

**EFFECT OF NATIONAL HOSPITAL INSURANCE FUND OUTPATIENT
SCHEME ON FINANCIAL SUSTAINABILITY OF PUBLIC HOSPITALS IN
KENYA**

A CASE OF SUB-COUNTY HOSPITALS IN NAKURU COUNTY, KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree award in any other university.



21st May, 2018

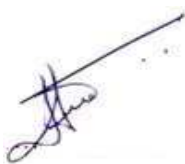
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This research project has been submitted for examination with my approval as the University supervisor.



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DEDICATION

This research project is dedicated to my friend Patrick, Jorum my spouse, Fredrick my Dad and Nancy my mum for their support.

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ABBREVIATIONS AND ACRONYMS

| | |
|----------------|--|
| ADMAFF: | Administrative Costs After |
| ADMBEF: | Administrative Costs Before |
| CEC: | County Executive Committee |
| DRG: | Diagnosis Related Group |
| GDP: | Gross Domestic Product |
| HISP: | Health Insurance Subsidy Programme |
| LIS: | Labour Insurance System |
| NCMS: | New Rural Cooperative Medical Scheme |
| NHIF: | National Health Insurance Fund |
| NHIS: | National Health Insurance Services |
| NPO: | Non Profit Organizations |
| OECD: | Organization for Economic Co-operation and development |
| OPRAS: | Outpatient Revenue after Scheme |
| SOE: | State-Owned Enterprises |
| SPSS: | Statistical Package for Social Sciences |
| TRAS: | Total Revenue after Scheme |
| UE-BMI: | Urban Employees Basic Medical Insurance |
| UR-BMI: | Urban Residents Basic Medical Insurance |
| UTLAFF: | Utilization Levels After |
| UTLBEF: | Utilization Levels Before |

DEFINITION OF TERMS

Administrative costs:

These are expenses that are incurred by a health facility in the discharge of the NHIF outpatient services (Chege, 2013). The costs include personnel remuneration, documentation cost, and logistic cost.

Financial sustainability:

This is the capacity of a given healthcare provider such as a hospital to address its short-term, medium-term, and long-term financial obligations (Liaropoulos & Goranitis, 2015). Financial sustainability is operationalized by strategic financial planning, unrestricted income generation, and cash flows.

NHIF capitation:

This is the amount of financing selected health providers are allocated in order to enable them dispense outpatient services to patients covered under the NHIF outpatient scheme (Qingyue, 2005). NHIF capitation is exemplified by capitation amount, capitation coverage, and disbursement of capitated amount.

NHIF Cover Utilization:

This refers to the frequency and amount used by patients under the NHIF outpatient scheme vis-à-vis the capitation amount (Bossman, 2017). Therefore, it is operationalized by factors such as utilization frequency, cost of service, and amount spent in dispensing outpatient services.

Reimbursement process:

This refers to the procedure followed to disburse to a given health facility a given amount of funds to address the cost incurred by patients referred to it and who are under the NHIF outpatient scheme (Barber & Yao, 2010). The process entails such aspects as bureaucracy, reimbursement timeline, and documentation.

Sub-County hospitals:

These are mainly level four hospitals that dispense healthcare services in a given jurisdiction mostly a Sub-County (Constitution of Kenya, 2010).

ABSTRACT

Health insurance is very crucial in improving access to healthcare. The National Hospital Insurance Fund outpatient scheme was inceptioned with the object of addressing financial difficulties faced by the member of the Fund when seeking healthcare without the need to be admitted to health facilities. The contractual agreement between the Fund and the health facilities mandated to offer outpatient services has hitherto been faced by a couple of financial hurdles that have rendered provision of quality healthcare by these health outlets challenging. In tandem, this study linked the aforesaid scheme to financial sustainability of Sub-County health facilities in Nakuru County. The study examined the effect of NHIF outpatient service capitation, NHIF outpatient reimbursement process, utilization levels of NHIF outpatient services, and administrative costs on financial sustainability of the foregoing health facilities. The financial intermediation theory and the financial health model guided the study. A descriptive survey design was adopted. The management employees working in the public health sector in Kenya were targeted. The accessible population constituted the 183 management staff working with the 6 Sub-County hospitals in Nakuru County. Stratified random sampling technique was adopted to obtain 81 respondents from the study population. The study used a structured questionnaire to collect data and a secondary data collection sheet. The questionnaire was pilot tested to determine both its validity and reliability. The collected data were subjected to necessary analysis with the facilitation of the Statistical Package for Social Sciences Version 24 programme. Data analysis encapsulated both descriptive and inferential statistics. The results of the analysis were presented in form of tables. It was found that by increasing the NHIF capitation, reimbursement process, and utilization levels of the NHIF cover there was little likelihood to increase financial sustainability of Sub-County hospitals. However, the study revealed that by increasing the administrative costs, financial sustainability was likely to be reduced to a small extent but substantially. The study also established that mitigating factors hardly affected the financial sustainability of the aforementioned health facilities. The public health facilities had not recorded improved cash flows nor reduced their various costs. It was found that the NHIF outpatient scheme could explain 25.0% of the variation of financial sustainability of the aforementioned hospitals. It was concluded that NHIF capitation, reimbursement process, utilization levels of NHIF outpatient scheme, and mitigating factors have little effect on financial sustainability of the surveyed health facilities. However, it was inferred that, though administrative costs did not negate financial sustainability in a big way, reducing them was likely to have far-reaching implications on financial sustainability of Sub-County hospitals operating in Nakuru County. The study advises the hospitals to ensure that the utilization level of the scheme is proportional to the capitated amount and also the reimbursed funds. It is also recommendable to both national and devolved governments for increased budgetary allocation to all the public health facilities in Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Health insurance is fundamentally important in improving access to healthcare. According to Cohen and Martinez (2014), public health plan coverage, which is essentially funded by the government, encapsulates children's health insurance programme, state-sponsored health plans, and military plans among other health plans sponsored by the government. It is further noted that insurance coverage increases with increase in vulnerability of the people. The children and the aged (persons aged more than 65 years) have a greater insurance coverage as opposed to persons between ages 18 and 65 (Cohen & Martinez, 2014).

It is postulated that all countries are faced with the challenge of expanding healthcare coverage. Instructively, therefore, most of the countries in the world have entrenched healthcare goals in their laws, human rights, constitutions, and even in health policy documents. In the same light, expansion of health insurance is a strategy adopted by many countries with the object of addressing hitherto harsh health outcomes that primarily impact on the poorest in the society, who lack requisite finances to access quality healthcare (Dutta & Hongoro, 2013).

1.1.1 Global Perspective of Health Insurance and Financial Sustainability

The challenges of financial sustainability of the health care services providers are prevalent across the world. Various countries have different expenditures on the public health. According to the OECD Health Statistics (2014), the average of total health spending in relation to the Gross Domestic Product (GDP) was 9.3% in the

year 2012. The statistics further indicated that the United States led the OECD countries by spending 16.9% of its GDP in 2012.

The modern day health insurance concept originated from the United States of America through the development of accident insurance that had been established from 1866 (Adei, Mireku, & Sarfo, 2015). The accident insurance were equivalent to the modern day disability insurance. The early health insurance developments in the United States included the introduction of sickness coverage in 1890 and the prepaid service provision development in the 1920s (Amoah, 2012). The health insurance has been described as a platform for collectively pooling the risk of incurring medical expenses in case of a member of the pool falling sick (Bengat, 2015). The use of the government run insurance fund in modern day occurs due to the inability of the government to fully finance the health care provision for its citizens (Domoh, 2016). In Germany, there is a statutory health insurance. This is compulsory for all the Germans and low income workers are automatically enrolled to diverse public non-profit insurance schemes paid in a joint employer-employee contribution.

In the People's Republic of China, health insurance became imminent in 1950's where it was organized around rural agricultural communities and/or around urban places of employment (Barber & Yao, 2010). The rural people were covered under cooperative medical insurance schemes that were managed by agricultural communes. On the other hand, the Labour Insurance System (LIS) incepted in 1951 was the umbrella that provided health insurance schemes to employees working with State-Owned Enterprises (SOEs). The three medical insurance schemes in China, namely, New Rural Cooperative Medical Scheme (NCMS), Urban Employees Basic Medical Insurance (UE-BMI), and Urban Residents Basic Medical Insurance (UR-BMI)

function differently and their financing also vary. It is important to note that respective county level governments determine the design of NCMS (Rao et al., 2010). In the country, it is postulated that there exists a formula-based model that is employed in reimbursements for outpatient services. At county levels, outpatient services could be reimbursed from a pool of funds in relation to the aforesaid formula by ordinarily with no deductibles (Barber & Yao, 2010).

It is stated that health insurance as an instrument employed to finance healthcare has continued to acquire unprecedented popularity in India (Yellaiah, 2014). The government has strived to enhance access to healthcare particularly to the poor through the health insurance scheme. This has provided financial protection to the poor against exorbitant medical fees charged by health facilities. According to Shukla, Shatrugna and Srivatsan (2011), insurance covers for outpatient treatment is not provided; a situation that has affected the working capacity of the patients concerned. In the United States, people aged at least 65 years are entitled to be under the government's health insurance scheme (Cohen, 2008). This implies that persons falling within this age category are under the purview of the government's care and as such can access medical services without incurring any charges. In its entirety, the country's citizenry is under various health insurance schemes with only less than 17% lacking any health insurance coverage.

1.1.2 Health Insurance and Financial Sustainability in Africa

Within the context of Africa, there has been a general trend in health care financing that started with provision of free access to healthcare, cost sharing phase and finally the introduction of government run health insurance scheme (Franklin, 2010). The immediate post-independence era had the most governments trying to offer free health

care. However, an increasing population as well as costs of healthcare provision led to the cost sharing platforms in which the citizens and government shared the costs of medical provision. This has led to the development of health care insurance funds which can either be private insurance or government funded insurance (Chege, 2013). Amongst the African countries that have enacted a government run health insurance fund include Nigeria, Ghana, Rwanda, and Tanzania amongst others (Abuor, 2012). Nigeria established the National Health Insurance Services (NHIS) in 1999 while Tanzania have the National Health Insurance Fund (NHIF) established in 1999.

Given that national health insurance fund is a government initiative or scheme, it is imperative to understand the extent to which governments financially emphasize on the scheme. In South Africa, it is stated that the total health spending accounted for 8.8% of the country's GDP in 2012 (OECD Health Statistics, 2014). This was slightly below the OECD's average of 9.3% of the GDP. When juxtaposed with other OECD countries, South Africa is ranked below majority of them due to the fact that health spending is likely to rise with rise in income. As such, countries with higher GDP per capita are also likely to spend more on health. The per capita health expenditure for South Africa was recorded as USD 982 while the OECD average was USD 3484 in 2012. It is imperative to note that, South Africa is the only OECD county in Africa hence the status of the foregoing statistics on health spending against the GDP.

According to Dutta and Hongoro (2013), Nigeria is one of the few countries in Africa that since 2008 purposed to expand its health insurance coverage with the goal of achieving universal healthcare by 2015. The country has a National Health Insurance Scheme (NHIS) that is enshrined in the National Health Insurance Act of 2008, which provides healthcare programmes that cover various persons. These include formal

employees, tertiary students, urban self-employed, the armed forces, children under five years, prison inmates, people living with disabilities, and also some expectant women. However, statistics indicate that only 3% of Nigeria's population which is equivalent to approximately 5 million people were members of the NHIS as at 2012. This mirrored a grave situation in respect of universal healthcare the country aimed to realize by 2015.

1.1.3 Health Insurance and Financial Sustainability in Kenya

It is reported that in spite of the fact access to quality healthcare being enshrined in the Constitution of Kenya, millions of citizens are unable to afford health services due to the fees charged by public and private health facilities being out of their reach. According to the World Bank Report on Improving Healthcare for Kenya's Poor, though public health insurance was incepted about half a century (1966) ago, about 80% of the populace which is equivalent to more than 35 million Kenyans lack health insurance cover (World Bank, 2014). The dire need and expensive nature of healthcare in Kenya occasion to about one million citizens to fall below the poverty line every year. The foregoing situation underscores the necessity and importance of the insurance coverage subsidized by the government. One of the major initiatives to this effect, is the Health Insurance Subsidy Programme (HISP) launched by the Kenyan government in early 2014. The initiative extends financial risk protection to the poorest in the society by availing to them a health insurance subsidy covering both inpatient and outpatient care in public and private health outlets in the country (World Bank, 2014).

Kenya established the National Hospital Insurance Fund (NHIF) in 1966 through an Act of Parliament to provide health care to salaried public and private sector

employees that were earning over a thousand shillings. There have been several overhauls of the laws governing NHIF over the years (Adei et al., 2015). In this context, the amounts payable have changed over the years from Ksh 5 for civil servants in 1966, a graduated scale ranging from Ksh 30 to Ksh 320 in 1990, and in the recent past there have been diverse changes in the amounts payable to NHIF. For the salaried people, this range from Ksh 150 for low income earners to Ksh 1,700 for high income earners. The self-employed persons pay Ksh 500 per month (Karanja, 2014).

To date, the NHIF is reputed for being the most widely available medical cover in Kenya, with close to 500 accredited health facilities across the country. The government of Kenya has for decades been extending health insurance cover through the NHIF specifically for inpatient benefactors. According to Kimani, Ettarh, Kyobotungi, Mberu and Muindi (2012), a pilot outpatient service programme that allowed NHIF members to access outpatient insurance cover in selected hospitals came to fruition in 2015. Therefore, insurance coverage or outpatient services is one of the major strides that the Fund has witnessed in the recent past.

The contractual agreement between the pertinent stakeholders, particularly in relation to financial dimension, in the provision of health insurance coverage through the NHIF is categorized into three distinct options (Midiwo, 2007). In the first option, government health facilities are involved and the beneficiaries are absolutely covered by the Fund. The second contract option involves faith-based health outlets and selected private health facilities mainly in rural areas where beneficiaries enjoy comprehensive coverage with exception of surgery expenses. In respect of this option, the surgery expenses are addressed on a copayment basis, where payments are

premised on capitation (capped amount). The third option involves coverage for health services offered by high-cost private hospitals. In respect of the latter option, daily rebates for hospitalization are catered for by the NHIF. The present study particularly investigated how the outpatient scheme offered by the NHIF affect financial sustainability of Sub-County health facilities in Nakuru County.

1.2 Statement of the Problem

The NHIF outpatient scheme was incepted with the object of addressing financial difficulties faced by the member of the scheme when seeking healthcare without the need to be admitted to health facilities. This was in the wake of increased outpatient visits to public hospitals. It is indicated that the average number of visits to an outpatient health provider, that is, utilization rate, per capita per year increased by 35% from 2007 to 2013. In addition, statistics indicate that the annual per capita outpatient spending rose to KSh 1,254 in 2013 (Republic of Kenya, 2015). The contractual agreement between the Fund and the health facilities mandated to offer outpatient services has hitherto been faced by a couple of financial hurdles that have rendered provision of quality healthcare by these health outlets challenging. The delayed reimbursement by the NHIF of the costs incurred by these health facilities in the provision of outpatient services is a financial debacle that these entities have been obliged to live with. This is albeit the fact that these health utilities are expected to provide healthcare, the foregoing situation notwithstanding. The capitation of the Fund against the requirement of these health facilities to offer healthcare limitlessly is likely to occasion financial problems in the provision of the healthcare. These health facilities are the ones bound to be affected by the aforestated financial problems. The failure by certain NHIF-listed facilities to extend services to NHIF members due to delayed reimbursements can attest to the financial challenges facing these facilities.

The reason this issue is a problem is founded on the fact that, being public entities, they are expected to provide quality health facilities regardless of their financial capacity or incapacity to do so. The hitherto empirical evidence as manifested in studies conducted by Midiwo (2007), Abuor (2012), and Kimani et al (2012) did not specifically examine how outpatient scheme offered by the NHIF affects financial sustainability of public health facilities. To this end, therefore, this study sought to link the aforesaid scheme to financial sustainability of Sub-County health facilities in Nakuru County.

1.3 Objectives of the Study

The study sought to address the general objective and a set of specific objectives as stated below.

1.3.1 General Objective

The general objective of the study was to determine the effects of National Hospital Insurance Fund outpatient scheme on financial sustainability of Sub-County hospitals in Nakuru County, Kenya.

1.3.2 Specific Objectives

The study was guided by the following objectives.

- i. To examine the effect of NHIF outpatient service capitation on financial sustainability of Sub-County hospitals in Nakuru County
- ii. To analyze how NHIF outpatient reimbursement process affects financial sustainability of Sub-County hospitals in Nakuru County
- iii. To determine the effect of utilization levels of NHIF outpatient services on financial sustainability of Sub-County hospitals in Nakuru County

- iv. To examine the effect of administrative costs of NHIF outpatient services on financial sustainability of Sub-County hospitals in Nakuru County

1.4 Research Hypotheses

The study tested the following research hypotheses.

H₀₁: There is no significant effect of NHIF outpatient service capitation on financial sustainability of Sub-County hospitals in Nakuru County

H₀₂: There is no significant effect of NHIF outpatient reimbursement process on financial sustainability of Sub-County hospitals in Nakuru County

H₀₃: There is no significant effect of utilization levels of NHIF outpatient services on financial sustainability of Sub-County hospitals in Nakuru County

H₀₄: There is no significant effect of administrative costs of NHIF outpatient services on financial sustainability of Sub-County hospitals in Nakuru County

1.5 Significance of the Study

Firstly, this study will be important to policy makers. The policy makers in respect to the scheme include directors and senior management among other pertinent senior key personalities. These individuals can employ the findings herein to draft policies and strategies that can ensure the success of the outpatient scheme as provided by the NHIF. Secondary, this will be helpful to the practitioners in relation to the NHIF. These practitioners particularly in the Sub-County hospitals and other health facilities that are listed by the NHIF to offer outpatient services will be better placed to understand how to ensure their financial sustainability in the wake of intricacies associated with their contractual agreement with the NHIF. Lastly, it will be beneficial to carry out this study with the view of increasing the body of knowledge in relation to NHIF and financial sustainability particularly of health facilities in Kenya.

In this respect, therefore, scholars and learners in the field of finance, and to some extent insurance, are expected to find this study as a reliable point of reference.

1.6 Scope of the Study

The study was carried out in Nakuru County where the focus was on the Sub-County hospitals. The choice of these facilities was based on among other reasons, the fact that they were and still are all listed by the NHIF to offer outpatient services to members of the Fund and their dependents. In particular, the study was focused on management staff working with the aforementioned health facilities. Moreover, the study was delimited to a set of five variables which included NHIF outpatient service capitation, NHIF outpatient reimbursement process, utilization levels of NHIF outpatient services, administrative costs associated with NHIF outpatient services, and financial sustainability. The study was carried out over a period of about three months and with a budget of approximately Ksh 150,000.

1.7 Limitations of the Study

The study faced various limitations. Due to the sensitivity of financial data in respect of the NHIF outpatient scheme, it was quite challenging for management of the targeted health facilities to divulge pertinent data. To this end, the researcher sought formal consent and authorization from the County Director of Health Services to be allowed to gather requisite data from the sampled management staff. It was also challenging to access data on NHIF outpatient scheme from the Fund's staff. This limitation was overcome by seeking the approval of the NHIF top management based in Nakuru office.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews theories, models and past empirical studies in relation to health insurance and financial sustainability in the health sector. The chapter also outlines the conceptual framework that expounds study constructs and their hypothesized relationship. More so, critique and a summary of the reviewed literature are captured. Lastly, the chapter presents the research gaps identified from a critique of the reviewed empirical studies.

2.2 Theoretical Framework

Theoretical framework presents a review of theories and/or models in respect of health insurance and financial sustainability. The financial intermediation theory and the financial health model are reviewed and discussed in the context of NHIF outpatient scheme and financial sustainability in Sub-County hospitals.

2.2.1 The Financial Intermediation Theory

The theory of financial intermediation was proposed by Gurley and Shaw (1960). The theory states that resource allocation is based on perfect and complete markets where friction occasioned by transaction costs and asymmetric information is important in understanding intermediation. It is postulated that in spite of the reduction in transaction costs and asymmetric information, intermediation has increased (Allen & Santomero, 1998). It is stated that trading costs enables intermediaries to be more easily diversified than individuals. Various theorists have examined the friction that emanates from investors' information sets. They have outlined the role of asymmetric

information as an optional rationalization in respect of the importance of intermediaries.

According to Leland and Pyle (1977) an intermediary may decide to indicate their informed status by investing their wealth in assets where they have much information about. This implies that intermediaries are able to invest in a policy where they can get the maximum returns due to favourable information asymmetry. In the same vein, Diamond (1984) asserted that intermediaries are able to overcome the problems occasioned by information asymmetry by assuming the role of delegated monitors. It is also noted that risk management plays a crucial role in the activities of the intermediaries. Risk management as explained by the theory of financial intermediation is most effective when making firm-level decision.

The financial intermediation theory underscores the importance of firms to undertake risk management. It is paramount for firms to consider transaction costs and agency costs of ensuring managers transact appropriately. According to Allen and Santomero (1998), the theory of financial intermediation is applicable in the case of institutions which take deposits or issue insurance policies and channel funds to entities. This is in support of McKinnon's (1973) assertion that insurance companies have historically played a central role in intermediation. It is stated that insurance firms, after realizing that their actuarial function played a minor part of their asset management capabilities, they resorted to more innovative measures and broadened both their products and services. The foregoing has led to the inception of outpatient services as offered by the NHIF.

2.2.2 Financial Health Model

The financial health model was developed by Abraham (2003). The model determines the financial health of a Non-profit Organization (NPO) by putting into perspective various operational aspects over time, and then addressing the said criteria in respect of financial accountability. The model is applicable to a specific organization at a time. The model provides analytical means of assessing the financial sustainability of an organization. It does this by recommending particular and pertinent measures which can be employed to improve the entity's financial health.

The financial health model was developed in the wake of the increasing scope and size of the nonprofit sector, a factor that necessitated increased financial accountability (Herzlinger, 1996; Lyons & Hocking, 1998). It is further postulated that NPOs are established with the aim of accomplishing altruistic as opposed to financial goals. The foregoing occasions the accountability systems of NPOs being developed around exigency basis, that is, when the situation demands for such accountability. Regardless of the foregoing, the stakeholders who are mainly the public are entitled to financial accountability by the concerned NPOs.

The financial health model puts into perspective four tenets. These include equity balances, revenue concentration, administrative costs, and operating margins (Abraham, 2003). In respect of NPOs, operating equity is obtained from its operating income only. This equity can be held in various forms which include liquid assets like cash, or no-liquid assets such as infrastructure. The equity balances are important to the financial health of NPOs. Revenue concentration is characterized by both diversity and distribution. According to Bryce (1992), financial sustainability is enhanced by diversification of revenue sources since it is highly improbable that all sources are

prone to the same economic shocks. Moreover, it is asserted that equal distribution of revenue from various sources is likely to improve the financial sustainability of an NPO.

In respect of administrative costs, it is paramount to reduce expenditure and/or increase the revenues in order to improve the financial position of an entity (Haller, 1982). In the context of NPOs, it is rational to minimize indirect expenditure such as administrative costs as opposed to direct costs that are involved in the provision of services by the NPO. It is further averred that operating results impact on the financial sustainability of NPOs. It is noted that when an entity has a low or negative operating margin, it is bound to have little or no cash surplus which can be drawn before being obliged to cut provision of services. Conversely, a NPO with a high or positive operating margin is likely to be financially sustainable.

It is stated that sustainable finance is a driving force for carrying out an analysis that explicitly integrates an organization's sustainability policy, employee relations, community relations, board diversity, exposure to regulatory risks, among other important facets (Fullwiler, 2015). The financial health model provides the framework that can be employed to investigate the financial sustainability of non-profit making organizations (Abraham, 2003). This is realized by factoring in the organization's financial position over time. According to this model, financial sustainability and financial health are intertwined particularly in respect of NPOs. Given that the financial health model is preferable in explaining the financial health and sustainability of NPOs, it is thus applicable in the context of Sub-County hospitals which are apt examples of NPOs since profit making does not constitute their interests and objectives.

2.3 Empirical Review

Past empirical studies relative to health insurance and financial sustainability particularly in the health sector are reviewed. Specifically, the studies touch on NHIF capitation, reimbursement process, utilization levels of the NHIF cover, administrative costs associated with the provision of the NHIF cover, and financial sustainability.

2.3.1 NHIF Capitation and Financial Sustainability

A study conducted by Mutua (2016) assessed the impact of capitation payment on the performance of National Hospital Insurance Fund (NHIF) accredited hospitals in Kenya. Primary data was collected using questionnaires and interview schedules while secondary data was obtained from audited accounts of the hospitals. The results of the study revealed that capitation payment method was mainly hindered by unemployment among patients. In addition, the study established that lack of medical specialists affected provision of services through capitation of payment. Moreover, the study noted that other factors affecting provision of services through capitation payment method include budgetary allocation, ignorance and illiteracy among the patients.

Another study conducted by Mbogori, Ombui and Iravo (2015) assessed the innovative strategies affecting the performance of National Hospital Insurance Fund in Nairobi County, Kenya. The study adopted a survey research design and used both secondary and primary data. The study noted that capitation to health care services will be the recommended mode of payment following the addition of outpatient care to the benefit package. Further, the study noted that the more innovative approach would involve adopting more effective and efficient mode of payment to providers

such as through fixed reimbursement and capitation. The study recommended that NHIF should focus on the E-Banking strategy since it facilitates members' contribution and payments to providers.

In Ghana, Adjei, Cornelissen, Asante, Spaan and Velden (2016) analyzed the perception and attitude of health insurance subscribers towards capitation. The study employed a survey design approach and data was collected using close ended questionnaires. The study revealed that health insurance subscribers have a negative attitude towards capitation payment. However, the findings of the study indicated that the subscribers trust their primary care providers who offer them medical services under capitation payment. In light of these findings, the study recommended that National Health Insurance scheme management should adopt strategies that will enable them curb the negative perceptions concerning capitation payment method.

In Nigeria, Mohammed, Souares, Bermejo, Sauerborn and Dong (2014) examined the implementation of a health insurance scheme using optimal resource use domains and the providers' perspectives towards the payment methods. Optimal resource use was defined in four categories namely provider payment mechanism which included capitation and fee for-service-payment methods, benefit package, administrative efficiency and active monitoring mechanism. The study adopted a cross sectional survey design and 466 respondents in the health care sector were interviewed. The results of the study indicated that capitation payment method performed well in comparison to the fee-for-service payment method. According to the study, capitation payment per subscriber should be revised to ensure they are at par with the economic conditions.

In China, Qingyue (2005) reviewed the healthcare provider payment reforms. The study noted that in some villages, capitation method of payment was preferred since health services were provided to the insured with the fixed allocation of funds. The study further revealed that capitation method of payment was adopted since the fixed charge payment method cannot control the expenditure of medical services. Furthermore, the study established that implementation of capitation payment method reduced the medical expenditure of the inpatient and drug expenditure reduced from 76.5% to 59.8%. In addition, the study noted that reforms of payment methods using capitation and fixed charges for inpatient have been effective in controlling the high rise of medical expenditures.

A study conducted by Boone (2015) evaluated the relationship between fee –for-service, capitation and health provider choice with private contracts in USA. The study revealed that fee-for-service contracts is the only used and capitation is not used. According to the study, as the health network grows fee-for-service increases and the capitation fee falls, until there is no capitation fee completely. In addition, the study noted that if the insured enrolls with only one provider, the provider will get the capitation fee per each enrolled customer of the insurer. The study further revealed that capitation contracts lower health care consumption.

2.3.2 Reimbursement Process and Financial Sustainability

In Kenya, Ndung’u (2013) investigated the factors influencing profitability in private health insurance. The study used both interviews and semi-structured questionnaires to collect data. The study noted that providers and members usually collude to modify the nature of the medical services received so as to maximize the reimbursement and then share the cash. The study further noted that reimbursement of medical expenses

shifts the demand curves outward, increasing the members' willingness to pay for the insurance medical cover. Moreover, the study revealed that insurers usually receive the invoices of medical cost directly from the healthcare providers instead of requesting their members to pay for the services upfront then claim for reimbursement afterwards.

Another study by Bundi (2012) examined the role of third party administrators in setting up managed health care systems in Kenya. According to the study, the role of third party administrators is to manage claims and reimbursement for members. Further, the study noted that third party administrators expedite the reimbursement process by making sure insurers pay members claims on time. The study revealed that third party administrators have supported healthcare systems through their reimbursement, medical cost containment and call center support. The study recommended that third party administrators should speed up the reimbursement of claims so as to increase the uptake of healthcare services.

A study was conducted by Mohammed, Souares, Bermejo, Sauerborn and Dong (2014) to evaluate the performance of health insurance in Nigeria. Data for this study was collected from health care provider personnel. The study revealed that providers with few subscribers faced challenges in reimbursement, which in turn affected administration effectiveness. Moreover, the results of the study indicated that providers with funds availability ranging from one year to three years have better reimbursement to their health services. According to the study, the national health insurance scheme referral system was more inefficient than the insurance reimbursement.

Another study conducted by Bossman (2017) assessed the effects of per capita form of reimbursement on the utilization of healthcare services in Ghana. The study noted that before reimbursements are made claims forms submitted by members are analyzed to ensure their accuracy. In addition, the study noted that capitation form of reimbursement contributes to drugs cost reduction and unnecessary referrals which more than often results to over utilization of healthcare services. The study revealed that provider reimbursement process and procedures have an impact on the utilization of healthcare services. According to the study, per capita form of reimbursement promotes competition among healthcare providers in their quest to enroll more subscribers.

In Korea, Yang (2012) examined the global budget payment system and diagnosis related group (DRG)-based payment system to forecast the future of reimbursement system of the national health insurance. The study noted that there have been changes in the reimbursement system from voluntary reimbursement system to contract-based reimbursement system. The study noted that an increase in the reimbursement rate has resulted in an increase in the cost of insured medical care. In addition, the study revealed that there is lack of agreement on the most appropriate reimbursement system among the stakeholders, especially the providers.

In Germany, Christiansen, Eling, Schmidt and Zirkelbach (2012) evaluated policy holder behavior towards contract commitment for private health insurance contracts. The study noted that long-term health insurance contracts and reimbursement of costs charged by health providers is usually fixed until death, lapse or change of tariff by the policy holder. In addition, the study revealed that policy holders who have received more than one reimbursement from the healthy insurance provider are likely

to switch tariff. The study further established that an increase in claim reimbursement in the previous year results in a decrease in lapse rates and tariff switch to another insurance provider. The study however indicated that statutory lapse is not affected by claim reimbursement rates.

2.3.3 NHIF Cover Utilization and Financial Sustainability

In Kenya, Ndung'u (2015) analyzed the factors affecting the uptake of national health insurance in the informal sector, a case of Murang'a County. The study employed a descriptive research design and stratified and systematic sampling techniques were used to draw a sample of 354 respondents. The study revealed that more females had enrolled and used health insurance as compared to their male counterparts. Further, the study revealed that education level and level of income had a significant influence on enrolment and usage decision. In addition, the study revealed that there was low awareness of health insurance registration and payment process, resulting in low enrollment and usage of the health insurance. The study recommended that the number of health facilities should be increased so as to increase the uptake and utilization of health insurance.

Another study by Namuhisa (2014) investigated the determinants of uptake of NHIF in the informal sector in Nairobi County. The results of the study indicated that only 32% of the total respondents were enrollee of the health scheme. In addition, the study revealed that 33.5% of the respondents were not aware of the medical conditions covered by NHIF scheme. The study revealed that the level of income has an impact on the uptake of NHIF scheme. This was attributed to lack of money to pay the monthly premiums and low confidence in the effectiveness of the scheme. Based on

the findings, the study recommended that the government should create awareness about the NHIF scheme so as to increase uptake and usage of the scheme.

In Ghana, Bossman (2017) evaluated the impact of capitation on cost and utilization of health services. The study adopted convenience sampling technique to draw a sample from 43 administrative districts. The study revealed that there has been a decrease in utilization of health care services in the outpatient department as a result of the capitation policy. Moreover, the study revealed that enrollees of the insurance medical scheme accessed less health services per member. Furthermore, the study revealed that inpatient utilization of the health service decreased since the primary health provider have become more efficient and subscribers are able to receive treatment early before the disease progresses.

Another study conducted by Duku, Boadi, Amponsah and Arhinful (2016) assessed the relationship between the utilization of healthcare services and renewal of health insurance membership in Ghana. The study revealed that majority of the subscribers who utilized the healthcare services renewed their insurance membership. However, the study indicated that those who did not utilize healthcare services did not renew their membership and instead opted out. Moreover, the study revealed that those with regular visits to the healthcare providers registered higher renewal rates of the insurance cover. The study noted that health insurance schemes have reduced out-of-pocket expenditures and have enhanced the utilization of both inpatient and outpatients services.

In India, Prinja, Chauhan, Karan, Kaur and Kumar (2017) evaluated the influence of publicly financed health insurance schemes on healthcare utilization. The study revealed that there has been an increase in the utilization of health care services after

the introduction of the health schemes across the country, indicating that more people are making good use of the schemes. However, the study revealed that there is no significant reduction of out-of-pocket expenditure as a result of utilization of medical insurance schemes. In addition, the study revealed that there is no equity in enrolment and utilization of the medical schemes since there is poor identification of those who need the services more.

A study conducted by Hulleger and Klein (2009) investigated the impact of health insurance on utilization of medical care in Germany. Secondary data obtained from the German Socio Economic Panel for the period from 2000 to 2006 was used in the study. The results of the study indicated that private insurance has a negative impact on utilization of healthcare since there are minimal visits to medical care providers. However, the study established that public insurance has a positive effect on health, indicating that most subscribers of private insurance are satisfied with the services they receive from medical care providers.

2.3.4 Administrative Costs and Financial Sustainability

In Kenya, Kimani, Muthaka and Manda (2004) evaluated financing of healthcare through the health insurance fund. The study noted that the high cost of administration of health insurance is a major concern for the developing countries. This was attributed to the low income generated by the population and their geographical distribution which makes it cumbersome and expensive to collect premiums. Furthermore, the study revealed that administrative costs of the national health insurance fund are over 25 percent of the total costs. In addition, the study established that the administration costs of state-financed healthcare are lower than those of privately financed healthcare.

Another study by Okech (2012) examined the possible options available for sustainable financing for primary healthcare services in Kenya. The study adopted a descriptive research design and both questionnaires and interview schedules were used in data collection. The study noted that administration costs take up the largest percentage of the total revenue generated by the national health insurance fund (NHIF). Furthermore, the study noted that in an attempt to regulate costs, health workers are paid on salary basis. The study indicated that strengthening of revenue collection mechanism, involving all members of the public in the scheme and enhancing accountability and transparency are all alternative financing approaches.

In Tanzania, Borghi, Makawia and Kuwawenaruwa (2013) evaluated the administrative costs of community-based health insurance. The findings of the study indicated that the cost per community health fund member household ranged from 3.33 to 12.12 US dollar per year. The study established that the administrative costs of the community health fund were higher than the revenue generated. The study noted that small dispensaries had lower administrative costs in comparison to large health facilities since they incur low advertising costs. In light of these findings, the study recommended that community based health fund should focus on small dispensaries to facilitate effective cost saving while ensuring improved health care service delivery to members.

In Ghana, Aboagye, Degboe and Obuobi (2010) investigated the cost of healthcare delivery in a mission, district and referral hospital. The study employed purposive sampling technique to draw a sample and data was collected using questionnaires. The study indicated that the full cost incurred for the mission hospital was 600,295 dollars, the cost of running the district hospitals was 496,240 dollars and that of

referral hospital was 160,235 dollars. Moreover, the study revealed that out of these costs, overhead costs accounted for 20%-42 % and salaries accounted for 45% to 60%. According to the study, salaries at the mission hospital account for a higher percentage of the total costs as compared to other hospitals.

A study by Jiwani, Himmelstein, Woolhandler and Kahn (2014) assessed the administrative costs associated with billing and insurance in the health care system in USA. The study noted that the percentage of administrative costs has increased tremendously over the years. According to the study, billing and insurance related costs in the healthcare system in USA amounted to approximately 471 dollars in the year 2012. These costs include physician practice costs, hospital costs, and private and public insurers' costs. The study recommended that the government should adopt a financing system that will cut down administrative costs by close to 15% of the healthcare spending annually.

Another study by Woolhandler, Campbell and Himmelstein (2003) analyzed the cost of healthcare administration in the United States and Canada. The study calculated the administrative costs of health insurers, hospitals and other health care providers by analyzing both primary and secondary data. The results of the study revealed that the administrative costs were 1059 dollars per capita in the United States and 307 dollars per capita in Canada. Furthermore, the study indicated that the overhead costs were higher in Canada than in United States for the case of private insurers. However, the study established that providers' administrative costs were higher in Canada than in the United States. In addition, the study revealed that the cost of healthcare labour force grew from 18.2% to 27.3% in the US between the years 1996 to 1999. In Canada, the costs grew from 16% to 19.1% within the same period.

2.3.5 Financial Sustainability in the Health Sector

In Kenya, Abuor (2012) examined health care financing strategies used by faith-based hospitals and their influence in financial sustainability. The study employed both purposive and stratified sampling techniques and data was collected using questionnaires. The study revealed that insurance was a source of revenue for the hospitals, despite the fact that the utilization of that avenue is low. Moreover, the study indicated that donor funding was also a source of income used to ensure financial sustainability of the hospitals. The study established that the highest proportion of revenues for the hospitals came from the fee charged for services offered to patients. The study recommended installation of appropriate financial management systems to facilitate financial sustainability of the hospitals.

Another study by Okungu, Chuma and McIntyre (2017) evaluated the financial sustainability of contributory and non-contributory financing techniques in Kenya. The results of the study established that in the case of contributory technique, social health insurance scheme is financially sustainable in the first 5 years of implementation but sustainability drops with time afterwards. However, the study revealed that in the case of non-contributory technique, sustainability of the social health insurance is possible both in the long and short term. The study recommended that the government need to come up with creative strategies to be used in financing the health care sector.

In Nigeria, Anyika (2014) evaluated the challenges of implementing a sustainable health care delivery. The study used secondary data obtained from scientific databases. The study noted that a sustainable health care system can only be achieved if effective health plans are implemented based on the national health policy.

Furthermore, the study revealed that availability of financial resources that are released on time can increase health care performance and sustainability. According to the study, poor utilization of opportunities in the past has been a major barrier towards attaining a sustainable health care system. The study recommended the use of sustainable care plans, accountability and commitment by the government to ensure sustainability of the health care sector.

A study conducted by Sekyere and Bagah (2014) analyzed the financial sustainability of the Ghanaian health insurance scheme. The study obtained data through interviews with the schemes officials. The study revealed that sustainability of the scheme is at risk. This was attributed to the government lack of funds to pay the health service providers. Moreover, the study revealed that as a result of the aforementioned, the service providers have re-introduced out-of-pocket payment system. The study indicated that other factors affecting the financial sustainability of the health scheme include corruption and delay in processing and releasing of insurance cards. Based on these findings, the study recommended that the government should source for funds from other avenues to ensure financial sustainability of the scheme.

A study conducted by Liaropoulos and Goranitis (2015) assessed health care financing and sustainability of the health systems in the developed countries. The study indicated that depending on employer-employee contribution is ineffective since their contribution is not enough to sustain health systems. In addition, the study noted that due to increased unemployment rates, the health care system has faced a decline in budget allocation leading to low financing of the systems. According to the study, health care system should be financed through taxation to ensure their financial

sustainability, patient satisfaction and improved hospital performance even during hard economic times.

A study conducted by Thomson, Foubister, Figueras, Kutzin, Permanand and Bryndova (2009) assessed financial sustainability in health systems in Czech Republic. The study noted that financial sustainability is constricted by the increase of healthcare demand which in turn increases healthcare spending. The study further revealed that government inability to commit more financial resources to the health system is also another barrier to achieving financial sustainability in the healthcare sector. The study recommends increased investment in the healthcare sector to ensure that chronic diseases are prevented early enough to reduce future spending in health care thus enhancing financial sustainability.

2.4 Conceptual Framework

A conceptual framework is defined as an illustration of study variables and their perceived relationship diagrammatically, in narrative or both. The framework is depicted in Figure 2.1 below.

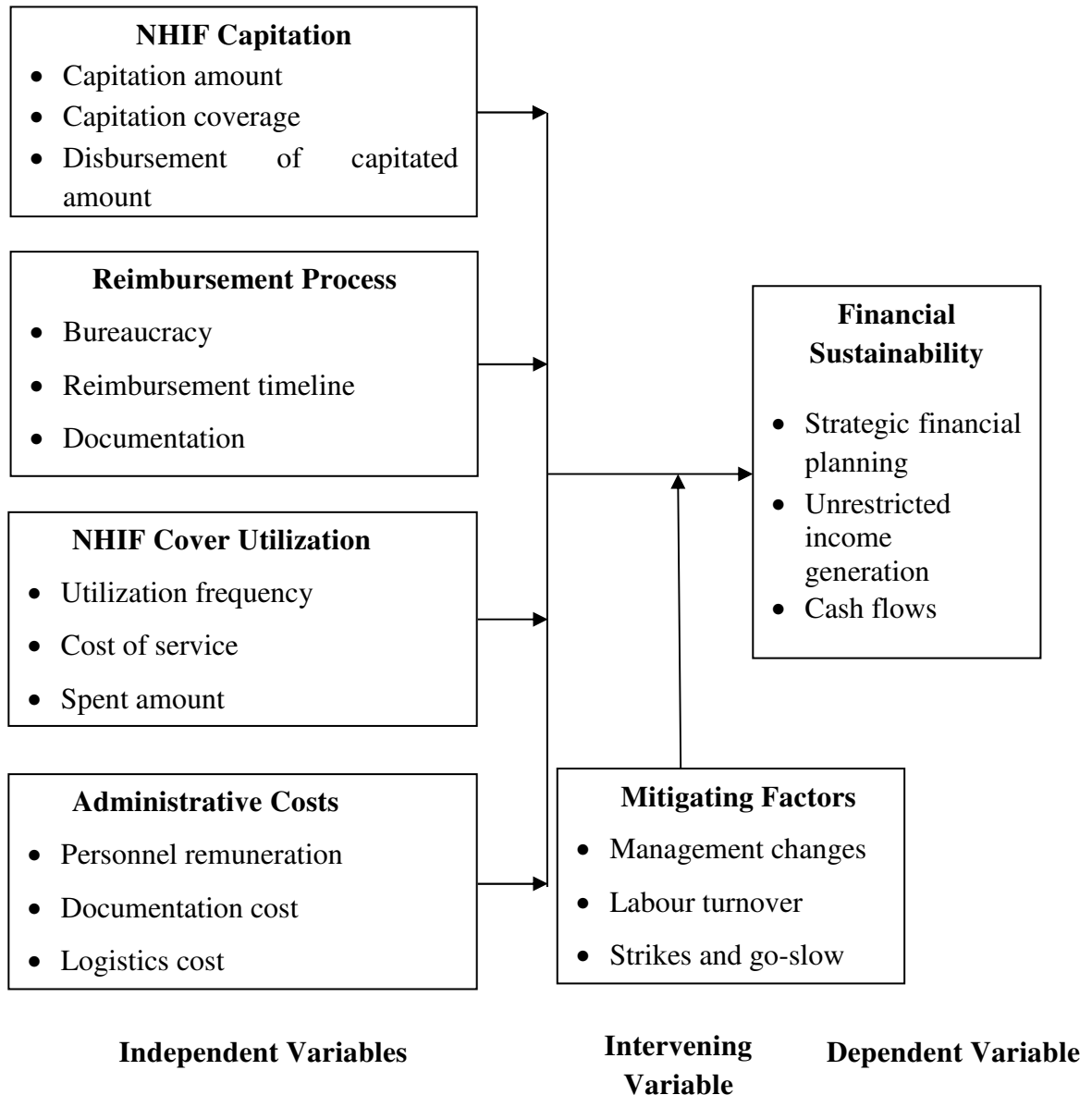


Figure 2.1: Conceptual Framework

The conceptual framework shown in Figure 2.1 above presents the independent and dependent variables. Independent variables include capitation amount, reimbursement process, utilization levels, and administrative costs. Financial sustainability is the dependent variable while mitigating factors constitute the intervening variable. Each of the stated variables is characterized by pertinent measurable indicators. It was perceived that these predictor variables characterize the NHIF outpatient scheme. It

was further believed that the NHIF outpatient scheme affects the financial sustainability of Sub-County hospitals in Nakuru County and that the aforesaid relationship was confounded by the mitigating factors. This presumption was determined in latter chapters.

2.5 Critique of the Reviewed Literature

The past local empirical studies in relation to outpatient scheme offered by the NHIF and also financial sustainability in the public health sector are acknowledged. However, the pertinent issues that the hitherto empirical studies did not address in respect of the aforementioned constructs are hereby identified. A study conducted by Mutua (2016) assessed the impact of capitation payment on the performance of NHIF. The study revealed that capitation payment method was mainly hindered by unemployment among patients. The study, however, did not center on capitation in the respect of financial sustainability. Another study conducted by Mbogori et al (2015) noted that capitation to health care services will be the recommended mode of payment following the addition of outpatient care to the benefit package. Yet, the study did not link capitation to financial sustainability in the public health sector.

In respect of the reimbursement process, a local study conducted by Ndungu (2013) revealed that providers and members usually collude to modify the nature of the medical services received so as to maximize the reimbursement and then share the cash. The study further noted that reimbursement of medical expenses shifts the demand curves outward, increasing the members' willingness to pay for the insurance medical cover. Another study carried out by Bundi (2012) noted that third party administrators expedite the reimbursement process by making sure insurers pay members claims on time. These studies, nonetheless, did not link the reimbursement process to financial sustainability of public health outlets.

In regard to the utilization of the insurance cover, the Ndung'u (2015) study examined analyzed the factors affecting the uptake of national health insurance in the informal sector. The study revealed that there was low awareness of health insurance registration and payment process, resulting in low enrollment and usage of the health insurance. In the same vein, a study by Namuhisa (2014) investigated the determinants of uptake of the NHIF in the informal sector in Nairobi County. The study revealed that the level of income has an impact on the uptake of NHIF scheme. These studies, nevertheless, did not link the utilization levels of the NHIF to financial sustainability in the public health facilities in Kenya.

Moreover, in tandem with administrative costs, a study by Kimani et al (2004) revealed that administrative costs of the national health insurance fund were over 25 percent of the total costs. In addition, a study by Okech (2012) noted that administration costs take up the largest percentage of the total revenue generated by NHIF. These two studies did not focus on administrative costs from the perspective of health facilities offering outpatient services to persons covered by the NHIF. Moreover, the administrative costs were not examined in regard to financial sustainability of healthcare providers. The identified gaps in respect of NHIF capitation, reimbursement process, and utilization levels of the NHIF cover, administrative costs, and financial sustainability of the public healthcare providers will be addressed in the present study.

2.6 Summary of the Reviewed Literature

The study was guided by the financial intermediation theory and the financial health model. The theory of financial intermediation is based on perfect and complete markets where friction occasioned by transaction costs and asymmetric information is

important in understanding intermediation. In tandem with the theory, insurance firms have resorted to more innovative measures and broadened both their products and services such as the introduction of outpatient services offered by the NHIF. The financial health model determines the financial health of nonprofit organizations. The model is applicable in the context of Sub-County hospitals which are good examples of NPOs since profit making is not part of their objectives.

The results of a local study revealed that capitation payment method was mainly hindered by unemployment among patients. Another study conducted in Kenya noted that the more innovative approach would involve adopting more effective and efficient mode of payment to providers such as through fixed reimbursement and capitation. In Ghana, it is noted that health insurance subscribers have a negative attitude towards capitation payment. The results of the study conducted in Nigeria indicated that capitation payment method performed well. It is reported that capitation method of payment was adopted in China since the fixed charge payment method cannot control the expenditure of medical services. In the United States it is revealed that fee-for-service contracts is the only one used and capitation is not used.

In Kenya, it is noted that reimbursement of medical expenses shifts the demand curve outward, increasing the members' willingness to pay for the insurance medical cover. It is further revealed that third party administrators have supported healthcare systems through their reimbursement. A study conducted in Nigeria revealed that providers with few subscribers faced challenges in reimbursement. It is noted that in Korea, there have been changes in the reimbursement system from voluntary reimbursement system to contract-based reimbursement system. It is also established that in

Germany, an increase in claim reimbursement in the previous year results in a decrease in lapse rates and tariff switch to another insurance provider.

A study conducted in India revealed that there has been an increase in the utilization of health care services after the introduction of the health schemes. A study done in Germany indicated that private insurance has a negative impact on utilization of healthcare since there are minimal visits to medical care providers. In Ghana, it is revealed that there has been a decrease in utilization of health care services in the outpatient department as a result of the capitation policy. It is further observed that in the country, majority of the subscribers who utilized the healthcare services renewed their insurance membership. A local study recommended that the number of health facilities should be increased so as to increase the uptake and utilization of health insurance.

A study done in Tanzania evaluated the administrative costs of community-based health insurance. The study established that the administrative costs of the community health fund were higher than the revenue generated. A study done in the US noted that healthcare costs include physician practice costs, hospital costs, and private and public insurers' costs. A related study calculated the administrative costs of health insurers, hospitals and other health care providers. The results of the study revealed that the administrative costs were 1059 dollars per capita in the United States and 307 dollars per capita in Canada.

A local study noted that the high cost of administration of health insurance is a major concern for the developing countries. Another local study indicated that administration costs take up the largest percentage of the total revenue generated by the NHIF. It was also revealed that donor funding was also a source of income used to

ensure financial sustainability of the hospitals. Another local study advised that the government need to come up with creative strategies to be used in financing the health care sector.

A Nigerian study noted that a sustainable health care system can only be achieved if effective health plans are implemented based on the national health policy. Another study done in Ghana recommended that the government should source for funds from other avenues to ensure financial sustainability of the scheme. A study conducted in Ghana established that salaries at the mission hospital account for a higher percentage of the total costs as compared to other hospitals. A global study observed that health care system should be financed through taxation to ensure their financial sustainability. A study conducted in the Czech Republic found that financial sustainability is constricted by the increase of healthcare demand which in turn increases healthcare spending.

2.7 Research Gaps

In line with the critique of the reviewed empirical studies, there are several research gaps that were identified in reference to both NHIF outpatient scheme and financial sustainability of Sub-County hospitals operating in Nakuru County. Mutua's (2016) study found that capitation payment method was mainly hindered by unemployment among patients. Moreover, a study conducted by Mbogori et al (2015) noted that capitation to health care services is the recommended mode of payment following the addition of outpatient care to the benefit package. The reviewed studies, however, did not address capitation in the respect of financial sustainability in the public health sector.

A study by Ndungu (2013) revealed that reimbursement of medical expenses shifts the demand curve outward, increasing the members' willingness to pay for the insurance medical cover. Another study by Bundi (2012) noted that third party administrators expedite the reimbursement process by making sure insurers pay members claims on time. These studies, nonetheless, did not link the reimbursement process to financial sustainability of public health outlets. A study by Ndung'u (2015) revealed that there was low awareness of health insurance registration and payment process, resulting in low enrollment and usage of the health insurance. Another study by Namuhisa (2014) found that the level of income has an impact on the uptake of NHIF scheme. These studies, nevertheless, did not link the utilization levels of the NHIF to financial sustainability in the public health facilities in Kenya.

A study by Kimani et al (2004) revealed that administrative costs of the national health insurance fund were over 25 percent of the total costs. Another study by Okech (2012) noted that administration costs take up the largest percentage of the total revenue generated by NHIF. These two studies did not focus on administrative costs from the perspective of health facilities offering outpatient services to persons covered by the NHIF. Moreover, the administrative costs were not examined in regard to financial sustainability of healthcare providers. The identified gaps in respect of NHIF capitation, reimbursement process, and utilization levels of the NHIF cover, administrative costs, and financial sustainability of the public healthcare providers will be addressed in the present study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology which is expounded in this chapter describes and explains the procedure that was followed to conduct a study and arriving at findings that address the statement of the problem and study objectives. In this chapter, the research design, target population, sampling procedure, and research instrument in relation to the present study are explained. These are followed by determination of both the validity and reliability of the research instrument, data collection procedure, and the methods employed to process and analyze the collected data. Lastly, the chapter states how the results of the analysis were presented.

3.2 Research Design

According to Kothari (2004) a research design is defined as the roadmap that guides how a research study is carried out. In respect of the present study, a descriptive survey design was adopted. The choice of this research design was founded on the assertion that descriptive studies seek to explain a phenomenon without alteration. Survey studies which are part of descriptive studies are conducted at a given time. In addition, survey research involves studying a sample of population with the intent of determining its characteristics and it is then concluded that the study population has similar characteristics to the sample. These descriptions were apt to the present study since it sought to examine the NHIF outpatient scheme and financial sustainability of Sub-County health facilities without influencing the situation as it was at the time of data collection. Moreover, the study was carried out over a period of about three

months. The study, in addition, adopted a quantitative approach where the data collected were numerical in nature.

3.3 Target Population

Target population is defined as composition of subjects, elements, individuals, or entities that share related character traits which are under investigation (Sekaran & Bougie, 2011). In the present study, the management staff that comprises of administration staff, departmental heads, and finance staff working in the public health sector were targeted. The target population was too large to be studied. This necessitated narrowing it down to an accessible population which the study could manage to focus on. In respect of this study, the accessible population constituted the 183 management staff working with Sub-County hospitals in Nakuru County.

3.3.1 Sampling Frame

A sampling frame is defined as an exhaustive list of subjects, entities or individuals from which a sample is drawn. In this respect, therefore, all the 183 management staff working with Sub-County hospitals in Nakuru County as illustrated in Table 3.1 below constituted the sampling frame.

Table 3.1: Sampling Frame

| Sub-County Hospital | Management Staff |
|----------------------------|-------------------------|
| Naivasha | 35 |
| Bahati | 35 |
| Olenguruone | 24 |
| Elburgon | 29 |
| Gilgil | 29 |
| Molo | 31 |
| Grand Total | 183 |

3.4 Sample Size Determination

According to Kothari (2008), when the study population is relatively large ($N > 100$), it is necessary to carry out sampling in order to arrive at a sample that is a representative of the study population. The sampling was important due to the limitations of time, finances and logistics to access all the members of the study population. Granted that the study population in the present context was significantly large (183), sampling was conducted.

A sample is defined as a subset of the study population (Orodho, 2008). The sample was determined using the formula developed by Nassiuma (2008) as illustrated below.

$$n = \frac{NC^2}{C^2 + (N-1)e^2}$$

Where

n represents sample size

N represents study population (183)

C represents coefficient of variation (21% to 30%)

e represents error margin (0.02 to 0.05)

Therefore, the estimated sample size (n) was calculated as shown below.

$$n = \frac{183(0.3)^2}{0.3^2 + (183 - 1)0.025^2}$$

$$n = 80.83$$

Sample (n) = 81 respondents

The sampled respondents were proportionately distributed as illustrated in Table 3.2 below.

Table 3.2: Sample Distribution

| Sub-County Hospital | Management Staff | Ratio | Sample |
|----------------------------|-------------------------|--------------|---------------|
| Naivasha | 35 | 0.19 | 15 |
| Bahati | 35 | 0.19 | 15 |
| Olenguruone | 24 | 0.13 | 11 |
| Elburgon | 29 | 0.16 | 13 |
| Gilgil | 29 | 0.16 | 13 |
| Molo | 31 | 0.17 | 14 |
| Total | 183 | 1.00 | 81 |

3.4.1 Sampling Technique

Sampling technique describes the procedure followed to obtain the sampled respondents from the sampling frame (or study population). The suitability of the

technique chosen is founded on the homogeneity or heterogeneity of the study population in nature and number. In respect of the present study, there was an assumption that all the management staff working with the Sub-County hospitals in Nakuru County were homogeneous in reference to their understanding of the NHIF outpatient scheme and financial sustainability. On the other hand, the distribution of the said staff across the aforementioned health facilities varied (heterogeneous) as indicated in Table 3.1 above. In this regard, therefore, stratified random sampling technique was adopted. In support of Kothari's (2004) assertion, this sampling method ensured that there was both fair and equitable (proportionate) distribution of the sampled employees across the surveyed Sub-County hospitals as shown in Table 3.2 above.

3.5 Research Instrument

A research instrument is defined as a tool that is employed to facilitated collection of data. The choice of a suitable research instrument is subject to the research design, the type of data (quantitative or qualitative) and/or the respondents. This was a survey study which according to Mugenda and Mugenda (2003) was required to employ a questionnaire to collect data from the surveyed respondents. The questionnaire was self-administered and structured. The questionnaire facilitated collection of primary categorical data that were on a Likert scale. The study also employed a data collection sheet to facilitate collection of secondary data on NHIF outpatient scheme and financial sustainability of Sub-County Hospitals in Nakuru County.

3.6 Pilot Test

A pilot study is a priory study that is carried out prior to the main study with the two important purposes (Teijlingen & Hundley, 2001). It is conducted with a view of

determining the feasibility of the main study. Secondly it is carried out with the aim of assessing probable weaknesses in the research instrument before it is used to in collection of data for the main study. In the context of the present study, the instrument was pilot tested with the objective of identifying probable weaknesses by determining both its validity and reliability. The pilot study was conducted among 9 randomly selected management employees working with Sub-County health facilities in the neighbouring Nyandarua County. The choice of the area for the pilot study was informed by the recommendation that the participants of this study were duly required to be excluded from the main study.

3.6.1 Validity Testing of Research Instrument

Validity is defined as the extent to which a research instrument measures what it purports to measure (Sekaran & Bougie, 2011). A valid instrument, therefore, is able to facilitate collection of data that can be employed to effectively address the study objectives. In this study, the content validity which cannot statistically be tested, (Kimberlin & Winterstein, 2008), was determined by consulting the assigned supervisor with the assumption that their expert opinion was adequate enough in assessing the content validity of the research questionnaire.

3.6.2 Reliability Testing of Research Instrument

The reliability of the research instrument is used to determine the ability of the responses obtained when using that instrument to be replicated when undertaken under similar conditions (Cooper & Schindler, 2008). In this study, the Cronbach alpha coefficient (α) was used to test the reliability of the research questionnaire. The choice of this method was based on the argument that the data collected regarding the study constructs were on a Likert scale. The reliability threshold for the research

instrument was alpha coefficient equal to 0.7 ($\alpha = 0.7$) or greater than 0.7 ($\alpha > 0.7$). As indicated in Table 3.3 below, all the study constructs returned Cronbach's alpha coefficients greater than 0.7. Therefore, the instrument was considered to be adequate or reliable for use in facilitating data collection.

Table 3.3: Results of Reliability Testing

| Study Construct | Test Items | Cronbach's Alpha Coefficient |
|---|-------------------|-------------------------------------|
| Insurance capitation | 7 | 0.78 |
| Reimbursement process | 6 | 0.81 |
| Utilization levels of NHIF outpatient cover | 4 | 0.86 |
| Administrative costs | 4 | 0.84 |
| Mitigating factors | 4 | 0.89 |
| Financial sustainability | 5 | 0.82 |
| Overall reliability | 30 | 0.83 |

3.7 Data Collection Procedure

A structured questionnaire was used to facilitate data collection from the sampled respondents. There are several merits when a structured questionnaire is employed in data collection. The tool is suitable when dealing with a relatively large number of respondents who are dispersed, a situation associated with survey studies (Mugenda & Mugenda, 2009). Moreover, a structured questionnaire is able to facilitate collection of quantitative data which are easy to analyze and interpret the resultant findings. One of the major disadvantages of using questionnaires is that they are applicable only when sourcing data from literate respondents. Another demerit of a structured

questionnaire is that it limits the free will of respondents when responding to the questions contained therein. However, in the context of the present study, the pros outweighed the cons of using a structured questionnaire, hence its suitability in this study.

The procedure of collecting data commenced by, getting the necessary approval and consents. The approval of the university was sought prior to embarking on data collection. A research permit and authorization letter from the National Council of Science, Technology and Innovation (NACOSTI) were obtained. These were followed by getting the consent of the NHIF Nakuru Branch Manager, The County Director of Ministry of Health and the superintendents of all the 6 Sub-County hospitals in the County. The administration of the questionnaire was effected by the researcher. The filled questionnaires were collected after a period of approximately 5 working days since the date of their issuance.

3.8 Data Analysis and Presentation

The data collected were first screened by ensuring that the collected filled questionnaires were in conformity with the instructions provided. This ensured that the outliers were highly minimized and possibly eliminated by getting rid of non-responses and inappropriate responses. The screened data were subjected to the necessary analysis with the facilitation of the Statistical Package for Social Sciences (SPSS) Version 24 programme. Data analysis encapsulated both descriptive and inferential statistics. Descriptive statistics assumed the form of frequencies, percentages, means, and standard deviations. On the other hand, inferential statistics were in form of Pearson's correlation, coefficient and multiple regression. The following regression model was used to guide the inferential analysis.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y represents financial sustainability

β_0 represents constant

X_1 represents NHIF outpatient service capitation

X_2 represents reimbursement process

X_3 represents NHIF outpatient service utilization levels

X_4 represents administrative costs for NHIF outpatient service

ε represents error margin of the model

$\beta_1, \beta_2, \beta_3, \beta_4$ represent coefficients of predictor variables

The results of the analysis were presented in form of tables. The null hypotheses were tested at 0.05 significance level ($p = 0.05$) using the t-statistics.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter covers the response rate obtained from the number of research instruments (questionnaires) filled and collected from the respondents. The background information in regard to the level of conversance of respondents about NHIF outpatient scheme was examined and the pertinent results are presented in this chapter. It also presents the results, interpretations and discussions relative to both descriptive and inferential statistics. The results herein are in line with the objectives of the study and statement of the problem. Inferential results are juxtaposed against past empirical findings.

4.2 Response Rate

The number of questionnaires that were filled successfully and returned and/or collected from the respondents constituting the unit of analysis and encompass the response rate. In respect of the present study, a total of 81 respondents constituted the unit of analysis (sample) which implies a similar number of questionnaires were issued. However, not all questionnaires were filled and returned and/or collected. Sixty-three (63), questionnaires are the ones that were available for analysis which constituted 77.78% response rate. This response rate was considered sufficient in the analysis due to its significant representativeness.

4.3 Background Information

The study examined how well the respondents understood the National Hospital Insurance Fund outpatient scheme. Their level of conversance is presented in Table 4.1 below. It was revealed that the respondents were either moderately conversant

(52.4%) or very conversant (47.6) with the stated outpatient scheme. The results could have been attributed to the fact that the NHIF outpatient scheme has been in existence for quite some time, and virtually all public health outlets offer the related services. The results were interpreted to mean that all management employees working with public health facilities (Sub-County hospitals) in Nakuru County were and still are conversant with the aforementioned health insurance scheme.

Table 4.1: Level of Conversance with NHIF Outpatient Scheme

| | Frequency | Percentage |
|-----------------------|-----------|--------------|
| Moderately conversant | 33 | 52.4 |
| Very conversant | 30 | 47.6 |
| Total | 63 | 100.0 |

4.4 Descriptive Statistics, Interpretations and Discussions

The study evaluated the views of the management staff working with Sub-County hospitals in Nakuru County in regard to NHIF outpatient scheme and financial sustainability of the stated health facilities. Precisely and in respect of the NHIF scheme, the study focused on NHIF outpatient service capitation, reimbursement process, service utilization levels, and associated administrative costs. The data collected and subsequently analyzed descriptively were on a Likert scale of 5 points where

1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree

4.4.1 NHIF capitation

The study sought to understand the level of NHIF capitation in respect of NHIF outpatient scheme from the viewpoint of management staff working with Sub-County hospitals in Nakuru County. The results in this regard are as illustrated in Table 4.2 below.

Table 4.2: Descriptive Statistics for NHIF Capitation

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|--|----|------|------|------|------|-----|------|-----------|
| The capitation amount is factored in the hospital's annual budget | 63 | 42.9 | 47.6 | 4.8 | 0 | 4.8 | 4.24 | .928 |
| The capitation amount is insufficient in addressing outpatient needs | 63 | 28.6 | 52.4 | 4.8 | 9.5 | 4.8 | 3.90 | 1.073 |
| Capitation amount covers consultation and related charges | 63 | 33.3 | 42.9 | 9.5 | 9.5 | 4.8 | 3.90 | 1.118 |
| Capitation amount covers drugs dispensed in the hospital's Pharmacy | 63 | 28.6 | 47.6 | 9.5 | 4.8 | 9.5 | 3.81 | 1.189 |
| Disbursement of capitation funds is done frequently (quarterly) | 63 | 42.9 | 19.0 | 4.8 | 28.6 | 4.8 | 3.67 | 1.403 |
| Capitation amount covers all lab tests | 63 | 33.3 | 28.6 | 19.0 | 9.5 | 9.5 | 3.67 | 1.295 |
| Capitation amount covers X-rays, CT-scans and other related procedures | 63 | 23.8 | 19.0 | 33.3 | 14.3 | 9.5 | 3.33 | 1.257 |

According to the majority of the management staff as shown in Table 4.2 above, the capitation amount was factored in the hospital's annual budget (90.5%); the capitation amount was insufficient in addressing outpatient needs (81.0%); the stated amount covered consultation and related charges (76.2%); and drugs dispensed in the hospital's pharmacy (76.2%). It was also agreed by majority of the sampled staff that disbursement of capitation funds was done frequently, that is, quarterly, and also that capitation amount covered all laboratory tests. However, most of the management staff remained indifferent (33.3%) regarding capitation amount covering X-rays, CT-scans and other related procedures.

On average, it was admitted that the capitation amount was included in the annual budget of Sub-County hospitals (mean = 4.24). Relative to this proposition, the management staff exhibited similar views (std dev = 0.928). Though, on average, the

sampled management employees were in agreement, their views were significantly extreme in regard to capitation amount being insufficient in addressing outpatient needs (mean = 3.90; std dev = 1.073); capitation amount covering consultation and related charges (mean = 3.90; std dev = 1.118); capitation amount covering drugs dispensed in the hospitals' pharmacy (mean = 3.81; std dev = 1.189); disbursement of capitation funds being effected quarterly (mean = 3.67; std dev = 1.403); and also capitation amount covering all laboratory tests (mean = 3.67; std dev = 1.295). However, on average, the sampled managers were not sure regarding capitation amount covering X-rays, CT-scans and other related procedures (mean = 3.33). Expectedly, the respondents held extreme opinions (std dev = 1.257) regarding this proposition.

4.4.2 Reimbursement Process

The study evaluated the reimbursement process in respect of management staff working with Sub-County hospitals in Nakuru County. The aspects of the process that were put into perspective include bureaucracy, promptness, documentation process, and amount reimbursed among other related issues. The results in relation to these aspects are as shown in Table 4.3 below.

Table 4.3: Descriptive Statistics for Reimbursement Process

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|---|----|------|------|------|------|------|------|-----------|
| The amount reimbursed is often lower than the amount spent in dispensing the outpatient services | 63 | 57.1 | 33.3 | 4.8 | 4.8 | 0 | 4.43 | .797 |
| There is bureaucracy in reimbursing funds employed to cater outpatient services for referred patients | 63 | 38.1 | 42.9 | 9.5 | 4.8 | 4.8 | 4.05 | 1.054 |
| There ambiguity in capturing the reimbursed funds in the capitation amount disbursed by the NHIF | 63 | 28.6 | 52.4 | 9.5 | 4.8 | 4.8 | 3.95 | 1.007 |
| There is lengthy documentation process before funds are reimbursed by the NHIF | 63 | 38.1 | 33.3 | 14.3 | 9.5 | 4.8 | 3.90 | 1.160 |
| There is restrictive reimbursement timelines | 63 | 19.0 | 42.9 | 23.8 | 4.8 | 9.5 | 3.57 | 1.146 |
| The NHIF promptly reimburses the funds used in dispensing outpatient services | 63 | 23.8 | 9.5 | 4.8 | 38.1 | 23.8 | 2.71 | 1.529 |

The study as indicated in Table 4.3 above revealed that 90.4% of the sampled managers held the view that the amount reimbursed was often lower than the amount spent in dispensing the outpatient services. It was also admitted by 81.0% of the managers that there was bureaucracy in reimbursing funds employed to cater for outpatient services for referred patients. On a similar note, the study found that a similar proportion of the management staff (81.0%) were in agreement that there was ambiguity in capturing the reimbursed funds in the capitation amount disbursed by the NHIF. It was also found that 71.4% of the sampled managers believed that there was lengthy documentation process before funds were reimbursed by the NHIF. A significant number of respondents (23.8%) were non-committal whether there was restrictive reimbursement timelines. It was further established that out of the 63

sampled managers, majority (61.9%) disputed that the NHIF promptly reimbursed the funds employed in dispensing outpatient services.

It was revealed that the sampled respondents were generally in agreement regarding all surveyed aspects of reimbursement process (mean = 4.00). However, in regard to NHIF promptly reimbursing the funds employed in dispensing outpatient services, there were diverse views (mean = 2.71). Moreover, the study established that there were similar views in relation to the statement that the amount reimbursed was often lower than the amount spent in dispensing the outpatient services (std dev = 0.797). The views of the respondents regarding all other aspects of reimbursement process were extreme (std dev > 1.000) which implied that there was a considerable number of managers that either agreed or disagreed with the aforementioned aspects.

4.4.3 Utilization Levels of NHIF Outpatient Cover

The study further evaluated the utilization levels of outpatient cover provided by the National Hospital Insurance Fund (NHIF). The descriptive results to this effect are presented in Table 4.4 below.

Table 4.4: Descriptive Statistics for Utilization Levels of NHIF Outpatient Cover

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|---|----|------|------|-----|-----|----|------|-----------|
| The principal policy holders and their dependent's often overuse the amount capitated by the NHIF | 63 | 66.7 | 23.8 | 4.8 | 4.8 | 0 | 4.52 | .800 |
| The drugs allocated per quota are exhausted before the projected timelines | 63 | 47.6 | 47.6 | 4.8 | 0 | 0 | 4.43 | .588 |
| The cost of discharging outpatient services often outweigh the allocated amount | 63 | 42.9 | 52.4 | 4.8 | 0 | 0 | 4.38 | .580 |
| The funds spent in providing outpatient services outweigh the disbursed amount | 63 | 42.9 | 52.4 | 4.8 | 0 | 0 | 4.38 | .580 |

There was strong admission (mean = 4.52) that the principal policy holders and their dependents often overused the amount capitated by the NHIF. This was further supported by majority of the sampled managers (66.7%) strongly agreeing with this assertion, and the fact that the respondents' views were largely similar (std dev = 0.800). It was also found that majority of the respondents admitted that the drugs allocated per quota were exhausted before the projected timelines (95.2%); the cost of discharging outpatient services often outweighed the allocated amount (95.3%); and that funds spent in providing outpatient services outweighed the disbursed amount (95.3%). Indeed, not only were there no respondents that disputed the stated propositions, but also, on average, they agreed with the same (mean = 4.00) and had related views regarding these assertion (std dev < 1.000).

4.4.4 Administrative Costs

The study also analyzes issues touching on administrative costs involved when extending NHIF outpatient services by Sub-County hospitals in Nakuru County. The

views of a section of managers heading the aforesaid health facilities who had been stratified sampled are as presented in Table 4.5 below.

Table 4.5: Descriptive Statistics for Administrative Costs

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|---|----|------|------|-----|------|-----|------|-----------|
| The hospital incurs increased remuneration cost when offering outpatient services | 63 | 42.9 | 52.4 | 0 | 0 | 4.8 | 4.29 | .888 |
| The hospital incurs increased logistic costs emanating from NHIF outpatient scheme | 63 | 38.1 | 42.9 | 4.8 | 9.5 | 4.8 | 4.00 | 1.122 |
| Outpatient services are associated with increased documentation costs | 63 | 38.1 | 42.9 | 4.8 | 9.5 | 4.8 | 4.00 | 1.122 |
| The NHIF outpatient scheme has occasioned increased cost of space to stock and dispense drugs | 63 | 33.3 | 38.1 | 9.5 | 14.3 | 4.8 | 3.81 | 1.189 |

According to a majority of the sampled managers (95.3%) as shown in Table 4.5 above, the Sub-County hospitals in Nakuru County incurred increased remuneration cost when offering outpatient services. On average, the managers agreed with this statement while simultaneously exhibiting similar opinions to this effect (mean = 4.29; std dev = 0.888). It was also revealed that, in addition to 81.0% admitting that the said health facilities incurred increased logistic costs emanating from NHIF outpatient scheme and a general agreement on the same (mean = 4.00), there was significant variation in the views of the managers regarding this statement (std dev = 1.122).

The results further indicated that, on average, it was agreed (mean = 4.00) that outpatient services were associated with increased documentation costs, which was further supported by the majority (81.0%) of the respondents concurring with the assertion. However, the views on this proposition were considerably extreme (std dev

= 1.122). Moreover, the study revealed that 71.4% of the respondents held that view that the NHIF outpatient scheme had occasioned increased cost of space to stock and dispensed drugs. Although, 19.1% of the respondents disagreed with this argument, on average, the sampled managers admitted the same (mean = 3.81) in spite of expressing divergent views on this statement (std dev = 1.189).

4.4.5 Mitigating Factors

The study also sought to understand the various factors that mitigated financial sustainability of Sub-County hospitals in Nakuru County. These are factors which were likely to affect financial sustainability of the stated health facilities, yet they were not part of NHIF outpatient scheme. The results regarding the stated mitigating factors are presented in Table 4.6 below.

Table 4.6: Descriptive Statistics for Mitigating Factors

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|---|----|------|------|-----|------|------|------|-----------|
| Strikes and go-slows have affected financial sustainability of public health facilities | 63 | 76.2 | 14.3 | 0 | 4.8 | 4.8 | 4.52 | 1.060 |
| Management changes occasioned by devolution affect financial sustainability in out health facility | 63 | 47.6 | 47.6 | 0 | 0 | 4.8 | 4.33 | .898 |
| Labour turnover in the public health facilities affect their financial sustainability | 63 | 28.6 | 33.3 | 4.8 | 14.3 | 19.0 | 3.38 | 1.507 |
| Training on the transition to devolution has affected financial sustainability of our health facility | 63 | 14.3 | 38.1 | 4.8 | 23.8 | 19.0 | 3.05 | 1.408 |

Though it was, on average, strongly agreed that strikes and go-slows had affected financial sustainability of public health facilities (mean = 4.52), and 76.2% of the managers strongly concurred with the same, the views in this respect varied

significantly (std dev = 1.060). It was admitted, in general, that management changes occasioned by devolution affected financial sustainability in the aforesaid health facilities (mean = 4.33). The views of managers on this statement were largely similar (std dev = 0.898).

The study, however, observed that respondents were generally not sure regarding whether or not labour turnover in the public health facilities affected their financial sustainability (mean = 3.38). In regard to this assertion, their opinions were significantly extreme (std dev = 1.507). In addition, it was established that while 52.4% of the respondents agreed that training on the transition to devolution had affected financial sustainability of the surveyed health facilities, 42.8% disputed that. In tandem, the respondent indicated on average that they were not sure about this issue and their views varied substantially (mean = 3.05; std dev = 1.408).

4.4.6 Financial Sustainability

Lastly, the study evaluated the aspect of financial sustainability of Sub-County hospitals operating in Nakuru County. The views of the management staff working with these public health facilities are presented in Table 4.7 below. The aspects of financial sustainability examined included financial planning, financial obligations, cash flows, and also reduction of pertinent costs.

Table 4.7: Descriptive Statistics for Financial Sustainability

| | n | SA | A | NS | D | SD | Mean | Std. Dev. |
|---|----|------|------|------|------|------|------|-----------|
| Unrestricted strategic financial planning | 63 | 4.8 | 23.8 | 14.3 | 23.8 | 33.3 | 2.43 | 1.304 |
| Enhanced strategic financial planning | 63 | 4.8 | 23.8 | 4.8 | 38.1 | 28.6 | 2.38 | 1.263 |
| Better addressing of short-term, medium term, and long-term financial obligations | 63 | 0 | 19.0 | 28.6 | 19.0 | 33.3 | 2.33 | 1.136 |
| Improved cash flows | 63 | 19.0 | 4.8 | 4.8 | 23.8 | 47.6 | 2.24 | 1.552 |
| Cost reduction | 63 | 0 | 0 | 19.0 | 42.9 | 38.1 | 1.81 | .737 |

In line with the results indicated in Table 4.7 above, it is apparent that, the sampled managers not only held significantly varying opinions, but also generally disputed that the Sub-County hospitals presently in operation in Nakuru County had realized unrestricted strategic financial planning (mean = 2.43; std dev = 1.304); enhanced strategic financial planning (mean = 2.38; std dev = 1.263); better addressing of short-term, medium term, and long-term financial obligations (mean = 2.33; std dev = 1.136); and improved cash flows (mean = 2.24; std dev = 1.552). The study also established that, respondents were almost unanimous (std dev = 0.732) in disagreeing that the aforesaid public health facilities had recorded reduction of various costs (mean = 1.81).

In support of the aforementioned results, the study found that majority of the respondents disputed that Sub-County hospitals in Nakuru County had realized unrestricted strategic financial planning (57.1%); and enhanced strategic financial planning (66.7%). It was also revealed that while 19.0% were in agreement, and 28.6% unsure, a majority (52.3%) of the sampled managers disagreed that the Sub-County hospitals had come up with better ways of addressing their short term, medium term, and long term financial obligations. It was also found that most of the

sampled managers disputed that the aforestated health facilities had recorded improved cash flows (71.4%), and reduction in their various costs (81.0%).

4.5 Relationship between NHIF Outpatient Scheme and Financial Sustainability using Primary Data

The study sought to understand the how outpatient scheme provided by the National Hospital Insurance Fund (NHIF) related to financial sustainability of Sub-County health facilities in Nakuru County, Kenya. The specific aspects of the scheme that were put into perspective included NHIF capitation, reimbursement process, utilization levels of the scheme, and also associated administrative costs. In order to obtain the required results, Pearson’s correlation analysis was conducted.

4.5.1 Relationship between NHIF capitation and Financial Sustainability

The study evaluated the relationship between NHIF capitation in regard to the outpatient scheme provided by the NHIF, and financial sustainability of Sub-County hospitals. The results in this regard are presented in Table 4.8 below.

Table 4.8: Correlation between NHIF capitation and Financial Sustainability

| | | Financial Sustainability |
|------------------------|---------------------|---------------------------------|
| NHIF capitation | Pearson Correlation | .094 |
| | Sig. (2-tailed) | .463 |
| | n | 63 |

The results of the correlation analysis as depicted in Table 4.8 above showed that there existed a positive, weak and not significant relationship ($r = 0.094$; $p > 0.05$) between NHIF capitation and financial sustainability. The results were interpreted to mean that by increasing the NHIF capitation, there was little likelihood to increase financial sustainability of Sub-County hospitals. This meant that NHIF capitation did not matter a lot in regard to financial sustainability of the aforestated health facilities.

This was in contrast to a study conducted in Nigeria where capitation method was underscored to be important particularly when compared to fee-for-service payment method (Mohammed et al., 2014).

4.5.2 Relationship between Reimbursement Process and Financial Sustainability

The study also analyzed how the reimbursement process was related to financial sustainability of Sub-County health facilities in Nakuru County. The correlation results to this effect are presented in Table 4.9 below.

Table 4.9: Correlation between Reimbursement Process and Financial Sustainability

| | | Financial Sustainability |
|------------------------------|---------------------|---------------------------------|
| Reimbursement Process | Pearson Correlation | -.097 |
| | Sig. (2-tailed) | .449 |
| | n | 63 |

As shown in Table 4.9 above, the relationship between the reimbursement process and financial sustainability was established to be negative, weak and statistically not significant ($r = -0.097$; $p > 0.05$). The correlation results were interpreted to mean that increasing the reimbursement process had little likelihood to reduce the financial sustainability of the stated health facilities. This further implied that process taken to reimburse the funds employed in dispensing outpatient services to patients under the NHIF cover was minutely likely to result in negating the financial sustainability of the aforementioned health institutions. The results partly concurs with earlier findings (Yang, 2012), where it was noted that the reimbursement rate led to an increase in the cost of insured medical care, hence negating financial sustainability of the concerned health facility.

4.5.3 Relationship between Utilization Levels and Financial Sustainability

The study examine how the utilization levels of NHIF outpatient cover related to financial sustainability of Sub-County health facilities in Nakuru County. The results of the pertinent correlation analysis are presented in Table 4.10 below.

Table 4.10: Correlation between Utilization Levels and Financial Sustainability

| | | Financial Sustainability |
|--------------------|---------------------|--------------------------|
| Utilization Levels | Pearson Correlation | .122 |
| | Sig. (2-tailed) | .339 |
| | n | 63 |

According to the results captured in Table 4.10 above, it is clear that the relationship between utilization levels of NHIF outpatient cover and financial sustainability of Sub-County hospitals was positive, weak, and statistically not significant ($r = 0.122$; $p > 0.05$). The results were interpreted to mean, by increasing the utilization levels of the NHIF cover, financial sustainability of the mentioned health facilities was likely to increase by a small margin. This further meant that how much or frequently the NHIF outpatient cover was utilized by the principal and dependents did not matter substantively in regard to financial sustainability of the stated hospitals. The fact that there was weak relationship between utilization levels and financial sustainability could have been in support of earlier recommendations that the government should create awareness about the NHIF scheme so as to increase uptake and usage of the scheme (Namuhisa, 2014).

4.5.4 Relationship between Administrative Costs and Financial Sustainability

Moreover, the study analyzed how the administrative costs incurred when dispensing outpatient services to patients under NHIF cover related to financial sustainability of

Sub-County hospitals in Nakuru County. The results of correlation analysis to this effect are presented in Table 4.11 below.

Table 4.11: Correlation between Administrative Costs and Financial Sustainability

| | | Financial Sustainability |
|-----------------------------|---------------------|---------------------------------|
| Administrative Costs | Pearson Correlation | -.295* |
| | Sig. (2-tailed) | .019 |
| | n | 63 |

***. Correlation is significant at the 0.05 level (2-tailed).**

According to the results of the correlation analysis shown in Table 4.11 above, it was found that there existed a negative, weak and statistically significant relationship ($r = -0.295$; $p < 0.05$) between administrative costs and financial sustainability. The results were interpreted to mean that by increasing the administrative costs, financial sustainability was likely to be reduced to a small extent but substantially. In the same vein, the results led to the inference that though administrative costs did not negate financial sustainability in a big way, reducing them was likely to have far-reaching implications on financial sustainability of Sub-County hospitals operating in Nakuru County. The results of this study mirrored previous NHIF study findings that indicated close and strong significant between administrative costs and revenue generated (Oketch, 2012).

4.5.5 Relationship between Mitigating Factors and Financial Sustainability

The study also looked into other factors that were likely to affect financial sustainability of Sub-County health facilities besides the NHIF outpatient scheme. In the same perspective, the study analyzed how the stated factors related to the said financial sustainability, and the results to this effect are as presented in Table 4.12 below.

Table 4.12: Correlation between Mitigating Factors and Financial Sustainability

| | | Financial Sustainability |
|---------------------------|---------------------|---------------------------------|
| Mitigating Factors | Pearson Correlation | .106 |
| | Sig. (2-tailed) | .409 |
| | n | 63 |

As shown in Table 4.12 above, the study revealed that other mitigating factors were positively, weakly and statistically not significantly related to financial sustainability. This meant that mitigating factors such as staff strikes and go-slows, management changes, labour turnover, and also training of staff on the transition to devolution hardly affected the financial sustainability of the aforementioned health facilities.

4.6 Relationship between NHIF Outpatient Scheme and Financial Sustainability using Secondary Data

The study further analyzed pertinent aspects of NHIF outpatient scheme and financial sustainability of Sub-County hospitals in Nakuru County. Panel data for the period between 2012 and 2017 was inferentially analyzed using Pearson's correlation. The object was to compare the financial sustainability of the aforesaid health facilities prior to introduction of the NHIF outpatient scheme (2012 – 2014), and after its introduction (2015 – 2017). It is important to note that the secondary collected data and subsequently analyzed were in respect of capitation, utilization levels, administrative costs, revenue collected from outpatient services, and total revenue collected from all services rendered by the Sub-County hospitals in Nakuru County. While the collected revenue depicted degree of sustainability, data on the reimbursement process was not available, and the study was thus limited to primary data in respect of this study construct.

Table 4.13: Correlation between Total Revenue before and after Scheme Introduction

| | | Revenue after Scheme Introduction | |
|---|---------------------|--|--------|
| Revenue before Scheme Introduction | Pearson Correlation | | .969** |
| | Sig. (2-tailed) | | .001 |
| | N | | 6 |

** . Correlation is significant at the 0.01 level (2-tailed).

According to the correlation results indicated in Table 4.13 above, it was found that the relationship between the revenue collected prior to the NHIF outpatient scheme introduction in 2015 and the revenue after its introduction was positive, strong and statistically significant ($r = 0.969$; $p < 0.05$). The results implied that pattern of revenue collected by the Sub-County health facilities before the scheme's introduction was similar or directly proportional to the revenue collected by the stated health institutions after the scheme's introduction. Further interpretation was that the outpatient scheme's introduction hardly altered the pattern of the revenue collected by the aforementioned health facilities.

Table 4.14: Correlation between Outpatient Revenue before and after Scheme Introduction

| | | Outpatient Revenue after Scheme Introduction | |
|--|---------------------|---|--------|
| Outpatient Revenue before Scheme Introduction | Pearson Correlation | | .994** |
| | Sig. (2-tailed) | | .000 |
| | N | | 6 |

** . Correlation is significant at the 0.01 level (2-tailed).

It was established as shown in Table 4.14 above, that the relationship between outpatient revenue collected before NHIF outpatient scheme introduction and after the

scheme's introduction was positive, strong and statistically significant ($r = 0.994$; $p < 0.05$). The correlation results meant that the introduction of the NHIF outpatient scheme hardly changed the services sought from the Sub-County hospitals in Nakuru County; nor did it alter the revenue collected from outpatients. Further interpretation meant that introduction of the NHIF outpatient scheme did not change the number of outpatients, and if so, the monies paid by patients prior to the scheme's introduction mirrored the funds reimbursed through the NHIF outpatient scheme.

Table 4.15: Utilization Levels before and after NHIF Outpatient Scheme Introduction

| | | UTLAFT |
|---------------|---------------------|--------|
| UTLBEF | Pearson Correlation | .979** |
| | Sig. (2-tailed) | .001 |
| | N | 6 |

****.** Correlation is significant at the 0.01 level (2-tailed).

UTLBEF represents 'utilization levels before NHIF outpatient scheme introduction'

UTLAFF represents 'utilization levels after NHIF outpatient scheme introduction'

The study established as shown in Tale 4.15 above that there exist a positive, strong and statistically significant relationship between utilization levels of outpatient services before the introduction of NHIF outpatient scheme and after introduction of the same ($r = 0.979$; $p < 0.05$). The correlation results meant that utilization levels were hardly changed by the introduction of the NHIF outpatient scheme in 2015. This could have been attributed to the fact that diseases and ailments are the ones persuade patients to seek healthcare as opposed to provision of health services for free or at discounted rates.

Table 4.16: Administrative Costs before and after NHIF Outpatient Scheme Introduction

| | | ADMAFT |
|--------|---------------------|--------|
| ADMBEF | Pearson Correlation | .965** |
| | Sig. (2-tailed) | .002 |
| | N | 6 |

****.** Correlation is significant at the 0.01 level (2-tailed).

ADMBEF represents ‘administrative costs before NHIF outpatient scheme introduction’

ADMAFF represents ‘administrative costs after NHIF outpatient scheme introduction’

As shown in Table 4.16 above, it was revealed that the relationship between administrative costs before and after introduction of the NHIF outpatient scheme was positive, strong and statistically significant ($r = 0.965$; $p < 0.05$). The results meant that the introduction of the aforesaid scheme did not substantively alter the administrative costs incurred by Sub-County hospitals in dispensing outpatient services.

The study further examined the relationship between some aspects of the NHIF outpatient scheme (utilization levels, administrative costs, and capitation) and financial sustainability as manifested by total revenue and outpatient revenue after the introduction of the NHIF outpatient scheme in 2015. In this respect, panel data for the period between 2015 and 2017 were employed to correlate the outpatient scheme with financial sustainability. The correlation results to this effect are presented in Table 4.17 below.

Table 4.17: Relationship between NHIF Outpatient Scheme and Financial Sustainability

| | | TRAS OPRAS | |
|-------------------|---------------------|-------------------|--------|
| UTLAFT | Pearson Correlation | .961** | .991** |
| | Sig. (2-tailed) | .002 | .000 |
| ADMAFT | Pearson Correlation | .976** | .996** |
| | Sig. (2-tailed) | .001 | .000 |
| CAPITATION | Pearson Correlation | .433 | .298 |
| | Sig. (2-tailed) | .392 | .566 |
| | N | 6 | 6 |

****.** Correlation is significant at the 0.01 level (2-tailed).

UTLAFT represents ‘utilization levels after NHIF outpatient scheme introduction’

ADMAFF represents ‘administrative costs after NHIF outpatient scheme introduction’

TRAS represents ‘total revenue after NHIF outpatient scheme introduction’

OPRAS represents ‘outpatient revenue after NHIF outpatient scheme introduction’

The study as shown in Table 4.17 above established that the relationship between utilization levels and total revenue generated by the Sub-County hospitals was positive, strong and statistically significant ($r = 0.961$; $p < 0.05$). Moreover, it was found that there existed a positive, strong and statistically significant relationship between administrative costs and total revenue generated ($r = 0.976$; $p < 0.05$). These results meant that as utilization levels and administrative costs increased, the total revenue was bound to increase by an almost similar magnitude. In the same perspective, it was argued that the total revenue realized by the health facilities was highly dependent on utilization levels and was also in tandem with the administrative costs incurred in provision of outpatient health services. However, the relationship between capitation and total revenue was found to be positive, moderately strong but statistically not significant ($r = 0.433$; $p > 0.05$). The results implied that the capitated

amount did not play a substantive role in respect of the total revenue generated by the aforestated hospitals. The latter was in tandem with Boone's (2015) findings that capitation contracts lower health care consumption hence reduced revenue.

The study further examined how utilization levels, administrative costs, and capitation were related to revenue generated from the dispensation of outpatient services by the Sub-County hospitals in Nakuru County. As illustrated in Table 4.17 above, there existed a positive, strong and statistically significant relationship ($r = 0.991$; $p < 0.05$) between NHIF outpatient scheme's utilization levels and revenue generated from the provision of outpatient services. Moreover, it was found that the relationship between administrative costs and revenue obtained from outpatient services was positive, strong and statistically significant ($r = 0.996$; $p < 0.05$). The findings were interpreted to mean that as both utilization levels and associated administrative costs increased, so did the revenue generated from the provision of outpatient services. Yet, the relationship between the capitated amount and revenue generated from provision of outpatient services since 2015 was found to be positive, weak and statistically not significant ($r = 0.298$; $p > 0.05$). The results meant that the capitated amount hardly played a substantive role in changing the revenue collected from the dispensation of outpatient services. Thus, it would be more imperative for the management of the surveyed health facilities to be more concerned about the level of utilization of NHIF outpatient cover, and also the administrative costs incurred in dispensing the aforestated services.

4.7 Effect of NHIF Outpatient Scheme on Financial Sustainability

The study further analyzed the extent to which outpatient scheme provided by the NHIF affected financial sustainability of public health sector in Kenya, focusing

mainly on public health facilities in Nakuru County. To obtain the pertinent results, various attributes of the outpatient scheme including NHIF capitation, reimbursement process, utilization levels of the scheme, and administrative costs were regressed against financial sustainability of the surveyed Sub-County hospitals. Unlike the secondary data, primary data were used in regression analysis since it captures all elements of NHIF outpatient scheme under investigation in addition to financial sustainability.

Table 4.18: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .500 ^a | .250 | .199 | .88865 |

a. Predictors: (Constant), NHIF capitation, reimbursement process, utilization levels, administrative costs

According to the results indicated in Table 4.18 above, the relationship between the combined attributes of the NHIF outpatient scheme (NHIF capitation, reimbursement process, utilization levels of the scheme, and administrative costs) and financial sustainability of the Sub-County hospitals was found to be positive and moderate (R = 0.500). This implied that greater the adoption of the outpatient scheme, there was likely to be a moderate enhancement in the financial sustainability of the aforesaid health facilities. The results of the coefficient of determination ($R^2 = 0.250$) as depicted in Table 4.18 above, showed that the foregoing attributes of the NHIF outpatient scheme could explain 25.0% of the variation of financial sustainability of the aforementioned hospitals.

Table 4.19: ANOVA^b

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 15.306 | 4 | 3.826 | 4.845 | .002 ^a |
| Residual | 45.803 | 58 | .790 | | |
| Total | 61.109 | 62 | | | |

a. Predictors: (Constant), NHIF capitation, reimbursement process, utilization levels, administrative costs

b. Dependent Variable: Financial Sustainability

The primary purpose of the results of the analysis of variance presented in Table 4.19 above is to illustrate the suitability or significance of the empirical (regression) model illustrated below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y represents financial sustainability

β_0 represents constant

X_1 represents NHIF outpatient service capitation

X_2 represents reimbursement process

X_3 represents NHIF outpatient service utilization levels

X_4 represents administrative costs for NHIF outpatient service

ε represents error margin of the model

$\beta_1, \beta_2, \beta_3, \beta_4$ represent coefficients of predictor variables

The results of the F-statistics ($F = 4.845$; $p < 0.05$) indicated that the aforesaid regression model was significant at 0.05 level of significance. Therefore, its application was suitable in examining the effect of NHIF outpatient scheme on financial sustainability of Sub-County hospitals in Nakuru County.

Table 4.20: Coefficients^a

| Model | Unstandardized | | Standardized | | Sig. |
|--|----------------|------------|--------------|--------|------|
| | Coefficients | | Coefficients | | |
| | B | Std. Error | Beta | T | |
| 1 (Constant) | -1.881 | 1.485 | | -1.267 | .210 |
| NHIF capitation | -.671 | .255 | -.539 | -2.636 | .011 |
| Reimbursement Process | -.317 | .188 | -.206 | -1.688 | .097 |
| Utilization Levels of NHIF Outpatient Cover | 1.019 | .337 | .452 | 3.021 | .004 |
| Administrative Costs | .832 | .205 | .765 | 4.051 | .000 |

a. Dependent Variable: Financial Sustainability

The results presented in Table 4.20 above facilitated interpretation of the regression model as espoused below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = -1.881 - 0.671X_1 - 0.317X_2 + 1.019X_3 + 0.832X_4$$

The results shown above implied that in order to realize a unit increase in financial sustainability (Y) of Sub-County hospitals, there had to be -0.671 unit, -0.317 unit, 1.019 unit, and 0.832 unit changes in NHIF capitation, reimbursement process, utilization levels of NHIF outpatient scheme, and administrative costs respectively. According to these empirical findings, it is imperative to state that utilization levels of the NHIF outpatient scheme ($\beta_3 = 1.019$) was found to be the most important attribute of NHIF outpatient scheme in relation to financial sustainability of the aforesaid health facilities. On the same note, the reimbursement process had the least effect on the said financial sustainability ($\beta_2 = -0.317$). In this regard, it is advisable for the Sub-County hospitals and the relevant authorities tasked with policy formulation at the NHIF to closely monitor various issues that influence utilization levels of the NHIF outpatient cover. This would enable them to understand the best measures to

put in place in order to address the spiralling utilization of the outpatient scheme and thus potentially improve financial sustainability of the aforesaid health facilities.

The results of this study also concur with Abuor's findings that the highest proportion of revenues for the hospitals came from the fee charged for services offered to patients. Therefore, the higher the utilization levels of healthcare services through the NHIF outpatient scheme, the greater the financial sustainability. Moreover, the findings herein were in concurrence with Thomson et al.'s (2009) study which revealed that financial sustainability is constricted by the increase of healthcare demand which in turn increases healthcare spending. The importance of administrative costs in dispensation of healthcare services is in support of Jiwani et al.'s (2014) study recommendations that, the United States' government should adopt a financing system that will cut down administrative costs by close to 15% of the healthcare spending annually.

4.8 Hypotheses Testing

The research hypotheses were tested at $p\text{-value} = 0.05$ at using the t-statistics. This implies that the p-values less than 0.05 resulted in rejection of the null hypotheses whereas hypotheses whose t-statistics results were p-values greater than 0.05 were not rejected.

4.8.1 Testing Null Hypothesis One

H₀₁: There is no significant relationship between NHIF outpatient service capitation and financial sustainability of Sub-County hospitals in Nakuru County.

H_A: There is significant relationship between NHIF outpatient service capitation and financial sustainability of Sub-County hospitals in Nakuru County.

Results of t-statistics = (t = -2.636; p < 0.05)

The results indicated existence of a statistically significant relationship between NHIF outpatient service capitation and financial sustainability of Sub-County hospitals in Nakuru County.

The null hypothesis (H_{01}) was, therefore, rejected and the alternate hypothesis (H_A) considered to be true. The results indicated that the amount of money set aside by the NHIF to cater for outpatient healthcare services to the members of the scheme at each Sub-County hospital was important in ensuring whether the stated health facilities were financially sustainable or not.

4.8.2 Testing Null Hypothesis Two

H₀₂: There is no significant relationship between NHIF outpatient reimbursement process and financial sustainability of Sub-County hospitals in Nakuru County.

H_A: There is significant relationship between NHIF outpatient reimbursement process and financial sustainability of Sub-County hospitals in Nakuru County.

Results of t-statistics = (t = -1.688; p > 0.05)

The results indicated there was no statistically significant relationship between NHIF outpatient reimbursement process and financial sustainability of Sub-County hospitals in Nakuru County.

The null hypothesis (H_{02}) was, therefore, not rejected. This meant that process of reimbursing the funds spent by a Sub-County health facility in dispensing outpatient services to individuals covered by the scheme but in other health facilities, does not necessary affect the financial sustainability of the former health facility.

4.8.3 Testing Null Hypothesis Three

H₀₃: There is no significant relationship between utilization levels of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

H_A: There is significant relationship between utilization levels of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

Results of t-statistics = (t = 3.021; p < 0.05)

The results indicated there was statistically significant relationship between utilization levels of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

The null hypothesis (**H₀₃**) was, therefore, rejected and the alternate hypothesis (**H_A**) taken to be true. This meant that the extent to which the NHIF outpatient scheme was utilized, that is, the frequency of seeking outpatient services by the beneficiaries of the scheme does affect the financial sustainability of the Sub-County hospitals.

4.8.4 Testing Null Hypothesis Four

H₀₄: There is no significant relationship between administrative costs of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

H_A: There is significant relationship between administrative costs of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

Results of t-statistics = (t = 4.051; p < 0.05)

The results indicated there was statistically significant relationship between administrative costs of NHIF outpatient services and financial sustainability of Sub-County hospitals in Nakuru County.

The null hypothesis (H_0) was therefore, rejected and the alternate hypothesis (H_A) considered to be true. In essence, the administrative costs incurred in extending outpatient services to individuals covered by the NHIF scheme does substantially affect the financial sustainability of Sub-County hospitals.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summarized research findings. It also outlines the conclusions that are drawn from the summarized findings. The last part presented the suggested recommendations, and suggestions for further studies. The summary, conclusions, and recommendations are in line with the study objectives on National Hospital Insurance Fund outpatient scheme and financial sustainability of Sub-County hospitals in Nakuru County.

5.2 Summary of Findings

The findings have been summarized in respect of NHIF capitation, reimbursement process, utilization levels of NHIF outpatient cover, administrative costs, mitigating factors, and also financial sustainability of Sub-County health facilities in Nakuru County.

5.2.1 NHIF Capitation and Financial Sustainability

The objective was to examine the effect of NHIF capitation on financial sustainability of Sub-County hospitals. The study revealed that, on average there the capitation amount was factored in the hospitals' annual budget and management had similar views on the same (mean = 4.24; std dev = 0.928). Though with significantly extreme views from the management, capitation amount was insufficient in addressing outpatient needs (mean = 3.90; std dev = 1.073). It was further established that the stated amount covered consultation and related charges (mean = 3.90; std dev = 1.118); including drugs dispensed in the hospitals' pharmacy mean = 3.81; std dev = 1.189). It was also found that the disbursement of capitated funds was done frequently

(mean = 3.67; std dev = 1.403), that is, quarterly, and also that capitation amount covered all laboratory tests (mean = 3.67; std dev = 1.295). However, it remained largely uncertain regarding capitation amount covering X-rays, CT-scans and other related procedures (mean = 3.33; std dev = 1.257). It was found that by increasing the insurance capitation, there was little likelihood to increase financial sustainability of Sub-County hospitals. This is because there existed a positive, weak and not significant relationship ($r = 0.094$; $p > 0.05$) between NHIF capitation and financial sustainability.

5.2.2 Reimbursement Process and Financial Sustainability

The objective was to assess the effect of reimbursement process on financial sustainability of Sub-County hospitals. It was found that the amount reimbursed was often lower than the amount spent in dispensing outpatient services (mean = 4.43; std dev = 0.797), and that there was bureaucracy in reimbursing funds employed to cater for outpatient services for referred patients (mean = 4.05; std dev = 1.054). Similarly, it was established that there was ambiguity in capturing the reimbursed funds in the capitation amount disbursed by the NHIF (mean = 3.95; std dev = 1.007), and also that there was lengthy documentation process before funds were reimbursed by the NHIF (mean = 3.90; std dev = 1.160). There were mixed reactions regarding there being restrictive reimbursement timelines (mean = 3.57; std dev = 1.146). It was further disputed that the NHIF promptly reimbursed the funds employed in dispensing outpatient services (mean = 2.71; std dev = 1.529). The study further noted that, increasing the reimbursement process had little likelihood to reduce the financial sustainability of the stated health facilities since the relationship between the reimbursement process and financial sustainability was established to be negative, weak and statistically not significant ($r = -0.097$; $p > 0.05$)

5.2.3 Utilization Levels of NHIF Outpatient Cover and Financial Sustainability

The objective was to analyze the effect of utilization levels of the NHIF outpatient cover on financial sustainability of Sub-County hospitals. It was revealed that the principal policy holders and their dependents often overused the amount capitated by the NHIF (mean = 4.52; std dev = 0.800). It was also found that the drugs allocated per quota were exhausted before the projected timelines (mean = 4.43; std dev = 0.588); the cost of discharging outpatient services often outweighed the allocated amount (mean = 4.38; std dev = 0.580); and that funds spent in providing outpatient services outweighed the disbursed amount (mean = 4.38; std dev = 0.580). Moreover, the relationship between utilization levels of NHIF outpatient cover and financial sustainability of Sub-County hospitals was positive, weak, and statistically not significant ($r = 0.122$; $p > 0.05$), hence it was established that, by increasing the utilization levels of the NHIF cover, financial sustainability of the mentioned health facilities was likely to increase by a small margin. It was also found that the utilization levels of outpatient services were hardly changed by the introduction of the NHIF outpatient scheme in 2015.

5.2.4 Administrative Costs and Financial Sustainability

The objective was to establish the effect of administrative costs on financial sustainability of Sub-County hospitals. The study found that Sub-County hospitals in Nakuru County incurred increased remuneration cost when offering outpatient services (mean = 4.28; std dev = 0.888). It was also revealed that, in general, the aforementioned health facilities incurred increased logistic costs emanating from NHIF outpatient scheme (mean = 4.00; std dev = 1.122). Moreover, it was established that outpatient services were associated with increased documentation costs (mean = 4.00; std dev = 1.122), and that the NHIF outpatient scheme had occasioned increased

cost of space to stock and dispense drugs (mean = 3.81; std dev = 1.189). However, the latter proposition was disputed by some health facilities. The study also found that by increasing the administrative costs, financial sustainability was likely to be reduced to a small extent but substantially since there existed a negative, weak and statistically significant relationship ($r = -0.295$; $p < 0.05$) between administrative costs and financial sustainability.

5.2.5 Mitigating Factors and Financial Sustainability

The objective was to examine the how mitigating factors influenced financial sustainability of Sub-County hospitals. The study indicated that strikes and go-slows had affected financial sustainability of public health facilities (mean = 4.52; std dev = 1.060). More so, it was revealed that management changes occasioned by devolution affected financial sustainability in the aforesaid health facilities (mean = 4.33; std dev = 0.898). There was significant indifference regarding labour turnover in the public health facilities affected their financial sustainability (mean = 3.38; std dev = 1.507). In addition, it was established that training on the transition to devolution had affected financial sustainability of the health facilities (mean = 3.05; std dev = 1.408). The study also established that mitigating factors such as staff strikes and go-slows, management changes, labour turnover, and also training of staff on the transition to devolution hardly affected the financial sustainability of the aforementioned health facilities. The mitigating factors were positively, weakly and statistically not significantly related to financial sustainability ($r = 0.106$; $p > 0.05$).

5.2.6 Financial Sustainability

The dependent and the key variable of the study was financial sustainability of Sub-County hospitals. The study revealed that that the Sub-County hospitals presently in

operation in Nakuru County had not realized unrestricted strategic financial planning (mean = 2.43; std dev = 1.304), nor enhanced their strategic financial planning (mean = 2.38; std dev = 1.263). The facilities were also found not have improved how they addressed short-term, medium term, and long-term financial obligations (mean = 2.33; std dev = 1.136). The public health facilities had not recorded improved cash flows (mean = 2.24; std dev = 1.552) nor reduced their various costs (mean = 1.81; std dev = 0.737). The study also found that the pattern of revenue collected by the Sub-County health facilities before the NHIF outpatient scheme's introduction was similar to the pattern of revenue collected by the stated health institutions after the scheme's introduction. This had positive, strong and statistically significant correlation relationship ($r = 0.969$; $p < 0.05$). Moreover, it was observed that the introduction of the NHIF outpatient scheme did not alter the revenue collected from outpatients. This had positive, strong and statistically significant correlation relationship ($r = 0.994$; $p < 0.05$). It was revealed that by increasing utilization levels there was positive, strong and statistically significant correlation relationship ($r = 0.961$; $p < 0.05$), and administrative costs with positive, strong and statistically significant relationship ($r = 0.976$; $p < 0.05$), the total revenue was bound to increase by an almost similar magnitude. It was found that the NHIF outpatient scheme could explain 25.0% of the variation of financial sustainability of the aforementioned hospitals with a coefficient of determination ($R^2 = 0.250$) from the study.

5.3 Conclusions

The conclusions drawn are in regard to NHIF capitation, reimbursement process, utilization levels of the NHIF outpatient scheme, administrative costs, mitigating factors, and financial sustainability of Sub-County health facilities operating in Nakuru County.

5.3.1 NHIF Capitation and Financial Sustainability

The deductions here are in respect of the effect of NHIF capitation on financial sustainability of Sub-Hospitals. The study concluded that NHIF capitation did not matter a lot in regard to financial sustainability of the health facilities in Nakuru County. Indeed, the capitated amount was concluded to hardly play a substantive role in changing the revenue collected from the dispensation of outpatient services.

5.3.2 Reimbursement Process and Financial Sustainability

The study aimed at analysing the effect of the reimbursement process on financial sustainability of Sub-County hospitals. The study concluded that process taken to reimburse the funds employed in dispensing outpatient services to patients under the NHIF cover was minutely likely to result in negating the financial sustainability of the health institutions in Nakuru County. It was also concluded that the reimbursement process had the least effect on the said financial sustainability.

5.3.3 Utilization Levels of NHIF Outpatient Cover and Financial Sustainability

The study sought to understand the effect of utilization levels of NHIF outpatient cover on financial sustainability of Sub-County hospitals. It was inferred that, how much or frequently the NHIF outpatient cover was utilized by the principal and dependents did not matter substantively in regard to financial sustainability of the stated hospitals. The study also concluded that NHIF outpatient scheme hardly changed the services sought from the Sub-County hospitals in Nakuru County. It was also deduced that diseases and/or ailments are the ones that persuade patients to seek healthcare as opposed to provision of health services for free or at discounted rates.

5.3.4 Administrative Costs and Financial Sustainability

The study further examined the effect of administrative costs incurred when dispensing outpatient services on financial sustainability of Sub-County hospitals. The results of the study led to the inference that though administrative costs did not negate financial sustainability in a big way, reducing them was likely to have far-reaching implications on financial sustainability of Sub-County hospitals operating in Nakuru County. It was concluded that the introduction of the aforesaid scheme did not substantively alter the administrative costs incurred by Sub-County hospitals in dispensing outpatient services.

5.3.5 Mitigating Factors and Financial Sustainability

Besides the NHIF outpatient scheme, there were other factors that were deemed to mitigate financial sustainability of Sub-County hospitals. The study concluded that mitigating factors were not significantly important in relation to the financial sustainability of the public health facilities in Nakuru County. This is despite the observations that factors such as strikes and go-slows, and management changes occasioned by devolution affected financial sustainability of public health facilities according to the hospitals' management.

5.3.6 Financial Sustainability of Sub-County Hospitals in County Government of Nakuru.

The main subject of the study was the financial sustainability of Sub-County hospitals. It was concluded that the outpatient scheme's introduction hardly altered the pattern of the revenue collected by the aforementioned health facilities. The study also inferred that the medical fees paid by patients prior to the scheme's introduction mirrored the funds reimbursed through the NHIF outpatient scheme. It was inferred that the total revenue realized by the health facilities was highly dependent on

utilization levels and was also in tandem with the administrative costs incurred in provision of outpatient health services. The study concluded that the capitated amount did not play a substantive role in respect of the total revenue generated by the aforestated hospitals. It was concluded that the capitated amount hardly played a substantive role in changing the revenue collected from the dispensation of outpatient services, hence matter little in respect of financial sustainability of the stated hospitals. In general, it was concluded that the NHIF outpatient scheme could explain 25.0% of the variation of financial sustainability of the surveyed hospitals. Lastly, it was concluded that the utilization levels of the NHIF outpatient scheme were the most important attribute of the scheme in relation to financial sustainability of the aforestated hospitals.

5.4 Recommendations

The recommendations hereunder are in tandem with insurance capitation, reimbursement process, utilization levels of the NHIF outpatient scheme, administrative costs, mitigating factors, and financial sustainability of Sub-County hospitals in Nakuru County.

5.4.1 Recommendations on NHIF Capitation

The study recommended that, it would be more imperative for the management of the surveyed health facilities to be more concerned about the administrative costs incurred in dispensing the aforestated services. It is advisable for the Ministry of Health and relevant devolved authorities to increase the amount of capitation for each quota. It is also imperative to ensure that the capitation amount is subject to various key factors including the average number of patients seeking outpatient services in

each quota and giving an additional allowance to cater for unforeseeable events associated with outpatient services dispensation.

5.4.2 Recommendations on Reimbursement Process

The study recommends that the reimbursement process should be less bureaucratic and prompt. One way of ensuring this is to put in place a sound and transparent digitized system of monitoring the reimbursement process. Moreover, it is recommended that the relevant authorities should have sufficient and up-to-date internal and financial controls in order to detect any potential anomalies during the reimbursement process.

5.4.3 Recommendations on Utilization Levels of NHIF Outpatient Cover

It is advisable for the Sub-County hospitals and the relevant authorities tasked with policy formulation at the NHIF to closely monitor various issues that influence utilization levels of the NHIF outpatient cover. This would enable them to understand the best measures to put in place in order to address the spiraling utilization of the outpatient scheme and thus potentially improve financial sustainability of the aforestated health facilities.

5.4.4 Recommendations on Administrative Costs

The study recommended that, it would be more imperative for the management of the surveyed health facilities to be more concerned about the administrative costs incurred in dispensing NHIF outpatient services. To achieve the foregoing, the hospitals should analyze the average administrative costs incurred in extending outpatient health care services particularly to individuals under the NHIF Outpatient cover.

5.4.5 Recommendations on Financial Sustainability

Having understood the contribution of NHIF outpatient scheme on financial sustainability of public health facilities, it is paramount going forward, for the hospitals to ensure that the utilization levels of the scheme is proportional to the capitated amount and also the reimbursed funds. It is also important to ensure that there is a ceiling in respect of number of beneficiaries' visits to a given public health facility and the health care services extended to them by the facility in line with the amount of NHIF outpatient cover. Since the foregoing is likely to be replete of hue and cry from the general public, both the national and devolved governments should increase the budgetary allocation to all the public health facilities in Kenya.

5.5 Suggestions for Further Studies

Firstly, this study recommended to researchers to carry out an empirical research on the relationship between NHIF outpatient scheme and financial performance of Non-Profit Organisations Health services providers in Kenya. Secondly, it is important to analyze the effect of number of NHIF beneficiaries per principal on utilization levels of NHIF outpatient cover. Lastly, a comparative study on administrative costs incurred when providing healthcare to inpatient and outpatients in Sub-county Hospitals is recommended.

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APPENDIX I

LETTER OF INTRODUCTION

Dear Respondent,

REF: DATA COLLECTION REQUEST

I am a student in Jomo Kenyatta University of Agriculture and Technology undertaking Masters of Business Administration –Finance Option. It is a requirement that a student writes a research project in the field of study. For that purpose I request you to spare your time to fill in this questionnaire that is intended to facilitate carrying out a study titled “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Public Hospitals in Kenya: A Case of Sub-County hospitals in Nakuru County, Kenya*”. Your contributions will be highly appreciated. Your participation in this study will be valuable as it will contribute to the achievement of the study objectives. The information obtained from you will be treated confidentially.

Yours faithfully,

A handwritten signature in blue ink, appearing to be 'Juddy Wahu Mumenya', enclosed in a blue circular scribble.

Juddy Wahu Mumenya

**APPENDIX II
LETTER FROM THE UNIVERSITY**



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email:
Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Branch Manager N.H.I.F Nakuru.

Medical Superintendents: Bahati Sub-County Hospital

: Elbergon Sub-County Hospital

: Gilgil Sub-County Hospital

: Molo Sub-County Hospital

: Naivasha Sub-County Hospital

: Olenguruone Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration –Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case study of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

Mr. Juma Wagoki
Director, JKUAT

Nakuru CBD Campus.

APPENDIX III

AUTHORITY LETTER FROM NACOSTI



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/17907/20899**

Date: **25th January, 2018**

Juddy Wahu Mumanya
Jomo Kenyatta University
of Agriculture and Technology
P.O. Box 62000-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Effect of National Hospital Insurance Fund outpatient scheme on financial sustainability of public hospitals in Kenya. A case of sub-county hospitals in Nakuru County, Kenya*" I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **25th January, 2019**.

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

G.P. Kalerwa

**GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified

APPENDIX IV

RESEARCH PERMIT FROM NACOSTI

**THIS IS TO CERTIFY THAT:
MS. JUDDY WAHU MUMENYA
of JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY,
0-20100 NAKURU, has been permitted to
conduct research in Nakuru County**

**Permit No : NACOSTI/P/18/17907/20899
Date Of Issue : 25th January,2018
Fee Recieved :Ksh 1000**

**on the topic: EFFECT OF NATIONAL
HOSPITAL INSURANCE FUND
OUTPATIENT SCHEME ON FINANCIAL
SUSTAINABILITY OF PUBLIC HOSPITALS
IN KENYA. A CASE OF SUB-COUNTY
HOSPITALS IN NAKURU COUNTY, KENYA.**



**for the period ending:
25th January,2019**



**Applicant's
Signature**

S.P. Kalatwa

**Director General
National Commission for Science,
Technology & Innovation**

APPENDIX V

**AUTHORITY FROM DEPARTMENT OF HEALTH SERVICES NAKURU
COUNTY**

**REPUBLIC OF KENYA
NAKURU COUNTY GOVERNMENT
DEPARTMENT OF HEALTH SERVICES**

EMAIL: cohealth.nakuru@gmail.com
When replying please quote



**CHIEF OFFICER, HEALTH SERVICES
NAKURU COUNTY
P.O. BOX 2060
NAKURU**

NCG/HS/VOL I/2018


9th January, 2018

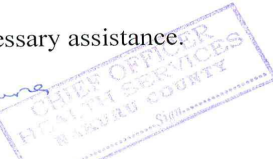
**SCMOHs
NAKURU COUNTY**

RE: JUDDY WAHU MUMENYA – ID/NO.23621911

The above named has been authorized by this office to collect data from the Sub county hospitals for education research purpose.

Kindly accord her the necessary assistance.


**MWAŪRA SAMUEL
CHIEF OFFICER, HEALTH SERVICES
NAKURU COUNTY.**



Cc
CECM, Health Services
NAKURU COUNTY

APPENDIX VI

**SIGNED LETTER BY CHIEF OFFICER OF HEALTH SERVICES, NAKURU
COUNTY**

Juddy Wahu Mumenya,
P.O.BOX 12677-20100,

NAKURU.

2nd February 2018.

The Chief Officer, Health Services,

Nakuru County,

P.O. Box 2060-20100,

NAKURU.

Dear Sir,

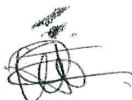
RE: AUTHORITY TO COLLECT DATA.

I am a student in Jomo Kenyatta University of Agriculture and Technology undertaking Masters of Business Administration –Finance Option. It is a requirement that a student writes a research project in the field of study. For this purpose I would wish to request you to assist me with financial reports (MOH reports, Expenditure returns, and AIEs) for the sub-county hospitals I extract the necessary financial data for my study.

As per the attached received copy documents, I managed to visit the six sub-county hospitals offering NHIF outpatient services, though I was not able to get most of the financial data, since it was untraceable during my data collection period and also due to the management transitions. The data is intended to facilitate carrying out a study titled *“Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Public Hospitals in Kenya: A Case of Sub-county hospitals in Nakuru County, Kenya”*.

Your assistance will be highly appreciated. The data obtained will be treated confidentially and only used for this study.

Yours faithfully,



Judy Wahu Mumenya

APPENDIX VII

RECEIVED LETTERS BY MEDICAL SUPERINTENDANT



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendent: Bahati Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration Finance Option. Currently she is writing her research project study on *“Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya”*.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

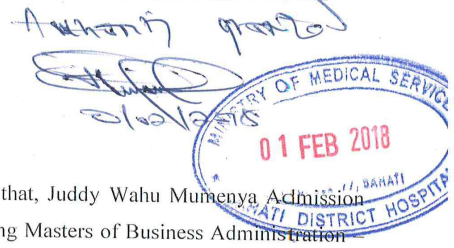
Yours Sincerely,

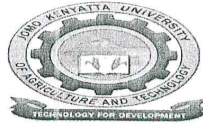
Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.





JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendant: Naivasha Sub-County Hospital



RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumanya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

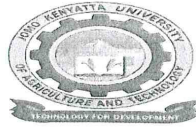


Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendent: Olenguruone Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

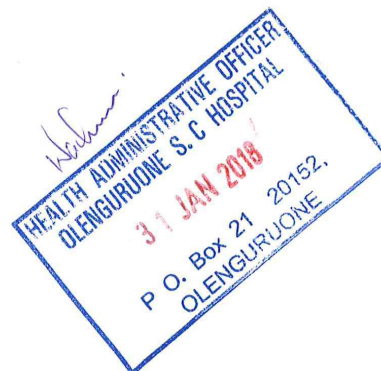
Yours Sincerely,

Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.



Received
Gregory



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendent: Elbergon Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumanya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case study of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendent: Gilgil Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.





JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Medical Superintendent: Molo Sub-County Hospital

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.



APPENDIX VIII
RESEARCH QUESTIONNAIRE

Instructions

This questionnaire is integral to a study titled: *Effect of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Public Hospitals in Kenya: A Case of Sub-County Hospitals in Nakuru County, Kenya*. You're kindly requested to fill in the blank spaces at the end of each question or statement or simply put a tick where appropriate. This information will be used purely for academic purposes and will be treated with utmost confidence. You need not include your name. Put a tick (✓) on the appropriate answer on the statements below.

SECTION I: Background Information

1. To what extent are you conversant with the NHIF outpatient scheme?

Not conversant at all []

Moderately conversant []

Very conversant []

In sections II to VI, kindly indicate your level of agreement with the propositions under each section. Kindly use a scale of five point where:

1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree

Section II: NHIF Capitation

| | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 1. The capitation amount is insufficient in addressing outpatient needs. | | | | | |
| 2. Capitation amount covers consultation and related charges. | | | | | |
| 3. Capitation amount covers drugs dispensed in the hospital's pharmacy. | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| 4. Capitation amount covers all lab tests. | | | | | |
| 5. Capitation amount covers X-rays, CT-scans and other related procedures. | | | | | |
| 6. Disbursement of capitation funds is done frequently (quarterly). | | | | | |
| 7. The capitation amount is factored in the hospital's annual budget. | | | | | |

Section III: Reimbursement Process

| | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 8. There is bureaucracy in reimbursing funds employed to cater outpatient services for referred patients. | | | | | |
| 9. The NHIF promptly reimburses the funds used in dispensing outpatient services. | | | | | |
| 10. There is lengthy documentation process before funds are reimbursed by the NHIF. | | | | | |
| 11. The amount reimbursed is often lower than the amount spent in dispensing the outpatient services. | | | | | |
| 12. There ambiguity in capturing the reimbursed funds in the capitation amount disbursed by the NHIF. | | | | | |
| 13. There are restrictive reimbursement timelines. | | | | | |

Section IV: Utilization Levels of NHIF Outpatient Cover

| | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 14. The principal policy holders and their dependant's often overuse the amount capitated by the NHIF. | | | | | |
| 15. The cost of discharging outpatient services often outweigh the allocated amount. | | | | | |
| 16. The funds spent in providing outpatient services outweigh the disbursed amount. | | | | | |
| 17. The drugs allocated per quota are exhausted before the projected timelines. | | | | | |

Section V: Administrative Costs

| | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 18. The hospital incurs increased remuneration cost when offering outpatient services. | | | | | |
| 19. Outpatient services are associated with increased documentation costs. | | | | | |
| 20. The hospital incurs increased logistic costs emanating from NHIF outpatient scheme. | | | | | |
| 21. The NHIF outpatient scheme has occasioned increased cost of space to stock and dispense drugs. | | | | | |

Section VI: Mitigating Factors

Kindly indicate your level of agreement or disagreement with the following propositions in respect of **selected mitigating factors** that may have an effect on financial sustainability though they are not part of the NHIF outpatient scheme

| | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 1. Management changes occasioned by devolution affect financial sustainability in our health facility. | | | | | |
| 2. Labour turnover in the public health facilities affect their financial sustainability. | | | | | |
| 3. Strikes and go-slows have affected financial sustainability of public health facilities. | | | | | |
| 4. Training on the transition to devolution has affected financial sustainability of our health facility. | | | | | |

Section VII: Financial Sustainability

Kindly indicate your level of agreement or disagreement with the following propositions in respect of **financial sustainability**. As a results of NHIF outpatient scheme our hospital has realized:

| | 5 | 4 | 3 | 2 | 1 |
|--|---|---|---|---|---|
| 5. Improved cash flows | | | | | |
| 6. Unrestricted income generation | | | | | |
| 7. Enhanced strategic financial planning | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| 8. Cost reduction | | | | | |
| 9. Better addressing of short-term, medium term, and long-term financial obligations. | | | | | |

Thank you for your cooperation.

APPENDIX IX
DATA COLLECTION SHEET
SUB-COUNTY HOSPITALS

Health Facility _____

REVENUES BEFORE INTRODUCTION OF THE SCHEME

Amount of revenue received from outpatient services.

| Year | 2012 | 2013 | 2014 |
|-------------|-------------|-------------|-------------|
| Revenue | | | |

Annual total Revenue received between 2012 and 2014

| Year | 2012 | 2013 | 2014 |
|-------------|-------------|-------------|-------------|
| Revenue | | | |

Annual Budget for outpatient services

| Outpatient services package | 2012 | 2013 | 2014 | Actual budget (Using expenditure returns report) |
|--|-------------|-------------|-------------|---|
| Consultation | | | | |
| Laboratory Investigations | | | | |
| Drugs administration and dispensing | | | | |
| Dental healthcare services | | | | |
| Radiological Examination | | | | |
| Physiotherapy Services | | | | |

REVENUES AFTER INTRODUCTION OF THE SCHEME

Amount of revenue received from outpatient services.

| Year | 2015 | 2016 | 2017 |
|-------------|-------------|-------------|-------------|
| Revenue | | | |

Annual total Revenue received between 2015 and 2017

| Year | 2015 | 2016 | 2017 |
|-------------|-------------|-------------|-------------|
| Revenue | | | |

Amount of outpatient capitation received

| Year | 2015 | 2016 | 2017 |
|-------------------|-------------|-------------|-------------|
| Capitation amount | | | |

Annual Budget for outpatient services

| NHIF Outpatient services package | 2012 | 2013 | 2014 | Actual budget (Using expenditure returns report) |
|--|-------------|-------------|-------------|---|
| Consultation | | | | |
| Laboratory Investigations | | | | |
| Drugs administration and dispensing | | | | |
| Dental healthcare services | | | | |
| Radiological Examination | | | | |
| Physiotherapy Services | | | | |

REIMBURSED AMOUNTS UNDER THE NHIF OUTPATIENT SERVICE SCHEME.

| Year | 2015 | 2016 | 2017 |
|--------------------------|-------------|-------------|-------------|
| Reimbursed Amount | | | |

ADMINISTRATIVE COST UNDER THE NHIF OUTPATIENT SERVICE SCHEME

| Year | 2015 | 2016 | 2017 |
|-------------------------------|-------------|-------------|-------------|
| Personnel remuneration | | | |
| Documentation costs | | | |
| Logistics cost | | | |

APPENDIX X

LETTER FROM UNIVERSITY RECEIVED BY NHIF AUTHORIZING DATA COLLECTION



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

NAKURU CBD CAMPUS

P.O. BOX 1063-20100, NAKURU. Tel: 051-2216660, 0714-716957 Email: Nakurucbd@jkuat.ac.ke

Date 9th January 2018

To:-

Branch Manager N.H.I.F Nakuru.

RE: Authority to Collect Data

In reference to the above subject, I would wish to notify you that, Juddy Wahu Mumenya Admission number HD333-C007-6341/2015 is a student at JKUAT pursuing Masters of Business Administration – Finance Option. Currently she is writing her research project study on “*Effects of National Hospital Insurance Fund Outpatient Scheme on Financial Sustainability of Hospitals. A case of Sub-county hospitals, in Nakuru County, Kenya*”.

This office would wish to inform you that, it has permitted her to collect data from your institution that will be used in support of her research. This office wish also to assure you that the data collected will be treated confidentially and solely used for this study.

Your assistance will be highly appreciated.

Yours Sincerely,

Mr. Juma Wagoki

Director

JKUAT

Nakuru CBD Campus.



APPENDIX XI
DATA COLLECTION SHEET
NAKURU COUNTY NHIF BRANCH

Amount of capitation issued to the hospitals

| Sub-County Hospital | 2015 | 2016 | 2017 |
|----------------------------|-------------|-------------|-------------|
| Bahati | | | |
| Elburgon | | | |
| Gilgil | | | |
| Molo | | | |
| Naivasha | | | |
| Olenguruone | | | |

Amount reimbursed to the hospitals

| Sub-County Hospital | 2015 | 2016 | 2017 |
|----------------------------|-------------|-------------|-------------|
| Bahati | | | |
| Elburgon | | | |
| Gilgil | | | |
| Molo | | | |
| Naivasha | | | |
| Olenguruone | | | |