provider experience within the NHIS
9. To improve involvement and participation in health insurance programmes

2.4 NHIS Medicines List

The NHIS Medicines List was developed in 2008 to serve as a guide to health providers in delivering healthcare services to NHIS subscribers. It contains medications in the various therapeutic groupings used in the management of disease conditions covered under the benefit package of the National Health Insurance Scheme, which forms over 95% of disease conditions in Ghana (NHIS Annual Report, 2010).

Since its inception, the Medicines List has undergone series of reviews and the current list has five hundred and forty eight (548) formulations (NHIA, 2013). The list excludes all anaesthetics (both local and general) and programme drugs. This is because the anaesthetics form part of the tariffs paid for under the services rendered while programme drugs are already paid for under public health programmes of the Ministry of Health.

Though drugs like Sulfadoxine + Pyrimethamine tablet, 525 mg, is a Programme drug, it has been maintained on the List due to its unavailability at some facilities across the country. This has been done to prevent malaria in pregnancy and aid the country's attainment of the Millennium Development Goal 5 (which is to improve maternal health).

In addition, the following formulations were added to the list. They include (NHIA, 2013):

1. Artemether Injection, 40 mg/mL
2. Artemether Injection, 80 mg/mL
3. Cetirizine softgel Capsule, 10 mg
4. Ferrous Gluconate Syrup
5. Zinc Tablet, 10 mg
6. Zinc Tablet, 20 mg

The Artemether injection formulations were added because of its importance in the treatment of severe malaria conditions. Cetirizine soft gel capsule was added for the benefit of the aged whilst Ferrous Gluconate syrup was added to the therapeutic group of drugs affecting blood on the List.

Furthermore, the Zinc formulations were added for the treatment of diarrhoea in children as stipulated in the Standard Treatment Guidelines (NHIA, 2013).

2.4.1 Policy on NHIS Medicines List

As part of the NHIS Act, a policy on the medicines to be included under the Act was developed. The general guidelines as outlined in the policy include; all prescriptions under the NHIS should be written on approved prescription forms and in approved formats, medicines on the NHIS Medicines List shall only be allowed for reimbursement, accredited providers are the only people responsible for dispensing under the NHIS. Medical Practitioners, Dentists, Midwives, Medical Assistants and Nurses in specialized fields working in accredited health facilities are currently authorized to prescribe these medicines (NHIA, 2013). The detailed policy guiding prescriptions are discussed below.

All prescriptions should satisfy the following requirements (NHIA, 2013):

1. Conformity with Ghanaian laws including the Pharmacy Act 1994 (Act 489), the Medical and Dental Council Decree 1972 (NRCD 91) and the Nurses and Midwives Decree 1972 (NRCD117)
2. Written legibly in ink or otherwise so as to be impossible to erase
3. Written by the prescriber and not left for another person to complete
4. Should be dated
5. The full name and address of the patient should be stated
6. The age and weight (in case of children) of the patient being treated should be specified
7. The diagnosis being treated should be stated

The prescriptions should also contain the following (NHIA, 2013):

1. Dosage form, generic name of medication, strength, dose and dosage schedule
2. Exact quantity of medication to be supplied
3. The signature of the prescriber in ink

The dispensing of all prescriptions under the NHIS must be carried out either by a pharmacist or under the direct supervision of a pharmacist who can intervene where necessary. The dispenser should ensure that (NHIA, 2013):

1. The prescription is legally valid, genuine and has not been altered after issuing
2. The items on the prescription are on the NHIS Medicines List
3. Each medicine on the prescription contain the dosage form, generic name, strength, dose, dosage schedule and quantity of medication to be supplied
4. The prescriptions are assessed for validity, safety and clinical appropriateness
5. The dosage form and course of administration are appropriate according to the patients gender, age and clinical condition

Each medication that is dispensed should be packaged appropriately and labelled adequately with the following minimum information (NHIA, 2013):

1. Patient name and the generic name of the medicine
2. Strength of the active ingredient with special instructions
3. Quantity of dispensed product
4. Complete dose regimen in written and/or graphic form
5. Duration of use
6. Name and address of the dispensing facility and dispenser
7. Date of dispensing

2.4.2 Clients Perception and Experience on NHIS Medicines List

The perception, knowledge and attitude of clients towards any health intervention are as important as the content of the intervention (Agyei-Baffour *et al.,* 2013).

Some patients or clients are aware of the term "generics" and have some understanding for generic drugs. Some patients knew generic drugs as less expensive than the branded drugs and contain the same active ingredients as brand name drugs (Kobayashi *et al.,* 2011) whilst others perceived NHIS medicines list as generics based on information provided by their prescribers (Toklu *et al.,* 2012).

In a study conducted by Al-Gedadi *et al* (2008) on perceptions and knowledge of generic medicines among consumers in Penang, Malaysia, it was noticed that only 28.3% of the clients were aware of the term generic medicines and about 34% of clients had been given information regarding generics by their pharmacists. In terms of side effects, the study further indicated about 32% of the clients thought that generic medicines might cause more side effects than branded medicines but majority of the clients (64%) understood that generic are less expensive as compared to their branded counterparts. This suggest gaps in clients' knowledge and understanding about generic medicines and therefore the need to encourage direct client education by the healthcare providers on issues relating to safety and efficacy of generic medicines. Generic medicines are less expensive than branded medicines. This is evident in a study conducted by Shrank *et al* (2009) on clients' perceptions of generic medications. This study indicated 94% of clients believed that generics are less expensive than branded medicines and few (less than 10%) believed that generics cause more side effects than branded ones. The study further revealed that more than 70% clients agreed that "generic drugs are a better value than branded drugs" while only about 10% disagreed. As a result, 37.6% of the study participants would rather

take generics than branded medicines while 26.1% disagreed. However, branded drugs are more effective than generic drugs for the treatment of some diseases like acute back pain and hypercholesterolemia (Manan *et al.*, 2013).

Most clients or patients accept substitution of generics for branded medicines based on their own recommendation to prescribers (Kobayashi *et al.*, 2011), recommendations by their doctors and by their pharmacists (Shrank *et al.*, 2009). This is further supported by a study conducted by Toklu *et al* (2012) on knowledge and attitudes of the pharmacists, prescribers and patients towards generic drug use in Istanbul – Turkey. The study indicated that 10% of the patients would immediately accept generic substitution by the pharmacist, while 26% would if it was substituted by the prescriber.

Patients or clients have different perception as far as cost of generic medicines and branded medicines are concerned. Whilst some patients perceived generics as less costly as compared with branded medicines, others perceived no difference in terms of the price. This is evident in a study conducted by Toklu *et al* (2012) where almost half (45%) of the patients reported that generics are surely cheaper than branded ones, while 19% believed there was no difference in price. The study further revealed that cost was the main factor taken into consideration about generic substitution for branded medicines by patients, doctors and pharmacists. However, other studies documented efficacy as the main factor for generic substitution for branded medicines. This is revealed in a study conducted by Himmel *et al* (2005) which reported that cost is a relatively less important factor in switching to a generic medicine. The study reported efficacy as the most important factor in opting for either generics or branded medicines. The study further revealed that 37% of the patients believed generics are less effective and are cheaper than the branded drugs. This is

supported by a similar study where patients strongly agreed that branded drugs are more effective than generics (Waber *et al.,* 2008). These are all perceptions and might be associated with the term "generics" which connote lesser quality for some product categories or the belief that more-expensive products must be more effective than cheaper products (Waber *et al.,* 2008).

2.4.3 Providers Perception and Experience on NHIS Medicines List

Health care providers act as caretakers of patients and their perception, knowledge and attitude towards any medication may have a significant effect on rational for medicine use and health care as a whole (Jha *et al.,* 2013).

Some providers have raised concerns regarding the effectiveness, availability, quality, safety, equivalence and bioequivalence on generic medicines and have acknowledged the economic benefits to the health care system (Ud Din Babar *et al.,* 2011). The study revealed that 50% of providers believed generic medicines and brand medicines are equally effective whilst only 37.6% of providers believed generic medicines were equivalent to branded ones in terms of effectiveness (Hassali *et al.,* 2011). Also, in terms of side effects, the study further indicated that 69.4% of providers reported generic medicines were equivalent to branded medicines and 49.4% in terms of its bioequivalence. This is supported by a similar study on knowledge and attitudes of the pharmacists, prescribers and patients towards generic drug use in Istanbul - Turkey where 40% of pharmacists and 82% of prescribers were unsure about the bioequivalence of the generic drugs (Toklu *et al.,* 2012).

Most providers substitute generics for branded medicines based on their own recommendation to clients (Kobayashi *et al.,* 2011) and recommendations by prescribers and pharmacists (Shrank *et al.,* 2009). This is evident in a study conducted

by Toklu *et al* (2012) on knowledge and attitudes of the pharmacists, prescribers and patients towards generic drug use in Istanbul – Turkey. The study indicated that 55% of pharmacists might substitute generic medicines themselves, whilst 88% of prescribers complained that pharmacists' do not consult them about generic substitution. In the same study pharmacists criticized that the reason for not consulting a prescriber about generic substitution were difficulty in getting in contact with the prescriber, lack of time, did not feel the need to consult the prescriber, risk of being refused by the prescriber (Toklu *et al.*, 2012). Also, in another study by Hassali *et al* (2011), 54% of providers agreed there were inconsistencies in substituting generics for branded medicines and so need a standard guideline to both prescribers and to pharmacists on branded substitution. Inadequate drug information from generic drug manufacturers were also one of the main obstacles in performing generic substitution by providers according to Kobayashi *et al* (2011). This suggests gaps in providers' knowledge about generic drugs and therefore, the need to educate them with respect to generic substitution.

While physicians' might refuse to prescribe generic medicines because of uncertainty about the quality of generic medicines, majority of pharmacists were in favor of dispensing generics, but stated that they would carefully decide if it is appropriate to do so (Kobayashi *et al.*, 2011). They pointed out in the same study that generic drugs might not be in stock or generic equivalent might not be available in the market yet thus affecting their prescribing behavior. This is evident in a study conducted by Ud Din Babar *et al* (2011) on evaluating pharmacists' views, knowledge and perception regarding generic medicines in New Zealand where 65% of pharmacists stated that branded medicines were of higher quality than their generic counterparts. In the same study 70% of pharmacists indicated there is no difference in safety between brand and

generic medicines. Similar to this is another study conducted in Ireland by Freely *et al* (1997) on low rate of generic prescribing among prescribers. The study revealed that over a third of Irish general physicians and 50% of pharmacists believed that generic medicines were unreliable and of poor quality. It was therefore noted that majority of the providers were concerned about the reliability and quality of generic medicines.

In a study conducted by Adair and Holmgren (2005) it was revealed that resident physicians with access to drug samples were unlikely to choose unadvertised drugs than those who have access to drug samples causing a trend toward less use of inexpensive drugs by physicians. This is similar to a study conducted among general practitioners in Malaysia where 35.6% attested that advertisement by drug companies influences their future prescription pattern (Hassali *et al.,* 2011) and thus increasing drug costs for patients (Adair and Holmgren, 2005).

2.4.4 Relationship between Providers and Clients Perception and Experience and their Socio-Demographic Characteristics

The relationship between providers and clients perception and experience and their socio-demographic characteristics might positively or negatively influence the acceptance of generic medicines. In a study on the pharmacists, prescribers and patient's knowledge and attitude towards generic drug use in Istanbul – Turkey, it was revealed that prescribers and pharmacists knowledge and attitude towards generic substitution was not found to be related with their sex, age or professional experience but their degree of education (Toklu *et al.,* 2012). In the same study, there was a negative relationship between the number of patients accepting the generic substitution and their education levels. The more educated the patients are, the less they accept generic substitution. This is similar to a study on patients' attitude about

generic medicines, it was indicated that level of education affects attitude towards generics. The more educated the patients are, the less likely they accept generic substitution (Lebanova *et al.*, 2012).

2.4.5 Availability and Non-Availability of NHIS Medicines List

Availability of medicines is important as far as reducing mortality and morbidity (WHO, 2006). As defined by WHO and the member states that have undertaken the national essential medicines list process, essential medicines should be consistently available to clients, in adequate stock at health facilities, of assured quality and affordable especially for the very poor (WHO, 2004). This is not so in a study conducted by Elamin *et al* (2010) on availability of essential medicines in Sudan which indicated that availability of selected essential medicines at the public pharmacy was less (80.6%) as compared to the private pharmacy (93.9%). There was no statistical significant difference as far as a developing country concerning availability of medicines at rural or urban areas ($p > 0.05$).

In a study conducted by Ud Din Babar *et al* (2007) evaluating drug prices, availability, affordability and price components in Malaysia, it reported that Innovator Brand (IB) prices were 16 times higher than the International Reference Prices (IRPs) in private pharmacies, while generics were 6.6 times higher. In dispensing doctor clinics, innovator brands were 15 times higher than generics which was 7.5. In the public sector, where medicines are free, availability was low even for medicines on the National Essential Drugs List. This is similar to a study conducted in Pakistan by the Network Consumer for Protection (2006) which reported that public health facilities had very low median availability of generic medicines (3.3%) while branded

medicines were more likely to be found in private retail pharmacies (54.2%) than generics (31.3%).

Also, in a study conducted in Tanzania, shortages of essential medicines in public health facilities were a major issue. It was noticed from the study that 41% of patients were not able to get the medicines they need directly from a public health facility and so they often have to turn to private pharmacies and health facilities for medicines due to shortages at public facilities. In urban areas this usually means paying a premium for essential medicines that should be available for free or at a discount from public facilities, and in rural areas, where private facilities are fewer, it often means having to pay for transport and medicine costs or simply going without needed medicines (Wales *et al.*, 2013).

WHO also reported that, availability of medicines in the public sector is low in all developing countries, and is consistently lower than it is in the private sector. In the 27 developing countries for which data are available, average public sector availability of medicines was only 34.9%. When medicines are unavailable in the public sector, clients will have to buy medicines from the private sector which may be expensive, or forgo treatment altogether (WHO, 2005).

2.4.6 Challenges with the Implementation on NHIS Medicines List

The intent of the National Health Insurance Scheme was to promote universal health coverage and equity for all Ghanaians irrespective of their socio-economic background (WHO, 2005) but the scheme is beset with a number of challenges (Kwarteng, 2012). In this study, the main challenges of the NHIS were ineffective claims management and control, lack of effective mechanism for tracking claims, inconsistent billing system and undue delay of payment of claims to providers. This is similar to a study conducted by Adjei (2012) on impact of national health insurance on community pharmacies. The study revealed that the major challenge 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 (Adjei, 2012) and faced cash flow problems (Goyal *et al.*, 2010).

Apart from non-payment of claims to providers, the scheme also has not been paying claims regularly to accredited hospitals and pharmacy shops. Thus making it difficult for the providers to generate the requisite revenue to replenish drugs and other medical supplies needed to enhance quality service delivery. As a result, they also refuse to give the requisite drugs to clients of the scheme who present prescriptions, thus undermining quality health care delivery and threatening the reason of the establishment of the scheme to provide affordable and accessible quality health care delivery to all subscribers (Asare, 2010).

Another challenge mentioned was the abuse of the system by clients. Clients thought they have paid (irrespective of the amount paid) and would like to maximize their benefit at all cost even if there is no need to visit a facility thus abusing the system (Kwarteng, 2012).

Clients also enumerated a number of problems affecting access to quality health care so far as the implementation of the NHIS is concerned. Dominant among the problems were: delays at health facilities due to increased attendance in the facility; inadequate equipment and personnel as well as long distance to facilities. As many as 33% of the clients also complained that there have been frequent prescriptions of expensive drugs which the scheme did not cover and so they will have to buy out of pocket or forgo treatment at that point in time (Kwarteng, 2012).

Lack of funds to purchase drugs also affected their availability reported a key informant (Tumwine, 2010).

Some providers see medicines as industrial and commercial goods rather than health products. This concept is rooted in a rationale that the market alone is capable of providing the necessities for social justice, including access. However, considering medicines as mere commodities gives rise to problems such as failure to supply unprofitable markets (Antezana and Seuba, 2009). For these reasons, WHO maintains that medicines are not mere commercial supplies but an essential element within health care (WHO, 2007).

Also, a surfeit of medicines persists in many countries and there is the conviction of different forms of medicines available to treat various kinds of conditions. These medicines are constantly being updated and there is the perception that the most recent and most expensive are the best. This poses a threat to the concept of essential drug list and in health insurance schemes" as new drugs are being produced every now and then (WHO, 1997).

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter focuses on the methods used to collect and analyze data. The chapter looks at the profile of the study, study design, study population, sampling size and sampling method and study variables. This is followed by data collection technique and tools, data analysis and ethical considerations.

3.2 Study Profile

Komfo Anokye Teaching Hospital

Komfo Anokye Teaching Hospital (KATH) is located in Kumasi, the capital of the Ashanti Region with a total projected population of 3,204,609 (1998). The hospital was constructed in 1954 and was initially called the Kumasi Central hospital. This name was later changed to Komfo Anokye, in honor of a legendary fetish priest of the Ashanti kingdom. In 1975, it was converted to a teaching hospital and affiliated to the medical school of the Kwame Nkrumah University of Science and Technology. Komfo Anokye Teaching Hospital is the second largest hospital in the country and is one of the three Teaching Hospitals in Ghana. It has highly skilled medical officers, specialists and consultants and sees over 420,000 out patients per annum. KATH houses the Kwame Nkrumah University of Science of Technology School of Medical Sciences which comprises; the Medical School, School of Laboratory Medical Technology and the Nursing School among others. The hospital serves as a training ground for different categories of health workers and other auxiliaries, in addition to patient care. The geographical location of the 1,200-bed Komfo Anokye Teaching Hospital, the road network of the country and commercial nature of Kumasi make the hospital the most accessible tertiary medical facility to all the areas that share

boundaries with Ashanti Region and others that are further away. As such, referrals are received from all the northern regions namely, Northern, Upper East and Upper West Regions, Brong Ahafo, Central, Western, Eastern and parts of the Volta region. An increasing number of patients are also now coming from neighboring countries such as La Cote D' Ivoire and Burkina Faso. Its catchment's area therefore has an estimated population size of 10 million people.

The hospital facility has 15 Clinical and Non-Clinical Directorates. The Clinical Directorate is made up of Anesthesia and Intensive Care Unit (ICU), Child Health, Dental, Eye, Ear, Nose and Throat (DEENT), Diagnostics, Medicine, Obstetrics and Gynecology, Oncology, Surgery, Accident and Emergency department, Pharmacy and Polyclinic. The Non-Clinical Directorate consist of Domestic Services, Security, Supply Chain Management and Technical Services. Altogether registering over 483,000 Out Patient Department attendances and 58,000 admissions annually. This means that the hospital treats nearly 500,000 patients annually, averaging 41,667 patients per month and a weekly average of 10,417 patients.

Vision

To become a medical centre of excellence offering clinical and non-clinical services of the highest quality standards comparable to any international standards.

Mission

To provide quality services to meet the needs and expectations of all of its clients. This will be achieved through well motivated and committed staff applying best practice and innovation.

Nimo Pharmacy Limited

Nimo Pharmacy Limited is one of the largest pharmacies in the Bantama sub-metro which is located in Kumasi, the capital of Ashanti Region. The facility is the brainchild of Akwasi Opoku who is a business man by profession. The pharmacy was initially called Konim Pharmacy and located in the high street of Bantama opposite the palace in 1984. The name was changed to Nimo Pharmacy Limited after a year. The pharmacy became NHIS accredited in the year 2000 and it is currently located at Komfo Anokye roundabout opposite KATH Polyclinic. Nimo Pharmacy Limited has three departments; the retail department which sells prescription drugs, over-the-counter drugs, cosmetics and convenient drinks, the wholesale department and the National Health Insurance department where claims are compiled. The pharmacy has a staff strength of 15 with two pharmacists. The pharmacy operates in the morning and afternoon shifts. In every quarter, an In-service training is conducted for staff to upgrade their knowledge and skills in order to provide quality services to their clients. The facility also serves as a training ground for pharmacy students, pharmacy technician students and medical counter assistance students who come for attachment programs every year during their long break. The facility sees about 48,000 patients annually. Through the course of time, patients who access their drugs have increased consistently and has built on the trust of our patients by providing them with quality and affordable drugs over the years.

Mission:

To provide quality but yet affordable drugs to improve the health and wellbeing of our clients.

Vision:

To become a Global Pharma Innovator to transform the lives of our clients with breakthrough medicines**.**

3.3 Study Design

A descriptive cross-sectional study design was employed for the study using mixed methods (both qualitative and quantitative methods). This is a type of study in which subjects are sampled without respect to disease status and are studied at a particular point in time (Grimmes and Schultz, 2002). This study design was employed because it is relatively simple to conduct, takes only a short time and does not require follow-up of the study subjects. Therefore, the design was appropriate for this study since the time frame allocated for the study was too short. The survey was conducted over a four-month period from July 2014 to October 2014.

3.4 Study Population

This study population was NHIS clienteles and workers at both KATH (Polyclinic Pharmacy) and Nimo Pharmacy as well as a management member from Bantama sub-metro office of NHIS.

3.5 Sample size and sampling method

3.5.1 Sample size

3.5.1.1 Clients

The sample size was determined using Epi-Info software version 7. The estimated total active members of the NHIS in the Bantama sub-metro were 152,708 (NHIS Annual Report, 2013). The study assumed an expected frequency of 50% at 95% confidence interval generating an overall sample size of 380 plus a 10% non-

response of 38, totaling 418 were involved in the study. It was assumed that 60% of the sampling size accessed KATH (Polyclinic Pharmacy) giving a sample size of 251 while 40% accessed Nimo Pharmacy giving a sample size of 167.

3.5.1.2 Providers

All the workers at KATH Pharmacy (20) and Nimo Pharmacy (15) were engaged in the study. Also a management member from the NHIS office at Bantama sub-metro and the in-charges and pharmacists at each facility were engaged in an interview.

3.5.2 Sampling method

3.5.2.1 Clients

Systematic random sampling method was used to recruit participants. In this case, sampling interval was determined to recruit clients at KATH and NIMO Pharmacy. For KATH, using the ratio of study sample size of 418 to KATH sample size of 251, the sample interval was 2. The sample interval of Nimo pharmacy was determined as 3 using similar approach. On average 20 participants were recruited in a day, using a recruitment interval of 2 and 3 for KATH and Nimo Pharmacy respectively starting with the arrival of the first client. This was repeated in both KATH and Nimo Pharmacy till a total sample size is of 251 and 161 were attained respectively. These two facilities were purposively selected because KATH was a teaching hospital attending to majority of the NHI clienteles and Nimo Pharmacy was one of the biggest and well patronized NHIS accredited private pharmacy shop in the sub-metro.

Inclusion criteria

All NHIS clients (18 years and above) who took their prescriptions to both facilities during the survey were included in the study. This is because at this age they can read, understand and make major decisions on their own.

Exclusion criteria

NHIS clients under 18 years and those who did not bring their prescriptions to both facilities during the time of the survey were excluded from the study.

3.5.2.2 Providers

KATH (Polyclinic Pharmacy) and Nimo Pharmacy had a total of twenty (20) and fifteen (15) workers respectively and all of them were engaged in the study. Also, an NHIS representative from the Bantama sub-metro and two pharmacists and in-charges were interviewed.

Inclusion Criteria

All health workers in KATH Polyclinic Pharmacy and Nimo Pharmacy were included in the study.

Exclusion criteria

Health professionals such as doctors, nurses, cleaners and other health providers who were not staff of KATH Polyclinic Pharmacy and Nimo Pharmacy were excluded from the study.

3.6 Study Variables

Objective	Dependent variable	Independent Variable	Scale of measurement	Indictors	Data collection method	Type of statistical analysis
To determine clients perception and experience on NHIS Medicines List	Clients perception and experience	Availability Effectiveness Preference Cost Safety Recommendation from providers	Ordinal	Frequency and proportion	Questionnaire	Descriptive and analytical
To determine providers perception and experience on NHIS Medicines List	Providers perception and experience	Availability Effectiveness Preference Cost Bioequivalence Quality Advertisement Equivalence Safety Substitution Confidence in generic medicines	Ordinal	Frequency and proportion	Questionnaire and Interview guide	Descriptive and analytical
To establish any relationship between clients or providers perception and experience on NHIS Medicines List and their socio-demographic characteristics	Perception and experience	Socio-demographic characteristics	Nominal	Frequency and proportion	Questionnaire	Analytical

3.6 Study Variables cont'd

Objective	Dependent variable	Independent Variable	Scale of measurement	Indictors	Data collection method	Type of statistical analysis
To determine availability and non-availability of NHIS medicines list in both facilities	Available or non-availability of NHIS medicines list	Accessibility Price difference Out-of-pocket payment	Nominal	Frequency and proportion Themes	Checklist Questionnaire	Descriptive and Analytical
To identify challenges with the implementation of NHIS medicines list	Challenges with the implementation of NHIS medicines list	Reimbursement Price difference Availability Effectiveness	Nominal	Frequency and proportion Themes	Questionnaire Interview guide	Descriptive

3.7 Data Collection Techniques and Tools

Both qualitative and quantitative studies were employed. The qualitative study was in-depth interviews with the in-charges and pharmacists in both KATH (Polyclinic Pharmacy) and Nimo Pharmacy. The interviews were conducted in English and took place at their office. The interviewer used an interview guide to ask questions about their general opinion on the NHIS medicines list, some of the challenges encountered and how to overcome those challenges. Also an in-depth interview was conducted with a management member of NHIS office at Bantama sub-metro. The interview focused on why the medicines list was developed, its impact on service delivery, the challenges and its implication on the strategic objective of the NHIS. The interviewer completed an interview sheet, took additional notes where necessary and all proceedings were recorded by a field assistant using an audio recorder. Prior to the interview, information sheets were given to them and their consents were sort before the interviews were conducted.

For the quantitative study, a structured questionnaire was administered to providers and clients at KATH Polyclinic Pharmacy and Nimo Pharmacy respectively. The questionnaires were administered with help of the field assistant. The questionnaire administered to the providers took place at a designated place of the facility where they felt very comfortable. KATH had three working shifts (morning, afternoon and night shifts). The questionnaires were administered to 10, 7 and 3 staff on morning, afternoon and evening shifts respectively. Nimo Pharmacy had morning and afternoon. The questionnaires were administered to 10 and 5 staff on morning and afternoon shifts respectively. The data that were gathered from the clients included socio-demographic characteristics, perception and experience on NHIS medicines list, availability and non-availability and the implication on NHIS medicines list. Also, the data gathered from the providers included socio-demographic characteristics, perception and experience on

NHIS medicines list, availability and non-availability of the NHIS medicines using a checklist and its implications.

On the part of the clients, the questionnaire administration took place at a designated place in the facility where the clients felt very comfortable. In this case, two well-trained field assistants fluent in the English and Twi dialects as common language spoken by clients were recruited to administer the questionnaires. Prior to the questionnaire administration, an information sheet was provided for clients. This explained why the study was being carried out. Those who agreed to be part of the study either thumb printed or signed a consent form. The data that were gathered from the clients included socio-demographic characteristics, perception and experience on NHIS medicines list, availability and non-availability and the implication on the NHIS medicines list. Prior to the administration of the questionnaires, the clients and providers' questionnaires were pretested at Katakyie Pharmacy at Atonsu to validate the questionnaires and ensure ethical anonymity. Modifications were made after the questionnaires were pretested and these included the use of terminologies which will easily be understood by clients.

3.8 Data analysis

The quantitative data was entered into STATA version 11. The data was analysed using descriptive and content analysis approach with results expressed in percentages and simplified using frequency tables, pie and bar charts. Statistical significance for all testing was 0.05.

Background of the clients and providers in both KATH and Nimo Pharmacy

Descriptive statistics of demographic variables for clients such as age, gender, religion, marital status, educational level and occupation were reported. For the providers, demographic variables such as age, gender, religion, marital status, educational level, qualification, position and work experience were also reported.

Perception and experience on NHIS Medicines List among clients in both KATH and Nimo Pharmacy

A chi-square test was used to determine differences in perception and experience on NHIS Medicines List among the clients. The variables compared included; knew whether medicines prescribed to you comes in their generics and only very few once are branded, preferred medicine type, opinion on NHIS Medicines list in terms of effective and ineffective, expensive and affordable, available and not available, safe and unsafe, more side effect and less side effect and whether clients recover faster on the NHIS Medicines List than on the branded ones.

Perception and experience on NHIS Medicines List among providers in both KATH and Nimo Pharmacy

A chi-square test was used to determine differences in perception and experience on NHIS Medicines List among providers. The variables compared included; if NHIS medicines or generics were more effective, were readily available than branded, if providers may substitute NHIS medicines for branded ones, if the NHIS medicines were out of stock, if NHIS medicine equivalent was not available on the market yet, uncertain about the quality of the NHIS medicines, inadequate medicine information from generic manufacturers, unsure about the bioequivalence of the generic and branded ones, early

reimbursement of claims would make a provider prescribe NHIS medicines, if providers' personal preference would influence their prescribing behavior and confidence in the generic company or manufacturer would influence their prescription patterns.

Availability and non-availability of NHIS Medicines List

A chi-square test was used to determine differences in availability and non-availability of the NHIS Medicines List in both facilities. The variables compared included; NHIS medicines available and supplied, NHIS medicines are not available, NHIS medicines available and supplied with top-up and medicines available but not on NHIS medicines list. Descriptive statistic approach was used to determine reasons for availability and non-availability of NHIS medicines list.

Challenges with the implementation on NHIS Medicines List

A descriptive statistics approach was used to determine challenges with the implementation NHIS Medicines List. The variables used included; challenges encountered with the implementation of the NHIS medicines list, how these challenges could be minimized and suggestions to improve the NHIS medicines list.

For the qualitative analysis, the data was analysed using thematic analysis facilitated by manual analysis. The recorded interviews were transcribed verbatim. Initial codes were applied and sorted into potential themes. This was further grouped into major categorical headings. These included understanding on the NHIS medicines list, perception and experience on NHIS medicines list and challenges with the implementation of the NHIS medicines list.

3.9 Ethical considerations

The study protocols were reviewed and cleared by the institutional review board - Committee on Human Research, Publications and Ethics (CHPRE) of the Kwame Nkrumah University of Science and Technology (KNUST). A written consent was also sought from the Director of Pharmacy of KATH and the Managing Director of Nimo Pharmacy. In addition respondents consent was also obtained after the objective of the study had been concisely explained to them. Privacy and confidentially were maintained by ensuring that names and addresses of the respondents were not included in the questionnaires.

CHAPTER FOUR: RESULTS

4.1 Introduction

The findings of the study are presented in this chapter. It is based on the objectives of the study. The results are in two sections - quantitative and qualitative.

4.2 Quantitative Results

4.2.1 Socio-demographic characteristics of respondents

Clients

Four hundred and twenty clients were interviewed. Table 4.1 depicts the background characteristics of the clients and it covers their age, gender, marital status, religion, educational level, occupation and ethnicity. Majority of the clients who accessed NHIS from KATH (Polyclinic Pharmacy) and Nimo Pharmacy were within the age group of 31 – 40 years (23.3%) and 21 – 30 years (20.7%) respectively, with overall mean age of 44 years and standard deviation of 15.2. Females were the predominant clients who accessed both facilities. Majority of them were traders (31.4%) and were Akans (73.6%). The clients who accessed NHIS services from both facilities were mostly Christians (83.6%) and were married (66.2%). Also, 36.1% of the clients who accessed KATH (Polyclinic Pharmacy) had only JHS certificate and 35.1% of the clients who accessed Nimo Pharmacy fell under the same category.

Table 4.1: Socio-demographic characteristics of Clients

Variables	Service Delivery Point			
	KATH N = 252 (%)	NIMO N = 168 (%)	TOTAL	X^2(p-value)
Age				7.24(0.299)
≤ 20	3 (1.2)	2 (1.2)	5 (1.2)	
21 – 30	52 (20.6)	35 (20.8)	87 (20.7)	
31 – 40	66 (26.2)	32 (19.0)	98 (23.3)	
41 – 50	58 (23.0)	31 (18.5)	89 (21.2)	
51 – 60	38 (15.1)	34 (20.2)	72 (17.1)	
61 – 70	23 (9.1)	22 (13.1)	45 (10.7)	
70 +	12 (4.8)	12 (7.1)	24 (5.7)	
Mean = 44, SD = 15.2	*Mean=43,SD=14.4*	*Mean=45,SD=16.1*		
Gender				3.72(0.054)
Male	86 (34.1)	73 (43.4)	159 (37.9)	
Female	166 (65.9)	95 (56.6)	261 (62.1)	
Religion				0.03(0.872)
Christianity	210 (83.3)	141 (83.9)	351 (83.6)	
Islam	42 (16.7)	27 (16.1)	69 (16.4)	
Marital Status				8.02(0.091)
Single	47 (18.6)	39 (23.2)	86 (20.5)	
Married	178 (70.6)	100 (59.5)	278 (66.2)	
Divorced	13 (5.2)	18 (10.7)	31 (7.4)	
Widowed	13 (5.2)	9 (5.4)	22 (5.2)	
Cohabitation	1 (0.4)	2 (1.2)	3 (0.7)	
Education level				18.16(0.001)
No formal education	48 (19.0)	25 (14.9)	73 (17.4)	
Primary	31 (12.3)	14 (8.3)	45 (10.7)	
JHS	91 (36.1)	59 (35.1)	150 (35.7)	
SHS	40 (15.9)	54 (32.1)	94 (22.4)	
Tertiary	42 (16.7)	16 (9.5)	58 (13.8)	
Occupation				4.05(0.400)
Trading	88 (34.9)	44 (26.2)	132 (31.4)	
Handiwork	14 (5.6)	9 (5.4)	23 (5.5)	
Agriculture	33 (13.1)	25 (14.9)	58 (13.8)	
Professional	50 (19.8)	35 (20.8)	85 (20.2)	
Unemployed	67 (26.6)	55 (32.7)	122 (29.1)	
Ethnicity				3.01(0.556)
Akan	186 (73.8)	123 (73.2)	309 (73.6)	
Ewe	12 (4.8)	9 (5.4)	21 (5.0)	
Ga	4 (1.6)	7 (4.2)	11 (2.6)	
Dagomba/Mamprusi/Frafra	42 (16.7)	24 (14.3)	66 (15.7)	
Others	8 (3.2)	5 (3.0)	13 (3.1)	

Source: Author's Field Data, 2014

Providers

Thirty-five providers were interviewed. Table 4.2 depicts the background characteristics of the providers and it covers their age, gender, marital status, religion, educational level, qualification and working experience. Majority of providers at both KATH Polyclinic Pharmacy (55.0%) and Nimo Pharmacy (80.0%) were aged 21 – 30 years. The overall mean age of the provider was 30 years, with a standard deviation of 7.9. Also, 65% of the providers at KATH Polyclinic Pharmacy were males compared with 46.8% of them at Nimo Pharmacy. Majority of the providers from both facilities were Christians (KATH=100%; NIMO=93.3%), single (KATH=65.0%; NIMO=66.7%), and possessed a university degree (KATH=65.0%; NIMO=73.3%). Most of them (KATH=35.0%; NIMO=73.3%) also had working experience ranging from 0 – 5 years.

Table 4.2: Socio-demographic characteristics of Providers of NHIS medicines

Variables	Service Delivery Point			
	KATH n = 20(%)	NIMO n = 15(%)	TOTAL	X^2(p-value)
Age				6.67(0.036)
21 – 30	11 (55.0)	12 (80.0)	23 (65.7)	
31 – 40	7 (35.0)	0 (0.0)	7 (20.0)	
41+	2 (10.0)	3 (20.0)	5 (14.3)	
Mean = 30, SD = 7.9				
Gender				1.18(0.278)
Male	13 (65.0)	7 (46.7)	20 (57.1)	
Female	7 (35.0)	8 (53.3)	15 (42.9)	
Religion				1.37(0.241)
Christianity	20 (100.0)	14 (93.3)	34 (97.1)	
Islam	0 (0.0)	1 (6.7)	1 (2.9)	
Marital Status				1.53(0.466)
Single	13 (65.0)	10 (66.7)	23 (65.7)	
Married	7 (35.0)	4 (26.7)	11 (31.4)	
Divorced/Separated	0 (0.0)	1 (6.7)	1 (2.9)	
Qualification				3.86(0.276)
SHS	2 (10.0)	2 (13.3)	4 (11.4)	
HND	4 (20.0)	0 (0.0)	4 (11.4)	
Degree	13 (65.0)	11 (73.3)	24 (68.6)	
Masters	1 (5.0)	2 (13.3)	3 (8.6)	
Work experience (years)				5.19(0.158)
0 - 5	7 (35.0)	11 (73.3)	18 (51.4)	
6 – 10	7 (35.0)	2 (13.3)	9 (25.7)	
11 – 20	4 (20.0)	1 (6.7)	5 (14.3)	
20 +	2 (10.0)	1(6.7)	3 (8.6)	

Source: Author's Field Data, 2014

4.2.2 Clients' Perception and Experience about NHIS Medicines List

Over seventy percent (74.2%) of the clients who accessed their NHIS medicines at KATH (Polyclinic Pharmacy) were aware that medicines prescribed to them were in their generics and only few ones were branded as compared with 81.6% of the clients at Nimo Pharmacy as shown in table 4.3. Whereas 60.3% of the clients who accessed KATH (Polyclinic Pharmacy) preferred both the generic and branded medicines, 52.4% of the clients who accessed Nimo Pharmacy equally preferred both generic and branded medicines when given a choice. This was statistically not significant (p-value= 0.064).

On opinion about the NHIS medicines list, majority of the clients who accessed both facilities found it to be effective (KATH=77.8%; NIMO=84.5%), available (KATH=67.9%; NIMO=89.9%), safe (KATH=97.2%; NIMO=96.4%) and with less side effects (KATH=98.8%; NIMO=94.6%). There was a statistically significant difference with respect to their opinion on NHIS medicines list in terms of cost (chi square = 39.81; p-value = 0.0001), availability (chi square = 27.33; p-value = 0.001) and side effect (chi square = 6.30; p-value = 0.012) as indicated in table 4.3. However respondent's opinion on effectiveness (p-value = 0.088) and safety (p-value = 0.645) of the NHIS medicines list was not statistically significant. In response to the question whether people recover faster on NHIS medicines than the branded ones, almost an equal percentage from KATH (26.6%) and Nimo Pharmacy (26.2%) responded negatively. This was however statistically significant (p-value = 0.0001).

Also, clients preference on medicines list either generics or branded would be based on recommendation from their doctors (KATH= 99.6%; NIMO= 98.81%), recommendation from their pharmacists (KATH= 51.59%; NIMO= 61.31%), how much money to save (KATH= 50.0%; NIMO= 17.86%) and severity of illness (KATH= 87.3%; NIMO= 81.55%) as detailed in figure 4.1.

Table 4.3: Clients' Perception and Experience on NHIS Medicines List

Variable		Service Delivery Point KATH n = 252 (%)	NIMO n = 168 (%)	TOTAL	X^2 (*p-value*)
Awareness of generic and branded as prescription medicines					3.08 (0.079)
Yes		187 (74.2)	137 (81.5)	324 (77.1)	
No		65 (25.8)	31 (18.5)	96 (22.9)	
Preference of medicine					5.49 (0.064)
NHIS medicine/Generic		50 (19.8)	50 (29.8)	100 (23.8)	
Branded		50 (19.8)	30 (17.9)	80 (19.1)	
Both		152 (60.3)	88 (52.4)	240 (57.1)	
Opinion on NHIS medicines list					
Effectiveness					2.92 (0.088)
	Effective	196 (77.8)	142 (84.5)	338 (80.5)	
	Ineffective	56 (22.2)	26 (15.5)	82 (19.5)	
Cost					39.81(0.001)
	Expensive	7 (2.8)	37 (22.0)	44 (10.5)	
	Affordable	245 (97.2)	131 (78.0)	376 (89.5)	
Availability					27.33(0.001)
	Available	171 (67.9)	151 (89.9)	322 (76.7)	
	Not available	81 (32.1)	17 (10.1)	98 (23.3)	
Safety					0.21 (0.645)
	Safe	245 (97.2)	162 (96.4)	407 (96.9)	
	Unsafe	7(2.8)	6 (3.6)	13 (3.1)	
Side effects					6.30 (0.012)
	More side effect	3 (1.2)	9 (5.4)	12 (2.9)	
	Less side effect	249 (98.8)	159 (94.6)	408 (97.1)	
Fast recovery when on NHIS medicines compared with branded ones					41.44(0.001)
Yes		35 (13.9)	67 (39.9)	102 (24.3)	
No		67 (26.6)	44 (26.2)	111 (26.4)	
Don't know		150 (59.5)	57 (33.9)	207 (49.3)	
Preference when paying out-of-pocket					9.94(0.002)
NHIS medicines		103 (40.9)	95 (56.6)	198 (47.1)	
Branded medicines		149 (59.1)	73 (43.4)	222 (52.9)	

Source: Author's Field Data, 2014

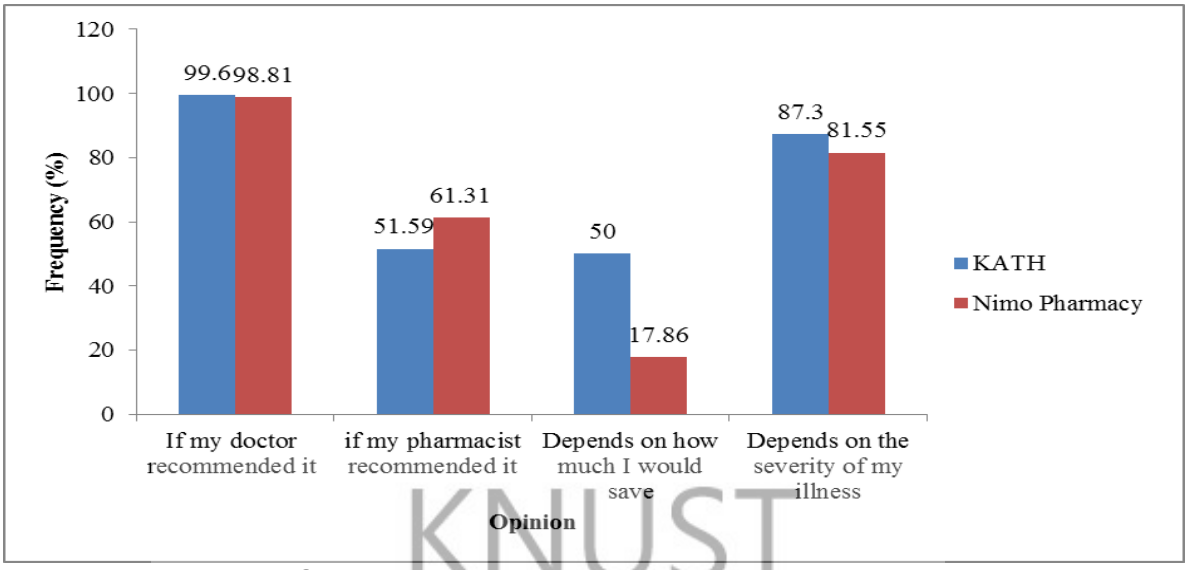

Figure 4.1: Factors influencing clients' preference on types of medicines list

Source: Author's Field Data, 2014

4.2.3 Providers' Perception and Experience on NHIS Medicines List

Majority of the providers from both facilities (KATH= 70.0%; NIMO= 66.7%) generally disagreed to the statement that 'NHIS medicines or generics are more effective than branded ones' as shown in table 4.4. About one-fourth (25.0%) of the providers at KATH (Polyclinic Pharmacy) disagreed to the statement that 'NHIS medicines were more available than the branded ones' as compared with 13.3% of the providers at Nimo Pharmacy. Also, on the issue on whether 'providers may substitute NHIS medicines for branded ones when NHIS medicines are out of stock' and 'NHIS medicines equivalent is not available on the market', majority of the providers from both facilities (KATH= 40.0%; NIMO= 40.0%) disagreed with those statements. Also, seventy percent of the providers at KATH were uncertain about the quality of the NHIS medicines as compared with 20.0% of providers at NIMO. Lastly, factors that can influence providers' prescription pattern were assessed in terms of providers' personal preference, clients' personal preference, confidence in the generic company /manufacturer and advertisement by the generic company or manufacturer are detailed in table 4.4.

Table 4.4: Providers' Perception and Experience with NHIS Medicines List

Statements		Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
NHIS medicines or generics are more effective than branded ones	KATH	0 (0.0)	2 (10.0)	1 (5.0)	14 (70.0)	3 (15.0)
	NIMO	1 (6.7)	3 (20.0)	1 (6.7)	10 (66.7)	0 (0.0)
TOTAL		1 (2.9)	5 (14.3)	2 (5.7)	24 (68.6)	3 (8.6)
NHIS medicines are available than the branded ones	KATH	0 (0.0)	12 (60.0)	3 (15.0)	5 (25.0)	0 (0.0)
	NIMO	3 (20.0)	7 (46.7)	3 (20.0)	2 (13.3)	0 (0.0)
TOTAL		3 (8.6)	19 (54.3)	6 (17.1)	7 (20.0)	0 (0.0)
Providers may substitute NHIS medicines for branded ones when NHIS medicines are out of stock	KATH	2 (10.0)	5 (25.0)	2 (10.0)	10 (50.0)	1 (5.0)
	NIMO	1 (6.7)	3 (20.0)	0 (0.0)	6 (40.0)	5 (33.3)
TOTAL		3 (8.6)	8 (22.9)	2 (5.7)	16 (45.7)	6 (17.1)
NHIS medicines equivalent is not available on the market	KATH	0 (0.0)	4 (20.0)	6 (30.0)	8 (40.0)	2 (10.0)
	NIMO	2 (13.3)	3 (20.0)	1 (6.7)	6 (40.0)	3 (20.0)
TOTAL		2 (5.7)	7 (20.0)	7 (20.0)	14 (40.0)	5 (14.3)
Uncertain about the quality of the NHIS medicines	KATH	0 (0.0)	14 (70.0)	1 (5.0)	4 (20.0)	1 (5.0)
	NIMO	3 (20.0)	3 (20.0)	5 (33.3)	4 (26.7)	0 (0.0)
TOTAL		3 (8.6)	17 (48.6)	6 (17.1)	8 (22.9)	1 (2.9)
Unsure about the bioequivalence of the generic and branded ones	KATH	0 (0.0)	6 (30.0)	8 (40.0)	5 (25.0)	1 (5.0)
	NIMO	2 (13.7)	4 (26.7)	4 (26.7)	5 (33.3)	0 (0.0)
TOTAL		2 (5.7)	10 (28.6)	12(34.3)	10 (28.6)	1 (2.9)
Providers' personal preference influence their prescribing behaviour	KATH	1 (5.0)	11 (55.0)	5 (25.0)	3 (15.0)	0 (0.0)
	NIMO	6 (40.0)	2 (13.3)	3 (20.0)	3 (20.0)	1 (6.7)
TOTAL		7 (20.0)	13 (37.1)	8 (22.9)	6 (17.1)	1 (2.9)
Confidence in the generic company/manufacturer can influence providers' prescription pattern	KATH	2 (10.0)	15 (75.0)	2 (10.0)	1 (5.0)	0 (0.0)
	NIMO	4 (26.7)	9 (60.0)	0 (0.0)	2 (13.3)	0 (0.0)
TOTAL		6 (17.1)	24 (68.6)	2 (5.7)	3 (8.6)	0 (0.0)

Source: Author's Field Data, 2014

Table 4.4: Providers' Perception and Experience with NHIS Medicines List cont.

Statements		Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
Advertisements by generic company/manufacturer can influence providers' prescription pattern	KATH	0 (0.0)	5 (25.0)	6 (30.0)	8 (40.0)	1 (5.0)
	NIMO	6 (40.0)	6 (40.0)	2 (13.3)	1 (6.7)	0 (0.0)
TOTAL		6 (17.1)	11 (31.4)	8 (22.9)	9 (25.7)	1 (2.9)
Client's personal preference can influence providers' prescription pattern	KATH	3 (15.0)	13 (65.0)	1 (5.0)	3 (15.0)	0 (0.0)
	NIMO	1 (6.7)	6 (40.0)	3 (20.0)	4 (26.7)	1 (6.7)
TOTAL		4 (11.4)	19 (54.3)	4 (11.4)	7 (20.0)	1 (2.9)

Source: Author's Field Data, 2014

4.2.4 Relationship between clients or providers perception and experience on NHIS medicines and their socio-demographic characteristics

Clients

Table 4.5 presents results of client's perception and experience in terms of effectiveness and ineffectiveness of NHIS medicines and their socio-demographic characteristics. Majority of the clients (22.5%) between 31 and 40 years believed that medicines on the NHIS lists were effective while 29.3% between the ages of 21 and 30 years reported the NHIS medicines list as ineffective. Also, most of the female clients reported 60.7% and 68.3% of the NHIS medicines as effective and ineffective respectively. Majority of them (82.8%) who were Christians reported the NHIS medicines as effective. Sixty-six percent (66.0%) who were married and 20.1% single reported the medicines list as effective. Fifty-nine clients constituting 17.5% who had no formal education, 11.8% each had tertiary and primary education, 36.7% had JHS whereas 22.2% had secondary education, all reported the medicines list as effective. Majority of the clients who were unemployed (31.1%) reported NHIS medicines as effective whilst 26.8% professionals reported the medicines as ineffective. However, there was no significant difference with respect to

client's socio-demographic characteristics and their perception on the NHIS medicines list as shown in table 4.5.

Table 4.5: Relationship between clients' perception and experience on NHIS medicines and their socio-demographic characteristics

Variable	Effective N=338 (%)	Ineffective N=82 (%)	TOTAL N (%)	X^2 (*p-value*)
Age				10.98 (0.089)
≤ 20	5 (1.5)	0 (0.0)	5 (1.2)	
21 – 30	63 (18.6)	24 (29.3)	87 (20.7)	
31 – 40	76 (22.5)	22 (26.8)	98 (23.3)	
41 – 50	70 (20.7)	19 (23.2)	89 (21.2)	
51 – 60	62 (18.3)	10 (12.2)	72 (17.1)	
61 – 70	41 (12.1)	4 (4.9)	45 (10.7)	
70 +	21 (6.2)	3 (3.7)	24 (5.7)	
Mean = 44, SD = 15.2				
Gender				1.64 (0.201)
Male	133 (39.3)	26 (31.7)	159 (37.9)	
Female	205 (60.7)	56 (68.3)	261 (62.1)	
Religion				0.67 (0.412)
Christianity	280 (82.8)	71 (86.6)	351 (83.6)	
Islam	58 (17.2)	11 (13.4)	69 (16.4)	
Marital Status				1.37 (0.849)
Single	68 (20.1)	18 (22.0)	86 (20.5)	
Married	223 (66.0)	55 (67.1)	278 (66.2)	
Divorced	27 (8.0)	4 (4.9)	31 (7.4)	
Widowed	18 (5.3)	4 (4.9)	22 (5.2)	
Cohabitation	2 (0.6)	1 (1.2)	3 (0.7)	
Education level				7.41 (0.116)
No formal education	59 (17.5)	14 (17.1)	73 (17.4)	
Primary	40 (11.8)	5 (6.1)	45 (10.7)	
JHS	124 (36.7)	26 (31.7)	150 (35.7)	
SHS	75 (22.2)	19 (23.2)	94 (22.4)	
Tertiary	40 (11.8)	18 (21.9)	58 (13.8)	
Occupation				5.74 (0.219)
Trading	103 (30.5)	29 (35.4)	132 (31.4)	
Handiwork	20 (5.9)	3 (3.7)	23 (5.5)	
Agriculture	47 (13.9)	11 (13.4)	58 (13.8)	
Professional	63 (18.6)	22 (26.8)	85 (20.2)	
Unemployed	105 (31.1)	17 (20.7)	122 (29.1)	
Ethnicity				1.89(0.756)
Akan	245 (72.5)	64 (78.0)	309 (73.6)	
Ewe	18 (5.3)	3 (3.7)	21 (5.0)	
Ga	9 (2.7)	2 (2.4)	11 (2.6)	
Dagomba/Mamprusi/Frafra	54 (16.0)	12 (14.6)	66 (15.7)	
Others	12 (3.6)	1 (1.2)	13 (3.1)	

Source: Field Data, 2014

Providers

Table 4.6 depicts the relationship between providers' perception and experience on NHIS medicines list in terms of effectiveness and ineffectiveness and their socio-demographic characteristics. Majority of the providers between 21and 30 years reported medicines on the NHIS lists as effective (66.7%) and ineffective (63.0%). Also, most of the providers (66.7%) who were males reported the NHIS medicines as ineffective. Six constituting 100% who were Christians reported NHIS medicines as effective whilst 26 providers constituting 96.3% reported as ineffective. Almost an equal percentage of single ones reported the NHIS medicines list as effective (66.7%) and ineffective (63.0%). Also, an equal percentage of married people reported the NHIS medicines list as effective (33.3%) and ineffective (33.3%). Three providers constituting 11.1% who had secondary education and 14.8% of them who had HND reported the NHIS medicines list as ineffective. Four providers with a degree constituting 66.7% as well as 16.7% with a master's degree reported the medicines list as effective. Approximately 67% and 48% of the providers who had worked in both facilities for 0 to 5 years reported the NHIS medicines as effective and ineffective respectively. Also, five providers representing 18.5% who had 11 to 20 years of work experience reported the medicines list as ineffective as compared to 7.4% of providers with over 20 years work experience. The results indicated no significant difference between providers' socio-demographics such as age, religion, marital status, qualification and their perception on the NHIS medicines list. However, there was a statistically significant difference between providers' gender and their perception on the NHIS medicines list (p-value =0.025).

Table 4.6: Relationship between providers' perception and experience on NHIS medicines and their socio-demographic characteristics

Variable	Effective N=6 (%)	Ineffective N=27 (%)	TOTAL N (%)	X^2(*p-value*)
Age (N=33)				0.093 (0.955)
21 – 30	4 (66.7)	17 (63.0)	21 (63.6)	
31 – 40	1 (16.7)	6 (22.2)	7 (21.2)	
41+	1 (16.7)	4 (14.8)	5 (15.2)	
Mean = 30, SD = 7.9				
Gender (N=33)				**5.024 (0.025)**
Male	1 (16.7)	18 (66.7)	19 (57.6)	
Female	5 (83.3)	9 (33.3)	14 (42.4)	
Religion (N=33)				0.229 (0.632)
Christianity	6 (100)	26 (96.3)	32 (97.0)	
Islam	0 (0.0)	1 (3.7)	1 (3.0)	
Marital Status (N=33)				0.233 (0.890)
Single	4 (66.7)	17 (63.0)	21 (63.6)	
Married	2 (33.3)	9 (33.3)	11 (33.3)	
Divorced/Separated	0 (0.0)	1 (3.7)	1 (3.0)	
Qualification (N=33)				1.477 (0.688)
SHS	1 (16.7)	3 (11.1)	4 (12.1)	
HND	0 (0.0)	4 (14.8)	4 (12.1)	
Degree	4 (66.7)	18 (66.7)	22 (66.7)	
Masters	1 (16.7)	2 (7.4)	3 (9.1)	
Work experience (years) (N=33)				2.075 (0.557)
0 - 5	4 (66.6)	13 (48.2)	17 (51.5)	
6 – 10	1 (16.7)	7 (25.9)	8 (24.2)	
11 – 20	0 (0.0)	5 (18.5)	5 (15.2)	
20 +	1 (16.7)	2 (7.4)	3 (9.1)	

Source: Field Data, 2014

4.2.5 Availability and non-availability of NHIS medicines list

Out of the 548 NHIS medicines list, 241 of them (44.0%) and 256 of them (47.0%) were found to be available and supplied at both Nimo Pharmacy and KATH respectively as shown in figure 4.2 and figure 4.3. Also, 77 of them (14.0%) of the NHIS medicines were available at Nimo Pharmacy and supplied with top-ups. However, 53.0% of the NHIS medicines were not available at KATH and none of the NHIS medicines was supplied at KATH with top-ups.

On the part of the clients, about half of them (50.8%) who accessed KATH (Polyclinic Pharmacy) had all prescriptions for free using NHIS cards compared with 40.5% of them who accessed Nimo Pharmacy. The difference was statistically significant (p-value= 0.038). The predominant reason provided by clients for not getting all the prescriptions for free was branded names which were not covered under the NHIS medicines list as confirmed by majority of the clients (KATH=87.7%; NIMO=65.5%). However, medicines prescribed by both facilities as reported by the clients were made up of both generics and branded ones (KATH= 60.7%; NIMO= 56.6%) as indicated in table 4.7.

Also, about 59.1% and 43.4% of clients who accessed KATH (Polyclinic Pharmacy) and Nimo Pharmacy respectively, would prefer branded medicines if they were to pay out-of-pocket. The difference was statistically significant (p-value= 0.002). Clients were willing to pay GH¢11-GH¢20 (KATH= 31.9%; NIMO= 28.74%) and GH¢51-GH¢100 (KATH= 7.98%; NIMO= 9.2%) as top-ups for branded medicines as shown in figure 4.4.

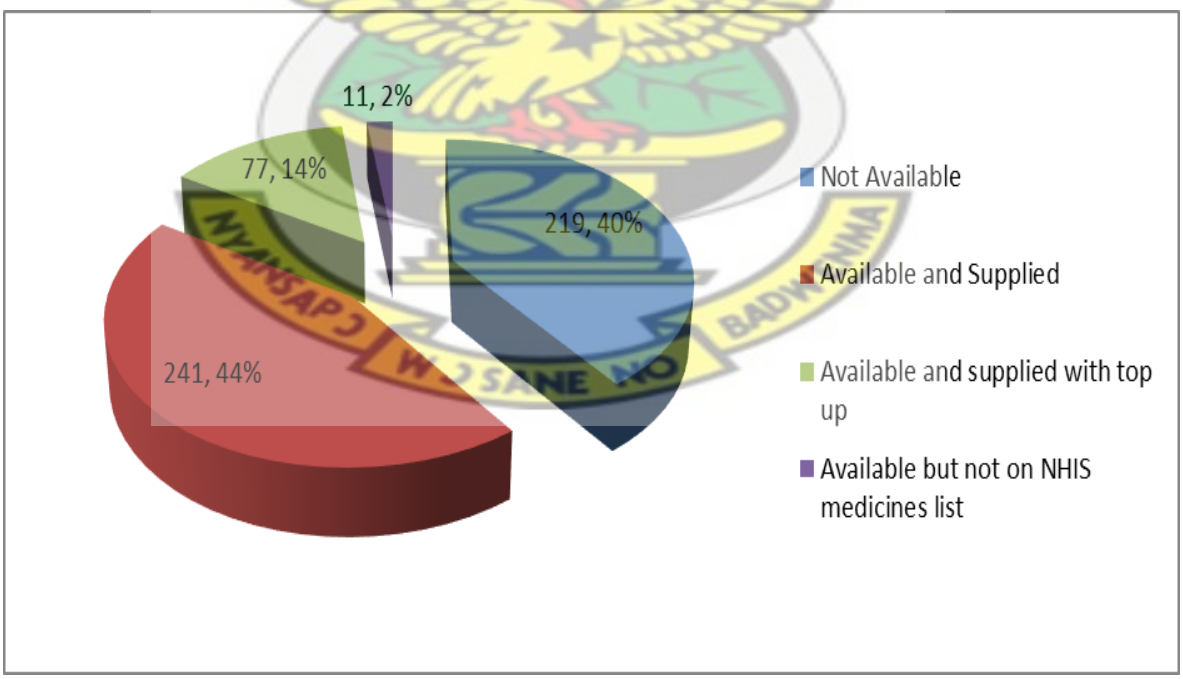

Figure 4.2 NHIS Medicines status at Nimo Pharmacy

Source: Field Data, 2014

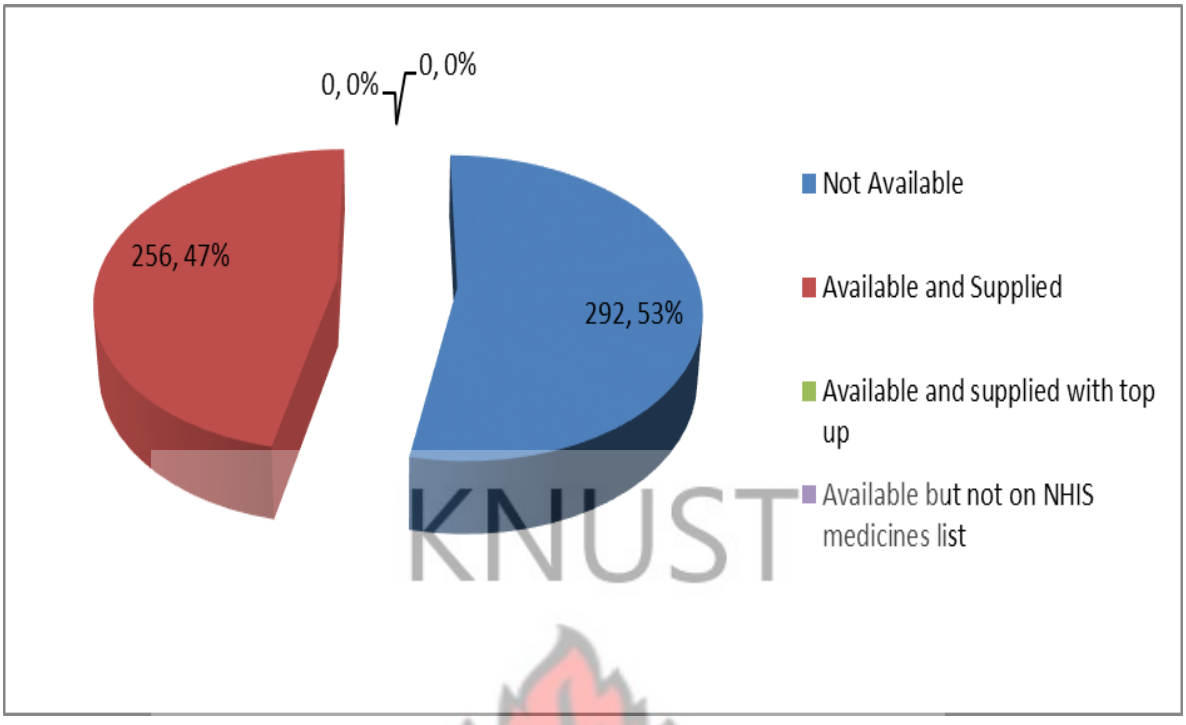

Figure 4.3 NHIS Medicines status at KATH (Polyclinic Pharmacy)

Source: Field Data, 2014

Table 4.7: Clients' opinion on Availability of NHIS Medicines List

Variable	Service Delivery Point		TOTAL (%)	X^2(*p-value*)
	KATH	NIMO		
	n = 252 (%)	n = 168 (%)		
Gets all prescriptions for free using NHIS cards				4.31 (0.038)
Yes	128 (50.8)	68 (40.5)	196(46.7)	
No	124 (49.2)	100 (59.5)	224(53.3)	
Medicines preference, if paying out-of-pocket				9.94 (0.002)
NHIS medicines	103 (40.9)	95 (56.6)	198(47.1)	
Branded medicines	149 (59.1)	73 (43.4)	222(52.9)	
Insurance pays, if one choose to take branded medicines				34.97(0.001)
Yes, all the time	0 (0.0)	12 (7.1)	12 (2.9)	
Yes, only if there is no generic substitute	31 (12.3)	46 (27.4)	77 (18.3)	
No	221 (87.7)	110 (65.5)	331(78.8)	
Medicines mostly prescribed by health providers				13.11(0.001)
Generics	47 (18.6)	54 (32.1)	101(24.1)	
Branded	52 (20.6)	19 (11.3)	71(16.9)	
Both	153 (60.7)	95 (56.6)	248(59.0)	

Source: Author's Field Data, 2014

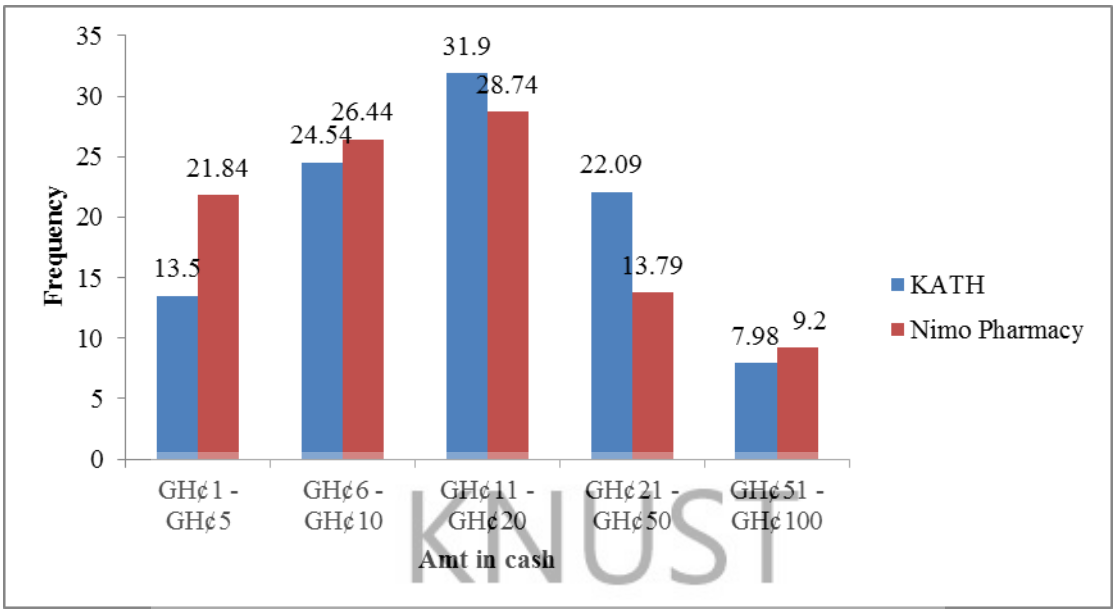

Figure 4.4 Range of money willing to pay as top-up

Source: Author's Field Data, 2014

4.2.6 Challenges with the implementation of NHIS Medicines List

Majority of the clients who accessed both facilities (KATH= 71.8%; NIMO= 58.3%) had no challenges as far as the NHIS medicines list was concerned. The difference was statistically significant (chi square = 8.22; p-value = 0.004). Furthermore, most of the clients graded the overall assessment of the NHIS medicines list as 'good' (KATH= 58.6%; NIMO= 60.7%).

Table 4.8: Challenges with the implementation of NHIS Medicines List

Variable	Service Delivery Point			X^2(*p-value*)
	KATH	NIMO		
	n (%)	n (%)	TOTAL	
Having challenges with NHIS medicines list				8.22 (0.004)
Yes	71 (28.2)	70 (41.7)	141(33.6)	
No	181 (71.8)	98 (58.3)	279(66.4)	
Overall assessment of NHIS medicines list				0.55 (0.908)
Excellent	4 (1.6)	3 (1.8)	7 (1.7)	
Very good	65 (25.8)	43 (25.6)	108(25.7)	
Good	148 (58.7)	102 (60.7)	250(59.5)	
Poor	35 (13.9)	20 (11.9)	55(13.1)	

Source: Author's Field Data, 2014

4.3 Qualitative Results

The aim of the qualitative element of the research was to explore the views and experiences on NHIS medicines lists from the providers and implementers perspective. The providers and implementers views and experiences were documented under three broad categorical headings; general understanding of NHIS medicines list, perception and experience on NHIS medicine list and challenges with implementation of NHIS medicines list.

General understanding of NHIS medicines list

All respondents knew about the NHIS medicines list even though different descriptions were given to the medicines list:

> *"The list is a set of drugs that have been approved for NHIS clients to access for free so that the NHIA will reimburse the suppliers"* (Interviewee 1).
>
> *"The NHIS drug list is a compilation of drugs that the NHIS cover so that when a patient is not well and a doctor diagnoses and the patient needs a particular drug*

and that drug is covered by the NHIS, the patient benefits from that drug for free at the health Insurance facility" (Interviewee 2).

Participants mentioned that NHIS medicines list were all generics. They further indicated that NHIS opted for generic drugs because generics are relatively cheaper as compared to branded ones:

"I think some drugs are expensive than others or let me say some drugs are locally made and others are imported/branded. The imported ones are expensive than the locally made ones so I guess that is the reason why some drugs are not on the list" (Interviewee 3).

"Alright, there are different categories of drugs, for example Ciprofloxacin, we have the patents originator drug and some of them are Cipro-bay or Quitor or Cipro-denk. These are imported drugs and their prices are higher than the other Cipros we find on the market and knowing very well that the NHIS want to make profit [and we shouldn't make profit with human lives] they go for the less expensive ones they can pay for so even though the doctor has prescribed Cipro for the patient, we cannot give the patient the expensive ones" (Interviewee 4).

They concluded that the intention behind NHIS generic drugs was to manage basic primary health care:

"In generic terms, they are not different from other drugs. Drug manufacturers are many in the system, it is out of this that the ministry made this selection. These drugs were selected to suite the common illnesses in the country so in generic terms, they are the same. There is no difference. There are branded drugs and generic ones. The generic ones are the broader names used for a particular drug. The NHIS pays for the generic ones" (Interviewee 5).

Perception and experience on NHIS medicines list

With regards to the perception and experience on the NHIS medicines list, opinions were mixed. However, some respondents said that, medicines listed on the NHIS lists which are generic ones were equally as efficacious as the branded ones. However, the duration of their efficacy differs:

> *"When it comes to generic and branded drugs, they will all work but the time drug A will work on you is different from the time drug B will work on the other even though they are all going to do the same treatment but the onset of activity will be different"* (Interviewee 4).

> *"If I say they are less effective than the others, I will be making a mistake. I'm saying that, it's about the onset of action. One is quicker than the other. Let me use ceftrizone, there are different generics around and we also have rocephine, I have seen a case where we were using these ceftrizone on the market and they were not working and immediately we shifted to rocephine which is also ceftrizone, the patients started responding. It means that there is something different with them"* (Interviewee 3).

While some respondents said that generic drugs were equally as efficacious as the branded ones but the time of action of the drug differs, others reported that the efficacy of a drug varied from one company to the other:

> *"When you talk about efficacy, it varies from company to company and from brand to brand. That is why the NHIA put in generic names so if company A produces a drug and you think you have a problem with the efficacy, you have the right to change to company B, company C or company D. That is why they did not put in brand names to restrict you the provider. So when it comes to efficacy, you cannot relate it with the list in anyway"* (Interviewee 4).

With regards to efficacy and cost, respondent reported that, they have the same efficacy but the difference in cost might have been due to certain factors at the time of drug production:

> *"Yes, they have the same efficacy. Prices of the drugs are related to the company producing the drug and they have a lot of factors like labor, etc. So the factors determine the price of the drugs but that will not affect the efficacy. We are not saying that all the drugs with lower prices are efficacious just like the branded ones and it doesn't also mean that all the drugs on the medicine list are not efficacious. So there are situations where a lower priced drug is as effective as the branded ones and there are situations where lower priced drugs may not be as effective as the branded ones"* (Interviewee 2).

Challenges with implementation of NHIS medicines list.

The main challenge with the NHIS medicines list was basically late reimbursement of services rendered to NHIS clienteles:

> *"The mode of payment too is bad. When the insurance started, they told us that they will reimburse us every two months but nowadays it gets between four to five months before they pay the money and because of this, our investment is dwindling. I think they must step up their payment system"* (Interviewee 2).

Also, the cost of drugs on NHIS medicines list in the market as compared to how much NHIS pays to the facilities were of much concern:

> *"The prices of the drugs are higher than the prices quoted by the NHIS to be paid to the provider"* (Interviewee 1).

"If they don't up-date their prices, nobody will supply but if they are able to up-date every week since things are changing on the market every day. If I go to clear my goods and the prices keep on changing, do you think I will charge the same? NO, so invariably, the price on the Insurance will suffer and the patients too will not get the drug" (Interviewee 4).

"The devaluation of the cedi affects the price of the drugs. Most of the drugs on the list are imported drugs so as soon as the importers procure these drugs, they add their own and at the long run, it is the NHIS that suffers because the price may be lower than the dealer price and our providers begin to complain" (Interviewee 5).

Finally, unavailability of NHIS drugs coupled with inadequate information for clients on types of prescriptions to be dispensed to them was enumerated as a challenge:

"They complain a lot. They would have wished that if they come here they will get everything but unfortunately, they have to search elsewhere for the drugs. There are some drugs that the NHIA brought a policy that unless you have evidence or a lab result, they will not reimburse you. For instance, cholesterol lowering drugs. Some patients don't know of this policy so they come without the lab result and when they don't get the drug, it becomes a problem" (Interviewee 3).

"Sometimes it makes people lose confidence in the NHIS especially when they come and they don't get the medication. Sometimes when they take the pharmacy card out, some may come back and report that they were not given and based on this, they sometimes say that if they come with the NHIS card, they are not given proper care" (Interviewee 2).

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter presents the discussions of the findings based on the socio-demographic characteristics of the respondents and the objectives for the study:

i. Clients' perception and experience about NHIS medicines list
ii. Providers' perception and experience about NHIS medicines list
iii. Relationship between clients and providers perception and experience on NHIS medicines and their socio-demographic characteristics
iv. Availability and non-availability of NHIS medicines list in both facilities
v. Challenges with the implementation of NHIS medicines list.

5.2 Socio-demographic characteristics of the respondents

Majority of the clients had studied up to JHS with only a few of them who had studied up to tertiary level as shown in table 4.1. The low level of education among clients might explain why majority of them were traders and unemployed as indicated in table 4.1. The ethnicity distribution of the clients in the study was mainly Akan and this is so because the study was carried out in the Ashanti Region and is predominantly an Akan community.

5.2 Clients' Perception and Experience about NHIS Medicines List

Generic medicines are used to effectively treat many of illnesses and this provides opportunity to substantially reduce costs to health sector and patients (Kirking *et al.*, 2001). It was therefore encouraging to note that over seventy percent were aware of generic medicines and most of them (23.8%) preferred generics which were NHIS medicines to branded medicines (19.1%) as indicated in table 4.3. This is supported by a

provider who mentioned that NHIS medicines list were all generics and further explained that the NHIA opted for generic drugs because generics are relatively cheaper: *"I think some drugs are expensive than others or let me say some drugs are locally made and others are imported/branded. The imported ones are expensive than the locally made ones so I guess that is the reason why some drugs are not on the list"* (Interviewee 3). This might explain why significant proportions of clients (p-value= 0.001) were of the opinion that generic medicines or NHIS medicines were affordable (89.5%) as compared with branded medicines (See Table 4.3). Cost is one important factor considered by some clients and practitioners in considering generics or branded medicines (Toklu *et al.*, 2012). As a result, a significant proportion of the clients (p-value=0.001) was of the opinion that NHIS medicines were less costly. This might further explain why majority of clients' preferred generic medicines or NHIS medicines (23.8%) to branded medicines (19.1%) as indicated in Table 4.3. Contrary to the above, other studies consider efficacy as the most important factor in opting for either generics or branded medicines (Himmel *et al.*, 2005). As a result, majority of clients were of the opinion that generic or NHIS medicines are effective, available and coupled with less side effect and safety (see Table 4.3). This might explain why more of the clients would prefer NHIS medicines which are generics to branded medicines.

Studies have found prescription to have a substantial effect on use of generic drugs, especially in developing countries where patients seek to buy exactly what is prescribed (Bertoldi *et al.*, 2005) and so, most clients accept substitution of generics for branded medicines based on their own recommendations to prescribers, recommendations by their doctors and by their pharmacists (Shrank *et al.*, 2009). This explains why majority of the clients indicated that their preference on medicines list either generics or branded would be based on recommendation from their doctors (KATH= 99.6%; NIMO=

98.81%), recommendation from their pharmacists (KATH= 51.59%; NIMO= 61.31%), how much money to save (KATH= 50.0%; NIMO= 17.86%) and severity of illness (KATH= 87.3%; NIMO= 81.55%) as detailed in figure 4.1. This presupposes that the role of practitioners in promoting NHI medicines or branded medicines cannot be underestimated. As a result, clients might have received education on generics or NHI medicines from their prescribers or practitioners and had understood the benefits associated with generics or NHI medicines. This might explain why majority of clients would prefer NHI medicines (23.8%) to branded medicines (19.1%) when paying out of their pocket as shown in Table 4.3. This is because clients or patients perceive generics as less expensive and also contain the same active ingredients as branded medicines (Kobayashi *et al.*, 2011).

5.3 Providers' Perception and Experience on NHIS Medicines List

Some providers raised major concerns regarding the effectiveness, availability, quality, safety, equivalence and bioequivalence on generic medicines and have acknowledged their economic benefits to the health care system (Ud Din Babar *et al.*, 2011). This is evident in the study where majority of providers disagreed that NHI medicines or generic medicines were more effective than branded ones as shown in table 4.4. Others reported that generic drugs were equally as efficacious as the branded ones but the time of action of the drug differs: *"If I say they are less effective than the others, I will be making a mistake. I'm saying that, it's about the onset of action. One is quicker than the other. Let me use ceftrizone, there are different generics around and we also have rocephine, I have seen a case where we were using these ceftrizone on the market and they were not working and immediately we shifted to rocephine which is also ceftrizone, the patients started responding. It means that there is something different with them"* (Interviewee 3).

Also, a provider reported that the efficacy of a drug varied from one company to the other: *"When you talk about efficacy, it varies from company to company and from brand to brand. That is why the NHIA put in generic names so if company A produces a drug and you think you have a problem with the efficacy, you have the right to change to company B, company C or company D. That is why they did not put in brand names to restrict you the provider. So when it comes to efficacy, you cannot relate it with the list in anyway"* (Interviewee 4). This might explain why majority of providers (48.6%) were uncertain about the quality and bioequivalence of generic medicines (see Table 4.4) and so need more information pertaining the efficacy of generic medicines (Hassali *et al.*, 2011).

Some providers might refuse substitution of generics or NHIS medicines for branded ones as a result of substantial price difference between a generic and branded product (Productivity Commission, 2001) which may be as a result different packages, colours and shapes but with the same active ingredient and therefore would think it is a different medicine all together (Hassali *et al.*, 2004). This explains why majority of providers were not sure about the bioequivalence of generic medicines and at the same time would not substitute NHI medicines for branded ones when out of stock because it might cause a problem when clients are asked to pay a difference or top-up (see Table 4.4). This is further supported by a report made by a provider: *"The prices of the drugs are higher than the prices quoted by the NHIS to be paid to the provider"* (Interviewee 1) and *"If they don't up-date their prices, nobody will supply but if they are able to up-date every week since things are changing on the market every day. If I go to clear my goods and the prices keep on changing, do you think I will charge the same? NO, so invariably, the price on the insurance will suffer and the patients too will not get the drug"* (Interviewee

4). This also testifies why majority of the clients (78.8%) reported that insurance would not pay if one chose to take branded medicines (see Table 4.7).

Advertisement of drugs by manufacturing companies influences providers prescription pattern (Hassali *et al.,* 2011). This is evident in this study where majority of providers attested that advertisements by generic company or manufacturer could influence their prescription pattern as shown in table 4.4. This further explains why majority of the providers were not sure about the bioequivalence of the generic and branded medicines and would personally prescribe the medicines themselves or by the clients' preference (see Table 4.4) or recommendations from their doctors and pharmacists as shown in figure 4.1.

5.4 Relationship between clients or providers perception and experience on NHIS medicines and their socio-demographic characteristics

Researchers have explored the attitudes and beliefs of providers and clients in the medicines administration process demonstrating a range of perceptions which are influenced by factors such as geography, age and demographics (Kesselheim *et al.,* 2010; Araszkiewicz *et al.,* 2008). The current study revealed otherwise. None of the socio-demographic factors considered in the current study had any statistically significant effect on client's perception on the NHIS medicines list. However, clients who viewed generic medicines as effective were predominantly between the age group of 31 – 40 years, females, Christians, married, unemployed and JHS certificate holders as shown in table 4.5.

On the other hand, with exception of gender which was statistically significant (p-value= 0.025), none of the socio-demographic characteristics of the providers was found to have any statistically significant relationship with perception and experience about NHIS

medicines. A greater proportion of the providers who were aged 21 – 30 years, males, Christians, singles, with work experience ranging from 0 – 5 years and with SHS certificates were of the view that, NHIS medicines were not effective.

5.5 Availability and non-availability of NHIS medicines list

Providers

In Ghana, the NHIS was established to assure equitable and universal access for all residents of Ghana to an acceptable quality package of essential health care services (GOG, 2003).

However, this vision is being compromised by unavailability of NHI medicines at health facilities. This is supported by this study where almost the same proportion (KATH=47.0%; NIMO=44.0%) of the medicines list were available and supplied (see figure 4.2 and 4.3). Also, 14.0% of the NHIS medicines were available at Nimo Pharmacy and supplied with top up. However, 53% of the NHIS medicines were not available at KATH and none of the NHIS medicines was supplied at KATH with top ups. This might explain the reason why majority of clients (57.1%) would prefer both generic and branded medicines when they visit the facility for drugs (see Table 4.3) and also medicines mostly prescribed to them by doctors and pharmacists are both generics and branded ones as shown in table 4.7. This is because availability of the NHIS medicines are low and they have to supplement them with the branded ones.

Also, low availability of generic medicines are found in all sectors, particularly in the public sector which could have direct implications on access as clients are forced to buy medicines from private facilities (Ud Din Babar *et al*., 2007). This is evident in the study where availability of drugs in general is higher in the private sector (Nimo Pharmacy) than in the public sector (KATH Polyclinic Pharmacy) as shown in figures 4.2 and 4.3

respectively. This might explain why about one-fourth (25.0%) of the providers at KATH (Polyclinic Pharmacy) disagreed to the statement; 'NHIS medicines were more available than the branded ones' as compared with 13.3% of the providers at Nimo Pharmacy (see Table 4.4). In the public facility, there is no top-ups since all the medicines available are on the medicines list. As a result, if a prescribed NHI medicine is not available in the public sector, an option is to go to an accredited private facility. This accredited pharmacy may offer alternative to clients if the prescribed NHI medicine is also unavailable in their facility. The alternatives offered which are normally branded ones usually come with top-up fees due to the price difference on the market and the price NHIA pays for the NHI medicines. And so, the client has the option of accepting the alternative offered with top-up or go to another accredited NHI facility to access their drugs. This is why the private facility (Nimo Pharmacy) has top-ups and the public facility (KATH Polyclinic Pharmacy) does not. Better availability of generic medicines in the public facility especially would reduce discrepancies in the administration of medicines (Elamin *et al.*, 2010).

Clients

A significant proportion of clients (53.3%) who accessed the NHIS medicines from both facilities indicated that they do not get all the prescriptions for free using their NHIS card (p-value=0.038) as shown in table 4.7. In the same vein, majority of the clients from both facilities admitted that, NHIS does not pay if one chooses to take branded medicines other than the generic medicines (p-value= 0.001) as shown in table 4.7. This explains why clients would have to pay extra money (top-up) if what has been prescribed for them is on the medicines list but out of stock and there is the option for alternative branded which the price might be higher and so they have to top-up. This is also evident in figure

4.4 where clients would pay a range of money as top-up for their medicines. It is important that clients get access to the NHIS medicines for free both in the private and public facilities in order to control the disease burden and promote the rationale behind the scheme.

5.6 Challenges with the implementation of the NHIS Medicines List

Globally, the use of generic drugs has increased steadily as a result of economic pressures on drug budgets (Hassali *et al.*, 2009). Interestingly, the clients and providers had opposed views with regards to challenges associated with the NHIS medicines list. On the part of the clients, a significant proportion of them from both facilities (KATH=71.8%; NIMO=58.3%) reported not having any challenges with the NHIS medicines list (p-value=0.004). This confirms why the overall assessment of the NHIS medicines list by clients was good (see Table 4.8).

However, providers' challenges with the NHIS medicines list were basically related to the late reimbursement of funds to service providers (Goyal *et al.*, 2010; Adjei, 2012 Darlinjong and Laar, 2012). This is evident in the study where providers complained that: *"The mode of payment too is bad. When the insurance started, they told us that they will reimburse us every two months but nowadays it gets between four to five months before they pay the money and because of this, our investment is dwindling. I think they must step up their payment system"* (Interviewee 2).

Providers may refuse substitution of generics or NHIS medicines for branded ones as a result of substantial price difference between a generic and branded product. This is evident in the study where providers reported that: *"The prices of the drugs are higher than the prices quoted by the NHIS to be paid to the provider"* (Interviewee 1) and *"If they don't up-date their prices, nobody will supply but if they are able to up-date every*

week since things are changing on the market every day. If I go to clear my goods and the prices keep on changing, do you think I will charge the same? NO, so invariably, the price on the Insurance will suffer and the patients too will not get the drug" (Interviewee 4). This might explain the reason for non-availability of the NHI medicines in the public facility and top-ups clients have to pay before they can have access to their medicines in the private facility as shown in figure 4.2 and 4.3.

Also, another challenge enumerated by providers was lack of communication between prescribers and clients on certain drugs that can be dispensed on condition that the clients provide evidence of laboratory investigation. For instance, cholesterol lowering drugs, the NHIA will not reimburse providers without evidence of laboratory investigation. When these requirements are not communicated to the clients upon giving them a prescription, clients are turned back from facility to the prescriber to get their results before they can get their medications. Some clients out of frustration might go and never come back or would dig into their pockets and buy the drugs. These challenges might explain why majority of the clients might prefer to top-up for branded medicines (see table 4.7).

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions of the findings based on the objectives for the study of the under listed headings and suggests the necessary recommendations required for effective and efficient implementation of the NHI medicines list.

i. Clients' perception and experience about NHIS medicines list
ii. Providers' perception and experience about NHIS medicines list
iii. Relationship between clients or providers perception and experience on NHIS medicines list and their socio-demographic characteristics
iv. Availability and non-availability of NHIS medicines list
v. Challenges with the implementation of NHIS medicines list

6.2 Conclusions

Background of the respondents

Majority of the clients (23.3%) were within the age group 31-40 years and most of them (62.1%) were females. Also, majority of the clients (66.2%) were married and were Christians (83.6%). A few of the clients (13.8%) has studied up to the tertiary level and most of the clients (29.1%) were unemployed.

On the part of providers, majority of them were aged 21 – 30 years, were Christians, single and possessed a university degree. Most of them also had working experience ranging from 0 – 5 years.

Clients' perception and experience about NHIS medicines list

Majority of the clients (77.1%) were aware of NHI medicines or generics medicines and branded medicines. However, most of them preferred NHI medicines (23.8%) to branded

medicines (19.1%). The reasons provided for opting for NHI medicines were effective (80.5%), affordable (89.5%), available (76.7%), safe (96.9%) and less side effects (97.1%).

Providers' perception and experience about NHIS medicines list

Majority of providers disagreed that NHIS medicines or generic medicines are more effective than branded ones and might substitute NHIS medicines for branded ones when NHIS medicines are out of stock. Also, factors that might influence providers' prescription patterns were stated as; provider's personal preference (37.1%), clients' preference (54.3%), confidence in the generic company (60.0%) and advertisement by generic company (31.4%).

Relationship between clients or providers perception and experience on NHIS medicines and their socio-demographic characteristics

There was a relationship between clients' or providers perception and experience on NHIS medicines and their socio-demographic characteristics. The relationship between providers perception and experience on NHIS medicines and socio-demographic characteristics such as gender was statistically significant (p-value= 0.025). However, the relationship between providers' perception and experience on NHIS medicines and other socio-demographics such as age, religion, marital status, qualification and working experience was not statistically significant. Also, the relationship between clients' perception and experience on NHIS medicines and socio-demographic characteristics such as age, gender, religion, marital status, educational level, occupation and ethnicity was not statistically significant.

Availability and non-availability of NHIS medicines list

A significant proportion of clients had their NHIS prescription for free and would prefer branded medicines to generics if they were paying out of their pocket.

On the part of the providers, less than fifty percent of NHIS medicines were available at both KATH Polyclinic Pharmacy and Nimo Pharmacy. Also, some of the NHIS medicines were supplied with top-ups because of erratic increased in cost of NHIS medicines which had not reflected in the NHIS medicines price list.

Challenges with the implementation of NHIS medicines list

A significant proportion of the clients had no challenges as far as the NHIS medicines list was concerned. Also, most of the clients (59.5%) graded the overall assessment of the NHIS medicines list as 'good'. However, late reimbursement of services rendered to NHIS clienteles, unavailability of NHIS drugs at facilities coupled with inadequate information on drug policies for clients and erratic increase in cost of drugs on the market were the challenges providers' enumerated.

6.3 Recommendations

1. The Ministry of Health together with the NHIA should educate Ghanaians in order to increase awareness of NHIS medicines through the media.
2. Communication between prescribers and clients should be encouraged on some requirements like laboratory evidence to enable clients to get access to their medications easily.
3. The NHIA should liaise with the Food and Drugs Authority and the Ghana Medical Association to educate physicians and pharmacists on effectiveness,

bioequivalence and generic drug substitution so that they can provide the correct information to clients.

4. A database of all generic medicines should be created as well as their inventory level be maintained for every accredited NHIS facility by the MOH and NHIA. This will increase availability of the NHIS medicines and clients can easily be directed to another accredited pharmacy by the provider to access their drugs if it's not available at the visiting facility.
5. Mass educational reforms can be instituted by the NHIA in order to demystify the perception of generic medicines among clients and providers. This could be done via mass media. The broader efforts to educate clients about generic medications may assist them in making informed decisions and may influence their personal preferences for generic use.
6. The NHIA should pay providers on time as stipulated in their contract agreement which usually leads to non-availability of the medicines.
7. There is the need for further research to cover a lot more of the NHIS accredited pharmacies and in more public and private facilities to help determine the influence of the NHIS medicines list on the behavior of providers. Also, further research on providers' opinion about the policies governing the NHIS medicines list can be determined to help the NHIA address any concerns regarding the medicines list to enforce the sustainability of the scheme.

REFERENCES

Adair, R.F. and Holmgren, L.R. (2005). Do drug samples influence resident prescribing behavior? A randomized trial. *The American journal of medicine* 118(8), pp.881–884.

Adjei, M. A. (2012). The Impact of National Health Insurance on Community Pharmacies: A Case Study of the Western Region of Ghana, *Ghana Medical Journal*, pp.46-51.

Agyei-Baffour, P., Oppong, R. and Boateng, D. (2013). Knowledge, perceptions and expectations of capitation payment system in a health insurance setting: a repeated survey of clients and health providers in Kumasi, Ghana. *BMC Public Health*, 13:1220 doi: 10.1186/1471-2458-13-1220, p.5.

Al-Gedadi, N.A., Hassali, M.A. and Shafie, A.A. (2008). A pilot survey on perceptions and knowledge of generic medicines among consumers in Penang, Malaysia. *Pharm Pract* 6(2), pp.93–97.

Antezana, F. and Seuba, X. (2009). Thirty years of Essential Medicines: The challenge. Furmamundi-Servicios Centrales en Valencia. ISSN: 978-84-932496-3-2, p.57.

Araszkiewicz, A. A., Szabert, K., God-man, B., Wladysiuk, M., Barbui, C., and Haycox, A. (2008). Generic olanzapine: health authority opportunity or nightmare? Expert. Rev. *Pharmacoecon. Outcomes Res*.8, pp.549–555.

Asare, G.A. (2010). George Asare's stories Health Insurance Claims in Arrears. (accessed Jan 19, 2010), p.14.

Bennett, S., Creese, A., Monasch, R. (1998). Health insurance schemes for people outside formal sector employment *(ARA Paper No. 16)*. Geneva: World Health Organization.

Bertoldi, A.D., Barros, A.J. and Hallal, P.C. (2005). Generic drugs in Brazil: known by many, used by few. Cadernos de saude publica/Ministerio da Saude, Fundacao Oswaldo Cruz, Escola Nacional de Saude Publica; 21(6), pp.1808–1815.

Blanchet, N., Fink, G. and Osei-Akoto, I. (2012). The effect of Ghana's National Health Insurance Scheme on health care utilization. *Ghana Medical Journal*, 46, pp.76-84.

Carrin, G. (2003). Community Based Health Insurance Schemes in Developing Countries: facts, problems and perspectives. Discussion Paper No. 1-2003. Geneva, WHO.

Churchill, C. (2006). Protecting the poor: A micro insurance compendium. International Labor Office, Geneva, page 517.

Criel, B. (1998). District-based health insurance in sub-Saharan Africa Part 1: From theory to practice D/1998/0450/2 ISBN 90-76070-09-1 ISSN 1370-6462.

Dalinjong, P.A. and Laar, A.S. (2012). The National Health Insurance Scheme: Perceptions and Experiences of Health Care providers and clients in two districts of Ghana. *A Springeropen Journal.* Vol. 2:13, pp.7-11.

Elamin, E.I., Ibrahim, M.I.M. and Yousif, M.A.E. (2010). Availability of essential medicines in Sudan. *Sudanese Journal of Public Health*, 5(1), pp.4-6.

Feely, J., McGettigan, P., O'Shea, B., Chan, R. and McManus, J. (1997). Low rate of generic prescribing in the Republic of Ireland compared to England and Northern Ireland: Prescribers' concerns. *Ireland Medical Journal*, 90(4), pp.146–147.

Frimpong, P.V. (2013). The Quest for Equity in the Provision of Health Care in Ghana. *African Review of Economics and Finance Journal*, 4(2), p.6.

Government of Ghana (2003). National Health Insurance Bill Memorandum.

Goyal, R.K., Patel, J.G. and Sansgiry, S.S. (2010). Pharmacists' perception of drug reimbursement rates and processing times among managed care plans: Drug Benefits Trends *International Journal of Pharmacy*. 22 (4), pp.33-39.

Hassali, M.A., Kong, D.C.M. and Stewart, K. (2004). Utilization of generic medicines in the Australian healthcare system. *Journal of Generic Medicines*.422 (1), pp.42-52.

Hassali, M. A., Shafie, A. A., Asrul, A. J., Shazia, I., Mohamed I. M. and Awaisu, A. (2009). Consumers' views on generic medicines: a review of the literature. International *Journal of Pharmacy Practice*. Vol. 17. Issue 2, pp.79-88.

Hassali, M. A., Shafie, A. A., Awaisu, A., Chua, G. N., Masood, I., Saleem, F. and Al-Qazaz, H. K. (2011). Facilitators and Barriers for Generic Drug Use among General Practitioners in Northern State of Malaysia: Findings from A Cross Sectional Mail Survey. School of Pharmaceutical Sciences Malaysia, *Malaysia Medical Journal*. pp.1-18.

Himmel, W., Simmenroth-Nayda, A., Neibling, W., Ledig, T., Jansen, R.D., Kochen, M.M., Gleiter, C.H. and Hummers-Pradier, E. (2005). What do primary care patients think about generic drugs? *Int J Clin Pharmacol Ther*. 43(10), pp.472-479.

Huber, G., Hohmann, J. and Reinhard, K. (2003). Mutual health insurance (MHO) five years' experience in West Africa; concerns, controversies and proposed solutions, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH Division 4320 – Health and Population Dag-Hammarskjöld Weg 1–5 GTZ, page 535.

Jha, N., Bajracharya, O. and Shankar, P.R. (2013). Knowledge, attitude and practice towards medicines among school teachers in Lalitpur district, Nepal before and after an educational invention. *BMC Public Health* doi: 10.1186/1471-2458-13-652.

Kelley, A. G. and Diop, F. (2006). Approaches to Scaling up Community-Based Health Financing Schemes. Oxford University Press, USA, PHRplus, page 6.

Kesselheim, A.S., Stedman, M.R., Bubrick, E.J., Gagne, J.J., Misono, A.S., Lee, J.L., Brookhart, M.A., Avorn, J., and Shrank, W.H. (2010). Seizure outcomes following the use of generic versus brand-name antiepileptic drugs: a systematic review and meta-analysis drugs. *PMC Journal*, 26; 70(5), pp.605-21.

Kirking, D. M., Gaither, C. A., Ascione, F. J. and Welage, L. S. (2001). Pharmacists' individual and organizational views on generic medications. *Journal of American Pharmacist Association*. 41(5), pp.723-728.

Kobayashi, E., Satoh, N. and Ueda, S. (2011). Community pharmacists' perspectives on generic substitution in Japan. *Journal of Public Health* 19; pp. 249-256.

Kwarteng, E. (2012). National Health Insurance Scheme in Ghana: Experiences and challenges of Wassa West Health Insurance Scheme, pp.75-88.

Lebanova, H., Manolov, D. and Getov, I. (2012). Patients' attitude about generics–Bulgarian perspective. *Marmara Pharm Journal*. 16, pp.36-40.

Manan, M. M., Hassali, M.A. and Kassab, Y.W. (2013). Use of generic medicines: Perspectives of consumers living in urban and suburban areas of Klang Valley in Malaysia. *Journal of Medical Marketing*. doi: 10.1177/1745790413516971.

McCord, M. and Osinde, S. (2003). Reducing vulnerability: the supply of health micro insurance in east Africa. MicroSave-Africa An Initiative of Austria/CGAP/DFID/UNDP: Micro Insurance Centre, LLC, page 20.

Mossaialos, E., Dixon, J. F. and Kutzin, J. (2002). Funding Health Care: Options for Europe. Policy brief no.4.

NHIA (2010). National Health Insurance Scheme annual report.

NHIA (2013). National Health Insurance Scheme Medicines List, version 1.0, pp.3-31.

Productivity Commission (2001). International Pharmaceutical Price Differences. Research Report, AusInfo, Canberra, Australia.

Ramachandra, S. and Hsiao, W. (2007). Ghana: Initiating Social Health Insurance for Developing Nations. ISSN 0821369504, pp. 61-71.

Waber, R.L., Shiv, B. and Carmon, Z. (2008). Commercial Features of Placebo and Therapeutic Efficacy. *Journal of the American Medical Association*. 299(9), pp.1016–1017.

Saltman, R.B., Busse, R. and Figueras, J. (2004). Social health insurance systems in Western Europe Copyright © World Health Organization 2004 on behalf of the European Observatory on Health Systems and Policies. ISBN 0 335 21363 4 (pb) 0 335 21364 2 (hb), p.38.

SEND-Ghana (2010). Balancing access with quality healthcare: An Assessment of the NHIS in Ghana (2004-2008) Policy Brief No. 3.

Shrank, W.H., Cox, E.R., Fischer, M.A., Mehta, J. and Choudhry, N.K. (2009). Patients' perceptions of generic medications. *Health Aff (Millwood)*. 28(2), pp.546-556.

Smith, K.V. and Sulzbach, S. (2008). Community-based health insurance and access to maternal health services: evidence from three West African countries. *Soc Sci Med*, 66(24):60–73. doi: 10.1016/j.socscimed.2008.01.044 PMID: 18362047.

Smith, P.C. (2007). Provision of a public benefit package alongside private voluntary health insurance. In: Preker AS, Scheffer RM, Bassett MC, editors. Private voluntary health insurance in development: friend or foe? Washington: The World Bank, page 147.

Spaan, E., Mathijssen, J., Tromp, N., McBain, F., Have, A. and Baltussena, R. (2012). The impact of health insurance in Africa and Asia: A Systematic Review. Bull World Health Organ 90:685–692A | doi:10.2471/BLT.12.102301

Spreeuwers, A.M. and Geert-Jan, D. (2012). Success and failure in social health insurance in Sub-Saharan Africa: what lessons can be learnt? Global medicine-Official Magazine of IFM SA-NL.

The Network for Consumer Protection (2006). Prices, availability and affordability of medicines in Pakistan. Ramzan Plaza, G-9 Markaz Islamabad – Pakistan, page 18.

Toklu, H. Z., Dulger, G. A., Hidiroglui, S., Akici, A., Yetim, A., Gannemoglu, H. M. and Gunnes, H. (2012). Knowledge and Attitudes of the Pharmacists, Prescribers and Patients towards Generic drug use in Istanbul – Turkey. *Pharmacypractice.org* 10(4), pp.199-206.

Tumwine, Y., Kutyabami, P., Odoi, R.A. and Kalyango, J.N. (2010). Availability and expiry of essential medicines and supplies during the 'pull' and 'push' drug acquisition systems in a Rural Ugandan Hospital. *Tropical Journal of Pharmaceutical Research.* 9 (6), pp.557-564

Ud Din Babar, Z., Mohamed, I., Mohamed, I., Singh, H., Bukahri, N.I., Creese, A. (2007). Evaluating Drug Prices, Availability, Affordability, and Price Components: Implications for Access to Drugs in Malaysia. Vol. 4 Issue 3, *Academic Journal*, page 466.

Ud Din Babar, Z., Piyush G., Stewart, J., Hogg, M., Short L., Gyung Seo, H. and Rew, A. (2011). Evaluating pharmacists' views, knowledge, and perception regarding generic medicines in New Zealand. 7(3), *Science Direct Journal*, pp. 294–305.

Wales, J., Tobias, J., Malangalila, E., Swai, G. and Wild, L. (2013). Stock-outs of Essential Medicines in Tanzania. A political economy approach to analyzing problems and identifying solutions. Shaping policy for development. www.odi.org., page 6.

Weekes, L. and Ramzan, I. (2010). Generic Medicines: How confident should we be? *Pac Health Dialog*. 16(2), pp.109-111.

World Health Organization (1997). The World Health Report. Conquering suffering, enriching humanity, Geneva: WHO, page 3.

World Health Organization (2004). Commodity Security for Essential Medicines: Challenges and Opportunities, page13.

World Health Organization (2005). Access to affordable essential medicines, page 2.

World Health Organization (2005). Strategy on Health Care Financing for Countries of the Western Pacific and South-East Asia Regions (2006–2010) page 1.

World Health Organization (2006). The Safety of Medicines in Public Health Programs: Pharmacovigilance an Essential Tool. ISBN 92 4 159391 1 © World Health Organization 2006, page 19.

World Health Organization (2007). Medicines Strategy: Countries at the Core, page 43.

Yankah, B. (2009). Financial sustainability of NHIS based on recent financial assessment of the scheme, presentation at Health Summit, November 16-20.

APPENDICES

Appendix I

Structured questionnaire for providers

Date: …….

Interviewer: ……..

Location: ……..

PART A. Socio-demographic information of respondent

1. Individual code: ……
2. District: ……
3. House number: ……
4. Age……
5. Gender: Male { } Female { }
6. Religion: Christian { } Muslim { } other specify……..
7. Work experience 0-5years { } 6-10years { } 11-20years { }20+ { }
8. Marital Status: single { } married { } divorced { } separated { } Cohabitation { }
9. Ethnicity: ……..
10. Educational level: Basic Education { } Secondary { } Tertiary { }

Others, Specify: ……..……

PART B. Perceptions and Experience with NHIS Medicines List

11. NHIS medicines or generics are more effective than the branded ones
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

12. NHIS medicines are readily available than branded ones
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

13. Providers may substitute NHIS medicines for branded ones if the NHIS medicines are out of stock
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

14. NHIS medicine equivalent is not available on the market yet
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

15. Uncertain about the quality of the NHIS medicines
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

16. Unsure about the bioequivalence of the generic and branded ones
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

17. Providers personal preference will influence their prescribing behavior
a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

18. Confidence in the generic company or manufacturer will influence my prescription patterns

a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

19. Advertisements by the generic medicines manufacturing companies influence my prescribing pattern

a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

20. Clients personal preference can affect my prescription pattern

a. Strongly Agree
b. Agree
c. Neutral
d. Disagree
e. Strongly Disagree

Appendix II

Structured questionnaire for clients

Date ……

Interviewer ……..

Location ……..

PART A. Socio-demographic information of respondent

1. Individual code……
2. District ……
3. Age ……
4. Gender: Male { } Female { }
5. Religion: Christian { } Muslim { } others (specify) ……
6. Ethnicity: ……
7. Marital Status: Single { } Married { } Divorced { } Widowed { } Cohabitation { } Others (specify)……
8. Educational level: No education { } Primary education { } Junior High School { } Senior High School { } Tertiary { }
9. Occupation……

PART B: Perception and experience on NHIS Medicines List.

10. Do you know that the medicines prescribed to you comes in their generics and only very few once are branded?
    a. Yes
    b. No

11. Given a choice which one would you prefer?
    a. NHIS medicine/ Generic
    b. Branded
    c. Both

12. What is your opinion on NHIS Medicines List?

a. Effective { } Ineffective { }

b. Expensive { } Affordable { }

c. Available { } Not available { }

d. Safe { } Unsafe { }

e. More side effect { } Less side effect { }

13. In your opinion, do you think people recover faster on NHIS medicines than the branded ones?

a. Yes

b. No

c. I don't know

PART C: Availability and non-availability of NHIS Medicines List

14. Do you get all your prescriptions using NHIS card for free?

a. Yes

b. No

15. If you were paying out-of-pocket, which type of medicines would you prefer?

a. NHIS medicines

b. Branded medicines

16. Does the insurance pay if you choose to take branded medicines?

a. Yes, All the time

b. Yes, only if there is no generic substitute

c. No

17. If No, would you be willing to top-up for taking a branded medicine rather than the NHIS medicines or generic medicines?

a. Yes

b. No

18. If yes, what range of money are you willing to pay as top-up?

a. GH¢1 - GH¢5

b. GH¢6 - GH¢10

c. GH¢11 - GH¢20

d. GH¢21 - GH¢50

e. GH¢51 - GH¢100

19. If NHIS medicine alternatives for Branded medicines were available, would you switch to the NHIS alternative under the following instances?

	Yes	No
a. If my doctor recommended it	{ }	{ }
b. if my pharmacist recommended it	{ }	{ }
c. Depends on how much I would save	{ }	{ }
d. Depends on the severity of my illness	{ }	{ }

PART D: Challenges with the implementation of NHIS Medicines List

20. Do you have any challenges so far as the NHIS medicines list are concerned?

a. Yes

b. No

21. What is your overall assessment of the NHIS Medicines list?

a. Excellent

b. Very good

c. Good

d. Poor

Appendix III

Interview Guide for In-Charges and Pharmacists

1. From your experience, what is your general opinion on the NHIS medicines list for National Health Insurance clienteles?

2. What are some of the challenges you encounter with the NHIS medicines list?

3. How can these challenges be minimized?

4. What are clients' challenges with NHIS medicines list and what are the implication of these challenges to the future directory of the NHIS?

5. Can you suggest how clients' challenges can be minimized?

Appendix IV

Interview Guide for NHIS Representative

1. Why was the NHIS medicines list developed?

2. What has been the impact on service delivery?

3. What are some of the challenges you have encountered with NHIS medicines list?

4. How can these challenges be minimized?

5. What are the implications of these challenges on the strategic objectives of the NHIS?

6. What do you think about the future of the NHIS Medicines list and how should it be modified to meet the needs of your clients?

Appendix V

NHIS Medicines Checklist

	NHIS MEDICINES LIST		Available And supplied	Not available	Available and supplied with top up	Available but not on NHIS medicine list
ACETAZIN1	Acetazolamide Injection, 500 mg	Ampoule				
ACETAZTA1	Acetazolamide Tablet, 250 mg	Tablet				
ACETYLIN1	Acetylcysteine Injection, 200 mg/mL	1 mL				
ACETYLTA1	Acetylsalicylic Acid Tablet, 300 mg	Tablet				
ACETYLDT1	Acetylsalicylic Acid Tablet, 75 mg (Dispersible)	Tablet				
ACTCHAPO1	Activated Charcoal Powder, 50 g	50 G				
ACICLOCR1	Acyclovir Cream, 5%	5G				
ACICLOEO1	Acyclovir Eye Ointment, 3%	2G				
ACICLOIN1	Acyclovir Injection, 250 mg vial	Vial				
ACICLOSU2	Acyclovir Suspension, 200 mg/5 mL	20 mL				
ACICLOTA1	Acyclovir Tablet, 200 mg	Tablet				
ADRENAIN1	Adrenaline Injection, 1 mg/1mL (1:1000)	1 mL				
ADRENAIN2	Adrenaline Injection, 1:10,000	Vial				
ADRIAMIN1	Adriamycin Injection, 50 mg	Vial				
ALBENDSY1	Albendazole Syrup, 100 mg/5 mL	20 mL				
ALBENDTA1	Albendazole Tablet, 200 mg	Tablet				
ALBENDTA2	Albendazole Tablet, 400 mg	Tablet				
ALLOPUTA1	Allopurinol Tablet, 100 mg	Tablet				
ALLOPUTA2	Allopurinol Tablet, 300 mg	Tablet				
ALUHYDMI1	Aluminium Hydroxide Mixture	200 mL				
ALUHYDTA1	Aluminium Hydroxide Tablet, 500 mg	Tablet				
AMIACIIN1	Amino Acid Solution Injection, 10%	200 mL				
AMIACIIN2	Amino Acid Solution Injection, 20%	200 mL				
AMINOPIN1	Aminophylline Injection, 250 mg/10 mL	Ampoule				
AMIODATA1	Amiodarone Tablet, 200 mg	Tablet				
AMITRITA1	Amitriptyline Tablet, 10 mg	Tablet				
AMITRITA2	Amitriptyline Tablet, 25 mg	Tablet				

AMITRITA3	Amitriptyline Tablet, 50 mg	Tablet				
AMLODITA1	Amlodipine Tablet, 5 mg	Tablet				
AMLODITA2	Amlodipine Tablet, 10 mg	Tablet				
AMOARTPO1	Amodiaquine + Artesunate Granular Powder, 75 mg + 25 mg	Sachet				
AMOARTPO2	Amodiaquine + Artesunate Granular Powder, 150 mg + 50 mg	Sachet				
AMOARTTA1	Amodiaquine + Artesunate Tablet, 75 mg + 25 mg (6 tabs)	1 Course				
AMOARTTA2	Amodiaquine + Artesunate Tablet, 150 mg + 50 mg (12 tabs)	1 Course				
COAMOXIN1	Amoxicillin + Clavulanic Acid Injection, 500 mg + 100 mg	Vial				
COAMOXIN2	Amoxicillin + Clavulanic Acid Injection, 1.2g	Vial				
COAMOXSU1	Amoxicillin + Clavulanic Acid Suspension, 250 mg + 62 mg	70 mL				
COAMOXSU2	Amoxicillin + Clavulanic Acid Suspension, 400 mg + 57 mg	70 mL				
COAMOXTA1	Amoxicillin + Clavulanic Acid Tablet, 500 mg + 125 mg	Tablet				
COAMOXTA2	Amoxicillin + Clavulanic Acid Tablet, 875 mg + 125 mg	Tablet				
AMOXICCA1	Amoxicillin Capsule, 250 mg	Capsule				
AMOXICCA2	Amoxicillin Capsule, 500 mg	Capsule				
AMOXICSU1	Amoxicillin Suspension, 125 mg/5 mL	100 mL				
AMPICIIN1	Ampicillin Injection, 500 mg	Vial				
ANASTRTA1	Anastrozole Tablet, 1 mg	Tablet				
ANIMGLIN1	Anti RH Immunoglobulin Injection, 250 IU	Vial				
AQUEOUCR1	Aqueous Cream BP	100 G				
ARTLUMPO1	Artemether + Lumefantrine Granular Powder, 20 mg + 120 mg	Sachet				
ARTLUMSU1	Artemether + Lumefantrine Suspension, 20 mg + 120 mg / 5 mL	100 mL				
ARTLUMTA1	Artemether + Lumefantrine Tablet, 20 mg + 120 mg (24's)	1 Course				
ARTLUMTA2	Artemether + Lumefantrine Tablet, 40 mg + 240 mg (12's)	1 Course				
ARTLUMTA3	Artemether + Lumefantrine Tablet, 80 mg + 480 mg (6's)	1 Course				

ARTEMEIN1	Artemether Injection, 40 mg/mL	Ampoule				
ARTEMEIN2	Artemether Injection, 80 mg/mL	Ampoule				
ARTESUIN1	Artesunate Injection, 60mg	Vial				
ARTESURE1	Artesunate Suppository, 50 mg	Supp.				
ARTESURE2	Artesunate Suppository, 200 mg	Supp.				
ATEHYDTA1	Atenolol + Hydrochlorthiazide Tablet, 50 mg + 25 mg	Tablet				
ATEHYDTA2	Atenolol + Hydrochlorthiazide Tablet, 100 mg + 25 mg	Tablet				
ATENOLIN1	Atenolol Injection, 500 microgram/10 mL	Ampoule				
ATENOLTA1	Atenolol Tablet, 25 mg	Tablet				
ATENOLTA2	Atenolol Tablet, 50 mg	Tablet				
ATENOLTA3	Atenolol Tablet, 100 mg	Tablet				
ATORVATA1	Atorvastatin Tablet, 10 mg	Tablet				
ATORVATA2	Atorvastatin Tablet, 20 mg	Tablet				
ATROPIID1	Atropine Eye Drops, 1%	10 mL				
ATROPIIN1	Atropine Injection, 0.6 mg/mL	1 mL				
AZITHRCA1	Azithromycin Capsule, 250 mg	Capsule				
AZITHRSU1	Azithromycin Oral Suspension, 200 mg/5 mL	15 mL				
AZITHRSU2	Azithromycin Oral Suspension, 200 mg/5 mL	30 mL				
BADOESIN1	Badoe's Solution Injection, 1000 mL	1000 mL				
BECDIPGA1	Beclometasonedipropionate Inhaler, 50 microgram/metered dose (200 dose	Inhaler				
BECDIPGA2	Beclometasonedipropionate Inhaler, 100 microgram/metered dose (200 dos	Inhaler				
BECDIPGA3	Beclometasonedipropionate Inhaler, 200 microgram/metered dose (200 dos	Inhaler				
BENDROTA1	Bendroflumethiazide Tablet, 2.5 mg	Tablet				
BENDROTA2	Bendroflumethiazide Tablet, 5 mg	Tablet				
BENZATIN1	Benzatropine Injection, 1 mg/mL	1 mL				
BENZATTA1	Benzatropine Tablet, 2 mg	Tablet				
BEACSAOI1	Benzoic Acid + Salicylic Acid Ointment, 6% + 3%	25 G				
BENPERCR1	Benzoyl Peroxide Cream, 5%	30G				
BENPERCR2	Benzoyl Peroxide Cream, 10%	30 G				

BENBENLO1	Benzyl Benzoate Lotion, 25%	30mL				
BENBENLO2	Benzyl Benzoate Lotion, 25%	100 mL				
BENZYLIN1	Benzylpenicillin Injection, 1 MU	Vial				
BENZYLIN2	Benzylpenicillin Injection, 5 MU	Vial				
BETVALCR2	Betamethasone Valerate cream, 0.1%	15 G				
BETAXOID1	Betaxolol HCL Eye Drops, 0.5%	5 mL				
BISACOTA1	Bisacodyl Tablet, 5 mg	Tablet				
BROMOCTA1	Bromocriptine Tablet, 2.5 mg	Tablet				
BUDFORGA1	Budesonide + Formoterol Inhaler 80 microgram/4.5 microgram (60 Doses)	Inhaler				
BUDFORGA2	Budesonide + Formoterol Inhaler 160 microgram/4.5 microgram (60 Doses)	Inhaler				
BUDESOGA1	Budesonide DPI, 100 microgram (100 Doses)	Inhaler				
BUDESOGA2	Budesonide DPI, 200 microgram (100 Doses)	Inhaler				
CALAMICR1	Calamine Cream, 15%	40G				
CALAMILO1	Calamine Lotion, 15%	100 mL				
CALCIFTA1	Calciferol Tablet, 10,000 units	Tablet				
CALCARTA1	Calcium Carbonate Tablet, 500 mg	Tablet				
CALGLUIN1	Calcium Gluconate Injection, 100 mg/mL in 10 mL	Ampoule				
CALVITTA1	Calcium with Vitamin D Tablet, (97 mg + 10 microgram)	Tablet				
CAPECITA1	Capecitabine Tablet, 500 mg	Tablet				
CARBAMTA1	Carbamazepine Tablet, 100 mg	Tablet				
CARBAMTA2	Carbamazepine Tablet, 200 mg	Tablet				
CARBAMTA3	Carbamazepine Sustained-Release Tablet, 200 mg	Tablet				
CARBAMTA4	Carbamazepine Sustained-Release Tablet, 400 mg	Tablet				
CARBIMTA1	Carbimazole Tablet, 5 mg	Tablet				
CARBIMTA2	Carbimazole Tablet, 20 mg	Tablet				
CARBOCCA1	Carbocisteine Capsule, 375 mg	Capsule				
CARBOCSY1	CarbocisteinePaediatric Syrup , 125 mg/5 mL	100 mL				
CARBOCSY2	Carbocisteine Syrup, 250 mg/5 mL	100 mL				
CEFACLCA1	Cefaclor Capsule, 250 mg	Capsule				

CEFACLCA2	Cefaclor Capsule, 500 mg	Capsule				
CEFACLSU1	Cefaclor Suspension, 125 mg/5 mL	100 mL				
CEFACLSU2	Cefaclor Suspension, 250 mg/5 mL	100 mL				
CEFOTAIN1	Cefotaxime Injection, 500 mg	Vial				
CEFOTAIN2	Cefotaxime Injection, 1 g	Vial				
CEFTRIIN2	Ceftriazone Injection, 500 mg	Vial				
CEFTRIIN3	Ceftriazone Injection, 1g	Vial				
CEFUROIN1	Cefuroxime Injection, 750 mg	Vial				
CEFUROSU1	Cefuroxime Suspension, 125 mg/5 mL	50mL				
CEFUROTA1	Cefuroxime Tablet, 125 mg	Tablet				
CEFUROTA2	Cefuroxime Tablet, 250 mg	Tablet				
CETIRICA1	Cetirizine softgel Capsule, 10 mg	Capsule				
CETIRISY1	Cetirizine Syrup, 5 mg/5 mL	30 mL				
CETIRITA1	Cetirizine Tablet, 10 mg	Tablet				
CETRIMSO1	Cetrimide Solution	200 mL				
CHLORACA1	Chloramphenicol Capsule, 250 mg	Capsule				
CHLORAED1	Chloramphenicol Ear Drops, 5%	10 mL				
CHLORAID1	Chloramphenicol Eye Drops, 0.5%	10 mL				
CHLORAEO1	Chloramphenicol Eye Ointment, 1%	5 G				
CHLORAIN1	Chloramphenicol Injection, 1 g	1 G				
CHLORASU1	Chloramphenicol Suspension, 125mg/5mL	100 mL				
CHLORHCR1	Chlorhexidine Cream, 1%	15 G				
CHLORHMW1	Chlorhexidine Mouthwash, 0.2%	200 mL				
CHLORHSO1	Chlorhexidine Solution, 2.5%	100 mL				
CHLPHESY1	Chlorphenamine Syrup, 2 mg/5 mL	100 mL				
CHLPHETA1	Chlorphenamine Tablet, 4 mg	Tablet				
CHLPROIN1	Chlorpromazine Injection, 25 mg/mL in 2 mL	Ampoule				
CHLPROTA1	Chlorpromazine Tablet, 25 mg	Tablet				
CHLPROTA2	Chlorpromazine Tablet, 50 mg	Tablet				
CHLPROTA3	Chlorpromazine Tablet, 100 mg	Tablet				
CHREFLIN1	Cholera Replacement Fluid Injection, (5:4:1) 500 mL	500 mL				
CIPROFID1	Ciprofloxacin Eye Drops, 0.3%	10 mL				
CIPROFIN1	Ciprofloxacin Infusion, 2 mg/mL in 100	Bottle				

	mL					
CIPROFTA1	Ciprofloxacin Tablet, 250 mg	Tablet				
CIPROFTA2	Ciprofloxacin Tablet, 500 mg	Tablet				
CLARITCA1	Clarithromycin Capsule, 250 mg	Capsule				
CLARITCA2	Clarithromycin Capsule, 500 mg	Capsule				
CLARITSU1	Clarithromycin Paediatric Suspension, 125 mg/5 mL	100 mL				
CLINDACA1	Clindamycin Capsule, 150 mg	Capsule				
CLINDAIN1	Clindamycin Injection, 150 mg/mL in 2 mL	Vial				
CLINDASU1	Clindamycin Suspension, 75 mg/5 mL	100 mL				
CLINDASO1	Clindamycin Topical Solution, 1%	30 mL				
CLOPROCR1	Clobetasol Propionate Cream, 0.05%	15 G				
CLOHYDCR1	Clotrimazole + Hydrocortisone Cream, 1% + 1%	15 G				
CLOTRICR1	Clotrimazole Cream, 1%	15 G				
CLOTRICR2	Clotrimazole Cream, 2%	15 G				
CLOTRIVP1	ClotrimazolePessary, 100 mg	6 Pess.				
CLOTRIVP2	ClotrimazolePessary, 200 mg	3 Pess.				
CLOTRIVP3	ClotrimazolePessary, 500 mg	1 Pess.				
CLOXACIN1	Cloxacillin Injection, 250 mg	Vial				
CLOXACIN2	Cloxacillin Injection, 500 mg	Vial				
CODEINTA1	Codeine Tablet, 30 mg	Tablet				
COOENOTA1	Conjugated Oestrogen + Norgesterol Tablet, 625 microgram + 150 microgr	Tablet				
CONOESTA1	Conjugated Oestrogen Tablet, 625 microgram	Tablet				
CONOESVC1	Conjugated Oestrogen Vaginal cream, 625 microgram/g	1 G				
CORANTID1	Corticosteroid + Antibiotic Eye Drops	10 mL				
CORANTEO1	Corticosteroid + Antibiotic Eye Ointment	10 G				
COTRIMSU1	Cotrimoxazole Suspension, (200+40) mg/5 mL	100 mL				
COTRIMTA1	Cotrimoxazole Tablet, (400+80) mg	Tablet				
CYCLOPID1	Cyclopentolate Eye Drops, 1%	5 mL				
CYCLOPIN1	Cyclophosphamide Injection, 500 mg	Vial				
CYMOURCA1	Cytidine Monophosphate +	Capsule				

	UridineDisphospate Capsule					
DALSODIN1	Dalteparin Sodium Injection, 5000 units/0.2 mL	Prefilled Syringe				
DARROWIN1	Darrow's Solution Injection, HalfStrength 250 mL	250 mL				
DEXAMEID1	Dexamethasone Eye Drops, 1%	5 mL				
DEXAMEEO1	Dexamethasone Eye Ointment, 1%	5 G				
DEXAMEIN1	Dexamethasone Injection, 4 mg/mL	Ampoule				
DEXAMEIN2	Dexamethasone Injection, 8 mg/2 mL	Ampoule				
DEXAMETA1	Dexamethasone Tablet, 500 microgram	Tablet				
DESOCHIN1	Dextrose in Sodium Chloride Intravenous Infusion, 4.3% in 0.18% (250 m	250 mL				
DESOCHIN2	Dextrose in Sodium Chloride Intravenous Infusion, 5% in 0.9% (500 mL)	500 mL				
DEXTROIN1	Dextrose Infusion, 5% (250 mL)	250 mL				
DEXTROIN2	Dextrose Infusion, 5% (500 mL)	500 mL				
DEXTROIN3	Dextrose Infusion, 10% (250 mL)	250 mL				
DEXTROIN4	Dextrose Infusion, 10% (500 mL)	500 mL				
DEXTROIN6	Dextrose Infusion, 50% (250mL)	250 mL				
DIAZEPIN1	Diazepam Injection, 5 mg/mL in 2 mL	Ampoule				
DIAZEPRS1	Diazepam Rectal Tubes, 2 mg/mL in 1.25mL	Rectal Tube				
DIAZEPTA1	Diazepam Tablet, 5 mg	Tablet				
DIAZEPTA2	Diazepam Tablet, 10 mg	Tablet				
DICLOFCA1	Diclofenac Capsule, 75 mg	Capsule				
DICLOFGE1	Diclofenac Gel	30 G				
DICLOFIN1	Diclofenac Injection, 25 mg/mL	3 mL				
DICLOFRE2	Diclofenac Suppository, 100 mg	Supp.				
DICLOFRE1	Diclofenac Suppository, 50 mg	Supp.				
DICLOFTA1	Diclofenac Tablet, 25 mg	Tablet				
DICLOFTA2	Diclofenac Tablet, 50 mg	Tablet				
DIESTITA1	Diethylstilboestrol Tablet, 1 mg	Tablet				
DIESTITA2	Diethylstilboestrol Tablet, 5 mg	Tablet				
DIGOXIEL1	Digoxin Elixir, 50 microgram/mL	60 mL				
DIGOXIIN1	Digoxin Injection, 250 microgram/mL	1 mL				
DIGOXITA1	Digoxin Tablet, 62.5 microgram	Tablet				

DIGOXITA2	Digoxin Tablet, 125 microgram	Tablet				
DIGOXITA3	Digoxin Tablet, 250 microgram	Tablet				
DIHPIPCA1	Dihydroartemisin + Piperaquine Capsules, 320 mg + 40 mg (8s)	1 Course				
DIHPIPPO1	Dihydroartemisin + Piperaquine Granular Powder, 80 mg + 10 mg	Sachet				
DIHYDRTA1	Dihydrocodeine Tablet, 30 mg	Tablet				
DISOPYCA1	Disopyramide Capsule, 100 mg	Capsule				
DISPHOIN1	Disopyramide Phosphate Injection, 10 mg/mL in 5 mL	Ampoule				
DOCETAIN1	Docetaxel Injection, 20 mg/mL	Ampoule				
DOMPERTA1	Domperidone Tablet, 10 mg	Tablet				
DOPAMIIN1	Dopamine Injection, 40 mg/mL in 5 mL	Vial				
DOXAPRIN1	Doxapram Injection, 20 mg/mL in 5 mL	Vial				
DOXYCYCA1	Doxycycline Capsule, 100 mg	Capsule				
ENOSODIN1	Enoxaparin Sodium Injection, 30 mg/0.3 mL	Prefilled Syringe				
ENOSODIN2	Enoxaparin Sodium Injection, 40 mg/0.4 mL	Prefilled Syringe				
EPHEDRIN1	Ephedrine HCl Injection, 30 mg/mL	Ampoule				
EPHEDRND1	Ephedrine Nasal Drops, 0.5%	10 mL				
EPHEDRND2	Ephedrine Nasal Drops, 1%	10 mL				
ERGOMEIN1	Ergometrine Injection, 0.2 mg/mL	1 mL				
ERGOMEIN2	Ergometrine Injection, 0.5 mg/ml	1 mL				
ERGOMETA1	Ergometrine Tablet, 0.5 mg	Tablet				
ERGOTATA1	Ergotamine Tablet, 2 mg	Tablet				
ERYTHRSY1	Erythromycin Syrup, 125 mg/5 mL	100 mL				
ERYTHRTA1	Erythromycin Tablet, 250 mg	Tablet				
ESOMEPCA1	Esomeprazole Capsule, 20 mg	Capsule				
ESOMEPCA2	Esomeprazole Capsule, 40 mg	Capsule				
ETHOLESO1	Ethanolamine Oleate Solution, 5%	5 mL				
ETHOSUSY1	Ethosuximide Syrup, 250 mg/5 mL	200 mL				
ETHOSUTA1	Ethosuximide Tablet, 250 mg	Tablet				
FEAMCISU1	Ferric Ammonium Citrate Mixture (FAC)	200 mL				
FERFUMTA1	Ferrous Fumarate Tablet, 100 mg (Elemental Iron)	Tablet				
FERGLUSY1	Ferrous Gluconate Syrup	200 mL				

FERGLUTA1	Ferrous Gluconate Tablet, 35 mg (Elemental Iron)	Tablet				
FERSULSY1	Ferrous Sulphate (BPC) Syrup, 60 mg/5 mL	200 mL				
FESUFOTA1	Ferrous Sulphate + Folic Acid Tablet, 50 mg (Elemental Iron)+ 400 micr	Tablet				
FERSULTA1	Ferrous Sulphate Tablet, 60 mg (Elemental Iron)	Tablet				
FINASTTA1	Finasteride Tablet, 5 mg	Tablet				
FLUCLOCA1	Flucloxacillin Capsule, 250 mg	Capsule				
FLUCLOIN1	Flucloxacillin Injection, 250 mg	Vial				
FLUCLOIN2	Flucloxacillin Injection, 500 mg	Vial				
FLUCLOSU1	Flucloxacillin Suspension, 125 mg/5 mL	100 mL				
FLUCONCA1	Fluconazole Capsule, 150 mg	Capsule				
FLUCONCA2	Fluconazole Capsule, 200 mg	Capsule				
FLUCONSU1	Fluconazole Suspension, 10 mg/mL	35 mL				
FLUCONSU2	Fluconazole Suspension, 50 mg/5 mL	35 mL				
FLUCONTA1	Fluconazole Tablet, 50 mg	Tablet				
FLUDROTA1	Fludrocortisone Tablet, 100 microgram	Tablet				
FLUOXECA1	Fluoxetine Capsule, 20 mg	Capsule				
FLUPENTA2	Flupentixol Tablet, 1mg	Tablet				
FLUPENTA1	Flupentixol Tablet, 500 microgram	Tablet				
FLUDECIN1	FluphenazineDeconoate Injection, 25 mg/mL	1 mL				
FLUSALGA1	Fluticasone + Salmeterol Inhaler, 250 microgram/50 microgram (60 Doses	Inhaler				
FLUTICGA1	Fluticasone MDI, 50 microgram (120 Dose)	Inhaler				
FLUTICGA2	Fluticasone MDI, 125 microgram (120 Dose)	Inhaler				
FLUTICGA3	Fluticasone MDI, 250 microgram (120 Dose)	Inhaler				
FLUVASCA1	Fluvastatin Capsule, 20 mg	Capsule				
FOLACITA1	Folic Acid Tablet, 5 mg (Blister Pack)	10 Tablets				
FUROSEIN1	Furosemide Injection, 10 mg/mL in 2 mL	Ampoule				
FUROSETA1	Furosemide Tablet, 40 mg	Tablet				
GELATIIN1	Gelatin Infusion (Succinylated Gelatin)	500 mL				

GENTAMED1	Gentamicin Ear Drops, 0.3%	10mL				
GENTAMID1	Gentamicin Eye Drops, 0.3%	10 mL				
GENTAMIN1	Gentamicin Injection, 40 mg/mL in 2 mL	Ampoule				
GLIBENTA1	Glibenclamide Tablet, 5 mg	Tablet				
GLICLATA1	Gliclazide Tablet, 80 mg	Tablet				
GLIMEPTA1	Glimepiride Tablet, 1 mg	Tablet				
GLIMEPTA2	Glimepiride Tablet, 2 mg	Tablet				
GLIMEPTA3	Glimepiride Tablet, 3 mg	Tablet				
GLIMEPTA4	Glimepiride Tablet, 4 mg	Tablet				
GLUCAGIN1	Glucagon Injection, 1 mg	Ampoule				
GLYCERRE1	Glycerol Suppository, 1 gm	10/12 Supp				
GLYCERRE2	Glycerol Suppository, 2 gm	10/12 Supp				
GLYCERRE3	Glycerol Suppository, 4 gm	10/12 Supp				
GLTRSUTA1	GlycerylTrinitrate Sublingual Tablet, 500 microgram	100 Tablets				
GLYCOPIN1	Glycopyrronium Injection, 200 microgram	Ampoule				
GRANISIN1	Granisetron Injection, 1 mg/1mL	Ampoule				
GRANISTA1	Granisetron Tablet, 1 mg	Tablet				
GRISEOSU1	Griseofulvin Suspension, 125 mg/5 mL	100 mL				
GRISEOTA1	Griseofulvin Tablet, 125 mg	Tablet				
GRISEOTA2	Griseofulvin Tablet, 500 mg	Tablet				
HALOPEIN1	Haloperidol Injection, 5 mg/5 mL	Ampoule				
HALOPETA1	Haloperidol Tablet, 0.5 mg	Capsule				
HALOPETA2	Haloperidol Tablet, 5 mg	Tablet				
HALOPETA3	Haloperidol Tablet, 10 mg	Tablet				
HEPARIIN1	Heparin Injection, 1000 units/mL in 5 mL	Ampoule				
HEPARIIN2	Heparin Injection, 5000 units/mL in 1mL	Ampoule				
HEPARIIN3	Heparin Injection, 5000 units/mL in 5 mL	Vial				
HUIMTEIN1	Human Immune Tetanus Globulins Injection, 250 IU/mL	1 mL				
HUIMTEIN2	Human Immune Tetanus Globulins	2 mL				

	Injection, 500 IU/mL					
HYDRALIN1	Hydralazine Injection, 20 mg	Ampoule				
HYDRALTA1	Hydralazine Tablet, 25 mg	Tablet				
HYDROCCR1	Hydrocortisone Cream, 1%	15 G				
HYDROCID1	Hydrocortisone Eye Drops, 1%	5 mL				
HYDROCEO1	Hydrocortisone Eye Ointment, 1%	5 G				
HYSOSUIN1	Hydrocortisone Sodium Succinate Injection, 100 mg	Vial				
HYDROXIN1	Hydroxocobalamin Injection, 1 mg/mL	1 mL				
HYOBUTIN1	HyoscineButylbromide Injection, 20 mg/mL	1 mL				
HYOBUTTA1	HyoscineButylbromide Tablet, 10 mg	Tablet				
IBUPROSU1	Ibuprofen Suspension, 100 mg/5 mL	100 mL				
IBUPROTA1	Ibuprofen Tablet, 200 mg	Tablet				
IBUPROTA2	Ibuprofen Tablet, 400 mg	Tablet				
IMIPRATA1	Imipramine Tablet, 25 mg	Tablet				
INPRMIIN1	Insulin premixed (30/70) HM Injection, 100 units/mL in 10 mL	Vial				
INSSOLIN1	Insulin Soluble HM, 100 units/mL in 10 mL	Vial				
INTRALSO1	Intralipid Solution (for TPN)	500 mL				
IROPOLCA1	Iron (III) Polymaltose Complex Capsule	Capsule				
IROPOLSU1	Iron (III) Polymaltose Complex Suspension	200 mL				
IRODEXIN1	Iron Dextran Injection, 50 mg/mL	2 mL				
IROSUCIN1	Iron Sucrose Injection, 20 mg/mL	Ampoule				
ISOINSIN1	Isophane Insulin Injection (HM), 100 units/mL in 10 mL	Vial				
ISODINTA1	IsosorbideDinitrate Tablet, 10 mg	Tablet				
ITRACOCA1	Itraconazole Capsule, 100 mg	Capsule				
ITRACOSU1	Itraconazole Suspension, 10 mg/mL	30 mL				
KETOCOCR1	Ketoconazole Cream, 30g	Tube				
KETOCOTA1	Ketoconazole Tablet, 200 mg	Tablet				
LABETAIN1	Labetalol Injection, 5 mg/mL in 20 mL	Ampoule				
LABETATA1	Labetalol Tablet, 100 mg	Tablet				
LABETATA2	Labetalol Tablet, 200 mg	Tablet				
LACTULLI1	Lactulose Liquid 3.1–3.7 g/5 mL	300 mL				

LEVSODTA1	Levothyroxine Sodium Tablet, 25 microgram	Tablet				
LEVSODTA2	Levothyroxine Sodium Tablet, 50 microgram	Tablet				
LEVSODTA3	Levothyroxine Sodium Tablet, 100 microgram	Tablet				
LIDOCACR1	Lidocaine Cream, 2%	15 G				
LIDOCAGE1	Lidocaine Gel, 4%	15 G				
LISHYDTA1	Lisinopril + Hydrochlorthiazide Tablet, (10 mg + 12.5 mg)	Tablet				
LISHYDTA2	Lisinopril + Hydrochlorthiazide Tablet, (20 mg + 12.5 mg)	Tablet				
LISINOTA1	Lisinopril Tablet, 2.5 mg	Tablet				
LISINOTA2	Lisinopril Tablet, 5 mg	Tablet				
LISINOTA3	Lisinopril Tablet, 10 mg	Tablet				
LISINOTA4	Lisinopril Tablet, 20 mg	Tablet				
LODOXAID1	Lodoxamide Eye Drops, 0.1%	10 mL				
LOPERACA1	Loperamide Capsule, 2 mg	Capsule				
LORAZEIN1	Lorazepam Injection, 4 mg/mL in 1mL	Ampoule				
LORAZETA1	Lorazepam Tablet, 1 mg	Tablet				
LORAZETA2	Lorazepam Tablet, 2 mg	Tablet				
LORAZETA3	Lorazepam Tablet, 2.5 mg	Tablet				
LOSARTTA1	Losartan Tablet, 25 mg	Tablet				
LOSARTTA2	Losartan Tablet, 50 mg	Tablet				
LOSARTTA3	Losartan Tablet, 100 mg	Tablet				
MAGSULIN1	Magnesium Sulphate Injection, 20% (10 mL)	Ampoule				
MAGSULIN3	Magnesium Sulphate Injection, 50% (10 mL)	Ampoule				
MAGSULPO1	Magnesium Sulphate Salt	1 G				
MATRALMI1	Magnesium Trisilicate + Aluminium Hydroxide Mixture	200 mL				
MATRALTA1	Magnesium Trisilicate + Aluminium Hydroxide Tablet	Tablet				
MAGTRIMI1	Magnesium Trisilicate Mixture	200 mL				
MAGTRITA1	Magnesium Trisilicate Tablet, 500 mg	Tablet				
MANNITIN1	Mannitol Injection, 10%	500 mL				
MANNITIN2	Mannitol Injection, 20%	500 mL				

MEBENDSU1	Mebendazole Suspension, 100 mg/5 mL	30 mL				
MEBENDTA1	Mebendazole Tablet, 100 mg	6 Tablets				
MEBENDTA2	Mebendazole Tablet, 500 mg	Tablet				
MEBEVETA1	Mebeverine Tablet, 135 mg	Tablet				
MEDACETA1	Medroxyprogesterone Acetate Tablet, 5 mg	Tablet				
MEFACICA1	Mefenamic Acid Capsule, 250 mg	Capsule				
MEFACITA1	Mefenamic Acid Tablet, 500 mg	Tablet				
METFORTA1	Metformin Tablet, 500 mg	Tablet				
METHOTIN1	Methotrexate Injection, 2.5 mg/ mL	Ampoule				
METHOTIN2	Methotrexate Injection, 25 mg/ mL in 2mL	Ampoule				
METHOTTA1	Methotrexate Tablet, 2.5 mg	Tablet				
METHOTTA2	Methotrexate Tablet, 10 mg	Tablet				
METCELID1	Methyl Cellulose Eye Drops, 0.3%	10 mL				
METHYLTA1	Methyldopa Tablet, 250 mg	Tablet				
METOCLIN1	Metoclopramide Injection, 5 mg/mL in 2 mL	Ampoule				
METOCLSY1	Metoclopramide Syrup, 5 mg/5 mL	200 mL				
METOCLTA1	Metoclopramide Tablet, 10 mg	Tablet				
METOLATA1	Metolazone Tablet, 5 mg	Tablet				
METRONIN1	Metronidazole Injection, 5 mg/mL in 100 mL	Bottle				
METRONRE1	Metronidazole Suppository, 500 mg	Supp.				
METRONSU1	Metronidazole Suspension, 100 mg/5 mL (as benzoate)	100 mL				
METRONSU2	Metronidazole Suspension, 200 mg/5 mL(as benzoate)	100 mL				
METRONTA1	Metronidazole Tablet, 200 mg	Tablet				
METRONTA2	Metronidazole Tablet, 400 mg	Tablet				
MICHYDCR1	Miconazole + Hydrocortisone Cream, 2% + 1%	15 G				
MICONACR1	Miconazole Cream, 2%	15 G				
MICONAOG1	Miconazole Oral Gel, 25 mg/mL	40 G				
MICONAVP1	Miconazole Ovule, 400 mg	3 Ovules				
MIDAZOIN1	Midazolam Injection, 5 mg/5mL	Ampoule				

MIDAZOTA1	Midazolam Tablet, 15 mg	Tablet				
MORPHIIN1	Morphine Injection, 10 mg/mL	Ampoule				
MORPHIIN2	Morphine Injection, 10 mg/mL (Preservative Free)	Ampoule				
MORSULTA1	Morphine Sulphate Tablet, 10 mg (Slow release)	Tablet				
MORSULTA2	Morphine Sulphate Tablet, 30 mg (Slow release)	Tablet				
MULTIVDR1	Multivitamin Drops	20 mL				
MULTIVSY1	Multivitamin Syrup	125 mL				
MULTIVTA1	Multivitamin Tablet (Blister Pack)	10 Tablets				
NALIDITA1	Nalidixic Acid Tablet, 500 mg	Tablet				
NALOXOIN1	Naloxone Injection, 400 microgram/mL in 1mL	Ampoule				
NEOMYCTA1	Neomycin Tablet, 500 mg	Tablet				
NEOBROTA1	Neostigmine Bromide Tablet, 15 mg	Tablet				
NEOSTIIN1	Neostigmine Injection, 2.5 mg/mL	Ampoule				
NIFEDICA1	Nifedipine Capsule, 10 mg	Capsule				
NIFEDITA1	Nifedipine Tablet, 10 mg (slow release)	Tablet				
NIFEDITA2	Nifedipine Tablet, 20 mg (slow release)	Tablet				
NIFEDITA3	Nifedipine Tablet, 30 mg (GITS)	Tablet				
NITROFTA1	Nitrofurantoin Tablet, 100 mg	Tablet				
NORETHTA1	Norethisterone Tablet, 5 mg	Tablet				
NYSTATOI1	Nystatin Ointment, 100,000 IU	30 G				
NYSTATTA1	NystatinPessary, 100,000 IU	Pessary				
NYSTATSU1	Nystatin Suspension, 100,000 IU/mL	15 mL				
NYSTATTA2	Nystatin Tablet, 500,000 IU	Tablet				
OMEPRAIN2	Omeprazole Injection, 40 mg	Vial				
OMEPRATA1	Omeprazole Tablet, 20 mg	Tablet				
ORRESAPO1	Oral Rehydration Salts Powder	Sachet				
OXYTOCIN1	Oxytocin Injection, 5 units/mL	Ampoule				
OXYTOCIN2	Oxytocin Injection, 10 units/mL	Ampoule				
PACLITIN1	Paclitaxel Injection, 6 mg/mL in 5 mL	Vial				
PARACERE1	Paracetamol Suppository, 125 mg	Supp				
PARACERE2	Paracetamol Suppository, 250 mg	Supp				
PARACERE3	Paracetamol Suppository, 500 mg	Supp				

PARACESU1	Paracetamol Suspension, 250 mg/5 mL	125 mL				
PARACESY1	Paracetamol Syrup, 120 mg/5 mL	100 mL				
PARACETA1	Paracetamol Tablet, 500 mg	Tablet				
PARAFFLI1	Paraffin Liquid	100 mL				
PENISEIN1	PentamidineIsetionate Injection, 300 mg	Vial				
PETHIDIN1	Pethidine Injection, 50 mg/mL in 2 mL	Ampoule				
PHENOBEL1	Phenobarbital Elixir, 15 mg/5 mL	100 mL				
PHENOBIN1	Phenobarbital Injection, 200 mg/mL	Ampoule				
PHENOBTA1	Phenobarbital Tablet, 30 mg	Tablet				
PHENOBTA2	Phenobarbital Tablet, 60 mg	Tablet				
PHENOLIN1	Phenol 5% in Almond Oil Injection	50 mL				
PHEPENTA1	Phenoxymethyl Penicillin Tablet, 250 mg	Tablet				
PHENYTIN1	Phenytoin Injection, 50 mg/mL in 5 mL	Ampoule				
PHENYTCA1	Phenytoin Sodium Capsule, 50 mg	Capsule				
PHENYTCA2	Phenytoin Sodium Capsule, 100 mg	Capsule				
PHENYTTA1	Phenytoin Sodium Tablet, 100 mg	Tablet				
PHYTOMIN1	Phytomenadione Injection, 1 mg/mL (Paediatric)	Ampoule				
PHYTOMIN2	Phytomenadione Injection, 10 mg/mL	Ampoule				
PILOCAID1	Pilocarpine Eye Drops, 2%	10 mL				
PILOCAID2	Pilocarpine Eye Drops, 4%	10 mL				
PIOGLITA1	Pioglitazone Tablet, 15 mg	Tablet				
PIOGLITA2	Pioglitazone Tablet, 30 mg	Tablet				
PIRACETA1	Piracetam Tablet, 800 mg	Tablet				
PIROXICA2	Piroxicam Capsule, 20 mg	Capsule				
POTCHLIN1	Potassium Chloride Injection, 20 mEq/10 mL	Vial				
POTCHLTA1	Potassium Chloride Tablet, 600 mg (Enteric Coated)	Tablet				
POTCITMI1	Potassium Citrate Mixture BP	200 mL				
POVIDOSO1	Povidone Iodine Aqueous Solution, 10%	100 mL				
POVIDOOI1	Povidone Iodine Ointment, 10%	10 G				
PRAZIQTA1	Praziquantel Tablet, 600 mg	Tablet				
PRAZOSTA1	Prazosin Tablet, 500 microgram	Tablet				

PREDNIID1	Prednisolone Eye Drops, 0.5%	10 mL				
PREDNIID2	Prednisolone Eye Drops, 1%	10 mL				
PREDNITA1	Prednisolone Tablet, 5 mg	Tablet				
PRIMIDTA1	Primidone Tablet, 250 mg	Tablet				
PROBENIN1	Procaine Benzylpenicillin Injection, 4 MU	Vial				
PROHYDEL1	Promethazine Hydrochloride Elixir, 5 mg/5 mL	60 mL				
PROHYDIN1	Promethazine Hydrochloride Injection, 25 mg/mL in 2 mL	Ampoule				
PROMETTA1	Promethazine Hydrochloride Tablet, 25 mg	Tablet				
PROTHETA1	Promethazine Theoclate Tablet, 25mg	Tablet				
PROPRAIN1	Propranolol Injection, 1 mg/mL in 1mL	Ampoule				
PROPRATA1	Propranolol Tablet, 10 mg	Tablet				
PROPRATA2	Propranolol Tablet, 40 mg	Tablet				
PROPRATA3	Propranolol Tablet, 80 mg	Tablet				
PROPYLTA1	Propylthiouracil Tablet, 50 mg	Tablet				
PROSULIN1	Protamine Sulphate Injection, 10 mg/mL in 5 mL	Ampoule				
QUINININ1	Quinine Injection, 300 mg/mL in 2 mL	Ampoule				
QUININSU1	Quinine Suspension, 50 mg/5 mL	100 mL				
QUININSY1	Quinine Syrup, 75 mg/5 mL in 100 mL	100 mL				
QUININTA1	Quinine Tablet, 300 mg	Tablet				
RABEPRTA1	Rabeprazole Tablet, 20 mg	Tablet				
RAMIPRTA1	Ramipril Tablet, 2.5 mg	Tablet				
RAMIPRTA2	Ramipril Tablet, 5 mg	Tablet				
RANITITA1	Ranitidine Tablet, 150 mg	Tablet				
RESERPIN1	Reserpine Injection, 1 mg/ml in 1mL	Ampoule				
RETSOFCA2	Retinol Soft Capsule, 200,000 IU	Capsule				
RINLACSO1	Ringer- Lactate Solution, 500 mL	500 mL				
RISPERLI1	Risperidone Liquid, 1 mg/mL	10 mL				
RISPERTA1	Risperidone Tablet, 500 microgram	Tablet				
RISPERTA2	Risperidone Tablet, 1 mg	Tablet				
RISPERTA3	Risperidone Tablet, 2 mg	Tablet				
ROSUVATA1	Rosuvastatin Tablet, 5 mg	Tablet				
ROSUVATA2	Rosuvastatin Tablet, 10 mg	Tablet				

ROSUVATA3	Rosuvastatin Tablet, 20 mg	Tablet				
SALBUTGA1	Salbutamol Inhaler, 100 microgram/metered dose, 200 doses	Inhaler				
SALBUTGA2	Salbutamol Nebules, 2.5 mg	Dose				
SALBUTGA3	Salbutamol Nebules, 5 mg	Dose				
SALSULIN1	Salbutamol Sulphate Injection, 500 microgram/mL in 1mL	Ampoule				
SALBUTSY1	Salbutamol Syrup, 2 mg/5 mL	200 mL				
SALBUTTA1	Salbutamol Tablet, 2 mg	Tablet				
SALBUTTA2	Salbutamol Tablet, 4 mg	Tablet				
SALACIOI1	Salicylic Acid Ointment, 2%	40G				
SECNIDTA1	Secnidazole Tablet, 500 mg	Tablet				
SELSULSH1	Selenium Sulphide Shampoo, 2.5%	50 mL				
SERTRATA1	Sertraline Tablet, 50 mg	Tablet				
SERTRATA2	Sertraline Tablet, 100 mg	Tablet				
SILSULCR1	Silver Sulphadiazine Cream, 1%	50 G				
SIMLINSY1	Simple Linctus BPC (Paediatric)	125mL				
SIMLINSY2	Simple Linctus BPC	125mL				
SIMVASTA1	Simvastatin Tablet, 10 mg	Tablet				
SIMVASTA2	Simvastatin Tablet, 20 mg	Tablet				
SIMVASTA3	Simvastatin Tablet, 40 mg	Tablet				
SIMVASTA4	Simvastatin Tablet, 80 mg	Tablet				
SODBICIN1	Sodium Bicarbonate Injection, 8.4% in 10 mL	Ampoule				
SODCHLIN1	Sodium Chloride Injection, 0.45% (250 mL)	250 mL				
SODCHLIN3	Sodium Chloride Infusion, 0.9% (500 mL)	500 mL				
SODCHLND1	Sodium Chloride Nasal Drops, 0.9%	10 mL				
SODVALCA1	Sodium Valproate Capsule, 200 mg	Capsule				
SODVALCA2	Sodium Valproate Capsule (Slow Release), 500 mg	Capsule				
SODVALSY1	Sodium Valproate Syrup, 200 mg/5 mL	300 mL				
SODVALTA1	Sodium Valproate Tablet, 200 mg	Tablet				
SOANSTOI1	Soothing Agent + Local Anaesthetic + Steroid Ointment	15 G				
SOANSTRE1	Soothing Agent + Local Anaesthetic + Steroid Suppository	Supp				

SOOANAOI1	Soothing Agent + Local Anaesthetic Ointment	15 G				
SOOANARE1	Soothing Agent + Local Anaesthetic Suppository	Supp				
SPIRONTA1	Spironolactone Tablet, 25 mg	Tablet				
SPIRONTA2	Spironolactone Tablet, 50 mg	Tablet				
STREPTIN1	Streptokinase Injection, 100,000 unit-vial	Vial				
STREPTIN2	Streptokinase Injection, 250,000 unit-vial	Vial				
STREPTIN3	Streptokinase Injection, 750,000 unit-vial	Vial				
SULFASTA1	Sulfasalazine Tablet, 500 mg	Tablet				
SULPHAID1	Sulphacetamide Eye Drops, 10%	10 mL				
TAMOXITA1	Tamoxifen Tablet, 10 mg	Tablet				
TAMOXITA2	Tamoxifen Tablet, 20 mg	Tablet				
TAMSULCA1	Tamsulosin Capsule, 400 microgram	Capsule				
TERAZOTA1	Terazosin Tablet, 2 mg	Tablet				
TERAZOTA2	Terazosin Tablet, 5 mg	Tablet				
TERBINTA1	TerbinafineHCl Tablet, 250 mg	Tablet				
TESENAIN1	Testosterone Enantate Injection, 250 mg in 1 mL	Ampoule				
TETRACCA1	Tetracycline Capsule, 250 mg	Capsule				
TETRACEO1	Tetracycline Eye Ointment, 0.5%	5 G				
TETRACEO2	Tetracycline Eye Ointment, 1%	5 G				
THEOPHTA1	Theophylline Tablet, 200 mg (slow release)	Tablet				
THIAMIIN1	Thiamine Injection, 100 mg	Vial				
THIAMITA1	Thiamine Tablet, 50 mg	Tablet				
THIAMITA2	Thiamine Tablet, 100 mg	Tablet				
TIABENTA1	Tiabendazole Tablet, 500 mg	Tablet				
TIMMALID1	Timolol Maleate Eye Drops, 0.5%	10 mL				
TINIDACA1	Tinidazole Capsule, 500 mg	Capsule				
TIROFIIN1	Tirofiban Infusion, 50 micrograms/mL	100 mL				
TIROFIIN2	Tirofiban Infusion, 250 micrograms/ml (concentrate)	100 mL				
TOLBUTTA1	Tolbutamide Tablet, 500 mg	Tablet				
TRAACICA1	Tranexamic Acid Capsule, 250 mg	Capsule				

TRAACIIN1	Tranexamic Acid Injection, 100 mg/mL	Ampoule				
TRAACITA1	Tranexamic Acid Tablet, 500 mg	Tablet				
TRIFLUTA1	Trifluoperazine Tablet, 1 mg	Tablet				
TRIFLUTA2	Trifluoperazine Tablet, 5 mg	Tablet				
TRIHEXTA1	Trihexyphenidyl Tablet, 2 mg	Tablet				
TRIHEXTA2	Trihexyphenidyl Tablet, 5 mg	Tablet				
VERAPATA1	Verapamil Tablet, 40 mg	Tablet				
VERAPATA2	Verapamil Tablet, 80 mg	Tablet				
WARFARTA1	Warfarin Tablet, 1 mg	Tablet				
WARFARTA2	Warfarin Tablet, 3 mg	Tablet				
WARFARTA3	Warfarin Tablet, 5 mg (scored)	Tablet				
WATFORIN1	Water for Injection	10 mL				
ZINCOOTA1	Zinc Tablet, 10 mg	Tablet				
ZINCOOTA2	Zinc Tablet, 20 mg	Tablet				
5FLUORIN1	5-Fluorouracil Injection, 50 mg/mL	10 mL				

Appendix VI

Information sheet and consent form

Information Sheet for Clients

You are being invited to take part in a research study, aimed at determining providers and clients' perception and experience on National Health Insurance Schemes medicines list.

Before you decide to take part in this study, it is important for you to understand why the research is being done and what it will involve. Please take some time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would want more information. Take time to decide whether or not you wish to take part.

Who is conducting the study?

The study is being conducted by Bertha Nimo Opoku, a student being supervised by Dr. Kofi Akohene Mensah of Kwame Nkrumah University of Science and Technology, Department of Health Policy, Management and Economics, Kumasi.

What is the purpose of the study?

The study is about providers and clients' perception on NHIS medicines list in order to provide important feedback to the relevant policy makers, practicing professionals, health workers and providers and the general public as a whole and make necessary adjustments to the list. The field work for this study begins in July 2014 and will continue until August 2014.

Why have I been asked to take part?

You have been chosen to represent the views of clients who bring their prescriptions to this facility.

What would be involved?

The semi-structured questionnaire will be administered to you at a designated place of the facility where you will feel more comfortable. The questions will ask aboutclients' perception and experience on the NHIS Medicines list and should not last more than 20 minutes.

What happens next?

If you are interested in taking part in this study then a consent form will be given to you to sign to affirm your willingness to take part in the study.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving reason.

What are the benefits of taking part?

There may be no direct benefits of filling the questionnaire. However, you will be providing useful and important information, which will contribute to the improvement of the NHIS Medicines list and the NHIS as a whole.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the study will be kept strictly confidential. No names will be recorded and so it will not be linked to you in anyway in the report of this study. However, your participation in this study is entirely voluntary.

What will happen to the results of the research study?

The results of the study will be presented to the Department of Health Policy, Management and Economics of Kwame Nkrumah University of Science and Technology and also published in academic journals. If you wish, you can obtain a copy of the published results by contacting Bertha Nimo Opoku. You will of course not be identified in the final report or publication.

Who is organizing and funding the research?

The research is being undertaken by Bertha Nimo Opoku, a student at the Kwame Nkrumah University of Science and Technology under the supervision from an academic lecturer. The student is funding this research.

Thank you for reading this.

Information Sheet for Providers

You are being invited to take part in a research study, aimed at determining providers and clients' perception and experience on National Health Insurance Schemes medicines list.

Before you decide to take part in this study, it is important for you to understand why the research is being done and what it will involve. Please take some time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would want more information. Take time to decide whether or not you wish to take part.

Who is conducting the study?

The study is being conducted by Bertha Nimo Opoku, a student being supervised by Dr. Kofi Akohene Mensah of Kwame Nkrumah University of Science and Technology, Department of Health Policy, Management and Economics, Kumasi.

What is the purpose of the study?

The study is about providers and clients' perception on NHIS medicines list in order to provide important feedback to the relevant policy makers, practicing professionals, health workers and providers and the general public as a whole and make necessary adjustments to the list. The field work for this study begins in July 2014 and will continue until August 2014.

Why have I been asked to take part?

You have been chosen to represent the views of providers who administers medicines to clients.

What would be involved?

The structured questionnaire will be administered to you on a designated place at your facility where you will feel more comfortable. The questions will ask about providers' perception and experience on the NHIS Medicines list and should not last more than 20 minutes.

What happens next?

If you are interested in taking part in this study then a consent form will be given to you to sign to affirm your willingness to take part in the study.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving reason.

What are the benefits of taking part?

There may be no direct benefits of filling the questionnaire. However, you will be providing useful and important information, which will contribute to the improvement of the NHIS Medicines list and the NHIS as a whole.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the study will be kept strictly confidential. No names will be recorded and so it will not be linked to you in anyway in the report of this study. However, your participation in this study is entirely voluntary.

What will happen to the results of the research study?

The results of the study will be presented to the Department of Health Policy, Management and Economics, Kwame Nkrumah University of Science and Technology and also published in academic journals. If you wish, you can obtain a copy of the published results by contacting Bertha Nimo Opoku. You will of course not be identified in the final report or publication.

Who is organizing and funding the research?

The research is being undertaken by Bertha Nimo Opoku, a student at the Kwame Nkrumah University of Science and Technology under the supervision from an academic lecturer. The student is funding this research.

Thank you for reading this.

Information Sheet for NHIS Representative

You are being invited to take part in a research study, aimed at determining providers and clients' perception and experience on National Health Insurance Scheme medicines lists.

Before you decide to take part in this study, it is important for you to understand why the research is being done and what it will involve. Please take some time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would want more information. Take time to decide whether or not you wish to take part.

Who is conducting the study?

The study is being conducted by Bertha Nimo Opoku, a student being supervised by Dr. Kofi Akohene Mensah of Kwame Nkrumah University of Science and Technology, Department of Community Health, Kumasi.

What is the purpose of the study?

The study is about providers and clients' perception on National Health Insurance medicine list in order to provide important feedback to the relevant policy makers, practicing professionals, health workers and providers and the general public as a whole and make necessary adjustments to the list. The field work for this study begins in July 2014 and will continue until August 2014.

Why have I been asked to take part?

You have been chosen to represent the views of health providers in this department.

What would be involved?

The interview will take place at your office, or a place of your convenience if this will make you feel more comfortable. The interview will take you through a semi-structured interview. The interviewer will complete an interview sheet, take additional notes where necessary and it will be recorded. The interview will be relaxed and informal and it should last not more than 20 minutes. The questions will ask about why the medicines

list was developed, its impact on service delivery, the challenges and its implication on the strategic objective on the NHIS.

What happens next?

If you are interested in taking part in this study then a consent form will be given to you to sign to affirm your willingness to take part in the study.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving reason.

What are the benefits of taking part?

There may be no direct benefits of being interviewed. However, you will be providing useful and important information, which will contribute to the improvement of the NHIS Medicines list and the NHIS as a whole.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the study will be kept strictly confidential. No names will be recorded and so it will not be linked to you in anyway in the report of this study. However, your participation in this study is entirely voluntary.

What will happen to the results of the research study?

The results of the study will be presented to the Department of Health Policy, Management and Economics of Kwame Nkrumah University of Science and Technology and also published in academic journals. If you wish, you can obtain a copy of the

published results by contacting Bertha Nimo Opoku. You will of course not be identified in the final report or publication.

Who is organizing and funding the research?

The research is being undertaken by Bertha Nimo Opoku, a student at the Kwame Nkrumah University of Science and Technology under the supervision from an academic lecturer. The student is funding this research.

Thank you for reading this.

Information Sheet for In-Charges and Pharmacists

You are being invited to take part in a research study, aimed at determining providers and clients' perception and experience on National Health Insurance Scheme medicines lists.

Before you decide to take part in this study, it is important for you to understand why the research is being done and what it will involve. Please take some time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would want more information. Take time to decide whether or not you wish to take part.

Who is conducting the study?

The study is being conducted by Bertha Nimo Opoku, a student being supervised by Dr. Kofi Akohene Mensah of Kwame Nkrumah University of Science and Technology, Department of Health Policy, Management and Economics, Kumasi.

What is the purpose of the study?

The study is about providers and clients' perception and experience on National Health Insurance medicine list in order to provide important feedback to the relevant policy

makers, practicing professionals, health workers and providers and the general public as a whole and make necessary adjustments to the list. The field work for this study begins in July 2014 and will continue until August 2014.

Why have I been asked to take part?

You have been chosen to represent the views of health providers in this department.

What would be involved?

The interview will take place at your office, or a place of your convenience if this will make you feel more comfortable. The interview will take you through a semi-structured interview. The interviewer will complete an interview sheet, take additional notes where necessary and it will be recorded. The interview will be relaxed and informal and it should last not more than 20 minutes. The questions will ask about your general opinion on the NHIS medicines list, whether you stock all NHIS medicines, some of the challenges encountered and how to over those challenges.

What happens next?

If you are interested in taking part in this study then a consent form will be given to you to sign to affirm your willingness to take part in the study.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving reason.

What are the benefits of taking part?

There may be no direct benefits of being interviewed. However, you will be providing useful and important information, which will contribute to the improvement of the NHIS Medicines list and the NHIS as a whole.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the study will be kept strictly confidential. No names will be recorded and so it will not be linked to you in anyway in the report of this study. However, your participation in this study is entirely voluntary.

What will happen to the results of the research study?

The results of the study will be presented to the Department of Health Policy, Management and Economics of Kwame Nkrumah University of Science and Technology and also published in academic journals. If you wish, you can obtain a copy of the published results by contacting Bertha Nimo Opoku. You will of course not be identified in the final report or publication.

Who is organizing and funding the research?

The research is being undertaken by Bertha Nimo Opoku, a student at the Kwame Nkrumah University of Science and Technology under the supervision from an academic lecturer. The student is funding this research.

Thank you for reading this.

CONSENT FORM

Title of Project: Providers and clients perception and experience on National Health Insurance Scheme Medicines list in Public and Private Pharmacy in Bantama sub – metro: case study of KATH and Nimo Pharmacy in Ashanti Region.

Name of Researcher: Bertha Nimo Opoku

Please cross box

1.I confirm that I have read and understood the information sheet dated…….. for the [ ] above study and have had the opportunity to ask questions.

2.I understand that my participation is totally voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights being infringed upon. [ ]

3.I agree to take part in the above study. [ ]

---------- ---------- ----------

Name of subject Date Signature/thumbprint

---------- ---------- ----------

Name of Person taking consent Date Signature

---------- ---------- ----------

Researcher: Bertha Nimo Opoku Date Signature