CHRISTIAN SERVICE UNIVERSITY COLLEGE

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

A PREDICTIVE MODEL OF FINANCIAL CLAIMS REJECTION UNDER THE

NATIONAL HEALTH INSURANCE SCHEME

(A CASE STUDY OF SELECTED HEALTH SERVICE PROVIDERS IN ASHANTI

REGION)

BY

KWAKU OPOKU

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original work towards the Master of Science Degree in Accounting and Finance and that to the best of my knowledge, it contains no material previously published by another person or materials which have been accepted for the award of any other degree of the University, except where due acknowledgements have been made in the text.

KWAKU OPOKU   ....

(60000294)   Signature   Date

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the Christian Service University College of Ghana.

DR. KWAKU AHENKORA   ....

(Supervisor)   Signature   Date

ABSTRACT

Access to quality healthcare is fundamental to economic progression as healthy populations live longer, are more productive, and save more. The National Health Insurance Scheme (NHIS) was established by the Government of Ghana in 2003 through an Act of Parliament to provide accessible and quality Healthcare services to residents of Ghana. It replaced the Cash and Carry system which took a toll on healthcare delivery in the country. The scheme has however been facing claims management and financing challenges. This study provides a predictive model based on factors that affect claims rejection. An explanatory research design was employed, and a multiple linear regression model developed to evaluate the impact of identified factors namely; errors, fraud, adequacy of personnel, the level of bureaucracy and adequacy of logistics on claims rejections for a stipulated period of a year. The regression model revealed that the identified factors account for approximately 89% of the variations in claims rejection.

The model showed that errors and inadequacy of personnel account significantly for claims rejection under the National Health Insurance Scheme. As a result, the study recommends among others, increased advocacy, sensitization and training of health service providers and subscribers of the scheme on the impact of fraud and abuse on the health insurance system as well as institution of a sophisticated E-claims system to minimize duplications and errors which lead to Claims rejection.

DEDICATION

This dissertation is dedicated to my father, (Mr. Kofi Opoku) who inspired me to dream and to work hard to achieve that dream. It is also dedicated to my mother, (Ms Regina Obeng) who taught me that even the largest task can be accomplished if it is done one step at a time.

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ABBREVIATION

DMHIS   -   District Mutual health scheme

GDRGs   -   Ghana Diagnostic Related Groupings

NHIA   -   National Health Insurance Authority

NHIL   -   National health Insurance levy

NHIS   -   National Health Insurance scheme

OPD   -   Out Patients Department

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

The National Health Insurance Scheme was introduced by government in 2003 through an Act of Parliament, National Health Insurance Act 650. The scheme was established to provide accessible healthcare services to the residents of Ghana especially the poor and the vulnerable. The scheme was introduced to provide a sustainable means of financing healthcare in Ghana. The scheme was also structured to eliminate the "Cash and Carry" system where patients had to pay at service points for healthcare. Since the inception of the scheme, there have been some tremendous surges in the level of subscription to the scheme. The number of subscription increased from the beginning of operation in 2004. From 1,348,160 in 2005 subscription rose to 14,511,777 as at 31st December, 2009 according to the 2009 National Health Insurance Authority Annual Report.

Over the years, there has been a series of report about unsatisfactory management of the schemes regarding unsettled claims for health service providers (HSP) by District Mutual Health Insurance Schemes, fraud by HSP and threats of HSP refusing to provide healthcare services to subscribers of the Health Insurance Scheme (NHIS Audit report, 2012).

Interest in the performance of the scheme is a topical one in the media landscape in the country as a result of the people's interest in health care provision. Both the print and electronic media have reported the long delays in the payment health insurance claims as well as rejection of claims due to health care providers. These have led to some health care providers particularly mission and private health care providers accredited with the schemes threatening to resort to direct collection of fees for service delivered to clients of the scheme. The Scheme has implied that the rejection and delay in the payment of claims were somehow

traceable to the doorsteps of service providers for not doing enough to merit claim reimbursement. These inadequacies in the claim submissions have resulted in the increase in claims rejections. The study, however, adopts a predictive approach to investigate and identify challenges that influence claim rejection in the various health facilities.

1.1 Background of Study

The provision of quality healthcare remains a major priority for governments of countries the world over. The issue of a sound healthcare system cannot be downplayed as empirical research reveals a positive and statistical relationship between healthcare and economic growth. Mhere (2013) asserted that the prominence of a healthy nation and a healthy workforce is indubitably vital to the survival and wellbeing of any economy and thus any hint of deteriorating health standards should thus be expected to be a source of worry for the nation concerned. This assertion is affirmed by the World Health Organization (WHO, 2004) that the good health of a nation is vital to the human development as well as economic growth of a nation and therefore essential that health systems perform well to ensure that people's health is not being compromised.

Developing countries mostly African and South American countries have been faced with the challenge of providing quality health care to its citizenry. The problems of providing quality health care in these countries cannot be decoupled from the issue of accessibility and financing. This development has forced most nations in the developing world to rely heavily on out-of-pocket regimes of health payments to fund their health care systems as stipulated by Xu et al. (2007). This system of health financing has caused an unappreciated spectacle and become an unpopular means of sustainably financing health care especially in the view of equity and the deterioration of the health care system. The effect of a poor health care system

as a result of the inaccessibility and unsustainability in financing can be calamitous as can be witnessed with the macroeconomic variables of most developing countries.

Carrin and Preker (2004) point to the global consensus on the essence of extending social protection in health to the citizenry to minimize the hindrance that comes with the provision of health care services and to eliminate the burden of ruinous health expenditures. The quest of various central governments in the developing world to provide good and quality health care delivery to their peoples have culminated in the instituting of various health insurance schemes and modules of financing health care. The instituted regimes of health insurance can be viewed as a method of providing members of a defined group or community with protection against the cost of medical care (Atim et al.; 1998; Bennet, 2004) cited in (Darkpani, 2011). Darkpani (2011) underpins the objective of health insurance to cover for future risks of ill health and also based on the principle of pooling risks, and therefore, the redistribution of financial resources from that segment of a community that does not incur high healthcare cost to those segments of the community that do. Countries such as Rwanda, Nigeria, Ghana and the likes have instituted various health insurance regimes spurred by the western world and the above-highlighted principle to enhance the delivery of healthcare to its people.

Ghana in 2003 became one of the pioneer countries in the sub-Saharan region to institute a National Health Insurance Scheme aimed at comprehensively prioritizing universal coverage, defined as 'access to adequate healthcare for all at affordable price' (WHO, 2005), of health care and has therefore put in place policies and programmes to meet this goal (Osei-Akoto, 2003) as cited in (Gobah and Liang, 2011). Subsequently in 2004, Ghana began implementation of the NHIS as a policy objective to minimize out-of-pocket expenditure at the point of use of service, thus reducing the financial barrier to health service utilization. The

implementation of the scheme saw the registration of about 38% of the Ghanaian population into the scheme by 2013 (NHIA Annual Report, 2013)

Regardless of the theme of the health insurance to enhance health care delivery, the National Health Insurance Scheme has been thrown down the gauntlet with several cases of abuse by providers and members of the scheme. Reports indicate that claims payment has been a major problem for health care providers. The issue of claims is said to be crippling the survival of health institutions in the Ghana mainly as a result of delays and refusal of claim payment by the insurance authority. It is against this backdrop that this study seeks to assess claim management processes of the National Insurance Health Scheme in the health facilities which happens to be an essential element in the sustainability of the scheme and its established role of providing quality health care (Aryeetey et al., 2016).

1.2 Problem Statement

The issue of health care financing has heralded many global discussions over the years. Governments over the world have been striving hard to remedy the challenge of having to sustainably fund health care. In view of this, successive governments the world over have been compelled to adopt new and innovative ways to ensure that basic health care is provided to its citizenry while not relegating the issue of equity to the background. The huge responsibility of sustainably funding healthcare by various governments is no exception to Ghana. Successive governments in the country have grappled with this issue over the years. This has culminated in the introduction of the National Health Insurance Scheme in 2003 to provide coverage for the payment of health care service to subscribers.

The quests of the scheme to replace the cash and carry system and to make health care delivery affordable and accessible to Ghanaians have been faced with several challenges ranging from financing to mismanagement from both providers and members or benefactors.

Invariably, the issues of claim management processes have remained a major concern in ensuring the sustainability of the scheme. The health insurance scheme requires facilities to provide documentation in processing and submission of claims by health care providers and this place a toll on already limited resources (i.e. time and personnel) in the facilities. Claims processing is an important component in the implementation of the scheme since providers could face losses in revenue should there be any rejections in claims submitted. Moreover the timing and frequency of claims reimbursements has implications on the overall management of facilities (Aryeetey et al. 2016). Factors such as mistakes in claims, time of submission of claims after services, falsification of claims and others have led to delays in payment. These have been on the rise in recent times. These factors bedevil the NHIS in fulfilling its mandate of payment of refunds to hospitals and thereby causing financial problems for government hospitals since about 90% of patients are on the national health insurance scheme.

As a result of the interest of the people in the provision of health care services for them, the performance of the National Health Insurance has continued to be a topical issue that has featured prominently in both electronic and print media engagements. The inefficiencies associated with the claims management process have culminated in reports of delayed reimbursement crippling affected health facilities. According to a Myjoyonline.com report on the 13th of April 2017, health facilities nationwide were owed a total of GH1.2 billion, most of it in unpaid claims while health providers themselves reported over 12 months' delay in having claims settled. The topical nature of the issues regarding the performance of the health insurance has resulted in the regular engagement in the media. The government health care providers have however not been as vociferous as the mission and private facilities in their dissatisfaction with the performance of the scheme even though they complain informally about the scheme's delays and non-payment of their claims. Regardless of the undeniable financial issues facing the scheme, the scheme authorities attribute some of these reported

delays to the lack of prompt submission of claims by health care providers in addition to fraud issues. Adversely, the challenge of delays in claims payment has capped the threats of boycott by some service providers.

Invariably, Aryeetey et al. (2016) postulate that the value of claims submitted by hospitals in the southern zone to NHIA was US$859,964.76 with reimbursement value of US$ 839,122.44 indicating about 2.4 % of claims submitted were not reimbursed. This is severely affecting the economic viability of the various health facilities that are already embedded with increased expenditure as facilities' spending per patient increased after the introduction of the NHIS compared to the period before the NHIS. This in economic terms denotes inefficiency in spending. Plausible reasons for this include the extra spending that facilities make on NHIS members that are not reimbursed by the NHIA.

Notwithstanding the above, the issue of claim management cannot be disassociated from issues of technical and human resource constraints. There exist issues of weak system and human capacity for claims management, audit and fraud control. These, in turn, create some setbacks. Schemes approve claims, including wrong and fraudulent ones; and delay in claims payment cause agitation by providers, undermining the quality of service delivery to clients. Granting these challenges identified with claims processing and payment in all insurance schemes, the argument has been made for recentralization of claims processing to fewer key centers for efficiency and effectiveness gains, (Government of Ghana, 2009) as cited in Addae-Korankye (2013).

Sodzi-Tettey (2009) posits that human resource constraints contribute immensely to the delays both in submitting claims by the facilities and in their processing by the scheme. He cites that until August 2007 when the NHIA signed an agreement to commence a nationwide integrated ICT programme, ICT use in the claims processing was limited with no yet

documented impact of the introduction of ICT. Nonetheless, the expansion of coverage has resulted in an overload of claims submitted, and their resultant slow processing has also been raised at the level of the DMHIS. The issue of human resource constraints in the preparation of the claims on the side of the providers and the vetting of the claims on the side of the scheme could have an impact on claims rejection. Additionally, the literature on health insurance claims processes is mostly limited in developing countries. Rejection rates of claims submitted by providers on a national scale are said not to be documented in Ghana; the Korle-Bu Teaching Hospital recorded a range of rejected claims of 9-22% in 2008 according to the NHIA Claims Manager, 2009.

Relative to those mentioned above, it is therefore imperative for an extensive scientific research to be conducted in respect to claim management process in the various health facilities in the wake of the threat by various health providers to boycott the provision of the service. Again, there is limited empirical data on the subject matter of claim management concerning the National Health Insurance Scheme, especially with claim rejection and reimbursement. This study sought to provide some empirical evidence of claims management by service providers.

1.3 Aims and Objectives

The study is concerned with assessing the management of claims under the National health insurance scheme in the various health facilities. To guide this study, the following are the specific objectives;

- Assess the trends of variables accounting for claim rejection;

- Estimate the effect of identified factors on claim rejection;

- Make policy recommendations based on the outcome of the study;

1.4 Research Questions

The study is aimed at providing answers to the following questions. These questions provide

the content of the study;

- What are the trends in the variables accounting for claims rejection?

- What is the effect of identified factors on claims rejection?

- What are some of the recommendations to mitigate the level of claims rejection?

1.5 Hypotheses

This study will test the following hypothesis:

H_{0A}: Fraud insignificantly affects Claim rejection

H_{1A}: Fraud significantly affects Claim rejection

H_{0B}: Adequacy of logistics insignificantly affects Claim rejection

H_{1B}: Adequacy of logistics significantly affects Claim rejection

H_{0C}: Adequacy of personnel insignificantly affects Claim rejection

H_{1C}: Adequacy of personal significantly affects Claim rejection

H_{0D}: Errors insignificantly affects Claim rejection

H_{1D}: Errors significantly affects Claim rejection

H_{0E}: Level of bureaucracy insignificantly affects Claim rejection

H_{1E}: Level of bureaucracy significantly affects Claim rejection

H_1: $\beta i = 0$

H_0: $\beta i \neq 0$

Where the independent variables are: Fraud, Errors, Adequacy of Logistics, and competence

of personnel and Level of bureaucracy.

1.6 Justification of Study

In 2004, Ghana began implementation of a National Health Insurance Scheme (NHIS) to minimize out-of-pocket expenditure at the point of use of service. The implementation of the scheme was accompanied by increased access and use of health care services. Evidence suggests most health facilities are faced with management challenges in the delivery of services (Sodzi-Tettey, 2009). This assertion motivates the study aimed at assessing claim management in the health facilities. Primarily, the completion of this research work is expected to lead to an enhancement in the provision of quality health care to the citizenry. Thus the outcome of this research is expected to contribute to impact positively on health delivery.

It is envisaged that the outcome of this result could provide insight into governance and management of the scheme. That is the completion of this study is expected to provide some form of reference to both the management of various health facilities and the National health authority relative to claims management. The sustainability of the National Health Insurance is highly dependent on the subject of claims management. The study is also expected to aid management of health facilities to plan and make informed decisions that will make their outfit economically viable.

Academically, there happens to be a limited scientific study in the area claims management concerning the National Health Insurance Scheme. However, the findings of these research works have been inconclusive. The findings of this research are expected to contribute to the already existing knowledge in the field of Health Insurance and also act as a blueprint for further research in the same area and other related areas. This study will provide empirical evidence in the area of health insurance as well serve as an academic reference especially in the field of claims management where there exists a knowledge gap.

Besides empirically analyzing the substantiality of National health insurance scheme claims management in the health facilities, the recommendations and conclusion of this study will be purposeful to policy makers with their initiatives to transform the scheme. Again, the study is aimed to imperatively aid in making the National Health Insurance scheme financially sustainable in the wake of various challenges faced by the scheme at least judging from reports of delayed payment of claims over a period of 12 months.

1.7 Scope

The NHIS accredits health providers as primary, secondary and tertiary and refunds payment for services provided to clients based on rates for the various levels depending on whether they are government, mission or private. The health providers considered for the study are government health care providers in Ashanti Region. The Ashanti Region was chosen based on its use as pilot for the capitation system. Its central location in the middle belt of the country has made it to have far easier links to the other regions in the country. Its nodal state accords it the ability to provide a fair reflection of the occurrence in the health sector in Ghana. According to Kodua, van Dijk, Agyepong (2016), Ashanti Region was chosen for the capitation pilot because it has 19% of Ghana's population − making it the region with the largest proportion of Ghana's population. They also state that the region reflects the diversity of Ghana from the complex metropolis of Kumasi the regional capital to deprived remote areas like parts of the Afram Plains. The selection of the Ashanti region is also based on its dominance in terms of active members registered under the scheme. The NHIS (2013) placed the number of active members of the scheme in the Ashanti Region at 1,715,388 out of a total sum of 10,145,196 active members nationwide thus representing 17% of active membership. The region also boasts of the highest number of Credentialed Healthcare providers. In 2013, the NHIS reported that Ashanti Region had the highest number of credentialed healthcare providers and that its 619 credentialed facilities represented 16.2% of

that of the country. The region is followed by Eastern Region with 514 credentialed facilities. (NHIS Annual Report, 2013).

Contextually, the study is themed to embark on a predictive study of claim rejection in health service facilities. The study aims at identifying factors that cause claims rejection in those health facilities as well as makes scientific estimation to determine the level of significance of these identified factors on claims rejection.

1.8 Limitations

The research will be conducted in some selected government hospitals in the Ashanti Region this is because Ashanti Region is the third largest region (relative to the 10 administrative regions) with the most populated and highest number of members on the national health insurance scheme. The research could thus be considered representative enough for the generalization of the research findings. Also, organizational secrecy is likely to distort the data to be collected since a number of the interviewees were reluctant to provide the needed information. In effect, there was a lack of access to quality and reliable information particularly from health practitioners relative to their code of ethics on clients chatter and confidentiality. Again the unwillingness of some providers and some DMHIS officials restricted the number of facilities for the study. Invariably, time constraints also inhibited the successful completion of this scientific study but were however not significant to impact on research findings.

1.9 Definition of Terms

INSURANCE is the equitable transfer of the risk of a loss, from one entity to another in exchange for payment. It is a form of risk management primarily used to hedge against the risk of a contingent or uncertain loss. (Lehner and Harrison 2014)

HEALTH INSURANCE is insurance against loss by illness or bodily injury which provides coverage for medicine, visits to the doctor or emergency room, hospital stays and other medical expenses.

CLAIM: A claim is a detailed invoice that your health care provider (such as your doctor, clinic or hospital) sends to the health insurer for the payment of services rendered. This invoice shows exactly what service you received. You get services from a health care provider. The health care provider submits a claim to unity.

REJECTED CLAIM: A rejected claim is a claim that is in a rejected status and has failed on of the following: Billing validations – The validations that the claim goes through in Billing when the claim is prepared to be sent to the payer. A rejected claim is also defined as a claim which was not reimbursed, while rejected claims cost is defined by any amount withheld on part or all of a claim arising from whole rejection or partial deductions on the submitted claims (Sodzi-Tettey. et al, 2012).

NHIS REFUND: A refund is money paid back to service providers or health care facilities for the services provided.

HEALTH CARE PROVIDER: Under federal regulations, a "health care provider" is defined as: a doctor of medicine or osteopathy, podiatrist, dentist, chiropractor, clinical psychologist, optometrist, nurse practitioner, nurse-midwife, or a clinical social worker who is authorized to practice by the State and performing within the scope of their practice as defined by State law, or a Christian Science practitioner. A health care provider also is any provider from whom the University or the employee's group health plan will accept medical certification to substantiate a claim for benefits.

NATIONAL HEALTH INSURANCE SCHEME (NHIS): The national health insurance scheme is a form of National health insurance established by the Government of Ghana, with a goal to provide equitable access and financial coverage for basic health care services to Ghanaian citizens.

1.10 Organization of Study

The study is sectioned into five chapters. Chapter one of the study is comprised with the background of the study, problem statement, research questions and the justification for the study. The second chapter of the study focused mainly on the concept of health insurance and the review of relevant theoretical and empirical literature on the substance of health insurance and claims management. The third chapter of the study elaborated on the research methodology and the empirical design including model specification. The chapter four of the study was concerned with the empirical estimations and interpretation of data analysis result. The last chapter concludes the study and provides policy recommendations based on the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter elaborates on related researches concerning Health insurance and claims management as well as defining various concepts emanating from related studies. This chapter is put into three sections; the first category delves into the concept of health insurance as well as investigates theories of innovations significant to the study while the second section provides a conceptual framework to guide the study. The third section reviews the empirical literature relating to the National health insurance and claims payments. Furthermore, the chapter reviews the evolution and development of health insurance in Ghana.

2.2 Concept of Health Insurance

Health care financing over the years has become a growing global concern world over. Mostly in sub-Saharan Africa financing health care solely depended on tax revenue which was considered unsustainable. Hanson et al. (2006) articulate that an effective and efficient system of financing healthcare indubitably heralds most global discourse and thus, has resulted in most developing nations striving to identify alternative and sustainable means of their health system.

In the quest of finding alternatives to comprehensively fund health led to the conception of health insurance. Hsiao and Shaw (2007) stipulates that as a way to insure people against high levels of cost in their bid to secure healthcare services paved the way for the conception of social health insurance. Carrin (2002) also elaborated that the fruition of the social insurance aims at making it possible for people, especially the poor, to access health care services and help generate income for service practitioners. Consistently, the National Health

Insurance Authority defines Health Insurance as a private or public system of protection against the losses owing to medical expenses (NHIA, 2008). The authority further explains that Health Insurance should be based on the principle of pooling of risk, and therefore, the redistribution of financial resources from the segment of a community that does not incur high health care cost to those segments of the community that do. The objective of health insurance is to cover future risks of ill health (NHIA, 2008).

According to Yirbuor (2011), Health insurance mainly denotes insurance that makes payment for medical expenses. Health insurance is often defined to include insurance covering disability and long-term nursing or custodial care needs. Yirbuor (2011) again explains that health insurance can be funded through government sponsored social insurance programs or from private insurance companies and can be purchased by a group or an individual basis. Regardless on the basis of purchase, coverage of the insurance is mainly dependent on the payment of premiums and taxes. Yirbuor (2011) again assert that related benefits paying for medical expenses may also be provided through social welfare programs funded by the government and also suggest that by estimating the overall risk of healthcare expenses, a routine finance structure (such as a monthly premium or annual tax) can be developed, ensuring that money is available to pay for the healthcare benefits specified in the insurance agreement. The benefit is administered by a central organization such as a government agency, private business, or not-for-profit entity.

Individuals opt for insurance mainly based on the certainty of paying a small amount premium to cover the risk of getting sick and avoid paying huge medical bills. Habitually, an additional healthcare that consumers purchase as a result of being an existing member of an insurance scheme often does not worth the cost of producing it. This has compelled economists to promote policies (co-payments and managed care) aimed at reducing

consumption of this additional, seemingly low-value care (Nyman 1999). This explains that individuals are mostly motivated to enroll health insurance schemes when premium is seen to be affordable. Unvaryingly, Mwabu et al. (1998) particularizes that health insurance is seen to be fundamental in a viable national system of cost recovery since it affords the populace a mechanism for pooling resources against the risk of inability to make payment for the cost of medical care as well as against the risk of a financial ruin as result of excessive medical expenses.

2.2.1 Types of Health Insurance

There several types of health insurance that are promulgated to offer quality medical care to peoples as well as enabling individuals to have access to health services which otherwise would not have been able to afford. The different types of health insurance have been broadly categorized into two;

- **Group Insurance**

This form of insurance mainly covers a defined group of people. It is designed to provide healthcare coverage to a select group of people and is mainly on of the major benefits offered by many employers. Group insurance programs offer the greatest potential for automatic and continuous enrollment and the ability to cover everyone. These forms of insurance are uniform in nature, offering the same benefits to a select group. Habitually, this form of insurance is often the private insurance made available in voluntary insurance markets in developed countries takes the form of group insurance. Bryk and Randenbuth (1992) cited in Yirbour (2011) suggests that Group insurance removes individual budget constraints and reduces or eliminates the influence of cost of care on patients' decisions about how much care to use. The benefit of group health insurance is that it can pool greater risk relative to individual insurance and reduces insurer administrative cost as well as offers tax advantages

for insurance purchased.   Group insurance also cost less for participants relative to the individual plan with the same benefit due to a simple reason that risk is spread over a large audience rather than on an individual. Group insurance including employer-sponsored plans often insures without evidence of insurability especially when the coverage amounts are lesser than the specified amount for the plan.

- **Private Health Insurance**

Private health insurance is mostly offered through employers, unions and other organizations or purchased by an individual from a private health insurance company. Private health insurance is also defined as some form of insurance protection that is provided by non-governmental sources. Purchasing an insurance plan on an individual basis instead of getting a plan through an employer usually costs more. The Private Health Insurance plan is intended to protect their beneficiaries from high costs that may be incurred for health care. Ethical issues relating to private healthcare primarily concerns the argument that the seriously ill be entitles to spend money on saving their lives. On the contrary, private healthcare is known in most cases to be more efficient than public sector provision. The U.S census Bureau and Household Economic Statistic Division (2008) identified the following as types of private health insurance.

- Employment-based plans: Employment-based health insurance is coverage offered through one's own employment or a relative's. They are often offered by employers and unions. Nearly 239 million Americans who are covered by private health insurance, approximately 89% are enrolled in employment base plans.

- Own Employment-based plans: Own employment-based health insurance is coverage offered through one's own employment, and only the policyholder is covered by the plan.

- Direct-purchase plans: Direct-purchase health insurance is coverage though a plan purchased by an individual from a private company.

The National Health Insurance Authority, the regulator of private health Insurance schemes in Ghana under the National Health Insurance Act, 2012 makes provision for the accreditation of private individuals and health institutions or companies as private health insurance companies to cater for the health needs of the citizenry. Unlike the United States, the establishment of private health insurance schemes in Ghana is not well grounded because of the unfavorable competition from the National Health Insurance scheme.

2.3 Principles of Health Insurance

There are some fundamental propositions that serve as the foundation for the concept of health insurance. The guiding principles and values of health insurance are based on universal health insurance and general principles of insurance. The basic principles of health insurance include but limited to the following;

- *Universality and Quality of care*: The utmost principle underlying health insurance is the provision of quality health care. This principle hinges on the proponent of the value for money. When clients perceive health services use as value of the money their propensity to utilize health care increases. Other things being equal, people are more likely to use health care that they perceive to be good than one perceived to be bad (MOH, 2004). Consistently health insurance is also premised on the assumption of making insurance mandatory for citizens. This principle also comes with the assurance that affiliated persons benefit from health services of high quality irrespective of their socio-professional activity, social status, and level of contribution

- *Equity, risk-sharing, and solidarity* are principles that sustain the efforts in the promotion of access to quality services, resource mobilization and risk pooling in the health sector. Equity in health insurance implies that everybody has access to the minimum benefit of a health insurance scheme regardless of their socio economic background. In sum, the principle of equity, risk-sharing, and solidarity implies that health insurance is made available at all the time to subscribers and not denied access to health care when they need it and ensure that disease burden and mortality patterns serve as one of the bases for allocating financial resources to geographical areas of the country.

- *Ownership, empowerment and participation, and partnerships* are some guiding principles upon which efforts to ensure the financial and institutional sustainability of the health financing framework is built.

- *Affordable Premium:* this is concerned with the amount of money an individual or business must pay for an insurance policy or the financial cost of obtaining an insurance cover, paid as a lump sum or in installments during the duration of the policy. In instances where an insured event is so high, or cost event is so large that the resulting premium is large relative to the amount of protection offered, it is likely that anyone will buy insurance, even if on offer. Additionally, premiums are should not be inflated that there is not a reasonable chance of a significant loss to the insurer. If there is no such chance of loss, the transaction may have the form of insurance, but not the substance (Fetter, 1964) cited in

In a nutshell, the outlined principles broadly provide a structure for ensuing and complementary elaboration of various health insurance policies into strategies, programs, rules and regulations, guidelines and procedures, and implementation arrangements.

2.4 Health Insurance Financing Models

Health insurance financing systems are critical for reaching universal health coverage. Health financing levers to move closer to universal health coverage lie in three interrelated areas as stipulated by the world health organization (2010). These areas include raising funds for health, reducing financial barriers to access through prepayment and subsequent pooling of funds in preference to direct out-of-pocket payments and allocating or using funds in a way that promotes efficiency and equity. Consequently, Insurance financing models may be classified as:

- Classical social health insurance (SHI) is distinctively defined by McIntyre (2003) as an insurance finance model "legislated by the government with regular, compulsory contributions which are income related and possessing a standardized, prescribed minimum package." The benefits associated with this model can only be altered through a formal political process. Such systems could include multiple payers as in Germany or a single payer as in Canada.

- Community Health insurance also known as the mutual health insurance. This is based mainly on three basic principles namely community cooperation, local self-reliance and prepayment (WHO, 2005)

- Private health insurance is where individuals may pay premiums to private or voluntary insurance schemes to attend to their healthcare needs. Clients choose voluntarily to purchase an insurance package that best meets their preference. Under individual insurance the premium is based on the individual's risk characteristics as against group insurance where the premium is calculated on a group basis. Private insurance may be bedeviled by massive exclusions of certain class of diseases or be hit by adverse selection where individuals only purchase insurance when they perceive themselves as sick (Djokoto, 2015) cited in (Awudu, 2016)

- Mixed models are comprised of the combination of models to finance healthcare. Ghana adopts the Social Health Insurance Scheme in addition to the Community or Mutual Health schemes. Thus, Ghana's National Health Insurance Scheme is premised on both social health models and community or mutual health schemes.

2.5 Synopsis of Health Insurance in Ghana

It evident from history that successive government over the years have been making effort to sustainably finance health care focusing on equity and quality. Ghana's independence was accompanied with free health care. The post-colonial days was marked with no direct out-of-pocket payment at the point of service delivery as health care delivery was financed through government tax revenues. This means of funding became unsustainable as result as result of challenges that bedeviled the economic progress of the country during the 1960s (Krishna, 2005). Due to the unsustainability of funding the fee-free healthcare policy, the user fees which were abolished at independence in 1957 were reintroduced in 1963. This saw the introduction of the Hospital Fees Regulation (Legislative Instrument (LI) 1277) in 1963 by the government at the time as a measure to sustain health care in public facilities (Aikins, 2005). The main legislation that governed fees and exemptions were the Hospital Fees Act (No. 387) of 1971 and the Hospital Fees Regulation (L.I. 1313) of 1985. The introduction of the user fee led to what was known as insignificant fees. However, the user-fees witnessed an astronomic increase by the late 1970s in public facilities across the country in an attempt to raise revenue to support health care and also to discourage frivolous use but the fees were highly subsidized and therefore, could not achieve its intended objectives (Goodman & Waddington, 1993). Conversely, the reintroduction of user fees was nonetheless at a relatively lower level unlike the massive increases of 1985 under the structural adjustment programme that made the impact of the user fees felt. The period of the 1980s was characterized by heavy cuts in budgetary allocations to the health sector rendering health care

efforts unsustainable in the country. The period was accustomed to regular drug stock-outs in public health facilities, unavailability of equipment and other consumables (Ministry of Health, 2004). "L.I. 1313 specified fee levels for consultations, various diagnostic procedures, specific medical, dental and surgical services, inpatient accommodation and that cost recovery fees should be charged for drugs. The latter proposal led to the use of the term 'cash and carry' for fees in Ghana". It was significant that with these changes, LI 313 included exemptions for certain financially disadvantaged groups as a means of reducing the financial burden of ill health (Aikins, 2004) cited in (Sodzi-Tettey, 2009). The introduction of LI 1313 to replace LI 1277 enhanced the quality of health care in public health facilities and the availability of drugs. However, this led to unadorned inequities in access to health care by vulnerable groups in society (Waddington & Enyimayew, 1990; Nyonator & Kutzin, 1999; Garshong, Ansah, Dakpalla, Huijts, 2002).

The pursuit of governments to respond to the inequity in healthcare access was strong hence the Government began to explore other health care financing mechanisms (Agha & Do, 2009; Carrin & James, 2005). The government for Ghana began to explore options of sustainably financing healthcare, proposals for running a National Health Insurance Scheme that had been under consideration since the early 80s from numerous groups including the International Labour Organization, World Health Organization, European Union and London School of Hygiene and Tropical Medicine were vetted. A private consultancy group also conducted a feasibility study into the establishment of a National Health Insurance Scheme in Ghana. This group recommended the adoption of a centralized NHIS for the formal sector and a pilot "rural-based community-financed schemes" for the non-formal sector. Various schemes were piloted (Aikins, 2004). The first of its kind was started in Nkronza by Dr. Bossman. Other piloted areas include West Gonja Hospital in 1993, Saboba/Chereponi in 2003 and Damango Hospital in 1992 (Wujangi 2008). These schemes did not take any

national dimension. The membership, management, and beneficiaries of the schemes were focused on the residents of the respective catchment areas. The first National and most comprehensive health insurance scheme is the NHIS established in 2003(Yirbuor, 2011).

In the year 2001, Ghana embarked upon some measures to replace out-of-pocket fee payment at the point of service delivery with a National Health Insurance Scheme. The National Health Insurance Law (Act 650) was passed by parliament under a certificate of urgency in 2003 (Government of Ghana, 2003). The National Health Insurance Law (Act 650) is themed to secure the implementation of national health insurance policy that ensures access to basic health care services to all residents. The National Health Insurance Scheme operates Ghana's public healthcare system and allows three different kinds of insurance plans (District Mutual Health Insurance Schemes, or DMHIS; private mutual insurance schemes; and private commercial insurance schemes). The most popular plan is the DMHIS, which operates in every district in Ghana (Gajate-Garrido and Owusua, 2013). In other words, the national health Insurance Scheme takes its structure from the Legislative Instrument 1809 promulgated in March, 2004. The legislative Instrument sets out the three distinctive types of Health Insurance Schemes that may be allowed to be established and operated in the country.

The National Health Insurance scheme is regulated and implemented by the National Health Insurance Authority (NHIA) as mandate by Act 650 to regulator of all forms of health insurance business in Ghana. The NHIA's role of being the industry regulator and implementer of the national health insurance scheme is said to place the National Health Insurance Authority in a position of conflict of interest (Darkpani, 2011). The NHIA is supervised by a Chief Executive Officer (CEO) tasked with responsibility of policy planning, monitoring, and evaluation of the District Health Insurance Schemes (DHIS). The earmarked

funds, National health Insurance levy (NHIL) and SSNIT contributions constitute about 90% of cash inflows (NHIS, 2011).

Currently, the NHIS which happens to be the nation's biggest social intervention program that caters for the health needs of about 10.2 million residents in Ghana is funded from a 20.5% levy, which is part of the 17.5% VAT on goods and services, and other sources. The earmarked funds, National health Insurance levy (NHIL) and SSNIT contributions constitute about 90% of cash inflows. This amount of funding is considered to be insufficient by the NHIA over the last three years and has been calling for additional inflows to ensure the scheme is kept up float. The authority argues that the cost of providing medical care has increased over the period and its current financial position makes it difficult to meet its financial obligation (NHIA, 2016).

2.5.1 Features of the Ghana's NHIS

Chancova et al. (2008) cited in Awudu (2016) promulgates that the NHIS is the first scheme in Africa initiated by the government with a centralized authority and national coverage to give policy directions. This set the NHIS aside from other insurance schemes in Africa countries such as Benin, Rwanda, Senegal, and Tanzania. The NHIS fuses element of both social health insurance scheme and the community-based health Insurance scheme models to ensure nationwide coverage for individuals in both formal and informal sector. In reference to the NHIS (2012), the scheme is constituted by 35.5% of active members from the informal sector with 4.2% of persons from the formal sector.

Members of the scheme are only allowed to make payment of premiums to be covered by the scheme. The prepayment is made at the district under a centralized system of service provision and financing determined by the regulatory and statutory authority. The promulgation of the New National Health Insurance Act (Act 852) institutes a unitary scheme

to counter the district mutual health schemes that existed under Act 650. The unitary system is justified by synchronizing and harmonizing the operations of the health insurance scheme aimed at ensuring effective and efficient delivery of service that is responsive to the health needs of members.

2.6 Claim management under the NHIS

An efficient claim management is a key to the success every insurance company. Insurance companies in competitive environments are often challenged by issues of compliance with government regulations and increasing expectations on the part of insurance subscribers. Claim management remains major component of the activities embarked on by the NHIA. The management of claims includes the mobilizing, processing and paying of claims. In reference to the National Health Insurance Scheme, claims refer to bills submitted by the health service providers to District Mutual Health Insurance for financial reimbursement for services they have rendered to subscribers of the scheme. The claims submitted to the DMHIS by the health providers are subjected to a process of scrutiny for their validity before any form of payments made (Nwolley-Kwasi, 2015). The financial reimbursement to the health service providers are mostly funded from the premiums, reinsurance funds and fees they receive from subscribers. Before a health provider can make a claim, there are processes that the provider needs to follow. The processes ranges from a subscriber's access to health care through the submission of a formal claim to the insurance company till the point when the service provider is reimbursed in full or with deductions or the claim rejected (Noi, 2014).

2.7 Claims Management at the Provider Level

Claims management at the providers' level begins from the patients. Patients are required are given a folder and required to fill a claims form. The patient personal details are then entered on the claims register. The details entered on the claims form include name, age, sex and

health insurance number at the Out Patients Department (OPD) for proper documentations about their history and examinations (Nwolley-Kwasi, 2015). Patients' information is entered in a consulting room register after receiving treatment. Patients' information and treatment meted out are then transferred onto a claim form with which the diagnosis and treatment or medicine was given documented on the claims sheet together with their respective charges. In cases where prescribed drugs unavailable in the health facility, patients are referred to accredited pharmacies with authorized prescription forms to get the he prescribed medicine. An alternate claims form issued in the name of the health insurance client after been given the medication. The claims form from the various department and awards in the health facility are collected and collated into in-patients and out-patients. After collation of the forms, the forms are then vetted in accordance with their prescription and their related charges (Nwolley-Kwasi, 2015).

2.7.1 Claims submission

Since the commencement of the scheme in 2005, there has been an introduction of some payment systems by the schemes to health services providers. The Ghana Diagnostic Related Groupings (GDRGs) replaced the fee for service type of provider payment mechanism in April, 2008. The rationale for this replacement was justified on the basis that fee for each service was found to be low and hence unattractive, especially for the private providers to participate. Providers were entreated under this system to join the NHIS to moderate congestions and delays for clients when seeking health care services. In reference to the fee for service, providers were required to submit detailed information on all services and charges for claims submissions. This involved a lot of paper work of which providers were not enthused about (Ankoma, 2009).

The Ghana Diagnostic Related Groupings (GDRGs) was introduced to enhance the processes of claims submission and ensure timely pay off claims. The introduction of the GDRGs in the view of the NHIA was to aid address some the difficulties associated the fee for service system. Ankoma (2009) mentioned that under the GDRGs tariff covered the full cost of the estimated direct consumables for direct patient care, anesthesia, and other investigations. The system was said to have captured about 80% of the projected overhead cost for public health facilities, comprising of building and equipment maintenance, housekeeping and utilities. It was also expected that the new tariff would generate adequate revenue from the NHIS for providers to cover a significant portion of their cost of operation (Ankoma, 2009). But, currently, the NHIS is experimenting with capitation in the Ashanti Region of Ghana, to test its feasibility for scaling up, alongside the GDRG. The capitation system of payment is a "provider payment mechanism in which providers in the payment system are paid, typically in advance, a pre-determined fixed rate to provide a defined set of services for each enrolled with the provider for a fixed period. The amount paid to the provider is irrespective of whether that person would seek care or not during the designated period" (NHIS, 2017).

In December 2016, the NHIA introduced a new claims system dubbed "claim it" which was expected to commence in January 2016. The new claims system was piloted in 15 public health facilities. The "Claim it" service is expected to see service providers submitting their claims electronically to the NHIA. The implementation of the system will reduce the cost of generating claims and submitting them to the NHIA by service providers, as well as improve their claims processing time (NHIA, 2016).

2.8 Factors affecting claims management

The National Health Insurance Scheme has provided an alternative for sustainably financing health care in Ghana. The scheme over the years have realized a tremendous appreciation in the number of subscribers and widening the scheme's coverage. There is, however, some inherent demerits associated with the scheme especially with the issue of claims management. Issues of claim management have been a bothering issue with health service providers since the inception of the scheme in 2001. The challenges of claims management border on technical, logistical and human resource perspectives. Below are some of the challenges that confront health service providers that result in the excesses associated with claim rejection;

- **Irregularities in the processing and payment of claims (Fraud):** The NHIS over the years has been hit issues of abnormalities in the vetting and payment of claims resulting from weak internal controls as well as the absence of internal audit units and segregation of duties. There is also the issue of fraudulent claims submitted by health providers which are crippling the financial sustainability of the scheme. There are also the problem officers vetting claims lacking requisite skills and knowledge (NHIA Audit Report, 2012).

- **Errors:** The difficulty in the processing and payment of claims cannot be isolated from errors in claims submitted by health service providers to the DMHIS. Human errors in the processing and payment of claims stem from a wrong diagnosis, mismatch treatment (i.e., where doctor's diagnosis is different from medicine given to the patient) as well as the wrong use the G-DRG in applying the tariff.

- **Competence of Personnel:** Several challenges have been identified with claims management within the NHIS. There have been delays in the submission of claims by some service providers, which is frequently occasioned by inadequate capacity within

health facilities in the preparation of claims. The district scheme offices also do not have adequate capacity to vet claims effectively. Most often DMHIS delays payment of claims to health service providers sometimes exceeding the stipulated 40 days. This occurred because, claim managers were not able to finish vetting claims on time and also, NHIA did not release funds for the payment of claims on time (NHIA Audit report, 2012). This shortfall does not only apply to DMHIS; health providers also face a problem of not been able to submit claims forms in time for reimbursement. Again, educating and monitoring programs of schemes are not effectively done as subscribers are only educated on new registration and renewal of membership to the detriment of educating subscribers on their rights and responsibilities. Also, monitoring of health service providers was done on an ad-hoc basis. Again, personnel at most health care facilities are not well equipped regarding the requisite knowledge for the processing of claims. The effect of technical incompetence often leads to the excess rejection of claims which tend to cripple the financial sustainability of the health provider facilities.

- **Adequacy of Logistics:** The issue of logistics heralds any discussion of challenges confronting effective claims management. Both health providers and the scheme are fond of raising issues with logistics that will equip them to carry out their duties effectively without any inhibition. There has also been an issue regarding anomalies and mishaps in NHIA's Information Communication Technology. This ensued because the system accepted any combination of digits as receipt numbers. Neither could it generate operational status reports for scheme managers to plan with (NHIA Audit report, 2012). This resulted in a lot of fraud and there challenging the financial viability of the scheme.

2.9 Theories of Health Insurance

The chambers 21st-century dictionary defines theory as a chain of ideas and general principles which seek to describe some aspect of the world. It is also denoted to be an idea or explanation which has not yet been proved; a conjecture; a general and usually abstract principles or ideas of a subject.

A theoretical framework, on the other hand, encompasses concepts and, together with their definitions and reference to relevant scholarly literature, the existing theory that is applied to a particular study. This framework provides a guide for further studies in a particular study, in this case, Health Insurance. There are several theories that have characterized the history of health insurance hence this section of the chapter is engrossed on some of the theories bordering on health insurance. This section sought to cover some of the scientific literature related to the field of health insurance. The theories on health insurance are mainly dominated by the conventional theory of demand for health insurance and Nyman's access theory of demand for private health insurance.

2.9.1 Conventional Theory of Health Insurance

The conventional theory of health insurance was postulated by Pauly in 1968. The Conventional theory of health insurance is said in literature to have provided analysis for welfare consequences of price-payoff health insurance on other goods and services separately from its consequences on medical care. Relative to this theory, welfare gains are derived only from spending on other goods and services, and are seemingly attributable solely to the ability of insurance to avoid risk, or in optimal insurance models, to smooth these purchases over states of nature. Mhere (2013) reports that the conventional theory of health insurance explains the factors that affect demand and the uptake of health insurance by the expected utility model. Santerre and Neun (2010) cited in Mhere (2013) asserts that the key

determinants of health insurance are the price of insurance, the degree of risk aversion, the preferential tax treatment of health insurance premiums, and government subsidy on the purchase of health insurance. Mhere (2013) indicates that the commencement of health insurance itself may be motivated by the perceived decline in the cost of medical services and the subsidy component from the government.

Conventional health insurance theory aimed at providing a ready appraisal for increased spending on health. The theory imposed a coinsurance payments and deductibles to increase the price of medical care to insured consumers and reduce these inefficient expenditures. The 1970s saw the proliferation of an array of insurers adopting copayments to reduce health care spending. Invariably, the period between the 1980s and the 1990s witnessed the promulgation of utilization review and capitated payments to providers by economists as advanced measures to reduce moral hazard. Consequently, managed health care system operation in recent times is largely a product of this theory. Pauly (1968) rationalization is to have dominated the conventional theory of health insurance demand with a particular emphasis on the aspect of moral hazard and adverse selection as well as risk transfer as a major driving force stimulating the uptake of health insurance coverage.

2.9.2 Multilevel Model of Determinants of Health Expenditures

The multilevel model of determinants of Health Expenditures extrapolate that health insurance is geared towards eliminating the individual budget constraint as well minimize the effect on the cost of care on patients and physicians' decisions of how much care to use. In adopting the multi-level decision model to examine health care expenditures, Getzen (2000) explicates that elasticity of insurance on an individual's income is zero whereas elasticity on expenditure on national health is noted to be greater than one. The model provides that without insurance both income and health statuses affect expenditures at the micro level.

Thus, without organized medical financing, both health status and income affect expenditures at the individual micro level, but most of the variance is due to differences in individual health status (Getzen 2000). It is however not sufficient to apply individual spending in such a model because individual expenditures are based on group decisions with some level of opportunity cost at the individual level.

The model provides elaboration on the total spending at the national level which mainly founded on the average amount of national resources per capita income whereas the allocation of expenditures across individuals is primarily founded on their need for care rather than their contribution to total resources. Gerdtham et al. (1992) cited in Yirbuor (2011) indicates that, at the macro level, national expenditures on health consistently show income elasticity greater than one with about 90+% of cross- sectional and time series variation explainable by differences in per capita income and differences in health status as having negligible effects.

In summary, the Multilevel Model of Determinants of Health Expenditures is seen to provide some form clarity on healthcare expenditures relative to income levels. The model is regarded to be instrumental in analyzing insurance alternatives in health care financing. Consistently, the model has been a blue print for governments to adopt various initiatives geared towards removing the individual income constraint or cost of care on a person's decision of how much care to use when he most needs it.

2.9.3 Demand theory of health insurance

This theory was propounded by Nyman in 1998. This theory is based on the assumption that people value medical insurance because they desire an income transfer from those who remain healthy in the event they become seriously ill (Nyman 2003). The theory argues that individuals mainly purchase health insurance to obtain supplementary income when they

become ill. In other words, insurance companies are seen to transfer insurance premiums from those who remain healthy to those who become ill. This additional income generates purchases of additional high-value care, often allowing sick persons to obtain life-saving care that they could not otherwise afford (Nyman 1998).

Yirbour (2011) specifies that the theory is founded on the tenet that if people attach value to health and other items of consumption and if utility is increasing in consumption, but at a declining rate (diminishing marginal utility of consumption or income) households will be willing to pay for insurance that covers for all of their out of pocket spending on amount that exceeds the expected average value of that spending. By implication, granted there is an insurance arrangement that can make insurance available at a minimum premium equal to the expected value of medical spending, people or households will prefer to obtain that insurance rather than face the risk of out- pocket payment of varying and potentially large amounts all other things being equal as cited by Yirbour (2011). This theory appears to depart from the conventional theory's emphasis on risk avoidance as the major drive in health insurance participation, to the income transfer, as a desired objective when deciding to take up health insurance cover. Eisenhauer (2006) depicts that Nyman's work reconsiders moral hazard and offers a new perspective on the reasons for consumers to buy medical insurance in the first place.

Relative to issues regarding risk, this theory relies on empirical studies showing that consumers actually prefer the risk of a large loss to incurring a smaller loss with certainty. In effect, if consumers purchase insurance, it is not because they desire to avoid risk. Alternatively, the demand theory of health insurance suggests consumers simply pay a premium when healthy in exchange for a claim on additional income (effected when insurance pays for the medical care) if they become ill.

In establishing the nexus that exists between health insurance and demand, Newhouse (1978) notes that health insurance simulates to be some form of subsidy that is used to purchase medical care. This tends to lower the per unit price of care. This philosophy falls in line with Nyman (2001) thinking that the conventional theory of health insurance has held that becoming insured acts like a reduction in the price of health care, just as if the price reduction had occurred exogenously in the market.

Osei-Akoto (2011) sought to conclude on the nexus between the convention theory and the demand theory in it submission that health insurance is widely believed to be one of the most viable and authentic health financing systems and that it does not only help in meeting the needs of the health system, but also provides less hurting health payment systems for households. This point to the fact that it is prudent to adopt cost recovery strategies and user fees in the case of developing world as cited by Mhere (2013).

2.10 Conceptual framework

A Conceptual framework involves the formation of ideas about a phenomenon. Miles and Huberman (1994) defines a conceptual framework as "a written or graphical presentation that explains either graphically, or in narrative form, the main things to be studied the key factors, concepts or variables and the presumed relationship among them." This section of the chapter is focused on drawing out of an abstract in respect to claim management with respect to the National Health Insurance scheme. In essence, this section of the chapter provides a step in analyzing the tenet of this research aimed at finding the causalities of claims rejections in the various health facilities. The figure below presents a framework depicting the factors that militate against the full reimbursement of insurance claims). In this study the independent variables will be factors such as wrong diagnosis, treatment outside NHIS list, use of wrong G-DRG in applying tariff, treatment given to expire NHIS card holder, mismatch treatment,

fraudulent claims submitted by health providers, Treatment and prescription beyond the schemes accreditation; which have been summarized into three perspectives namely technical, logistical and human resource constraint while the dependent variable will be total sum of claim rejection by the scheme.
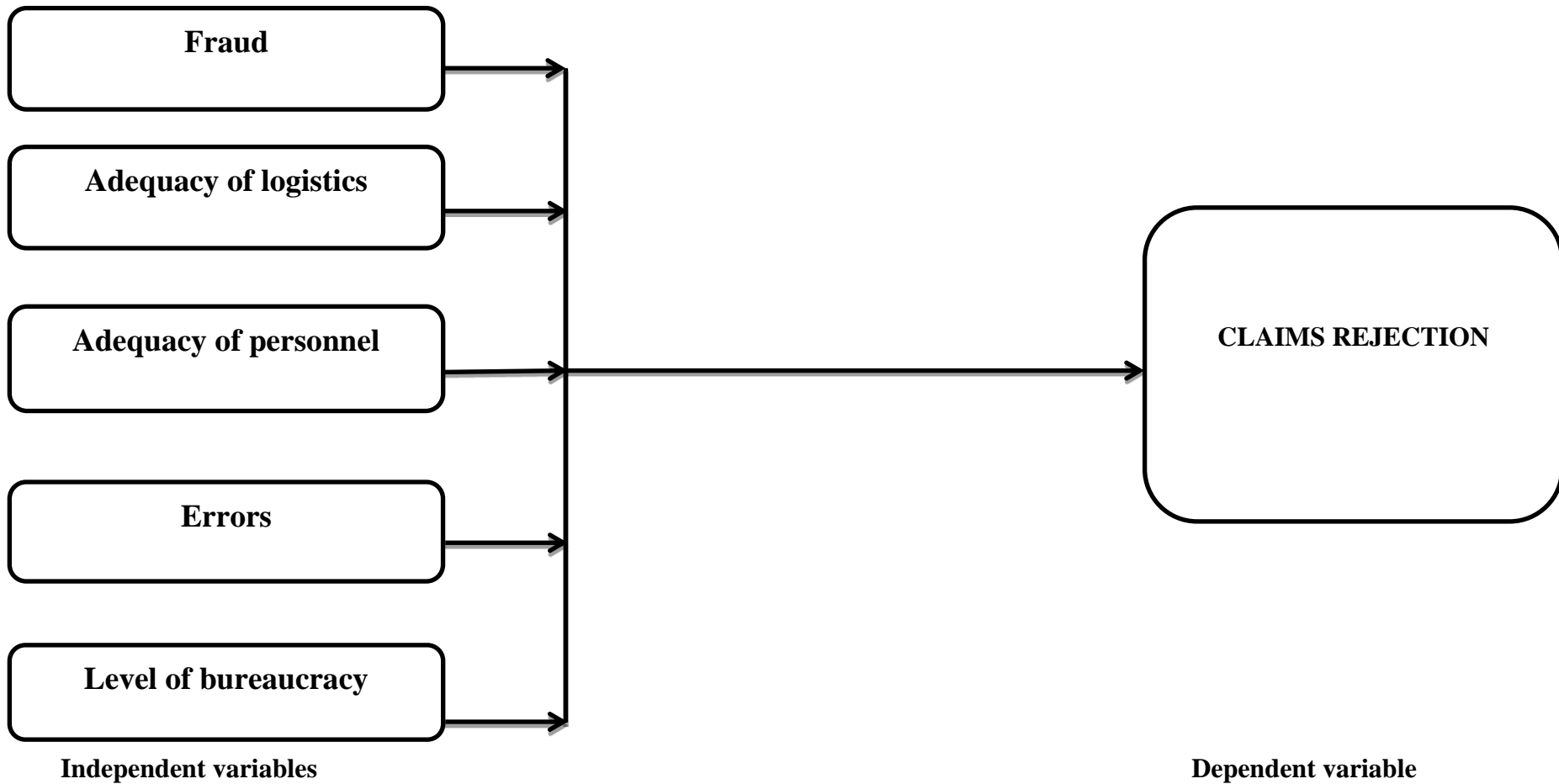
Figure 2.1: Conceptual framework

Source: Author's construct, 2017

2.11 Empirical literature review

The health sector in Ghana is faced with a number of challenges which has necessitated for the conduct of studies to mitigate these challenges, especially in developing countries. There has not been a lot of debate regarding the importance and relevance of health insurance. In fact, it seems several scholars are in consensus on the important aspects, and debate seems to be on how health insurance coverage can be promoted and, on ways to boost health status of nationals in any nation (Mhere, 2013). This section of the study is however intended to highlight observed and measured phenomenon relating to the field of health insurance and claims management. In effect, the section sought to provide insight on related works as well as some empirical evidence to works on health particularly relating to health insurance and claims management with much emphasis on claim rejection.

2.11.1 Health Insurance and Claims Management

A study conducted by Der Gurahian, (2009) encapsulates that the amount losses resulting from claims rejection vary across different spectrum. Der Gurahian (2009) indicates a combined loss of $5 million recorded in dozens of health facilities. Hellander (2008) reiterates that companies in the United States where expenditures can be as high 16.6% of GDP come under several investigations and face fines for claims denials, manipulation of data or violations claim-handling regulations.

Invariably, a study conducted in the Gujarat region of India where direct fee service was operated indicated a rejection rate for health insurance claims to be 11% with a mean rate of reimbursement of 76.5%. This depicted an average of rejection of claims submitted for sickness and death in both rural and urban centers to stand at 10%-14%. The study also sought to indicate that rejection rates were not documented on the national level, but Ghana's premier hospital was recorded some average rejection rate of 9%-22% in 2008. The

variations in the rejection rate is explained by a period of compliance with claims submission in line with approved insurance tariffs and a period when it did not comply (Ranson, 2002, Tara Sinha et al., 2005).

In a study conducted by Sodzi-Tettey (2009) on National Insurance claims management, it was revealed that Claims processing is still a largely manual process in both districts. This limits the number of claims that can be processed. The study point to the fact that the maximum number of claims submitted in the two study districts came to 80047. This cannot compare to the use of computer software. The study points to instances where computer software developed by a US based insurance company which can process over 40,000 claims in one day (TMG Health, US, 2009). Sodzi-Tettey (2009) posits that issues such as rejection of unverifiable claims and incomplete filing of claims as technical challenges contribute immensely to claims rejections. These forms of technical challenges can mainly be attributed to the lack of technical and information technology competencies.

Sodzi-Tettey (2009) study revealed that a total of 52, 214 claims were submitted by the War Memorial Hospital (WMH) in 2008 to the KNDMHI Scheme, 10.31% were in respect of in-patient claims and 89.69% for out-patients. Out of 52 214 clients, 329 claims were rejected which formed 0.63% of claims made. Again, the total number of claims presented by the Sandema Hospital to the scheme was 27, 833 out of which 13.5% were in respect of in-patient claims. A total of 167 claims were rejected for claims processing representing 0.60%.

In a study conducted by Darkpani (2011) on the sustainability of Health Insurance in Ghana, it was revealed that operations of the scheme regarding claims payment was less than the revenue generated over the same period for the first one, two, and three years with percentage of 73.68%, 1.87%, and 19.71% respectively. The trend s in claims payment indicated a downward trend in the 4th and 5th years as the figures registered a negative trend over the

period with the gap widening. Thus claims expenditure exceeded revenue by 71.02% an increased to 120.70% over the period.

Invariably, a study themed "logistic regression model for Ghana National Insurance Claims" conducted by Antwi and Zhao (2012) found that distance contributes significantly in inducing policy holders in the making of claims in refence to health insurance claims. This implies that the farther the location of a town, the more policyholders are destitute in having early access to healthcare and making an insurance claim. Specifically, the study indicated that the patients located within 5km of health facilities stood the chance of making insurance claims relative to those beyond the aforementioned distance. Habitually, the study advocated for the sustenance and credibility of the health insurance industry as well as institutionalizing on the collection of appropriate data to facilitate the administration of the health insurance scheme.

Deloitte (2014) in an article themed "Health Insurance Claims Management Forensic Data Analytics" stipulated that although health insurance in developing countries have performed quite well, the segment has been saddled with issues of false claims as a result of lack of reliable data and the documentation challenges which is greatly hampering the growth of health insurance delivery in particularly across India. In addressing this issue, Deloitte (2014) advocate the adoption of rules based on analogy and a dynamic scoring mechanism to segregate claims into high, medium and low risk categories.

A study themed "Challenges of Financing Health Care in Ghana: The Case Of National Health Insurance Scheme (NHIS)" conducted by Addae-Korankye (2013) employing survey design comprised of quantitative and qualitative methods by using a population that included pensioners, aged, unemployed and children and other stakeholders sought to highlight the inhibiting factors limiting the progression of the health insurance scheme in Ghana. Among the factors identified to be inhibiting the progression of health insurance included the

operational issues particularly on claims processing and payment and funding. As part of the study's recommendation to mitigate these inhibiting factors was the recommendation for government and the NHIA to enforce the application of the income classification category with the accompanying appropriate premium.

Consistently, a study carried out by Noi (2012) that was captioned "Comparative Study of the Experiences of NHIS Subscriber and Non-Subscribers in Accessing Health Care at the Ga East Municipality found out that Health Service Provider staff discriminated against NHIS card holders most often attributable to the fact that re-imbursement of claims spanned for longer durations that hurt the economic progress of their facilities as this assertion was confirmed by the managers the scheme. In light of this, the study recommended for the recruitment of more competent staff as well as the adoption of an easier and a more effective means of ensuring an appropriate claims administration regime. Specifically, the study advocated for Electronic devices that could transmit claims from the point of service delivery to the NHIA for onward processing which could be spread to all service providers.

In a study carried out by Yakubu (2009), a multi-level analysis was carried out on the rejection of claims by District Health insurance schemes in the Sunyani Municipality in Ghana. The study exposed that out of 300 claims assessed 163 were rejected. The rationale for rejection claims submitted by the healthcare providers was premised on issues of technical and human resource dimensions. Of concern was the fact that 50.9% of the reason for rejection of the claims were due to excess charge made by the health care providers on the health insurance claims forms which could have been corrected if officers recruited to complete the health insurance claims conduct their work more diligently. Invariably, the study also exposed issues of wrongly claims and grandiose but avoidable errors in regarding

documentation which contributes to the delays in the approval claims and consequently reimbursement.

2.12 Summary of related literature review

In relation to the review of relevant literature bothering on health insurance and claim management established that there are limited empirics in this field of study. The available studies regarding the issue of claim management mostly lack econometric analysis. Admittedly, all reviewed works indicated issues of claim rejection as a result of technical, human and logistical issues. The studies conducted by these authors such as Sodzi-Tettey (2011), Darkpani (2011), Der Gurahian (2009) and Hellander (2008) acknowledge the fact that to ensure efficiency and transformational effect manifest in claim management in health provider institutions there needs to be measures put in place to tackle issues of human resource, logistics, and technical perspectives.

Regardless of empirical research on health insurance, it is evident that many have heavily concentrated on the sustainability of the scheme leaving out the issue of claim rejections in the health service provider institutions. The issues on claim rejection by DMHIS affect the economic viability of health service providers. Therefore, this study sought to adopt a predictive logic to estimate the statistical significance of some identified factors and their impact on claim management in selected health facilities.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section of the study provides details on the procedures used in the collection and collating of data as well as approaches adopted to make the analysis. The chapter covers the research design, study population and sampling technique, data sources, data collection and methods of coding, study variables and unit variables employed in realizing the intent of this study. Particularly, the chapter sought to justify the econometric model, the variables and sources of data to be adopted in the study.

3.2 Research design

A research design is explained as a detailed outline on how an investigation or research will be carried out. The research design can also be defined as the totality of strategy that is chosen to integrate the different components of the study in a coherent and logic way of ensuring that a research problem is effectively addressed. In effect, this section of research methodology is vital as it provides the blueprint for data collection, measurement, and data analysis.

This study adopts an explanatory research design for the study. The adoption of an explanatory research design is justified on the basis that this study sought to establish the effects of factors that affect the claim rejection in health facilities under the NHIS by the use quantitative and qualitative data. According to Bhattacherjee (2012) explanatory research seeks explanations of observed phenomena, problems, or behaviors, answers why and how types of questions, and attempts to "connect the dots" in research, by ascertaining causal factors and outcomes of the target phenomenon. In effect explanatory research design assists

in enhancing the appreciation of characters and mechanisms of the link that exists between explained and explanatory variables.

3.3 Study population and Sampling Technique

The study population refers to the entity under study. It refers to the object that is the target of an investigation. Bhattacherjee (2012) defined a study population as comprising of unit of analysis with the characteristics that an investigator or a researcher sought to study. The study population includes persons, groups, organizations, countries, objects, or any other entity that a researcher intends to draw scientific inferences about. In other words, the research population is noted to be the collection of an entity with similar characteristics that are considered for the main focus of a scientific probe. The study population taken into account for this study is the health facilities under the Ghana Health Service that operate as service providers for National Health Insurance Scheme. The sampling frame for this study was drawn from health facilities under the Ghana health service that serve as service providers for the National Health Insurance Scheme in the Ashanti region. The choice of the Ashanti region for this study is justified on the basis that the region is noted to be the most populous region with a population figure of 4,780,280, representing 19.4 percent of the country's total population. Consistently, the region also boasts of the region with the dominant number of health facilities (1353 out of 3335) in the country thus representing about 40.57% of the total health facilities represented in the economic jurisdiction (Ghana Health Service, 2015). The nodal structure of the region allowed for easy communication and the provision of clear representation of the state of claims administration pertaining in the country as a whole. Additionally, the region as a subject for piloting the capitation system as a provider payment mechanism in which providers in the payment system are paid, typically in advance, a pre-determined fixed rate to provide a defined set of services for each individual enrolled with the provider for a fixed period of time, culminates in the adoption of the Ashanti region as a case

study. Moreover, the selection of the Ashanti region as a case study for the research study was justified on the predominant nature of the region in reference to the total number of subscribers registered under the scheme. The NHIS (2013) placed the number of active members of the scheme in the Ashanti region at 1,715,388 out of a total sum of 10,145,196 active members nationwide thus representing 17 percent of the total number of active membership. Again, the region is constantly noted to have recorded the highest number of credentialed healthcare providers which is calculated as 619 signifying 16.15 percent. Furthermore, the selection of the region was also justified on its dominance in terms of total number of schemes. According to the NHIS (2013), the Ashanti region is consisted of 24 schemes representing a proportion of 16.55 of the total number of schemes. Notwithstanding the abovementioned, the region is also seen to be lead in terms of number of Outpatient Attendance by region as stipulated by the 2015 Ghana Health Service facts and figures. The Ashanti region was recorded to have registered approximately 16 percent of the total number of outpatient attendance.

According to Best and Khan (2009), there is often a trade-off between the desirability of a large sample and feasibility of a small one. In effect, the researcher ensured that the sample was adequately representative of the population about which the generalization is to be made while being small enough bearing in mind the essence of economics in terms of subject availability, time and financial resources. The research sampled 10 health facilities which are representative enough in respect of out-patients (63%) figures. The study sampling was done using stratified and purposive sampling techniques. The hospitals selected for the study are mentioned as follows; Manhyia hospital, Maternal and Child Health Hospital, Kuntense Hospital, Nkenkenso Hospital, Konongo hospital, Effiduase Hospital, Ejura Hospital, Mampong hospital, Bekwai Hospital and Nkawie-Toase Hospital.

3.4 Data Sources

The study employed both primary and secondary data for analysis. The primary data was obtained through structured questionnaires that took a binary form to quantify some of the independent variables. The various heads of the district health insurance scheme as well as accountant and administrators of the selected health service provider facilities were made respondents of the questionnaires. They were purposely selected as these actors were in positions to provide accurate and reliable responses as well as prove to have sufficient knowledge on the subject.

Secondary data on the other hand, was obtained from reports from both the district health insurance scheme where the various health facilities were located and the selected health facilities. The data included claims rejected, the amount requested and the amount paid, reasons for the rejection, for the period January, 2015 to December, 2015.

3.5 Study variables and Unit of measurement

The variables considered were claim rejection, level of bureaucracy, competence of personnel, adequacy of logistics, fraud and Errors. The study employed a regression analysis as a statistical tool for the investigation of relationships between variables and again to ascertain the causal effect of one variable upon another. Specifically, an Ordinary least-squares (OLS) regression technique was utilized in carrying out analysis because of it essentiality of been able to be used as generalized linear modelling technique which may to model a single response variable which has been recorded on at least an interval scale. The usefulness of the technique also transcends to it been applied to single or multiple explanatory variables and also categorical explanatory variables that have been appropriately coded which is essential to this particular study. The variables and measurements are shown in table 3.1;

Table 3.1: Study Variables and Unit of Measurement

	Variables	Notation	Measurement	Approximated Impact
	Claim Rejection	Y_1	Total number of rejection on claims report form	
Independent variables	Fraud	x_1	• Inferential statistics • Descriptive statistics	+
	Errors	x_2	• Inferential statistics • Descriptive statistics	+
	Adequacy of Logistics	x_3	• Inferential statistics • Descriptive statistics	-
	Adequacy of personnel	x_4	• Inferential statistics • Descriptive statistics	+
	Level of bureaucracy	x_5	• Inferential statistics • Descriptive statistics	+

Source: Author's Construct, 2017

3.6 Data Reliability and Validity

Pilot testing is of the essence in the conduct of any scientific research. Pilot testing assists in the detection of latent complications in a research design or instrumentation. Pilot testing is also vital to ensure that the measurement instruments used in a research study are reliable and valid.

The motive for validity is to ensure that the research instruments employed in sourcing data measures what it is required to measure. This thought is emphasized by Bhattacherjee (2012) who defines validity as the extent to which measures adequately represent an underlying construct that it is supposed to measure. The reliability of a research instrument is concerned with the degree to which a research instrument (questionnaire) produces the same results upon repetitive trials. According to Bhattacherjee (2012) Reliability refers to the extent to which the measure of a construct is consistent or dependable. Reliability, therefore, implies consistency but not accuracy (Bhattacherjee, 2012).   Reliability was measured using Cronbach's alpha (Table3.2 depict reliability and consistency in relation to the concept under consideration).

Table 3.2: Reliability statistics

Cronbach's Alpha	N of Items
.65	6

Source: Author's Construct, 2017

The result provided in table 3.2 is indicative of the level of Internal consistency in the evaluation of assessment and questionnaires. The result provided in the table above describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. Particularly, the level of Internal consistency was predetermined prior to the conduct of a test for the research purpose to ensure validity.

3.7 Analysis of Data

This section of the study comprehensively deals with the analytical model employed to collate data and address outlined objectives. The Statistical Package for Social Sciences

(SPSS) version 20 was employed to generate the descriptive output which was presented in frequencies and percentages. A regression analysis was carried out.

As part of the data analysis, the collected data were subjected to multicollinearity test. This is rationalized on the basis that the existence of multicollinearity will mean that some response variables have the same effects on the dependent variable, and this would complicate the analysis to be made. Econometric references have shown that collinearity expands assessments of parameter difference, yields high R-square notwithstanding low parameter hugeness, and results in parameters with wrong signs and improbable extents (Mela and Kopalle, 2002). Again, a high multicollinearity would mean that the confidence intervals for coefficients would tend to be very high hence leading to issues of large variances. The Pearson's correlation would be used to test for collinearity. After that, a multiple linear regression was employed to estimate the influence of level of bureaucracy, competence of personnel, fraud and human errors on claim rejection.

3.7.1 Analytical Model

The main purpose of a multiple regression is its ability to aid in prediction and casual analysis. Multiple regression analysis is more amenable to ceteris paribus analysis because it can control for many other factors that simultaneously affect the dependent variable (Wooldridge, 2013). The adoption of this model is also justified because of it essentiality for testing economic theories and for evaluating policy effects when we must rely on non-experimental data. Again, the multiple regression models can accommodate many explanatory variables that may be correlated and variables that we can hope to infer causality in cases where simple regression analysis would be misleading (Wooldridge, 2013). Research that has employed the use of a multiple regression to establish causal inferences in insurance include work from Mhere (2013) and Yusuf and Dansu (2014).

The purpose of the adoption of the regression model is to determine whether a particular independent variable affects the dependent variable and to estimate the magnitude of the effect. The model adopted for the study is presented as below;

Claim Rejection = f (factors causing/affecting Claim Rejection)

$$Y = f(x1, x2, x3, x4, x5)$$

$$CR_{it} = \beta_0 + \beta_1 FR_{it} + \beta_2 ER_{it} + \beta_3 AL_{it} + \beta_4 LP_{it} + \beta_5 LB_{it} + \mathcal{E}$$

$$Y_0 = \beta_0 + \beta_1 x1 + \beta_2 x2 + \beta_3 x3 + \beta_4 x4 + \beta_5 x5 + \mathcal{E} \ [3.1]$$

Where: Y= Claim Rejection (dependent variable);

$x1$- $x5$ = Independent Variables

β_0= Constant (intercept) the value of Claim Rejection when determinant values are 0.

β_{1-5}= measures the variation in *Claim Rejection* with respect to *factors affecting Claim Rejection (x1-x5)*, holding other factors fixed (regression coefficient).

$x1$= Fraud

$x2$= Errors

$x3$= Adequacy of Logistics

$x4$= Adequacy of personnel

$x5$=Level of bureaucracy

$\mathcal{E}$= **Error term** or **disturbance** in the relationship, represents factors other than *observed factors* that affect *Claims rejection*.

The mathematical estimation model used paired sample t-test of significance to test whether the change in the independent variables was statistically significant. This statistical estimation was carried out with the use of statistical Package for Social Science (SPSS version).

3.8 Test of significance

The principle of carrying out the test of significance is that it permits in deciding as to whether the null hypothesis can be rejected (Mugenda and Mugenda, 2003). The significance of the relationship between the variables was tested at a 95% confidence interval. The chi square inferential statistic method was used to depict the association between variables. The use of the chi-square aided in the determination of the distribution of observed frequencies whether it differs from the theoretically expected frequencies.

3.9 Ethical Consideration

Introductory letters were obtained from the school of graduate studies department of the Christian Service University College and sent out to the administrators of hospitals and scheme managers in the respective jurisdiction. Furthermore, the informed consent of the participants was obtained.

3.10 Summary of Methodology

The chapter provided insights on the research design that was adopted as well as the econometric model used. The study adopted an explanatory research design. Purposive sampling techniques were adopted in selecting the 10 health service providers. Multiple linear regression analysis was used to estimate the effect of the independent variable on the dependent variable.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF EMPIRICAL ESTIMATES

4.1 Introduction

This study investigated the influence of fraud, adequacy of logistics, competence of personnel, administrative errors and bureaucracy on claim rejection of the National health insurance scheme. The moderating variables for the study were number of patients and presence of health provider institutions. The chapter is structured as follows; firstly, a trend analysis of both dependent and independent variables are presented to highlight the movement of variables over the study period. Secondly, diagnostic results of the data are presented which is then followed by a multivariate result on the relationship between claim rejection and the independent variables.

4.2 Descriptive Statistics

This section presents brief descriptive coefficients that encapsulate the given data set. The section breaks down into measures of central tendency and measures of variability and spread of the study variables. Table 4.1 depicts the descriptive results of the study variables: the mean, standard deviation and, minimum and maximum values.

The presentation of the descriptive statistics provided in table 4.1 provided an avenue to present the data in an appreciative and a meaningful manner that allows of simpler interpretation of data. Contrary to the merit associated with its presentation, descriptive statistics limited the researcher as it did not allow the research to make conclusions beyond the data to be analyzed or reach conclusions regarding the set hypotheses. The limitation associated with the descriptive statistic was mitigated with the inferential statistics.

Table 4.1: Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation
Claims Rejection	49181.35	180361.90	94467.51	38346.06
Errors	19903.86	61991.73	32295.65	12561.20
Bureaucracy	409.05	3807.00	1382.34	898.13
Fraud	346.50	5016.42	1456.69	1257.22
Personnel	2151.35	14833.59	5284.10	3445.44
Logistics	1671.59	7967.79	4368.23	1890.60

Source: Author's Construct, 2017

Based on the study results depicted in table 4.1 above, claims rejection presented a mean value of 94467.51over the 12 months' period considered for the study. The standard deviation for the period was recorded as 38346.06. The table also presents minimum and maximum values as 49181.35 and 180361.90 respectively. The standard deviation value of 38346.06 from the mean value depicts a relative unlimited variation on a monthly basis. Also, the table indicates that, the mean values of the casual variables resulting in rejection of claims by the National Health Insurance Authority for the period as measured in five aspects was summarized to be 1456.69, 32295.65, 5284.10, 4368.23 and 1382.34 for the value of fraud, errors, inadequacy of human personnel, adequacy of logistics and the bureaucracy respectively. The standard deviations for the variables in inference to those mentioned above are given as 1257.22, 12561.20, 3445.44, 1890.60 and 898.13. The standard deviations for all the factors above indicate huge variations of the individual monthly data values from the mean value. The minimum and maximum values are also summarized as 346.50, 19903.86, 2151.35, 1671.59 and 409.05 and 5016.42, 61991.73, 14833.59, 7967.79 and 3807.00 correspondingly suggesting how diversely the variables are spread. In other words, the

computation of the minimum and maximum depict no possibility of outlier or a data entry error.

4.3 Trend Analysis

This section of the study deals with the technical analysis that seeks to envisage the future movement of a stock based on historical. The section provides an expression of demographic characteristics of the variables under study. Figure 4.1 and 4.2 provides the historical trends for both dependent and independent variables adopted for the research study.

4.3.1 A comparative Trend Analysis for claims submission, claims reimbursement and claims rejection

Figure 4.1 present a pictorial view of trends in claims submission, claims reimbursement and claims rejection over the study period. The chart shows that as claims submission rises, attributable to increase in patients' enrollment in the various health service facilities; it correspondingly results in a proportionate increase in total reimbursement and total rejection of claims. There is a positive correlation between claims made, total reimbursement and total rejection under the National Health Insurance Scheme relative to the trend analysis presented below. From figure 4.1, the month of August recorded the most trough, thus GH¢49,181.35. This is attributable to the fact that the period witnessed the month with about the lowest claims made of GH¢1,540,147.90 by the health service providers. The same argument is also advanced for the month of November which represents the period of saturation regarding claims rejection. The month of July witnessed a total rejection amount of GH¢108,293.16 and corresponding claims submission and reimbursement of GH¢1,999,612.66 and GH¢1,891,319.50 respectively.
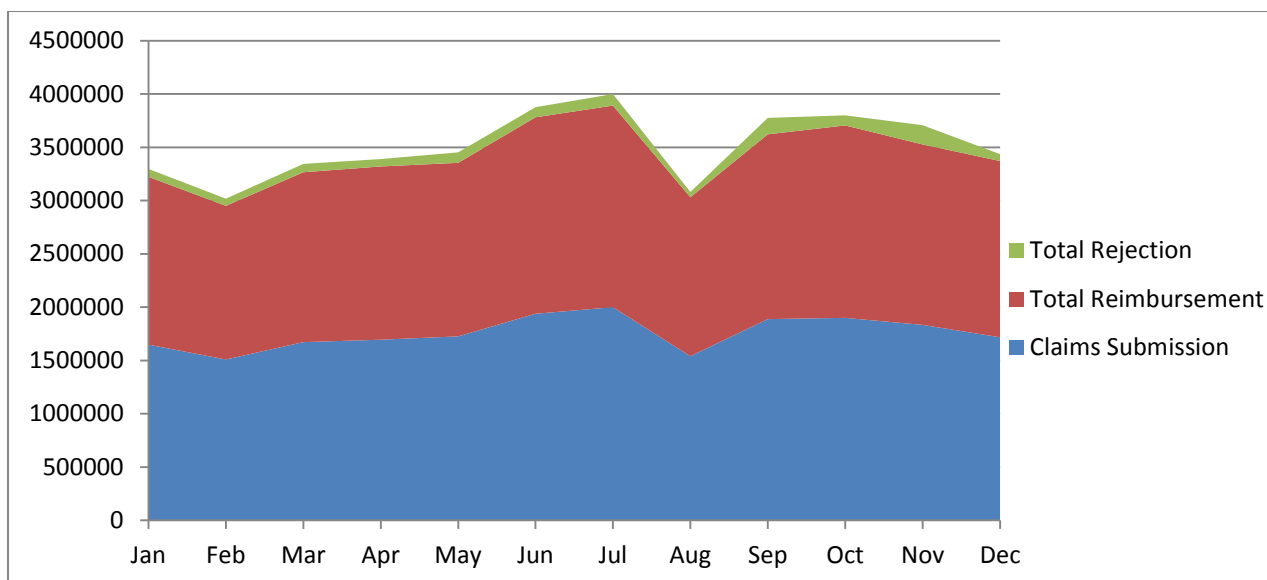
Figure 4.1: Trend Analysis for claims submission, claims reimbursement and claims rejection

(Source: Author's Construct, 2017)

4.3.2 Trend Analysis for independent variables

This section undertakes technical analysis that attempts at predicting the future movement of independent variables based on previous data. The trends for the independent variables are enumerated below;

4.3.2.1 Trend analysis for Errors

Several challenges confront claims management within the National Health Insurance Scheme. Errors on claims submission dominate among several identified factors that affect claims rejection. Factors that account for these errors range from Treatment-Diagnoses Mismatch, inappropriate prescription, overbilling of medicine, wrong application of G-DRG, treatment or prescription beyond providers' accreditation.
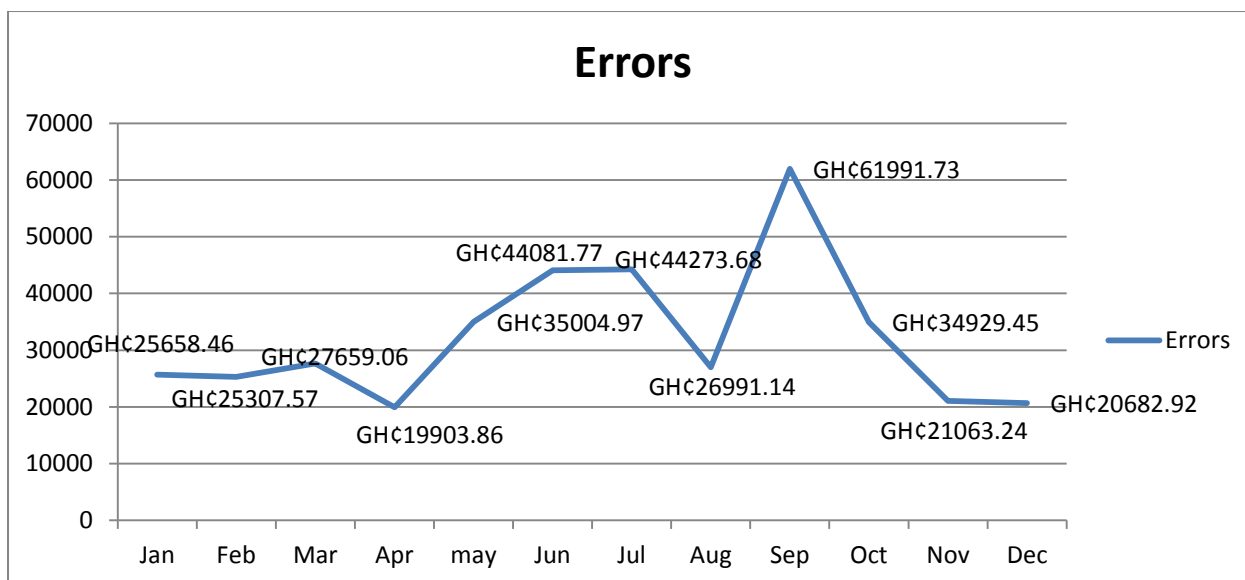
Figure 4.2: Trend Analysis of Errors

(Source: Author's Construct, 2017)

From figure 4.2, trends in errors over the study periods have been averagely appreciating from a rejection value of GH¢25658.46 to a record high of GH¢61,991.73. The month of September witnessed or was witnessed to be the saturation point of errors ultimately resulting in claims rejections. The satiety point in errors is attributed to the relative high submission of claims.

4.3.2.2 Trend analysis for level of bureaucracy

The bureaucratic nature and systems relating to the administration, control and management of claims processes required of service providers for payment by the insurance authority contribute adversely to claims rejection. The bureaucratic nature of claims processing is evident in the manual processing of claims for onward submission to the various district health schemes for vetting and payment of claims. The level of bureaucracy is explained by providers not exhausting the laid down processes before onward submission of claims forms for payment.   The attribution of the level of bureaucracy contributing to claims rejection is seen to be irregular over the study period. Trends relative to the level bureaucracy has

depicted in figure 4.3 is witnessed to have recorded the minimum value of GH¢409.05 and the maximum value of GH¢3807.00.
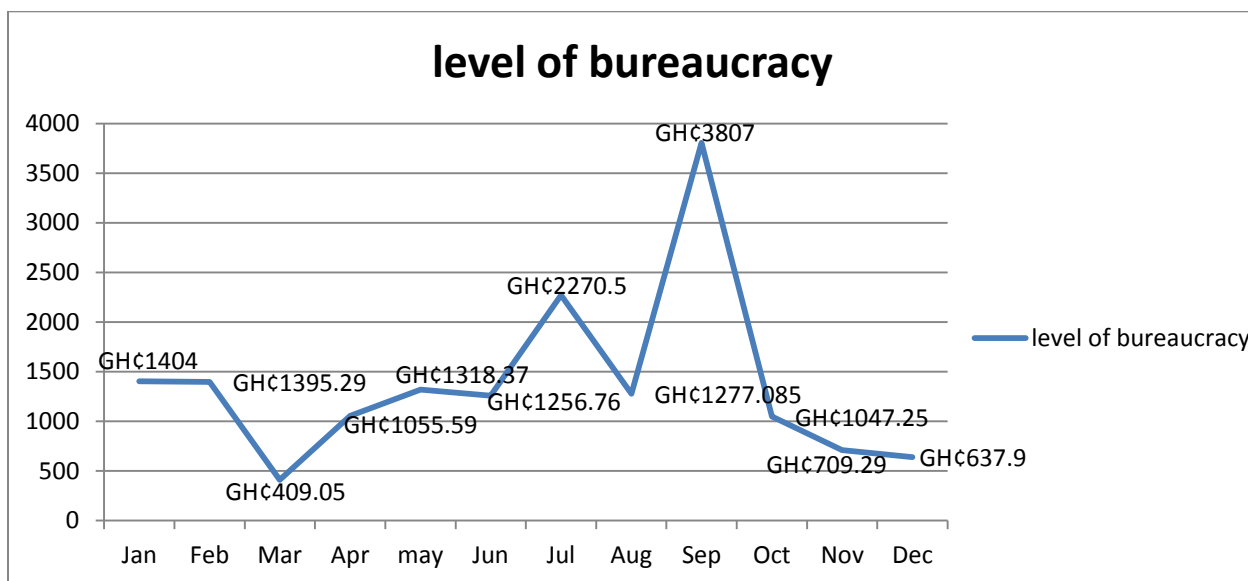
Figure 4.3: Trend Analysis for level of bureaucracy

(Source: Author's Construct, 2017)

4.3.2.3 Trend analysis of Logistics

The inadequacies of appropriate logistics result in a drawback affecting efficiency and effectiveness in claims payment. The dilemma of inadequate logistics such as materials and other equipment for effective and efficient recording keeping and other means to facilitate the smooth payment of claims. The inadequacy of logistics is comprised with the lack of data storage systems and other basic equipment to facilitate operations towards ensuring efficiencies in claims management. The trends of inadequacies in logistics over the study as depicted in figure 4.4 are seen observed to be lopsided. The minimum value for claims rejections attributed to the inadequacy of logistics was recorded in March to be GH¢1671.59 while maximum value of GH¢7967.79was recorded in July.
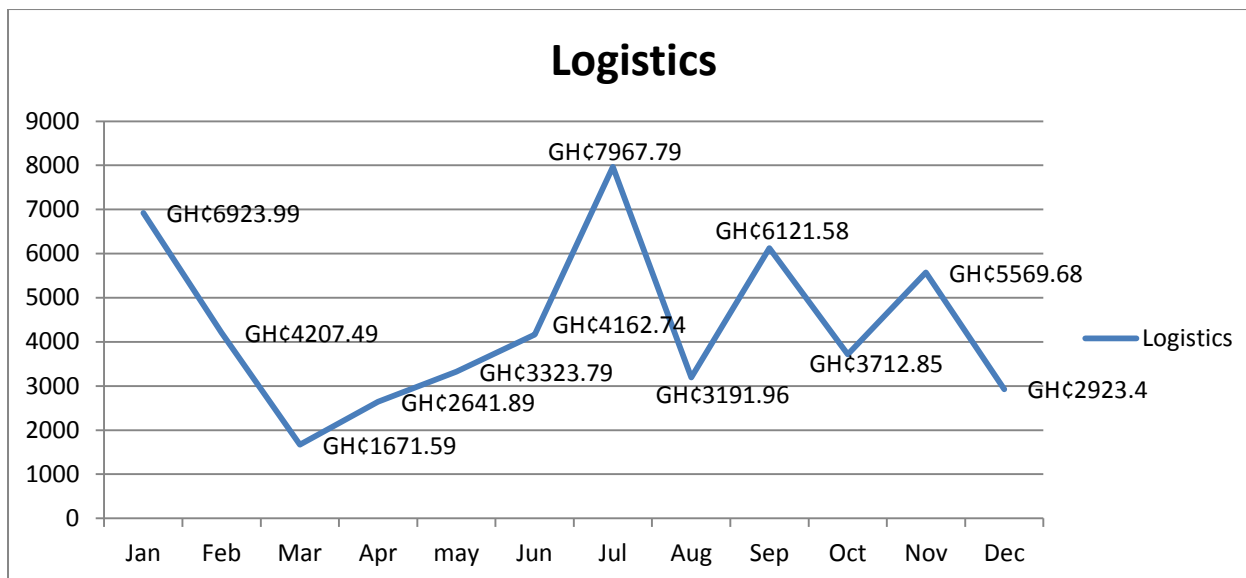
Figure 4.4: Trend Analysis for Logistics

(Source: Author's Construct, 2017)

4.3.2.4 Trend Analysis for Adequacy of personnel

Adequacy of personnel is indispensable for the success of any public health programme whether on the national, intermediate or the local level (Salama, n.d). Staffing is a crucial element for the administration of health insurance. Staffing is the practice of personalizing the organization, by contracting the right type and sufficient number of employees to each unit for the time required for a particular task. The adequacy of personnel and utilization of non-human resources bearing in mind adequacy, speed, and accuracy in implementing administrative decisions directly affecting claims processing is of great essence health insurance administration. The trends for adequacy of personnel as depicted in figure 4.5 is seen to be irregular with the month of September witnessing the apex of claims rejection attributed to the issue of adequacy of person recorded a figure of GH¢14833.59. This maximum figure was recorded in that month because September happened to be the month which recorded the highest out-patient recorded and hence the month with the most submission of claims.

Inadequacy of personnel
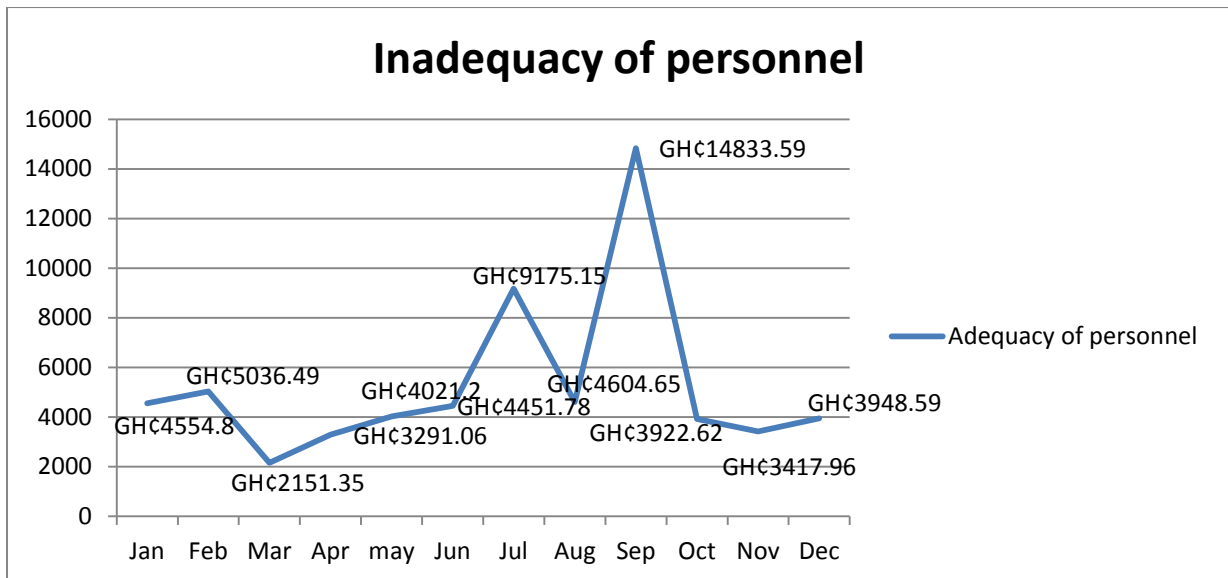
Figure 4.5: Trend Analysis for Adequacy of Personnel

(Source: Author's Construct, 2017)

4.3.2.5 Trend Analysis for Fraud

Health insurance fraud is a global phenomenon evident in the health insurance subsector. Fraud in the health insurance sector is denoted as an intentional act of concealing, deceiving, or misrepresenting information that results in health care benefits being paid to individual or group. Health insurance fraud is dominant amongst health service providers and insurance subscribers. The issue of health insurance fraud cut across billing for services not rendered, double billing, duplication of claims, misrepresentation of diagnosis, unbundling of services, inappropriate referral for financial gain, Insertion/Substitution of medicines and unauthorized co-payments.
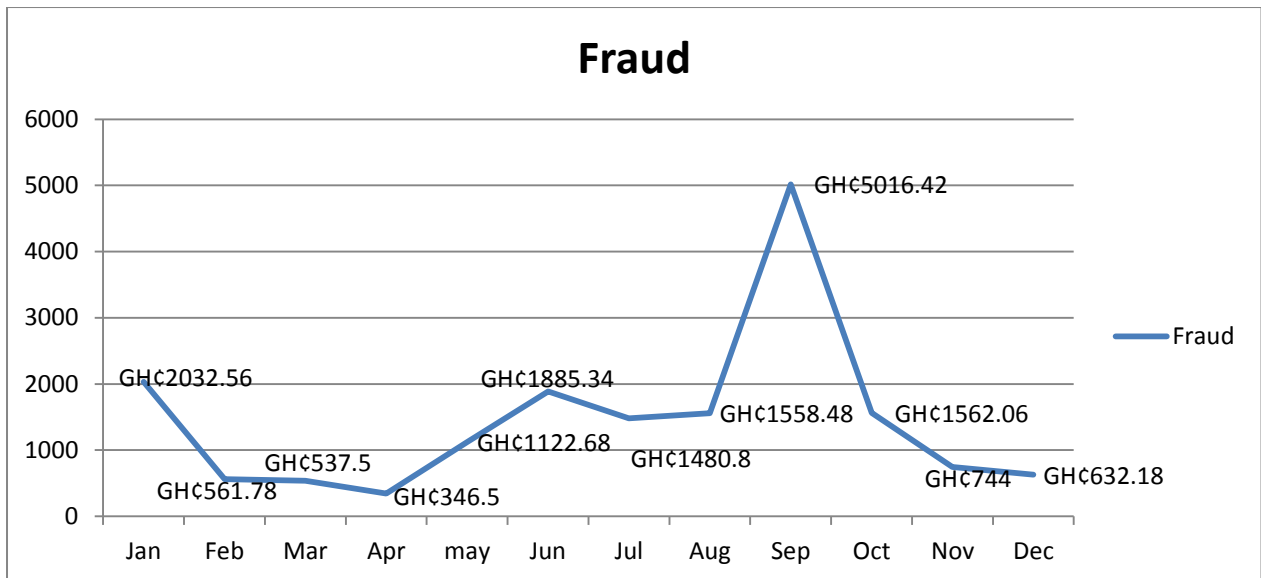
Fraud

Figure 4.6: Trend Analysis for Fraud

(Source: Author's Construct, 2017)

Figure 4.6 show that the trends in Fraud follow the same pattern as claims submission. In other words, it can be observed from the figure above that there is a seemingly direct relationship between claims submission and fraud. The month of September is depicted above to be the saturation point for fraud over the study period recording a total value of GH¢5016.42 whilst the month of April recorded a figure of GH¢346.50 minimal fraud amount relative to the study period.

4.4 Inferential Statistics

This section of the chapter makes inferences and extrapolations about populations using data drawn from the study population. The section makes use of random sample data taken from a population to describe and make inferences about the population. The section employs methods that enable the use of samples to make probability judgments and generalizations about the populations from which the samples are drawn. Methods to be adopted in the section mainly involve the estimation of the parameters and the testing of hypotheses. In

other word, the section presents correlation and regression analysis results to establish the causality effect of the independent variables on the dependent variables.

4.5 Correlation Analysis

The correlation analysis for the predictive study of claims rejection under the National health insurance scheme will involve the statistical measure that indicates the extent to which variables under consideration fluctuate together. The Karl Pearson's correlation technique is adopted for the linear regression purposely to indicate the extent to which variables increase or decrease in parallel or otherwise. Table 4.2 depicts the correlation results on the six variables used to conduct the study (specifically claims rejection, adequacy of logistics, Errors, adequacy of personnel, level of bureaucracy and fraud).

Tables 4.2: Correlation Analysis of CR, AL, ER, AP, LB and FR

		Claims Rejection	Errors	Personnel	Bureaucracy	Logistics	Fraud
Pearson Correlation	Claims Rejection	1.000	.974	.475	.440	.415	.522
	Errors	.974	1.000	.290	.268	.252	.400
	Personnel	.475	.290	1.000	.903	.779	.746
	Bureaucracy	.440	.268	.903	1.000	.756	.756
	Logistics	.415	.252	.779	.756	1.000	.412
	Fraud	.522	.400	.746	.756	.412	1.000
Sig. (1-tailed)	Claims Rejection	.	.020	.040	.058	.060	.080
	Errors	.020	.	.021	.043	.074	.021
	Personnel	.040	.021	.	.449	.625	.045
	Bureaucracy	.058	.043	.449	.	.103	.159
	Logistics	.060	.074	.625	.103	.	.051
	Fraud	.080	.021	.045	.159	.051	.

Source: Author's Construct, 2017

The result from Table 4.2 above depicts a positive association between claims rejection and all the independent variables. The Pearson correlation scale depicts a positive and significant relation between fraud and claims rejection. The same argument implies to bureaucracy and logistics. The conduct of the Pearson correlation is to serve as a step in checking Multicollinearity. The figures recorded for the correctional analysis indicate that the degree of Multicollinearity is minimized with respect to the predictor variables. The correlation table presented above particularly depicted a positive significant association between errors and

claims rejection. The Same assertion can be advanced for the association between claims rejection and inadequacy of personnel.

4.6 Effect of Adequacy of logistics, Errors, Adequacy of personnel, and Level of bureaucracy and Fraud on claim rejection

The effect of the identified factors on claims rejection on a monthly level was assessed using a multiple linear regression. The adoption of multiple linear regression is based on the probabilistic model that allows for more than one predictor. This side of the study is emphasized on highlighting the relationships and influence of the identified independent variables on the dependent variable. The section presents a sequence of tables including tables on the model summary, ANOVA, coefficients and collinearity diagnostics.

4.6.1 Regression Model Summary

The model summary table as presented below provides information about the regression line's ability to account for the total variation in the dependent variable. In other words, the regression table is structured to elucidate on the limited proportion of the dependent variable's total variation.

Table 4.3: Regression Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.943[a]	.890	.780	.212	.384

a. Predictors: (Constant), Fraud, Errors, Logistics, Bureaucracy, Personnel

b. Dependent Variable: Claims Rejection

With reference to the model summary table above, it can be deduced that 89% of the variations in the dependent variable is accounted for by the independent variables in consideration. This indicates that only 11% of variation in the dependent variable is unaccounted for by the independent variables in the model. This assertion is in regards to the

R-squared (also known as the coefficient of multiple determination for multiple regression) which is seen to statistically measure the closeness of the data to the fitted regression line. This concludes that the predominant causes of claim rejections over the study period fall within the domain of the identified independent variables. Furthermore, the Durbin-Watson statistic figure of 0.384 as recorded in the model summary indicates a positive autocorrelation in the residuals in regards to the regression. The Cochrane-Orcutt iterative procedure was however utilized to address the issues arising from the model too mitigate issues of biasness and inconsistencies relating to estimated variances as well as avoiding the overestimation of the R^2 and the t-statistics.

Invariably, the variation in the study variable is seen to be very high mainly because the independent variables account massively for the variants in claim rejections in the hospitals under study.

4.6.2 Analysis of variance

The Analysis of Variance is seen as a collection of statistical models employed to analyze the differences among group means and their associated procedures. This section of the regression analysis is sectioned to determine whether there are any statistical differences between independent variables. This section will specifically use the F-statistic in Table 4.4 to statistically test for the equality of means. The result presented in table 4.4 provides the ANOVA results which depict the reliability of the model in providing the description for the relationship between the study variables. The significance of the model depicted is tested at 5% level using a 2-tailed test.

Table 4.4: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.459E10	5	2.917E9	1992.086	.000[a]
	Residual	1.494E8	102	1464376.92		
	Total	1.474E10	107			

a. Predictors: (Constant), Fraud, Errors, Logistics, Bureaucracy, Personnel

b. Dependent Variable: Claims Rejection

Results in table 4.4 presented above indicate that the sum of squares of the regression is 1.459E10 at a degree of freedom of 5 with a mean square value of 2.917E9. The sum of squares of the residual is computed as 1.494E8 at a degree of freedom of 102 with the value of mean square given as 1464376.92. The F-statistic computed as 1992.09 as presented in the ANOVA table is statistically significant in relation the computed significance value of 0.00 (p=0.00), which is below 0.05. Thus, the result as presented above indicates there is a statistically significant difference in the means of groups in the model. This output suggests that the model under consideration is highly significant in jointly explaining the association between the under-listed independent variables and claims rejection.

4.6.3 Coefficients Result

Regression analysis is computed to generate equations to define the statistical relationship between one or more predictor variables and the response variable. The regression coefficients characterize the mean modification in the explained variable for one unit of change in the explanatory variable holding other explanatory variables in the model fixed. This statistical control that regression provides is vital in sequestering the part of one variable relative to other models in the model. Table 4.5 below presents the regression coefficients and their associated t-statistics and p values.

Table 4.5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	707.445	137.141		5.159	.005		
Errors	.992	.012	.905	80.830	.000	.593	1.262
Personnel	1.225	.238	.139	5.144	.020	.636	3.350
Bureaucracy	.032	1.052	.001	.031	.976	.345	2.907
Logistics	.771	.220	.067	3.511	.001	.473	3.662
Fraud	.818	.568	.028	1.441	.153	.568	3.732

a. Dependent Variable: Claims Rejection

The regression result as presented in Table 4.5 indicates positive coefficients for the independent variables as 0.992, 1.225, 0.032, 0.771, and 0.818 for the independent variables Errors, Personnel, Bureaucracy, Logistics, and Fraud correspondingly. The equation drawn from the table above depicts that for every additional unit errors claims rejection appreciate in value by a 99.2%, holding all other variables constant. Consequently, claims rejection increase by 122.5%, 3.2%, 77.1% and 81.8% for every percentage increase in inadequacy of Personnel, Bureaucracy, inadequacy of logistics and fraud correspondingly, holding relative variables constant in each case of the independent variable analysis. Again, holding all the independent variables constant will result in a 707.45 increase in claims rejection. This provides a description that without the predictor variables claims rejection stand at 707.45.

Invariably, it worth noting that Errors and inadequacy personnel exhibit a positive and a statistically strong influence on claims rejection over the period under consideration.

Additional to the coefficient result, the data was subjected to some form of multicollinearity test. The multicollinearity in the regression happens when predictor variables in the regression are more highly correlated with other predictor variable than the dependent variable. The issue of Multicollinearity is a matter of degree, not a matter of presence or absence. Relative to the coefficient result, a multicollinearity was measured with the use of Variance Inflation Factors (VIF) which indicated a mean figure of less than 5 (i.e. the thumb rule) for all the predictor variables. The VIF test results showed that there is no problem of multicollinearity in the model. Again, the level of tolerance for the predictor variables indicated limited multicollinearity. Thus the tolerance level for the variables was computed to be close to 1 implying limited Multicollinearity. The limited presence of Multicollinearity eventually leads to the avoidance of the variances of the parameter estimates being inflated.

4.7 Summary and interpretation of findings

This chapter presented a trend analysis to monitor the movement of variables to allow for forecasting. The panel data regression based on the random effects of OLS results depicted that errors and inadequacy of human personnel had a positive and a statistically significant influence on claims rejection while fraud, bureaucracy, inadequacy of logistics also depicted a positive effect on claim rejection but their influence was witnessed to be insignificant. Regardless, the predicator variables adopted for the model was seen to be predominant in the variations in the response variable, in this regard claims rejection judging from the R-squared figure recorded in the model summary (table 4.3). The outcome from the regression model exhibited that the independent variables adopted account for 89% of variations in the dependent variables, specifically claims rejection. The model predicted coefficient figures of 0.992, 1.225 0.032, 0.771 and 0.818 for Errors, inadequacy of Personnel, Bureaucracy, inadequacy of Logistics and fraud correspondingly. The trend analysis presented in the study signposted mixed trends for both dependent and independent variables. The trend analysis

depicted a considerable depreciation in claims rejections over the study period. The value of claims rejections over the period depreciated form start to end points by 12.39%. The independent variables also recorded a percentage depreciation of 19%, 13.31%, 54.57, 57.78% and 68.90% for Errors, inadequacy of Personnel, Bureaucracy, inadequacy of Logistics and fraud respectively.

Notwithstanding the above, the study also adopted a Pearson correlation method to exhibit the association of independent variables as well as the Variance Inflation factors together with Tolerance level to examine the extent of Multicollinearity that exist between the predictor variables. Correlation analysis depicted a positive association between the variables. However, errors and claims rejections as personnel and claims rejection depicted a positive and significant association between them.

The study findings affirm the study finding of Sodzi-Tettey (2009), Yakubu (2009) and Darkpani (2011) that errors and inadequacy of personnel contribute to significantly to claims rejection. Their study findings support the claims that errors and inadequacy of personnel are the predominant causes of the over 3% claims rejections for every claims submission. Specifically, the study finding of Yakubu (2009) stipulates that 58.9% of claims rejection is predicted by errors.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This study aimed at estimating the effect of adequacy of logistics, fraud, errors, level of bureaucracy and adequacy of human personnel on claims rejection under the National Health Insurance Scheme. The study had moderating factors to be the number of enrolled patients and the presence of health service providers. This chapter presents the summary of the study findings, conclusions and the recommendations made founded on the study results. Suggestions for further studies are also presented in the chapter. Lastly, the chapter draws on the conclusions of the study aligned with set objectives.

5.2 Summary of the Findings and Discussions

The hypothesis tested in the study was that claim rejections are significantly affected by inadequacy of logistics, errors, competence of personnel, level of bureaucracy and fraud; however, the regression analysis conducted revealed that errors and inadequacy of personnel have significant effect on claim rejections. The previous values of inadequacy of logistics level of bureaucracy and fraud were not likely to contain any extrapolative statistic in the variations of claims rejections. The test depicted that errors and inadequacy of personnel encompassed extrapolative statistic on the current variation in claim rejections. In other words, the values of errors and inadequacy of personnel is deemed to impact significantly on claims rejections. The trends of the independent variables specifically fraud, inadequacy of personnel and errors were to have reached their saturation points in the month of September, marking a period of the highest claims rejection mainly due to the fact the month of September marked the month with the most claims submissions. This attribution supports the

assertion that there is a positive correlation between claims rejections and claims submission as well as with fraud, inadequacy of personnel and errors.

In the predictive model, it was realized that the independent variables accounted for 89% of the variations in claims rejections so far as the national health insurance is concerned. This record implies that the model is extremely reliable to serve as a point of reference for any policy intervention to curtail claims rejection. The predictive model may be considered as a benchmark to mitigate the periodic claims rejection which is hampering claims management of the national health insurance scheme.

5.3 Conclusion

The study concludes that a model based on the causal factors of fraud, bureaucracy, errors, adequacy of logistics, and adequacy of personnel substantially predicts NHIS claims rejection and that errors on claims were the most dominant factor.

5.4 Policy Recommendations

Based on the findings, the study recommends;

- Education and training of health insurance staff in fraud detection as well as enhancing their competence in claims administration.
- There could be instituted regular seminars and programs to train staff and stakeholders on the effect of fraud on the sustainability of the health insurance scheme.
- Health facilities should design and provide adequate training for their staff working on claims preparation and submission to enhance their capacity to eliminate errors.

- All health care staff should be sensitized on the impact of claim rejection in periodic stakeholder meetings. These could be incorporated as a regular feature in the quarterly staff durbars that the health facilities organize.

- Health facility authorities should make time to do regular random sampling checks of claims prepared by their teams to check the integrity of the claims before submission.

- Forecasting and modeling of claims payment could be adopted to facilitate claims management. This could be done by highly intensifying data collection and collation, and also with the adoption of forensic data analytics at appropriate stages to verify claims.

- Early reimbursement for providers with clean claims may influence other claimants to minimize errors.

- Increased advocacy and sensitization as well as training of health service providers and subscribers of the scheme on the impact of fraud

- Feedback on the grounds of rejection of claims should be made known to the various health providers with recommendations on how to remedy the issue of claims rejections.

- An arbitration unit that is completely independent from both the health insurance scheme and health care providers be established to resolve issues of disagreements on rejected claims when health care providers are strongly dissatisfied with the basis of rejections of certain claims.

5.5 Suggestions for Further Studies

The number of providers and the period used are obvious limitations of the study. The study also modeled a few factors that account for claims rejections in the selected provider facilities. Future studies should address these limitations to enhance the predictive power of the model.

Furthermore, to assist in the carrying out of comprehensive studies for the scheme, it would be expected of the National Health Insurance Authority to facilitate research activities by providing relevant documentations and essential data.

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APPENDIX

DEPARTMENT OF ACCOUNTING AND FINANCE

CHRISTIAN SERVICE UNIVERSITY COLLEGE

INTERVIEW GUIDE FOR THE DISTRICT SCHEME MANAGER

THESIS TOPIC:

A PREDICTIVE MODEL OF FINANCIAL CLAIMS REJECTION UNDER THE NATIONAL HEALTH INSURANCE SCHEME: A CASE STUDY OF SELECTED HEALTH SERVICE PROVIDER INSTITUTIONS IN THE ASHANTI REGION

Name of Respondent: ....

DMHIS NAME: ………………………………………………………………

Date: ....

The scheme Manager

(DMHIS Name)

(Location)

Date…………………

Dear Sir/ Madam,

DATA COLLECTION

I am a student undertaking a Master of Science degree in Accounting and Finance at the Christian Service University College, Kumasi. I am carrying out a research on "Claims rejections by National Health Insurance Authority. I am embarking on a process of collecting relevant data for this study. You have been identified as one of the collaborators and respondents for this study. I therefore kindly request for your assistance towards making this study a success. The information you provide will be used solely for academic purposes and will be treated with utmost confidence.

A copy of the final report will be availed to you upon request. Your assistance will be highly appreciated.

Yours sincerely,

Kwaku Opoku   Dr.   Kwaku Ahenkora

(Researcher)   (Supervisor)

This interview guide is designed to establish the effect of some identified factors on claims rejection in health provider institutions in the Ashanti region of Ghana. Information collected will be exclusively used for academic purposes and treated as confidential. It would be highly appreciated if additional information or documents deemed relevant to the study are provided. Thanks for the consideration.

1. Which year was the scheme formed?..

2. The table below takes stock of service under your jurisdiction. Kindly fill out the blank space in the table by following highlights provided in the table;

Service Providers	Total Number	No. currently providing services to scheme members	Location
Chemical stores			
Clinics			
Drug store			
Health Centres			
Maternity Home			
Pharmacy shops			
Private hospitals			
Public hospitals			
Quasi-Public hospitals			

3. Do you consider Health Insurance as a better health financing option for Ghanaians?

   Yes [ ] No [ ]

4. Given reasons for your answer in (3)

   ....

   ....

   ....

5. Is the NHIS sustainable in your view?

   ....

   ....

   ....

6. What are your reasons for your answer in (5)?

....

....

....

7. What in your view can be done to ensure sustainability of the scheme?

....

....

....

8. What are some of the operational challenges confronting the scheme in the district?

....

....

....

9. What do you recommend for the improvement of the scheme in the district?

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....

....

10. What would be your recommendation to overcome these challenges?

....

....

....

11. What are the processes adopted in claims management in your district?

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12. What are some of the dominant factors that account for the number of claims rejection in the district?

....

....

....

13. What factors has the scheme put in place to mitigate the highlighted factors that accounts for claims rejection?

....

....

....

14. The table below provides a list of factors that accounts for claims rejections in the health service provider institutions that operate under the national health insurance scheme. Kindly provide the number of claims rejected that is attributed under each of the under listed factors as present in the table format below;

No.	Factors accounting for claim rejection	2015											
		Number claims rejected attributable to enumerated factors											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Fraud												
2	Adequacy of logistics												
3	Adequacy of human resource												
4	Errors												
5	Level of bureaucracy												

No.	Factors accounting for claim rejection	2016											
		Number claims rejected attributable to enumerated factors											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	**Fraud**												
2	**Adequacy of logistics**												
	Adequacy of human resource												
4	**Errors**												
5	**Level of bureaucracy**												

15. The table below indicates factors that militate against the successful reimbursement of claims under the National Health Insurance Scheme. Please indicate by ticking the respective boxes using the Likert Scale to indicate the casual effect of the identified factors on claims rejections in your institution over the last 12 months (Precisely 2015-2016).

Please use the scale:

1= Not High   **2= Less High**   **3= Moderately High**   **4=High**

5= Very High

No.	Factors accounting for claim rejection	1	2	3	4	5
1	Fraud					
2	**Adequacy of logistics**					
3	Adequacy of human resource					
4	Errors					
5	Level of bureaucracy					

CHRISTIAN SERVICE UNIVERSITY COLLEGE

DEPARTMENT OF ACCOUNTING AND FINANCE

QUESTIONNAIRE FOR THE HOSPITAL ADMINISTRATION /ACCOUNTS/ FINANCE

DEPARTMENT

THESIS TOPIC:

A PREDICTIVE MODEL OF FINANCIAL CLAIMS REJECTION UNDER THE

NATIONAL HEALTH INSURANCE SCHEME: A CASE STUDY OF SELECTED

HEALTH SERVICE PROVIDERS IN THE ASHANTI REGION

Name of Respondent: ....

Name of Hospital: ....

Date: ....

The Administrator/Finance Officer

(Hospital Name)

(Location)

Date…………………

Dear Sir/ Madam,

DATA COLLECTION

I am a student undertaking a Master of Science degree in Accounting and Finance at the Christian Service University College, Kumasi. I am carrying out a research on "Claims rejections by National Health Insurance Authority". I am embarking on a process of collecting relevant data for this study. You have been identified as one of the collaborators and respondents for this study. I therefore kindly request for your assistance towards making this study a success. The information you provide will be used solely for academic purposes and will be treated with utmost confidence.

A copy of the final report will be availed to you upon request. Your assistance will be highly appreciated.

Yours sincerely,

Kwaku Opoku   Dr. Kwaku Ahenkora

(Researcher)   (Supervisor)

This questionnaire is designed to establish the effect of some identified factors on claims rejection in health provider institutions in the Ashanti region of Ghana. Information collected will be exclusively used for academic purposes and treated as confidential. It would be highly appreciated if additional information or documents deemed relevant to the study could be provided. Thanks for the consideration in completing this questionnaire.

1. In which year was the health facility accredited to provide services to members of the
   NHIS? .. ..

2. Do you consider Health Insurance as a better health financing option for Ghanaians?

Yes [ ]   No [ ]

3. Give reason for your answer in (2) above

....

....

....

4. Is the NHIS sustainable in your view?

....

....

....

5. Give reasons for your response in Q4? ....

....

....

....

6. Highlight some of the challenges associated with the successful implementation of the

scheme?

....

....

....

7. What in your estimation can be done to ensure sustainability of the scheme?

....

....

....

8. Complete the table below which encapsulates issues of human resource in the NHIS claims unit in your hospital.

Professionals/ Departments	Expected No. of personnel	Current No. of personnel	Gap

9. How would you categorize the staffing situation?

(a) Very adequate [ ]

(b) Adequate [ ]

(c) Inadequate [ ]

(d) Very Inadequate [ ]

10. In your view, are these health workers on the average adequate for your facility?

11. YES [ ]   NO [ ]

12. [ii] Explain the reason for your answer in 11(i) ....…….

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

13. Are there any human resource problems at this facility? Yes [ ]   No [ ]

14. If yes identify three (3) major human resource problems related to the Health Insurance Scheme in this facility?

....

....

....

15. Does the facility face issues of fraud with the scheme? Yes [ ]   No [ ]

16. How does the issue of fraud affect the reimbursement of claims under the scheme?

....

....

17. What creates the issue of fraud associated with NHIS so far as your institution is concerned?

....

....

....

18. In your estimation, what do you think can be done to curtail the issues of fraud associated with the scheme in your provision of health care?

....

....

....

19. What is your view about the bureaucratic nature involved in the administration of claims?

....

....

....

20. How does the level of bureaucracy influence claims management? Or how does the level of bureaucracy influence claims rejection?

....

....

....

21. In your estimation, what do you think can be done to curtail the issues of bureaucracy associated with the administration of the scheme?

....

....

....

22. Complete the table below which encapsulates issues on logistics regarding NHIS Claims compilation

Departments	Equipment			
	Very Adequate	Adequate	Inadequate	Very Adequate

23. The table below indicates factors that militate against the successful reimbursement of claims under the National Health Insurance Scheme. Please indicate by ticking the respective boxes using the Likert Scale to indicate the causal effect of the identified factors on claims rejections in your institution over the last 12 months (Precisely 2015-2016).

Please use the scale:

1= Not High   **2= Less High**

3= Moderately High   **4= High**   **5= Very High**

No.	Factors accounting for claim rejection	1	2	3	4	5
1	Fraud					
2	Adequacy of logistics					
3	Adequacy of Personnel					
4	Errors					
5	Level of bureaucracy					

24. The table below provides a list of factors that accounts for claims rejections in the health service provider institutions that operate under the national health insurance scheme. Kindly provide the number of claims rejected that is attributed under each of the under listed factors as present in the table format below;

No.	Factors accounting for claim rejection	2015											
		Number claims rejected attributable to enumerated factors											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Fraud												
2	Adequacy of logistics												
3	Adequacy of Personnel												
4	Errors												
5	Level of bureaucracy												

No.	Factors accounting for claim rejection	2016											
		Number claims rejected attributable to enumerated factors											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Fraud												
2	Adequacy of logistics												
3	Adequacy of human resource												
4	Errors												
5	Level of bureaucracy												

25. What are some the measures that can be put in place to reduce the number of claims rejection in provider institutions operating under national health insurance scheme?

....

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NB. Please you are kindly reminded to provide claims reports for the period between 2015 an