

**EFFECTS OF BUDGETARY ALLOCATIONS ON FINANCIAL
SUSTAINABILITY OF PUBLIC HEALTH FACILITIES IN NAKURU WEST
SUB COUNTY, KENYA**

Calvin Momanyi Nyang'au

**A Research Project Presented to the Institute of Postgraduate Studies of Kabarak
University School in Partial Fulfillment for the Award of Master of Business
Administration (Finance Option)**

KABARAK UNIVERSITY

NOVEMBER, 2018

DECLARATION AND APPROVAL

Declaration

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

Signed.....

Date.....

Calvin Momanyi Nyang'au

GMB/NE/0678/05/14

RECOMMENDATION

To the Institute of Postgraduate Studies:

The research project entitled “**Effects of Budgetary Allocations on Financial Sustainability of Public Health Facilities in Nakuru West Sub County, Kenya**” and written by Calvin Momanyi Nyang’au is presented to the Institute of Postgraduate Studies of Kabarak University. We have reviewed the research project and recommend it be accepted in partial fulfillment of the requirement for award of the degree of Master of Business Administration (Finance Option).

Signed.....

Date.....

Dr. Symon Kiprop

Senior Lecturer, Department of Economics

Egerton University, Kenya

Signed.....

Date.....

Dr. John Kipkorir Tanui

Senior Lecturer, School of Business and Economics,

Kabarak University, Kenya

COPYRIGHT

@ 2018

Calvin Momanyi Nyang'au

All rights reserved. No part of this Thesis may be reproduced or transmitted in any form by means of either mechanical, including photocopying, recording or any other information storage or retrieval system without permission in writing form the author or Kabarak University.

ACKNOWLEDGMENT

I acknowledge my supervisors, Dr. Symon Kiprop and Dr. John Kipkorir Tanui for their time, criticism, suggestion and encouragement when I was working on this research project. Their fervent efforts contributed to timely completion of this project. I also thank all the lecturers at Kabarak University particularly at Nakuru Town Campus who instilled in me unprecedented knowledge in the field of finance. I would also like to appreciate my course mates for the discussions that we shared together. All persons that contributed towards successful completion of this research project are highly appreciated. May God bless you all.

DEDICATION

This research project is dedicated to my wife, Jane Ali Momanyi, and my two children, Jayson Mokuu Momanyi, and Kayla Nyaboke Momanyi for their emotional support and bearing with me when I was away pursuing my studies.

ABSTRACT

Universal healthcare constitutes one of the fundamental goals enshrined in the Vision 2030. Indeed, the government is presently striving to ensure as many Kenyan citizens as possible have access to affordable health services. However, the public health sector has been facing an array of problems. These range from shortage of drug supplies, lack of necessary medical equipment, to intermittent industrial strikes and go-slows especially in devolved healthcare providers. The foregoing challenges can be traced to skewed and/or inadequate budgets which have compromised financial sustainability of the health facilities. The general objective of this study was to analyze how budgetary allocations affect financial sustainability of the public health sector in Kenya paying closer attention to health facilities in Nakuru West Sub-County. More precisely, the study determined the effect of financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance on financial sustainability of the aforesaid facilities. The pecking order theory, theory of soft budgetary constraints, stakeholder theory, and Musgrave's theory of public expenditure guided the study. Hitherto empirical studies touching on budgetary allocations and financial sustainability particularly in the health sector have been reviewed and critiqued with the resultant research gaps outlined. The study employed descriptive research design and quantitative approach. A total of 147 finance, accounting and management staff working with public health facilities in Nakuru West Sub-County constituted the study population. A sample of 73 respondents was drawn from the accessible population using stratified random sampling technique. A structured questionnaire was employed to facilitate collection of data. A pilot test was carried out to facilitate determination of both validity and reliability of the research questionnaire. The collected data were processed and analyzed with the aid of the Statistical Package for Social Sciences software. Descriptive and inferential statistics were used in the analysis. The null hypotheses were tested at 95% confidence level. The study findings were presented in form of tables. Necessary ethical issues were considered prior, during, and after carrying out the study. The study established that stakeholder involvement had the strongest correlation with financial sustainability ($r = 0.685$). Financial sources, stakeholder involvement, and budgetary variance were significantly correlated with financial sustainability ($p < 0.05$). However, the relationship between budgetary allocation criteria and financial sustainability was found to be weak and not statistically significant ($r = 0.173$; $p > 0.05$). Moreover, it was revealed that budgetary allocations explained 58.5% of financial sustainability of public health facilities in Nakuru West Sub-County. All the null hypotheses were rejected except the second one. The study concluded that various aspects of budgetary allocations including financial sources, stakeholder involvement, and budgetary variance, are crucial in enhancing financial sustainability of public health facilities. It has been recommended that there should be financial prudence at the facilities in order to ensure financial sustainability and sustained service delivery. It is recommended that that the health facilities uphold the sound budget planning mechanisms.

Key Words: *Budgetary allocations, budgetary allocation criteria, budgetary variance, financial sources, financial sustainability, stakeholder involvement*

TABLE OF CONTENTS

DECLARATION AND APPROVAL	ii
RECOMMENDATION	iii
COPYRIGHT	iv
ACKNOWLEDGMENT	v
DEDICATION	vi
ABSTRACT	vii
LIST OF TABLES	xii
LIST OF FIGURES	xiii
ABBREVIATIONS AND ACRONYMS	xiv
OPERATIONAL DEFINITION OF TERMS	xv
CHAPTER ONE: INTRODUCTION	1
1.1 Introduction.....	1
1.2 Background of the Study.....	1
1.2.1 Budgetary Allocations in Public Health Sector.....	2
1.2.2 Financial Sustainability of Public Health Sector.....	5
1.2.3 Public Health Sector in Kenya.....	6
1.3 Statement of the Problem.....	7
1.4 Purpose of the Study.....	7
1.5 Objectives of the Study.....	8
1.6 Research Hypotheses.....	8
1.7 Significance of the Study.....	9
1.8 Scope of the Study.....	9
1.9 Limitations of the Study.....	10
1.10 Assumptions of the Study.....	10

CHAPTER TWO: LITERATURE REVIEW	11
2.1 Introduction.....	11
2.2 Financial Sources of Public Health Sector and Financial Sustainability.....	11
2.3 Budgetary Allocation Criteria in Public Health Sector.....	13
2.4 Stakeholder Involvement in Budgetary Allocation in Public Health Sector	15
2.5 Budgetary Variance in Public Health Sector	17
2.6 Financial Sustainability of Public Health Facilities.....	19
2.7 Theoretical Review	23
2.7.1 Pecking Order Theory of Capital Structure	23
2.7.2 Theory of Soft Budgetary Constraints	24
2.7.3 Stakeholder Theory.....	25
2.7.4 Musgrave’s Theory of Public Expenditure.....	25
2.8 Conceptual Framework.....	26
CHAPTER THREE: RESEARCH METHODOLOGY	29
3.1 Introduction.....	29
3.2 Research Design.....	29
3.3 Location of the Study.....	29
3.4 Target Population.....	30
3.5 Sampling Procedure and Sample Size	30
3.6 Instrumentation	32
3.6.1 Pilot Study.....	32
3.6.2 Validity of the Instrument.....	33
3.6.3 Reliability of the Instrument	33
3.8 Data Analysis.....	34
3.9 Ethical Issues	35

CHAPTER FOUR: DATA ANALYSIS, PRESENTATIONS AND FINDINGS	36
4.1 Introduction.....	36
4.3 Response Rate.....	36
4.4 Background Information.....	37
4.4.1 Staff Job Designation.....	37
4.4.2 Staff Participation in Budgetary Process	37
4.5 Descriptive Results, Interpretations and Discussions	38
4.5.1 Descriptive Statistics for Financial Sources	38
4.5.2 Descriptive Statistics for Budgetary Allocation Criteria	40
4.5.3 Descriptive Statistics for Stakeholder Involvement.....	42
4.5.4 Descriptive Statistics for Budgetary Variance.....	43
4.5.5 Descriptive Statistics for Financial Sustainability	45
4.6.1 Correlation Analysis	47
4.5.2 Regression Analysis.....	50
4.5.3 Testing Null Hypotheses.....	54
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	56
5.1 Introduction.....	56
5.2 Summary	56
5.2.1 Financial Sources and Financial Sustainability	56
5.2.2 Budgetary Allocation Criteria and Financial Sustainability	56
5.2.3 Stakeholder Involvement and Financial Sustainability.....	57
5.2.4 Budgetary Variance and Financial Sustainability.....	57
5.2.5 Financial Sustainability.....	57
5.3 Conclusions.....	58

5.3.1 Conclusions on Financial Sources and Financial Sustainability.....	58
5.3.2 Conclusions on Budgetary Allocation Criteria and Financial Sustainability	58
5.3.3 Conclusions on Stakeholder Involvement and Financial Sustainability.....	58
5.3.4 Conclusions on Budgetary Variance and Financial Sustainability.....	59
5.4 Recommendations.....	59
5.5 Suggestions for Further Research	60
REFERENCES.....	61
APPENDICES	65
APPENDIX I: LETTER OF INTRODUCTION	65
APPENDIX II: RESEARCH QUESTIONNAIRE	66

LIST OF TABLES

Table 3.1: Sampling Frame	31
Table 4.1: Results of Reliability Testing	36
Table 4.2: Staff Job Designation	37
Table 4.3: Staff Participation in Budgetary Process	38
Table 4.4: Descriptive Statistics for Financial Sources	39
Table 4.5: Descriptive Statistics for Budgetary Allocation Criteria	41
Table 4.6: Descriptive Statistics for Stakeholder Involvement.....	42
Table 4.7: Descriptive Statistics for Budgetary Variance.....	44
Table 4.8: Descriptive Statistics for Financial Sustainability	46
Table 4.9: Spearman Rank Correlation Matrix	48
Table 4.10: Regression Weights for Overall Model	50
Table 4.11: Significant Test Results	51

LIST OF FIGURES

Figure 2.1: Conceptual Framework	28
---	----

ABBREVIATIONS AND ACRONYMS

BHCPF:	Basic Health Care Provision Fund
EDPs:	External Development Partners
EHIF:	Estonian Health Insurance Fund
FBOs:	Faith Based Organizations
GDP:	Gross Domestic Product
GNHIS:	Ghana National Health Insurance Scheme
HLTFIIFHS:	High Level Task Force on Innovative International Financing for Health Systems
KEMRI:	Kenya Medical Research Institute
KEMSA:	Kenya Medical Supplies Authority
KNH:	Kenyatta National Hospital
MOH:	Ministry of Health
MTEF:	Medium Term Expenditure Framework
NACC:	National Aids Control Council
NACOSTI:	National Council of Science, Technology and Innovation
NHIF:	National Hospital Insurance Fund
NHS:	National Health Service
OLS:	Ordinal Least Square
PBO:	Public Benefiting Organizations
PCTs:	Primary Care Trusts
SMH:	State Ministry of Health
SPSS:	Statistical Package for Social Sciences
UNICEF:	United Nations International Children’s Education Fund
WHO:	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Budgetary allocation: This is described as the commitment of resources to units, departments or vote heads of an organization over a period of time (Douillet & Grandval, 2011). In reference to this study, budgetary allocation is operationalized by financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance.

Budgetary allocation criteria: This refers to the considerations factored in when determining the prioritization of allocating available or projected funds to various vote heads (Maritim, 2013). Some of the criteria considered by public health facilities include funds availability, workload, and also size and level of hospital,

Budgetary variance: This refers to the disparity between either the funds requested and the funds allocated, or the funds allocated and those disbursed, or between the funds disbursed and the amount allocated (El-Khoury, Ohadi, Omeogu & Adeleke, 2012). Therefore, some parameters of budgetary variance are amount requested, allocated amount, disbursed amount, and also the amount of funds spent.

Financial sources: These are the areas which provide funds to an organization such as public health facilities (Douillet & Grandval, 2011). Sources of financing for public hospitals include the governments, local revenue collections, and also donors.

Financial sustainability: This is defined as the capacity of an entity to be financially agile while continuing delivering services and/or executing its operations without being affected by economic upheavals (Montgomery, 2005). Some indicators of financial sustainability include revenue generated, funding sustenance, and financial autonomy.

Public health sector: This is a branch of the State which is funded by the Government and is mandated to provide health care to the

members of the public, largely at discounted rates (Ahmed & Honakeri, 2012).

Stakeholder involvement: This refers to the engagement of interested parties in the operations of an organization such as the budgetary process (WHO, 2013). Stakeholder involvement is characterized by level of participation, and engagement of both internal and external parties.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents background on budgetary allocations and financial sustainability of the public health sector globally, regionally and also in Kenya. This is followed by the statement of the problem, purpose and objectives of the study respectively. Other sections include research hypotheses, significance of the study, scope of the study, limitations of the study, and lastly assumptions of the study.

1.2 Background of the Study

A budget refers to an estimate of cost, revenues and resources over a specified period of time that gives a picture of future financial conditions and goals. It is a monetary expression of target to be accomplished in a given time period by organizations, companies, firms, individuals or even a nation. Budgets help achieve targets over time given available and expected resources. Achievements of targets are influenced by past and expected experiences (Atkinson, Banker, Kaplan & Young, 2001). Budgeting is a process of coming up with budgets or plans to spend resources. The budget process entails mechanisms by which a firm prepares its budget. It entails engaging various individuals in preparing budgets and more so implementing organization goals. Budgeting entails financial modelling to enhance accuracy of budget plans (Maritim, 2013). Budgetary allocation refers to commitment of resources to units, departments, sections or project of an organization over a period of time. Allocation shows the amount of resources usually funds committed to certain expenditure (Douillet & Grandval, 2011).

Financial sustainability considers the ability of a firm to maintain financial capacity over time. Financial capacity entails resources that enable an organization to seize opportunities and react to unexpected threats while maintaining the operations of the organization. Financial sustainability considers the ability of an organization to be financially agile while still continuing with operations without being affected by economic shocks (Bowman, 2011). According to Montgomery (2005) financial sustainability entails enhancing the capacity of institutions to make choices and to transform the choices into desired actions and outcomes. It also involves the capacity

of an organization to sustain its operations over time, enhancing efficiency and taking new opportunities.

1.2.1 Budgetary Allocations in Public Health Sector

Good health is one of the priorities for countries globally. On the face value, healthy citizens translate to productivity and hence economic progress. The financing aspect is a fundamental tenet for health systems across the globe. Public health sectors are normally funded by respective governments worldwide. In Nepal, the government, External Development Partners (EDPs) are in charge of funding public health sector. The government declared free provision of basic health care as enshrined in the Interim Constitution of Nepal of 2007 (ICN, 2007). Despite government's commitment to budget allocation to the health sector, health financing still basically relies on out-of-pocket finances that cover charges for consultations, hospitalization, medicine and other expenses for patients. The out of pocket expenses account to 60% of total health expenditure. Inadequacy in budget allocation to Nepal districts in respect to vaccine, non-release of donor budgets hamper development of the health sector in Nepal. There is a mismatch in budget allocation and expenditures in the decentralized health system in Nepal (Dulal, Magar, Karki, Khatiwada & Hamal, 2014).

In India, the health sector is generally funded by the central government, state government, local government, households, external funding and other non-governmental organizations. The public health sector is specifically financed by the state government, central and local governments. It is stated that government expenditure on public health has gradually been on the rise since the year 2000. It is reported that the public health expenditure has increased with a rate of 23% from 2000 to 2011. The allocation to the public health sector is aimed for medical and public health sections. The budgetary allocation to the public health sector in India need to be increased to cater for the rising needs of the public health sector (Ahmed & Honakeri, 2012).

In the United Kingdom, the National Health Service (NHS) is the largest publicly funded health service and delivers 87% of the country's health care. Each country in the United Kingdom has its own NHS. In England NHS is under the Department of Health and it is administered by health authority referred to as Primary Care Trusts

(PCTs). The national government allocated funds to the PCTs for operations and other activities. The national ministry governing PCTs sets fixed budgets for the health authorities that administer health care services in the grassroots. The national government allocates funds to the Department of Health Budget annually, which sets budget limits for PCTs. Fund allocation to PCTs are meant for hospital financing and community health care services and prescribing primary care and health promotion. Budget allocations are based on a designated formula (Smith, 2008).

According to the World Health Organization (WHO) health is appreciated as a fundamental aspect in human and economic development in Africa and countries continue to invest in health care (World Health Organization, 2013). The foregoing has been a commitment to African leaders following the Abuja Declaration of 2001 on enhanced government funding for health, Addis Ababa Declaration of 2006 on community health in Africa and Ouagadougou Declaration of 2008 on primary health care in Africa. However, weaknesses in the health financing systems in the continent have let down progress of the health sector. The level of allocation for public health by governments is below minimum level of US\$ 44 per capita recommended by High Level Task Force on Innovative International Financing for Health Systems (HLTFIIFHS).

Low fund allocation means that countries in Africa cannot meet the rising costs of healthcare such as accessibility of quality medicine and facilities. Countries such as Botswana and Rwanda, however, have high allocation of government budget on health spending. It is noted that concerted efforts between ministries of health, finance departments and key stakeholders are important in enhancing budgetary allocation to the public health sector. More so, budgeting and continuous reviews on the health sector is crucial to identifying needs of the sector and securing a stable and sustainable revenue base for health sector financing (WHO, 2013).

In South Africa, the government spending on health sector averages 13.5% of the total government expenditure. The government is the main financier of public health sector. The government allocates expenditures at the national and provincial levels. It is however noted that provincial health allocation by the government through Medium Term Expenditure Framework (MTEF) has not shown increases in the recent past. Indeed, it is projected that the allocation for public health would decrease slightly in

2017/18 and 2018/19 fiscal years. The allocation to provinces and municipalities constitute the largest share of national health funding for majorly primary health care and HIV/AIDS control (UNICEF, 2017).

Uganda faces constraints in financing the health sector. The average allocation for public health sector locks 7.8% between 2010/11 to 2015/16. This allocation to the health sector is not adequate for achieving goals such as improving maternal health, combating with HIV/AIDS, reducing child mortality rates and more so reducing diseases. The decentralization policy framework has mandated local governments to provide healthcare services. Yet, the performance of healthcare services at local government level has been poor owing to low budgetary allocations to hospitals and other health units. Low funding translates to sorry state of facilities such as beds and wards and lack of effective emergency services such as ambulances. Delay in disbursement of the allocated funds to health service delivery units inhibits service delivery (Lukwago, 2016). In the fiscal year 2016/2017, for instance, the total budgetary allocation to the health sector amounted to UGS 971.740 billion. Out of this, the government financing totaled to UGS 93.325 billion. Government allocation to public health is channeled to rehabilitation work at referral hospitals and general hospitals and general health infrastructure in addition to improving public health (Republic of Uganda, 2017).

The public health sector in Kenya is the largest in terms of healthcare facilities when juxtaposed against the private health sector. Government spending on healthcare averages 6% of the Gross Domestic Product (GDP). Devolution has occasioned to most of public health services being decentralized from the national government through the Ministry of Health (MOH) to county governments. The Kenyan healthcare financing system is mixed with general tax financing and National Hospital Insurance Fund (NHIF) constituting major sources of finance. The Kenyan government has introduced free maternity services in public health facilities (Netherlands Enterprise Agency, 2016). In the financial year 2016/2017, a total of Ksh 60.3 billion was allocated to the MOH. The allocation was deemed to improve healthcare countrywide. The budgetary allocation to facilitate access to free maternal healthcare was Ksh 4.3 billion over same period of time, while Ksh 4.5 billion was allocated to leasing medical equipment, Ksh 6.7 billion to Kenyatta National Hospital (KNH), Ksh 1.7 billion to Kenya Medical Research Institute (KEMRI), and Ksh 0.9

billion to the National Aids Control Council (NACC). The rest was allocated to other facets under the public health sector (Republic of Kenya, 2016). Currently, the budgetary allocation to the public health sector stands at Ksh 61.6 billion which translates to 3.9% of the total national budget.

1.2.2 Financial Sustainability of Public Health Sector

The Estonian health system funding relies primarily on funds emanating from taxation, which is, however, deemed insufficient to finance health needs in the country (World Health Organization, 2011). As such, it is averred that the government ought to broaden public revenue base in order to fund the rising needs of healthcare in Estonia and more importantly, enhance long-term financial sustainability of the health system. The government restricts Estonian Health Insurance Fund (EHIF) from drawing money from reserve funds, a move that has necessitated the Fund to shift costs such as drugs to households. This has consequently undermined financial protection of its citizens. Various stakeholders including the government, EHIF, and Association of Family Physicians advocate for prudent utilization of resources. Part of the strategies that have been formulated to address this include extending pricing agreement and reference pricing to all reimbursed drugs, financial protection for patients, and enhancing active-ingredient based prescribing. Other strategies include dispensing and enhancing public and professional acceptance of generic drugs in order to enhance efficient use of resources and in the long run achieve financial sustainability (WHO, 2011).

African countries to the south of Sahara strive to ensure sustainable health financing. The foregoing, however, is constrained by overreliance on external resources which account for the lion's share in financing health expenditure in most of these countries (Atuoye, , Vercillo, Antabe, Galaa, & Luginaah, 2016). It is stated that external financing poses a threat to sustainability of the health systems in Africa. As such, African countries need to enhance domestic capacity for health with the intent of enhancing self-sufficiency both in the medium-term and in the long-term (World Bank, 2013). Countries such as Ghana have had debates on capitation payment policy as an avenue for enhancing financial sustainability but has been overweighed by politics and other interests (Atuoye, , K. N., Vercillo, S., Antabe, R., Galaa, S. Z., & Luginaah, I. (2016).

According to Okungu, Chuma and McIntyre (2017) improving quality and equitable health services and more so ensuring financial protection for patients is one of the global health policies adopted in Kenya. The government of Kenya has advocated for contributory financing strategy, that is, social health insurance, as the main financing mechanisms for universal health coverage. It is stated that the social health insurance in Kenya is financially sustainable in the sense that the expenditure matches with revenue in the short term. In the long-term, it is financially unsustainable. Non-contributory section, that is, general tax funding is sustainable both in the short-term and in the long-term. In order to ensure financial sustainability, there ought to have a tax-funded system which is less costly than the insurance-scheme. It is, however, imperative for more innovative financing for the healthcare, where the government should prioritize health expenditure in order to enhance its financial sustainability.

1.2.3 Public Health Sector in Kenya

The public health sector comprises of government facilities, private health facilities, medical schools and Kenya Medical Supplies Authority (KEMSA) which deals in pharmaceuticals. In 2013, most of the public health services were devolved from the purview of the national government to the 47 county governments in the country. The public health sector partners with private and Faith Based Organizations (FBOs) in the quest of improving health service delivery in Kenya. The human resources in the public health sector is managed at the national level. There have been challenges in the public health sector such as shortage of health workers, inefficiency of workers and brain-drain where trained health workers look for greener pastures in the private sector (Kenya Healthcare Federation, 2016).

Under the devolved system in Kenya, county governments have the mandate of coordinating and managing delivery of county healthcare services while the national government coordinates and manages referral hospitals and laboratories, planning and budgeting for national health services and health information management systems. There have been improvements in the health services delivery such as improved child and maternal mortality rates, improved nutrition and reduced communicable diseases in the recent past. However, the country lags behind in beating benchmarks such as Abuja Declaration of 2001 and WHO's targets (Mugo, Onsomu, Munga, Nafula, Mbithi & Owino, 2018). The major debacle facing the public health sector in Kenya is

directly or indirectly linked to financial constraints. This underlines the importance of ensuring that the sector is financially sustainable.

1.3 Statement of the Problem

Health is one of the most fundamental aspects of the social pillar of the Kenya's Vision 2030. In addition, healthcare is one of the entitlements under the bill of rights enshrined in the Constitution of Kenya, where it is stated that every person has the right to healthcare services (Republic of Kenya, 2010). Ideally and according to expectations, all public health facilities are required to dispense requisite health services to all patients at all times. For the foregoing to be realized, these facilities are supposed to have the necessary personnel, medical equipment, and drugs, particularly essential medicines. On the same vein, these services demand for significant and timely budgetary allocation. Anything short of this is likely to compromise the financial sustainability of the public health facilities.

Contrary to the ideal expectations, the services dispensed by many public health facilities in the country are below par as manifested in shortage of drugs, lack of necessary medical equipment, and also intermittent industrial strikes and go-slows amongst the staff working in the devolved health facilities. The current budgetary allocation to the public sector which stands at 3.9% of the country's national budget (Republic of Kenya, 2018) is deemed less than what is actually required, 15% as per the Abuja declaration. To this end, the major challenge that faces the sector is directly or indirectly linked to financial constraints. The empirical studies that have hitherto been conducted by various authors such as Oketch and Gitahi (2012), Kamau, Rotich and Anyango (2017), and Mumanya and Wagoki (2018) have fallen short of explicitly examining budgetary allocation and how such influences financial sustainability of the public health sector in Kenya. In response, the present study put into perspective these constructs particularly in the context of public health facilities operating in Nakuru West Sub-County, which is part of the greater Nakuru County.

1.4 Purpose of the Study

The purpose of the study was to analyze how budgetary allocations influence financial sustainability of the public health sector in Kenya with a special focus on health facilities in Nakuru West Sub-County.

1.5 Objectives of the Study

The following specific objectives were addressed:

- i. To examine the effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County
- ii. To assess the effect of budgetary allocation criteria on financial sustainability of public health facilities in Nakuru West Sub-County
- iii. To determine the effect of stakeholder involvement on financial sustainability of public health facilities in Nakuru West Sub-County
- iv. To evaluate the effect of budgetary variance on financial sustainability of public health facilities in Nakuru West Sub-County

1.6 Research Hypotheses

The following hypotheses were tested at 95% confidence level.

H₀₁: There is no statistically significant effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County.

H_A: There is statistically significant effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County.

H₀₂: There is no statistically significant effect of budgetary allocation criteria on financial sustainability of public health facilities in Nakuru West Sub-County.

H_A: There is statistically significant effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County.

H₀₃: There is no statistically significant effect of stakeholder involvement on financial sustainability of public health facilities in Nakuru West Sub-County.

H_A: There is statistically significant effect of stakeholder involvement on financial sustainability of public health facilities in Nakuru West Sub-County.

H₀₄: There is no statistically significant effect of budgetary variance on financial sustainability of public health facilities in Nakuru West Sub-County.

H_A: There is statistically significant effect of budgetary variance on financial sustainability of public health facilities in Nakuru West Sub-County.

1.7 Significance of the Study

One of the key tenets of the social pillar enshrined in the Kenya's Vision 2030 and the Constitution of Kenya 2010 is health. In this regard, the country is anticipated to provide an efficient, integrated and high quality healthcare which will be affordable to all citizens, their financial status and socio-economic background notwithstanding. Therefore, it is imperative to address the sustainability of the health sector; more importantly, the financial sustainability of the public health sector in Kenya. This study is expected to be adequately informative to respective policy makers that include senior managers at the Ministry of Health and County Governments in enabling them to come with policies that will improve budgetary allocation and financial sustainability of the public health sector.

In addition, the practitioners in the public health field, who include the staff working with health facilities under the purview of county governments, are expected to find the findings herein important in implementing strategies that can enhance effectiveness of budgetary allocation and make their respective health facilities more financially sustainable. By understanding the extent to which various facets of budgetary allocations such as financial sources, budgetary allocation, stakeholder involvement, and budgetary variance impact on financial sustainability, both policy makers and practitioners will be better placed to deviate means of addressing these issues more effectively. Furthermore, the study is expected to be a reliable and suitable source of reference for entities including scholars and researchers especially in the fields of both finance and health.

1.8 Scope of the Study

The study was conducted in Nakuru West Sub-County, which is one of the 11 administrative sub-counties in Nakuru County. On focus was the public health facilities operating in the region. In particular, the study was carried out in Nakuru Level V Hospital, Nakuru Annex (Level IV) Hospital, Kapkures Health Centre, Nakuru West Health Centre, Rhoda Health Centre, Industrial Area Dispensary, State House Dispensary, FITC Dispensary, Barut Dispensary, and Lalwet Dispensary. The accounts finance and management staff working with the aforementioned health facilities were involved in the study. The study was guided by a set of independent variables that included financial sources, budgetary allocation criteria, stakeholder

involvement, and budgetary variance. In addition, it was guided by financial sustainability as the dependent variable. The study was carried out over a period of four calendar months beginning August, 2018 as this was the period that the funding for the quarter one was done.

1.9 Limitations of the Study

There were a couple of challenges and constraints that the study faced. The management of some of the health facilities from which the data were to be collected were unwilling to allow their staff to participate in the study. This was due to the perceived sensitivity of the responses sought. To this end, the researcher obtained a research permit and an authorization letter from the National Council of Science, Technology and Innovation (NACOSTI) and the formal approval of the Country Director of Medical Services to be allowed to collect the requisite data. In addition, some of the projected respondents were skeptical to take part in the study by divulging the required information. They feared possible reprisal from their superiors. This limitation was addressed by seeking the consent of the management of each of the surveyed health facilities. More so, their anonymity was upheld in addition to reassuring them of the confidentiality with which the data obtained from them were to be treated.

1.10 Assumptions of the Study

The study held a number of assumptions. The study assumed that the public health facilities in Nakuru West Sub-County were a suitable representative of the entire public health sector in Kenya. This was important in order to facilitate generalization of study findings to the target population. Another assumption was that the public health facilities constituting the unit of analysis would willingly allow their staff to participate in the study. Moreover, it was assumed that the respondents would be accessible and would give truthful information regarding budgetary allocations and financial sustainability of their respective health facilities. It was further assumed that the findings of the study and recommendations thereof would be suitable for policy, and also important to practitioners in the health sector and add to the body of knowledge with respect to field of finance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter illustrates a review of past empirical studies on budgetary allocation and financial sustainability particularly in the public sector. The reviewed studies are summarized, critiqued and resultant research gaps outlined. In addition, theories that explain the two themes have been reviewed. Lastly, a conceptual framework illustrating variables of the study and their hypothesized interactions is presented.

2.2 Financial Sources of Public Health Sector and Financial Sustainability

A study carried out by Davari, Haycox and Walley (2012) analyzed the health care financing in Iran. The study considers a range of issues related to the financing of health care system and relevant government policies in Iran. The study used a systematic literature review that was undertaken to identify relevant publications which was supplemented by hand searching in books and journals including government publications. According to the study no previous publication has addressed issues relating to the financing of healthcare services in Iran. In relation to that, the health care market in Iran has faced a period in which financial issues have enhanced managerial complexity.

Empirical study conducted by Machado, Martins and Leite (2016) analyzed the sources of payment for hospitalization and clinical performance in Brazil. The main objective of the study was to analyze clinical performance through the application of hospital standardized mortality ratio and its variation according to admissions payment sources and hospitals financing arrangements. The study used secondary data. The study revealed that approximately 25% of the hospital assessed presented public financing arrangement, 22% private, 26% mixed-public, 23% mixed and 3% mixed private. On the other hand the relation between source of payment and health standardized mortality ratio may indicate differences in clinical practice.

A study conducted by Uzochukwu, Ughasoro, Etiaba, Okwuosa, Envuladu, Onwujekwe, (2015) examined the health care financing in Nigeria. The study examined whether the way Nigeria finances its health care system is a critical determinant for reaching universal coverage. Data was obtained from papers

published in English and relevant articles and reports. The study noted that health care in Nigeria is financed through different sources including but not limited to tax revenue, out-of-pocket payments, donor funding and health care insurance. Therefore, in the face of achieving universal health care, achieving successful health care financing system continues to be a challenge in Nigeria

Empirical study conducted by Eboh, Akpata, Akintoye (2016) assessed the National health Insurance Scheme and Health care financing in Nigeria. The main objective of the study was to examine the funding of health care system and the National Health Insurance Scheme of Nigeria. The study found that the financing of health care delivery system is majorly through tax revenue, out-of pocket payment or user fees, donor funding and social health insurance. However, it further revealed that the introduction of scheme has tremendously scaled up the patronage and utilization of health facilities and reduction in out-of-pocket expenditure for health services rendered.

In Kenya, a study conducted by Munge and Briggs (2013) analyzed the progressivity of health-care financing. The main objective of the study was to analyze progressivity by measuring deviations from proportionality in the relationship between sources of health-care financing and ability to pay using Kakwani indices. Data was obtained from the sources of health care financing. It was revealed that the overall health-care financing system was regressive. On the other hand out of pocket payments were regressive with all other payments being proportional. It further noted that direct taxes, indirect taxes and private insurance premiums were sensitive to the use of income as an alternative measure of ability to pay.

A study conducted by Oketch (2012) analyzed possible alternative sustainable financing options for primary health care in services in Kenya. The study focused on examining the various financing mechanisms to mitigate against the trends, since various financing mechanisms have been suggested for consideration. The study adopted descriptive research design. The study found that providers of these services prefer financing mechanisms that pool funds together to ensure that the poor and other vulnerable are cushioned against the catastrophic health expenditure. It further noted that other mechanisms favored included establishment of specific taxes to finance

health care and where possible consider insurance of health infrastructure bonds to facilitate the construction of modern health facilities across the country.

In this section, the works of past scholars in relation to budgetary allocation and financial sustainability in respect of health facilities in Kenya are acknowledged and also criticized with the object of identifying gaps. A study conducted by Munge and Briggs (2013) analyzed the progressivity of health-care financing. The results showed that the overall health-care financing system was regressive. The study fell short of examining how financial sources interacted with financial sustainability of public health facilities. In another study, Oketch (2012) analyzed possible alternative sustainable financing options for primary health care in services. It was indicated that providers of health care services preferred financing mechanisms that pool funds together to ensure that the poor and other vulnerable people are cushioned against catastrophic health expenditure. However, financial sources and financial sustainability in the context of public health facilities were not addressed by the study.

2.3 Budgetary Allocation Criteria in Public Health Sector

A study carried out by Leider, Resnick, Kass, Sellers, Young, Bernet, Jarris (2014) examined budget-and priority-setting criteria at state health agencies in times of austerity in United States. The study focused on critical budget and priority criteria for state health agencies to identify likely decision-making factors, pressures and opportunities in times of austerity. The study used interviews to collect data. The study findings identified five key criteria which include: whether a program was viewed as “mission critical,” the seriousness of the consequences of not funding the program, financing considerations, external directives, mandates and the magnitude of the problem the program addressed.

Empirical study conducted by Barros (2013) examine priority setting for health resource allocation in Brazil. The main objective of the study was to describe the three most recent National Health Conferences based on a scoping literature review and further evaluate the ethical account of these decision making processes and provide recommendations for improving priority setting for health resource allocation. The study findings revealed that the National Health Conference processes would be ethically improved if the allocation decisions and participation in health policy making were made available to the public.

A study conducted in Nigeria by Oni (2014) analyzed the growth impact of health expenditure in the country. The main objective of the study was to examine the impact of health expenditure on economic growth in Nigeria. The data employed multiple regression analysis to collect data. In the study it was revealed that developed countries invested a significant proportion of their budgetary allocations on provision of health care. Moreover, it was found that in Nigeria the reallocation of government expenditure to the health sector was substantive in illustrating the country's economic growth.

A study conducted by Ehikioya and Mohammed (2013) examined the determinants of public health care expenditure in Nigeria. The main objective of the study was to examine the factors affecting public health expenditure in Nigeria. Data was obtained from error correction techniques and time series data from 1986 to 2010. The study revealed that the Nigeria government had devoted huge budgetary allocation to the health sector but the huge health expenditure fails to translate into better health status of Nigeria. Therefore, there is need for government to take cognizance of the growth population in health care expenditure and allocation.

A study conducted by Otieno (2016) analyzed the resource allocation to the health sector at the county level and implications for equity in Baringo County, Kenya. The main objective of the study was to evaluate the process of resource allocation to the health sector in Baringo County and implication to equity. The study employed both qualitative and quantitative research methods to collect data. It was revealed that Public Finance Act of 2012 was followed in the budget making process but there was no criteria or formula for financial resource allocation. Therefore, there was skewed distribution of the human resources with some sub counties being 'favored' while others were "disadvantaged" and finally there was evident of political interference with the distribution of the health resources.

In Kenya, a study carried out by Gakuru and Mungania (2016) analyzed the budgetary allocation and the success of Public sector management in central province, Kenya. The main objective of the study was determine the effects of budgetary allocation on the success of public sector management in Kenya. The study adopted the descriptive survey research design. The study found that there is a strong positive relationship between budgetary allocation and public sector management. It further revealed that

the budgetary allocations were not adequate for the successful implementation of new public management strategies since only about 9% of them said that the allocated resources were adequate.

In respect of budgetary allocation criteria, Otieno (2016) analyzed the resource allocation to health sector at the county level in Baringo County. The study findings illustrated that the Public Finance Act of 2012 was followed in the budget making process but there was no criteria or formula for financial resource allocation. Accordingly, the study did not consider public health facilities in Nakuru County. Budgetary allocation was not also linked to financial sustainability. Gakuru and Mungania (2016) examined the budgetary allocation and the success of public sector management in Central Province. The outcome showed that budgetary allocations were not adequate for the successful implementation of new public management strategies. Nevertheless, the theme of budgetary allocation criteria was not addressed in relation to financial sustainability and in public health facilities.

2.4 Stakeholder Involvement in Budgetary Allocation in Public Health Sector

A study carried out by Sibbald, Gibson, Singer, Upshur and Martin (2010) assessed the priority setting success in Health sector in Canada. The objective of the study was to determine the process of evaluating priority setting in the Canadian health sector. Data was analyzed using both qualitative and quantitative methods. The study found out that stakeholders (the public and community groups) were not involved in the budgetary process. The study concluded that there is limited stakeholder involvement in the budgeting process in the Canadian health sector. The recommendations of the study were that there is need to increase internal and external stakeholder consultation. The budget timing process also needs to be reviewed so as to provide stakeholders with time to review the budget.

A study carried out by Kang and Min (2013) analyzed the public participation in the Budget process in the republic of Korea. The objective of the study was to analyze and establish the different public participation mechanisms in budget process in the Korea. The study found out that stakeholders' in Korea are fully involved in various budgeting stages. The study, further, revealed that open discussions for the stakeholders participation, were held for the 12 public sectors in Korea including social welfare and health sector. The stakeholders were involved in budget

formulation process, budget implementation proper budget execution as well as monitoring.

In Tanzania, a study carried out by Shayo, Mboera and Blystad (2013) analyzed stakeholder's participation in planning and priority setting in the context of decentralized health care system. The objective of the study was to establish the priority setting process in the Tanzanian health care system. The study was delimited to Mbarali district, south western Tanzania. The findings of the study were that, key stakeholders were not taken in to account with regards to the district health plans and budgeting.

A study conducted in Nigeria by Uzochukwo, Onwujekwe, Mbachu, Okeke, Molyneux and Gilson (2018) assessed accountability mechanisms for implementing a health financing option. The case of basic health care provision fund (BHCPF).The objective of the study was to determine the governance and accountability readiness of the different layers of implementation of the fund. The study found out that community participation is used as an external accountability strategy. The members of the community and religious organizations (stakeholders) are involved in budget planning, allocation, implementation and monitoring of public health facilities.

In Kenya a study carried out by Waithaka, Tsofa, Kabia and Barasa (2018) examined the health care priority setting practices at the county level. The objective of the study was aimed at evaluating health care priority setting practices at the County level. The study adopted qualitative case design. The study findings revealed that stakeholders were not involved in the budgeting process at the county level. The study also revealed a lack of commitment in stakeholder involvement in the budgeting process. The study therefore concluded that proper communication channels should be deployed so as to ensure all the relevant stakeholders are involved and satisfied with the budgetary allocation process.

A study conducted by Barasa, Cleary, Molyneux and English (2017) analyzed the budgeting and planning process in the county hospitals in Kenya. The objective of the study was to evaluate the budgeting and planning process in public hospitals in Kenya. The study adopted qualitative case study design with a sample population of two hospitals. The study found out that with regards to the first hospital stakeholders were fully involved in the budget allocation and planning process. In the second

hospital however, there was no stakeholder involvement in budgetary allocation and planning process.

A study conducted by Waithaka, Tsofa, Kabia and Barasa (2018) examined the health care priority setting practices at the county level. The results indicated that stakeholders were not involved in the budgeting process at the county level. The study also revealed a lack of commitment in stakeholder involvement in the budgeting process. The study, nevertheless, did not address public health facilities specifically in Nakuru County. Another study carried out by Barasa, Cleary, Molyneux and English (2017) analyzed the budgeting and planning process in county hospitals in Kenya. The findings demonstrated that stakeholders were fully involved in the budget allocation and planning process in certain hospitals but in other were not involved in budgetary allocation. The foregoing study did not investigate stakeholder involvement in budgetary allocation relative to financial sustainability in the context of public health facilities in Kenya.

2.5 Budgetary Variance in Public Health Sector

A study conducted by Bravo (2012) investigated the determinants of public expenditure gaps and the mechanisms to promote transparency and accountability for an efficient budget execution in Ecuador. The objective of the study was to establish the determinants of the gaps that exist between the allocated and the executed budget. Case study design was used together with regression analysis. The study findings were that the determinants of budgetary execution gaps are demographic, political, geographic, economic and administrative capacity of public servants.

A study carried out by Dural, Magar, Karki, Khatiwada and Hamal (2014) analyzed the health sector budget in Nepal. The objective of the study was to determine the health sector budget allocation and its' implications. The study found out that there is a mismatch between budget allocation and expenditures in the Nepalese health sector. The study concluded that despite the existence of public accountability and budget execution the matching of performance to budgetary allocation is still a major challenge. The study recommended the use of well-trained financial management staff in the health sector and the use of technology based solutions.

In Nigeria, a study was conducted by El-Khoury, Ohadi, Omeogu and Adeleke (2012). The study looked into public expenditure management in Cross River State.

The objective of the study was to provide insights to the government of Nigeria and its agencies to improve public financial management systems in order to enhance efficient and effective use of health resources. The study adopted an extensive survey of public health care facilities and local governments and public offices in Cross River State in Nigeria. Questionnaires were used to gather data. The study noted that at state level, a significant portion of health budget of the State Ministry of Health (SMH) was not actually spent. It was noted that spending on health by SMH was 63% of the health budget in 2007 to 73% in 2010. Indeed, it was found that actual spending was 62.5% of the budget was actually spent on health. The variances in budgetary executions were associated with change in leadership at state level. More so, changes in political priorities and funds disbursed contributed to the variances.

A study conducted by Acquah, Kwaku, Obeng and Ameyaw (2015) assessed the impact of budgets and budgetary on performance of public hospitals in Ghana. Selected public hospitals in Kumasi Metropolis were considered. One of the study objectives was to identify the challenges associated with budgets and budgetary control in selected public hospitals in Kumasi. Descriptive survey was used by the study. Both primary and secondary sources of data were used. In the study, it was noted that budget variance was one of the challenges that public hospitals faced. The variances were attributed to changing priorities and unforeseeable circumstances and more so, poor forecasting by personnel responsible for budgeting. The study recommended that there ought to be flexible plans to accommodate unexpected changes within the budgets for public hospitals.

A study conducted by Kamau, Rotich and Anyango (2017) analyzed the effects of budgeting process on budget performance in Kenyatta national hospital. The objective of the study was to determine the effects of budgetary process on budget performance in Kenyatta national hospital. The study adopted descriptive research design. The study found out that budget variances continue to exist due to poor budget preparation; planning, control and implementation. The study concluded that good budgeting process should be adhered to so as to reduce budgetary variances and improve budget performance in Kenyatta national hospital.

Locally, a study carried out by Mbothu (2012) determined the relationship between adoption of best budgeting practices and profitability. The study addressed the

foregoing in respect to private hospitals in Nairobi County in Kenya. One of the objectives was to find out the extent to which medium and large private hospitals in Nairobi County adopted best budgeting practices. Descriptive survey method was used by the study. A census of medium and large private hospitals in Nairobi County was carried out. The study noted that 47% of the study respondents indicated that private hospitals prepare budget variance report regularly. Indeed, the study noted that use of budget variance analysis aids in cost management. In the study, it was also found out that variance analysis aids management in identifying areas of weaknesses or underfunded with the intent of enhancing performance.

In the same vein, Kamau, Rotich and Anyango (2017) on one hand assessed the effects of budgeting process on budget performance in Kenyatta National hospital. It was indicated that budget variances continue to exist due to poor budget preparation, planning, control and implementation. The study, however, fell short of linking budgetary variances with financial sustainability in the hospital. Mbothu (2012) on the other hand sought to determine the relationship between adoption of best budgeting practices and profitability of private hospitals in Nairobi County. The study noted that private hospitals prepared budget variance reports regularly. Budget variance analysis was noted to be important in aiding management in identifying areas of weaknesses or underfunded. The study, however, did not seek to establish the influence of budgetary variance on financial sustainability.

2.6 Financial Sustainability of Public Health Facilities

In Europe a study conducted by Liaropulous and Garanitis (2015) examined the health care financing and the sustainability of health systems. The objective of the study was to determine the sustainability of financing in the health systems. The study found out that there is no emphasis in Europe on the financial sustainability of the health systems. The study also revealed that financial sustainability is affected by the sources of financing. The study concluded that in order for financial sustainability of the health systems to be achieved there is need for progressive taxation of all types of income.

A study conducted by Alam and Ahmed (2010) analyzed the cost of recovery of NGO primary health care facilities in Bangladesh. The objective of the study was to determine the effect of cost recovery of NGO primary health care facilities on their

financial sustainability. The study adopted case study design. The study found out that the cost recovery of NGO primary health care facility is important in increasing its financial sustainability. The study concluded that cost recovery is necessary in improving financial sustainability of health services in Bangladesh.

A study was conducted by Barroy, Jarawan and Bales (2014) on the universal health coverage for inclusive and sustainable development. The study was focused on Vietnam though it was one of the 11 countries that in the Japan-world bank partnership program for universal health coverage. The secondary data was from annual reports from the ministry of health. The analysis were done using the situational model. The study established that the political and economic reforms (“Doi Moi”) launched in 1980 revolutionized Vietnam from a poor to a lower middle-income country in quarter a century. Poverty level lowed from 58% in 1993 to 12% in 2009, infant mortality from 30% to 16% and under-five mortality rate from 42% to 25% between 2001 and 2009. The study concluded that the major challenge was in expanding coverage to the non-covered population due to lack of financial sustainability in the health sector.

An empirical study was conducted on the sub-national health care financing reforms in Indonesia (Sparrow, et al., 2016). The objective of the study was to determine the effect of local health care financial schemes on assessing health care and financial sustainability of the healthcare facilitates. The study used data from a special survey among District Health Offices and the annual socioeconomic surveys. The study employed fixed effect analysis. The results of the study indicated that the reforms had contributed to the closing of the gap in financial sustainability of the health care facilities, however lack of adequate funding from donors and the government still remained a problem. The conclusion of the study was that reforms without enforcement and implementation remained mere statements on paper. The study recommended that the government should plan on the implementations of the reforms to better improve financial sustainability and better health care service delivery in the health sector.

In Ghana, Odame, Akweongo, Yankah, Asenso-Beadid and Agyepong (2013) conducted an investigation on the sustainability of recurrent expenditure on public social welfare programmes. The study was based on the expenditure analysis of the

free maternal care program of the Ghana National Health Insurance Scheme (GNHIS). The main objective of the study was assess the sustainability of public social welfare programs. Data was collected from records of reimbursement claims for services, medicine taken by the women benefiting from the program and national level financial inflow and outflow data of GNHIS between 2008 - 2009. The findings of the study indicated that the expenditure of GNHIS exceeded the grant given by the British and the rest funded by NHIF. The increasing recurrent demand for funds has led to a threat in sustainability of the sector. The study concluded that long-term analysis and planning should be done for such programs for the government assess its sustainability.

In Uganda, Zakumumpa, Bennett and Ssenooba (2017) carried out a study on the assessment of available alternatives in financing of the art programs in the health facilities in Uganda. The objective of the study was identify the funding strategies adopted by health facilities to sustain ART programs. The study employed the mixed-method approach. Purposive sampling was used where 6 out of a total of 195 health facilities were selected. Semi-structured questionnaires were used to collect primary data from the clinic managers. Thematic analysis was employed to analyze the data. The study revealed that multiple funding sources for ART programs were common with 140 health facilities and differed from facility ownership. The study included that ART programs were diversely funded and these funding reduced dependence on GHI and improved financial sustainability.

A study conducted by Mummenya and Wangoki (2018) assessed the effect of national hospital insurance fund financial sustainability of public hospitals in Kenya. The objective of the study was to determine the effect of utilization levels of national hospital insurance fund on financial sustainability of sub-county health facilities in Nakuru County. Descriptive survey design was employed for the study. The study found out that increasing the utilization levels of NHIF had no significant impact on financial sustainability of health facilities. The study concluded that the level of utilization of NHIF had no effect on financial sustainability.

An empirical study was conducted by Oketch and Gitahi (2012) on the other ways in which public health care in Kenya can attain financial sustainability solely depending on the government. The main objective of the study was to find the alternative

methods of attaining sustainability in public health care. The study derived data from 1960 to 2010 on the trends of health care financing. Situational model of analysis was used. The findings indicated that, health indicators had a strong downward trend in all the indicators between 1960 and 1990. After 1990, a positive change in some of the indicators like infant and child mortality rate, life expectancy rose from 43.4 years in 1960 to 62 years in 1990 then declined and stabilized to 52 years in 2006. The study concluded that Kenya has low financial sustainability of public health care due to the lack of adequate funding over the years. The study recommended that the government should focus on public health care sustainability by funding and making reforms on the sector.

In Kenya, Nyaga (2015) conducted an investigation on the financial sustainability of social enterprises established by public benefit organizations. The main objective of the study was to assess financial sustainability of public social enterprises and public benefiting organizations without dependence on donor funds. The study employed descriptive research design. The study included all public benefiting organizations (PBO's) registered in Kenya and a sample of 385 out of a total of 12,364 PBO's were selected. Primary was collected through questionnaires from employee of the PBO's while secondary data was collected from published financial statements and returns with KRA for the period of 2010 to 2015. Multiple linear regression model and descriptive statistics were the types of analysis derived from SPSS. The study findings indicated a statistical significance positive relationship between income generated and financial stability.

Furthermore, a study by Mummenya and Wangoki (2018) assessed the effect of National financial sustainability of the National Hospital Insurance Fund. The study sought to determine the effect of utilization levels of National Hospital Insurance Fund on financial sustainability of Sub-County health facilities in Nakuru County. The study revealed that increasing the utilization levels of NHIF had no significant impact on financial sustainability of health facilities. The study was only concerned with utilization of NHIF financial sustainability in isolation as opposed to the current study which considers a number of financial factors that influence financial sustainability of public health facilities. A study by Oketch and Gitahi (2012) assessed other ways in which public health care in Kenya can attain financial sustainability other than depending on the government. The study concluded that Kenya has had

low financial sustainability of public health care due to lack of adequate funding over the years. The study, nonetheless, did not specifically look into public health facilities in Nakuru County. Another study carried out by Nyaga (2015) conducted an investigation on the financial sustainability of social enterprises established by public benefit organizations. Findings indicated that there was a positive relationship between income generated and financial stability. Financial sustainability was, nevertheless, not addressed in relation to budgetary allocation.

2.7 Theoretical Review

The theories reviewed and discussed in the context of budgetary allocations and financial sustainability of the public health sector include the pecking order theory, theory of soft budgetary constraints, stakeholder theory, and Musgrave's theory of public expenditure.

2.7.1 Pecking Order Theory of Capital Structure

The pecking order theory of capital structure was proposed by Donaldson (1961). The theory states that the more accurate and well organized information a firm has the higher the cost of financing. The three sources where firms acquire external resources are mainly equity, debt and internal funds. The pecking order theory of capital structure is used in firms to determine capital structure and approximate its short-term and long-term goals (Shiraz, Matemilola, & Bany-Arifin, 2011)

The pecking order theory was popularized by Myers and Majluf (1984) when they argued that new equity is a less preferred means of funding considering that managers are more superior and they only release new equities to investor when the firm is over-valued. According to Chen (2011), in his study on how the pecking order theory explains capital structure finds out that profitability negatively affects capital structure, the larger the growth opportunity the more capital structure to finance and large firms take advantage of tax deductibility of debt. The capital structure of firms is basically dependent on the size of the firm. The vision of the firm should be based on capital structure in order to identify the ground of funding and the scope of growth.

As identified by Chen (2011), the capital structure financing is more when the when growth opportunities are increasing. The critic of the pecking order theory by Myers and Majluf (1984) also indicated that capital structure is directly linked to finance

allocation of a firm because it is the funds that lay the structures and develop the systems for them to work. Therefore, there exists a close link between the pecking order theory of capital structure and financial sources. In respect of the stipulations of the foregoing theory, a health facility is bound to evaluate both the pros and cons of probable financial sources before settling on the one or ones that are most apt in ensuring its financial sustainability.

2.7.2 Theory of Soft Budgetary Constraints

The theory of soft budgetary constraints was proposed by Kornai (1979). The theory states that if a funding source, for example, a bank or government cannot be able to keep an organization to a fixed budget they have to offer soft loans which will supplement the budget deficit. Kornai in his study of Eastern Europe found out that the centralized economies were prone to soft budget-constraints while the Western Europe which had more decentralized economies was less prone to the syndrome though not fully immune.

Maskin (1994) reviewed Kornai's article on theory of soft budgetary constraints and came up with the observation that centralization could not be depended upon as a factor determining soft budget-constrain. He, however, developed three theoretical models to support his arguments which aimed at predicting when soft budget-constraint can appear or not. These models are, how credit allocation is organized, the organization of production, and the distribution of ownership rights.

In Morishima (1950, 1992) model, there is an overview of firm's budgetary constraints to sales and investments decisions. Morishima borrows from Kornai and states that budget-constraints are affected by centralized economics and lack of proper planning and allocation of the budgeted amount. Budgetary allocation should be properly reviewed and controlled and all costs updated according to the current market prices. The theory of budget-constraint is directly related to budgetary allocation and control. Once allocations have been effected, the budget in place should be adjusted so that the amount allocated articulated with the budget to avoid constraints. Government or lending institutions should seek to allocate budgeted proposals from public health facilities after approval in priority of urgency of vote heads with the view of avoiding soft budget constraints.

2.7.3 Stakeholder Theory

The stakeholder theory was proposed by Freeman (1984). The theory states that an organization has different stakeholders with various interests, which are supposed to be met and addressed by the management. The theory depicts how managers deal and relate with stakeholders. A stakeholder is defined as a group or an individual who can either affect or can be affected by the achievement of the objectives of an organization (Freeman, 1999). Nonetheless, the definition of a stakeholder has been varying over the years. According to Freeman (2004) stakeholders are referred to as groups of individuals who are important to both the survival and success of an organization.

According to Friedman (2006), It is crucial to consider an organizational as constituting stakeholder who came together to form a group (organization) with the main aim of managing their interests, viewpoints and needs. Similarly, the managers of an organization are tasked with perpetuating the interests of the stakeholders through effective management. The managers are expected to manage the organization in the best interest of its stakeholders with the ultimate aim of ensuring their rights and participation in making decisions. It further proposed that it is wise for the management to act as the agents of the stockholders in order to facilitate the survival of the firm, through safeguarding the long-term stakes of each group of stakeholders (Fontain, Haarman & Schmid, 2006). Moreover, in line with the stakeholders' theory, budgetary allocation in public health sector would be ethically improved if the allocation in decisions-making and participation involved the stakeholders in the public health sector.

2.7.4 Musgrave's Theory of Public Expenditure

The Musgrave's theory of public expenditure was propounded by Musgrave (1959). The theory of public expenditure states that public expenditure reflects the policy choices of government. public expenditure represents the cost of carrying out policies after the government has decide on which goods and services they are to offer and the quantity and quality in which they are going to be produced. Public sector has no motivation compared to the private sector which is guided by its economic interests. There is a noted gradual increase in public expenditure over the years as Ogbuagu & Ekpenyong (2015) express in their study.

The Musgrave theory of public expenditure has been debated on the ground of the role of the government involvement in economic activities. The study by Niloy (2003) indicated that public expenditure either recurrent or capital expenditure, notably on social and economic infrastructure can be growth-enhancing. The key feature of Musgrave theory of public financing is divided into three branches. These are the problem of achieving full employment, economic efficiency, and redistribution to achieve a politically acceptable distribution of income. These branches, however, were just away of organizing the actual making of the policy.

Musgrave and Richard (1959) found changes in the income elasticity of demand for public services in three ranges of per capita income. It is posited that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him, such income is devoted to satisfying the primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health education and transport starts to rise, thereby forcing governments to increase expenditure on them (Sparks, 1964). It is observed that high levels of per capita income, typical of developed economics, the rate of public health sector growth tends to fall as the more basic wants are being satisfied (Ogbuagu & Ekpenyong , 2015). The theory of public expenditure can be employed to explain budgetary variance in public health facilities. This is founded on the assertion of the theory that public expenditure is premised on the prioritized choices made by the government. Therefore, the health facilities may request a certain amount of financing from the government, yet what is allocated and eventually disbursed to them is significantly lower. This may eventually affect how these facilities address their financial obligations and deliver healthcare services to the members of the public.

2.8 Conceptual Framework

A conceptual framework illustrates factors, constructs or variables pertinent to a given study and how they are believed to relate. The Figure 2.1 is the conceptual framework for this study. It outlines three distinct sets of variables; that is, independent, intervening and dependent variables. Independent variables characterize budgetary allocation in public health facilities and include financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance. Intermediary variable also referred to as mediating or intervening variable constituted various

County Government policies particularly those that outline the utilization of the allocated funds. On the other hand, financial sustainability of the aforementioned health facilities constitute the dependent variable. Each of the three sets of variables has been parameterized using specific metrics as shown in Figure 2.1. The framework further illustrates the hypothesized relationships between each of the predictor (independent) variables and the outcome (dependent) variable. The foregoing relationships were further presumed to be confounded by the County Government policies which regulated the budgetary process and utilization of budgeted funds. This means that there was a likelihood that the relationship between budgetary allocations and financial sustainability of public health facilities in Kenya was likely to be subject to how the allocated funds were utilized in order to address recurrent and/or development expenditure.

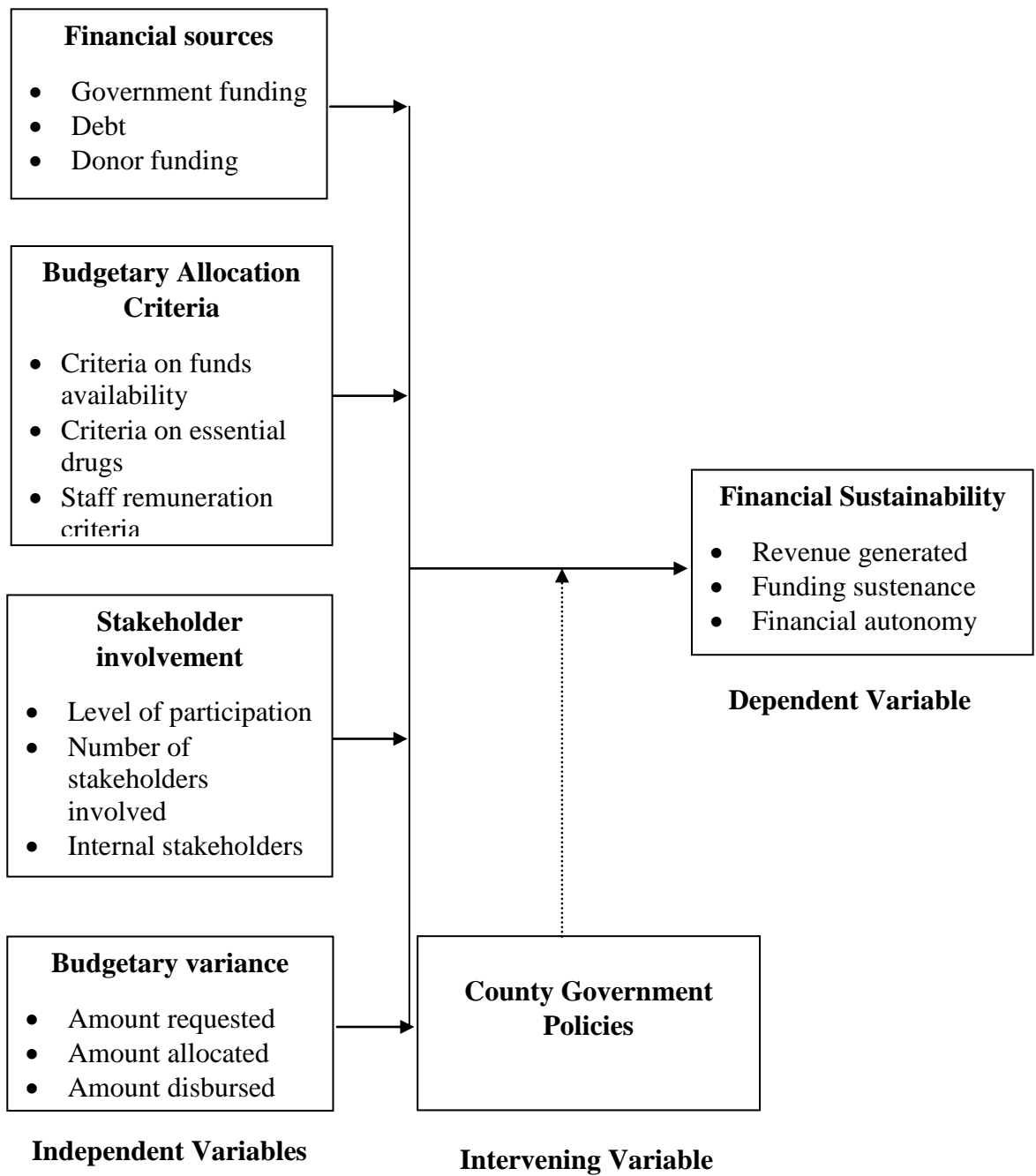


Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter covers the entire process that was followed to carry out the research study. In this regard, the chapter outlines and explains the research design that was adopted. Other areas addressed include the target and study populations, sampling procedure, data collection instrument, and pilot testing. Moreover, the procedures of collecting and analyzing data are outlined, in addition to how the resultant findings were presented.

3.2 Research Design

A research design is essentially a framework that describes how a research study should be conducted. According to MacMillan and Schumacher (2001), a research design is defined as a plan which is employed to facilitate selection of objects, study location, and data collection procedures to answer the research question or questions. The study employed descriptive research design. The choice of this design was founded on the fact that the study involved observing and describing the various elements characterizing budgetary allocation, and also financial sustainability of public health facilities without influencing the phenomena being examined. In addition to the descriptive design, the study adopted quantitative approach. According to Creswell (2009), quantitative method is associated with numerical data. Consequently, its adoption was informed by the object of the study to collect numerical data in respect of both budgetary allocations and financial sustainability of the aforementioned health facilities.

3.3 Location of the Study

The study was conducted in Nakuru West Sub-County which is one of the 11 sub-counties in the greater Nakuru County, Kenya. The health facilities in this Sub-County were the point of focus. Almost all of the aforementioned health facilities are in Nakuru town and its environs.

3.4 Population of the study

An aggregate of subjects sharing related characteristics describe the target population (Kothari, 2008). The target population included finance, accounting, and management staff working in the public health sector in Kenya. On the other hand, study population, which is a subset of the target population and which is accessible to the researcher, was delimited to the aforesaid employees working with public health facilities in Nakuru West Sub-County which is part of the greater Nakuru County. At the time when this study was conducted, there were several hospitals in this Sub-County. They included the Nakuru Level V Hospital, Nakuru Annex (Level IV) Hospital, Kapkures Health Centre, Nakuru West Health Centre, Rhoda Health Centre, Industrial Area Dispensary, State House Dispensary, FITC Dispensary, Barut Dispensary, and Lalwet Dispensary. These facilities had a total of 65 finance officers, 46 accounting officers, and 36 management staff giving a total of 147 as illustrated in Table 3.1.

3.5 Sampling Procedure and Sample Size

According to Lavrakas (2008) sampling involves extracting a number of representatives from the study or accessible population. As such, the sample characteristics are supposed to mirror those of the entire population. This was informed by the fact that the study population comprising of a total of 147 finance, accounting and management staff working with public health facilities in Nakuru West Sub-County warranted sampling (Kothari, 2004). The sampling frame which is an exhaustive list of all elements from which the sample is obtained is as shown in Table 3.1 below.

Table 3.1: Sampling Frame

Health Facility			Finance Staff	Accounting Staff	Management Staff	Sub- Total
Nakuru	Level	V	25	21	17	63
Hospital						
Nakuru	Annex (Level		17	15	8	40
IV) Hospital						
Kapkures Health Centre			4	1	2	7
Nakuru	West	Health	5	2	2	9
Centre						
Rhoda Health Centre			3	2	2	7
Industrial		Area	2	1	1	4
Dispensary						
State House Dispensary			3	1	1	5
FITC Dispensary			2	1	1	4
Barut Dispensary			3	1	1	5
Lalwet Dispensary			1	1	1	3
Grand Total			65	46	36	147

3.5.1 Sampling Procedure

In line with Table 3.1, it is evident that the distribution of the three categories of staff across the 10 health facilities in Nakuru West Sub-County was heterogeneous. In that respect, therefore, stratified (proportionate) random sampling which ensures both fair and equitable distribution of respondents across the strata (Kothari, 2004) was adopted.

3.5.2 Sample Size

The sample size was calculated using a formula proposed by Nassiuma (2008) as shown hereunder.

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

Where n = Sample size (unit of analysis)

N = Accessible population

C = Coefficient of variation ($20\% \leq C \leq 30\%$)

e = Error margin ($0.02 \leq e \leq 0.05$)

The calculation of the sample size from the given accessible population is illustrated below:

$$n = \frac{147(0.3)^2}{0.3^2 + (147 - 1)0.025^2}$$

$$n = 72.99$$

$$n = 73$$

The sample size was thus established to be 73 respondents.

3.6 Instrumentation

A self-designed structured questionnaire was employed to facilitate collection of data from the sampled respondents. Questionnaires are suitable in collecting data in survey studies (Lavrakas, 2008). The questionnaire was structured in conformity to the quantitative research approach that was adopted by the study. The instrument had items addressing all the study variables, that is, financial sources, budgetary allocation criteria, stakeholder involvement, budgetary variance, and financial sustainability. In reference to the foregoing study constructs, the data items were on a five point Likert scale. According to Joshi, Kale, Chandel and Pal (2015), Likert scale is considered as one of the most fundamental and frequently employed psychometrics tools in social sciences research. This further justified the structuring of the questionnaire following the Likert scale approach.

3.6.1 Pilot Study

A pilot test emanates from a pilot study, the latter being a small-scale that is conducted with the view of determining probable weaknesses in the research instrument (De Vos, 2002). The research questionnaire was piloted among randomly selected finance, accounting and management staff working with public health facilities in Nakuru East Sub-County. The number of participants in the pilot study were 8 which was approximately 10% of the unit of analysis (Kothari, 2004). The

pilot test further facilitated determination of both validity and reliability of the research questionnaire.

3.6.2 Validity of the Instrument

Validity is a measure of determining the extent to which a data collection instrument is able to facilitate collection of expected data, that is, data that is pertinent to study constructs and objectives (Kimberlin & Winterstein, 2008). Relative to this study, validity of the questionnaire was determined through consultation with the assigned University supervisors with the view of determining the instrument's content validity. The supervisor's opinion and input sufficed in determining the validity of the research questionnaire.

3.6.3 Reliability of the Instrument

Reliability is a test of consistency of a research instrument. According to Bolarinwa (2015), it is vital to determine the reliability of a research questionnaire in order to quantify the extent to which the variables contained therein are able to provide stable or consistent responses. The Cronbach's alpha coefficient was used to test the reliability of the questionnaire. The choice of this coefficient was informed by the assertion that it tests whether multiple-question Likert scale studies are reliable. The results of the reliability testing are shown in Table 4.1.

3.7 Data Collection Procedure

The determination of validity and reliability of the research questionnaire cleared the path for data collection. However, before this was effected, the researcher obtained a letter of consent from the University, after which a research permit was obtained from the National Council of Science, Technology and Innovation. Written approval from the Nakuru County Director of Health, Medical Superintendents of Nakuru Level V and Level IV hospitals, and senior administrators of the surveyed health centres and dispensaries was sought. The self-administered questionnaires were issued to the respondents by the researcher in person. The filled questionnaires were collected after a period of approximately five working days.

3.8 Data Analysis

The collected data were processed and analyzed with the aid of the Statistical Package for Social Sciences software. Descriptive and inferential statistics were used in the analysis. Granted that the collected data in reference to the study objectives and/or variables were on a Likert scale hence interval in nature, parametric tests were carried out (Joshi et al., 2015). In the same respect, descriptive statistics associated with Likert scale and in conformity to parametric statistics that were used included mean as a measure of central tendencies, and standard deviation as a measure of dispersion. Parametric analysis constituted inferential statistics such as chi-square, t-test, analysis of variance (ANOVA), Spearman rank correlation analysis, and ordinal least square (OLS) regression analysis. In line with Altman's (2009) assertion, the choice of these parametric statistics was premised on the fact that the data collected and consequently analyzed were assumed to follow a normal distribution, and that the data spread (variance) was uniform across intervals. The following regression model was adopted.

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

Where:

Y	=	Financial Sustainability
β_0	=	Constant
X_1	=	Financial Sources
X_2	=	Budgetary Allocation Criteria
X_3	=	Stakeholder Involvement
X_4	=	Budgetary Variance
ε	=	Error term
$\beta_1, \beta_2, \beta_3, \beta_4$	=	Regression Coefficients of Predictor Variables

The null hypotheses (H_0) were tested at 95% confidence level. The study findings were presented in form of tables.

3.9 Ethical Issues

A number of ethical considerations were factored in prior, during and after conducting the study. Prior to data collection, the researcher obtained written approval of Kabarak University which was used to apply for both a research permit and a letter of authorization from NACOSTI. The formal consent of the Director of Health Services in charge of Nakuru County was sought. This was followed by seeking official approval of the senior administrators of all public health facilities were projected to take part in both the pilot and main studies. The researcher desisted from soliciting sensitive information which may border on infringement of their rights and position at their workstations. The respondents were further advised to give information anonymously. This implies that they were discouraged from disclosing their identity or the identity of their health facilities. Moreover, the researcher ensured that the data collected and the findings thereof will be used for the indicated academic reasons. This caveat on findings disclosure was communicated to the prospective respondents prior to collecting data from them.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATIONS AND DISCUSSIONS

4.1 Introduction

The chapter addresses the findings and associated discussions in respect of reliability testing, response rate, background information of the sampled staff working with the surveyed health facilities, and also both descriptive and inferential results. The latter are with regard to budgetary allocations which were characterized by financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance. Also financial sustainability of the aforementioned public health facilities was addressed and both correlated and regressed against the various components of budgetary allocations.

4.2 Results of Reliability Testing

The study used the Cronbach's alpha coefficient to test the reliability of the research questionnaire. The study constructs which returned alpha coefficients at least equal to 0.7 ($\alpha \geq 0.7$) were acceptable. All the five study constructs as shown in Table 4.1 below returned alpha coefficients greater than 0.07. Therefore, the variables and the instrument at large were ascertained to be reliable.

Table 4.1: Results of Reliability Testing

Study Construct	Test Items	Cronbach's Alpha Coefficient
Financial sources	6	0.815
Budgetary allocation criteria	5	0.780
Stakeholder involvement	5	0.844
Budgetary Variance	6	0.797
Financial sustainability	6	0.851

4.3 Response Rate

Response rate is described as the percentage of the number of questionnaires that are filled appropriately and returned or collected from the respondents constituting the

unit of analysis (Nulty, 2008). In respect of the present study, the unit of analysis constituted a total of 73 respondents. The questionnaires that were collected from respondents having been filled with accordance to the stipulated instructions were 54 in number. The foregoing translated to 73.97% response rate. This was considered adequate for the survey.

4.4 Background Information

The study sought information regarding the job designation and the extent to which the sampled staff participated in the budgetary process. The key results are outlined in this section.

4.4.1 Staff Job Designation

The participating staff were asked to provide information concerning their job designation. The results to this effect are outlined in Table 4.2.

Table 4.2: Staff Job Designation

	Frequency	Percentage
Managers	23	42.6
Accounting officers	18	33.3
Finance officers	13	24.1
Total	54	100.0

As illustrated in Table 4.2 indicated that most (42.6%) of the surveyed staff were managers. Approximately a third (33.3%) of the staff were accounting officers while 24.1% were finance officers. The large number of managers resulted from the fact that, they headed various departments of the facilities. The results further showed that the selected public health facilities were committed to ensuring stellar health service delivery.

4.4.2 Staff Participation in Budgetary Process

The study further sought to determine the extent of participation of the sampled managers, accounting and finance officers in budgetary process in the surveyed health facilities. The findings are as indicated in Table 4.3.

Table 4.3: Staff Participation in Budgetary Process

	Frequency	Percentage
Large extent	30	55.6
Moderately extent	22	40.7
Small extent	2	3.7
Total	54	100.0

It was noted as shown in Table 4.3, that 55.6% of the surveyed staff participated, to a large extent, in budgetary process. In addition, 40.7% were moderately involved in budgetary process while only 3.7% were involved to a small extent. The findings were interpreted to imply that public health facilities substantively considered the views of accounting, finance and management staff working with them.

4.5 Descriptive Results, Interpretations and Discussions

The descriptive results relate to the assessed views of the sampled staff working with health facilities in Nakuru West Sub-County. The views were in regard to financial resources, budget allocation criteria, stakeholder involvement, budgetary variance, and financial sustainability in the context of health facilities. The results are therefore systematically presented in this section.

4.5.1 Descriptive Statistics for Financial Sources

The descriptive findings in respect of financial sources are outlined in Table 4.4.

Table 4.4: Descriptive Statistics for Financial Sources

	SA (%)	A (%)	N (%)	D (%)	SD (%)	χ^2	p-value
The national government allocates only a small percentage to devolved health facilities	44.4	48.1	0	3.7	3.7	39.3	.000
The largest percentage of the funds channeled to our facility come from the county government	55.6	31.5	1.9	5.6	5.6	57.9	.000
Income obtained from user charges such as fees for consultancy, lab tests X-rays amongst other services constitute the largest percentage of our hospital's finances	22.2	64.8	9.3	0	3.7	49.6	.000
The various financial sources for our health facility are very reliable	18.5	51.9	14.8	13.0	1.9	38.4	.000
Our facility is presently operating on significant amount of debt	9.3	55.6	16.7	14.8	3.7	45.4	.000
There has been an increased amount of donor funding in our facility	3.7	11.1	16.7	59.3	9.3	54.3	.000

The study as shown in Table 4.4 above revealed that majority (92.5%) of the sampled staff admitted that the national government allocated only a small percentage to devolved health facilities. In addition, it was concurred by most (87.1%) of the surveyed staff that the largest percentage of the funds channeled to the facilities came from the county government. Moreover, 87% admitted that income obtained from user charges such as fees for consultancy, lab tests X-rays amongst other services constituted the largest percentage of the hospitals' finances. Only 13% disagreed with the stated view.

It was also established that a total of 70.4% of the participating staff were in agreement with the opinion that the various financial sources for the health facilities were very reliable. However, a considerable number (28.6%) disputed the foregoing assertion. A total of 64.9% of the sampled staff generally admitted that the facilities were presently operating on significant amount of debt. Nonetheless, 18.5% disputed

the said proposition while the rest (16.6%) were not sure. It was noted that majority (68.6%) of the surveyed staff disagreed that there has been an increased amount of donor funding in the facilities, howbeit, 14.8% agreed with the notion.

Those that were not sure of the aforementioned argument were 16.7% of the total sampled staff. The results of the chi-square as shown in Table 4.4 further established that the hypotheses that disputed all the statements characterizing financial sources were summarily rejected ($p < 0.05$). This implies that the respondents concurred with all the propositions fronted concerning financial sources in respect of public health facilities in Nakuru West Sub-County. These findings were in agreement with results of a study conducted by Ezochukwu et al, (2015) which revealed that the health care was financed by various sources with government sources playing the leading role. The findings further supported Eboh et al.'s (2016) observation that financing of health care in Nigeria was majorly through tax revenue and user fees.

4.5.2 Descriptive Statistics for Budgetary Allocation Criteria

The study further obtained the opinions of the sampled staff regarding budgetary allocation criteria in the context of health facilities in Nakuru West Sub-County. Their responses were analyzed and outlined in Table 4.5.

Table 4.5: Descriptive Statistics for Budgetary Allocation Criteria

	SA (%)	A (%)	N (%)	D (%)	SD (%)	χ^2	p-value
Funds availability is the most important budgetary allocation criterion	64.8	35.2	0	0	0	4.7	.029
Budget for essential drugs and medical equipment is given the first priority in budgetary allocation	68.5	24.1	7.4	0	0	32.3	.000
The size of our hospital is a minor factor in determining the allocated amount	29.6	33.3	14.8	16.7	5.6	13.9	.007
Only a small percentage of our budget is allocated to staff remuneration	16.7	53.7	9.3	16.7	3.7	41.6	.000
The location of our health facility is rarely considered when doing budgetary allocation	11.1	16.7	16.7	20.4	35.2	8.9	.062

As shown in Table 4.5, it was observed that all (100.0%) the sampled staff that worked with the surveyed health facilities admitted that funds availability was the most important budgetary allocation criterion. Moreover, 92.6% agreed that budget for essential drugs and medical equipment was given the first priority in budgetary allocation. In respect of the stated assertion, 7.4% of the said staff were indifferent. Most (62.9%) of the participating members concurred that the size of the hospitals was a minor factor in determining the allocated amount, however, 22.3% disagreed with the said notion. Furthermore, 70.4% admitted that only a small percentage of the budget was allocated to staff remuneration. On the same note, 20.4% disputed the stated opinion. The study further ascertained that most (55.6%) of the participating members disagreed that the location of health facilities was rarely considered when doing budgetary allocation. It was further established that 27.8% agreed with the afforested view.

Furthermore, the chi- square results illustrated that the null hypothesis in respect to the assertion that the location of the health facility was rarely considered when doing budgetary allocation failed to be rejected ($p > 0.05$). The finding implied that the respondents disagreed with the said assertion. This observation was contrary to the

results of a study conducted by Otieno (2016) which indicated that resource allocation did not follow a preset formula, rather it was influenced by political affiliation. It was further noted that all other arguments in regard to budgetary allocation criteria were supported by the respondents as deduced from the chi-square results. As such, the null hypotheses in respect of the said arguments were rejected ($p < 0.05$).

4.5.3 Descriptive Statistics for Stakeholder Involvement

The opinions of the surveyed staff regarding stakeholder involvement and in the context of health facilities in Nakuru West Sub-County were sought and assessed. The descriptive results to this effect as illustrated in Table 4.6.

Table 4.6: Descriptive Statistics for Stakeholder Involvement

	SA (%)	A (%)	N (%)	D (%)	SD (%)	χ^2	p-value
There is limited level of stakeholder involvement in budgetary allocation in our hospital	46.3	38.9	9.3	5.6	0	27.5	.000
Internal stakeholders are fully involved in the budgetary allocation process	33.3	37.0	24.1	3.7	1.9	29.1	.000
Only few external stakeholders participate in budgetary allocation in our hospital	7.4	75.9	3.7	13.0	0	75.6	.000
Involvement of stakeholders is highly voluntary	33.3	24.1	27.8	11.1	3.7	16.2	.003
External stakeholders are hardly engaged in the budgetary allocation process	5.6	38.9	25.9	25.9	3.7	24.3	.000

According to the results indicated in Table 4.6, it was revealed 85.2% of the sampled members concurred that there was limited level of stakeholder involvement in budgetary allocation in the hospitals. Only 5.6% disagreed with the assertion. In the same vein, a total of 70.3% of the surveyed members admitted that internal stakeholders were fully involved in the budgetary allocation process. A considerable number (24.1%) were unsure of the stated view while a mere 5.6% generally disputed the assertion. The majority (83.3%) of the sampled members concurred that only few

external stakeholders participated in budgetary allocation in the hospitals. On the contrary, 13.0% disagreed with the aforementioned assumption.

The view that involvement of stakeholders was highly voluntary raised mixed responses from the surveyed staff. A total of 57.4% agreed, 27.8% were not sure while 14.8% disputed with the argument. The study lastly, found out that 44.5% were in agreement with view that external stakeholders were hardly engaged in the budgetary allocation process, while 29.6% disagreed the view. A significant number (25.9%) were not sure of the said proposition. According to the chi-square findings, it was established that the statements relation to stakeholder engagement in public health facilities were all agreed by the respondents. Hence, the null hypothesis contradicted these results. Therefore, it was rejected ($p < 0.05$).

These observations were in support of a previous study conducted in Canada which revealed that there was limited stakeholder involvement in the budgeting process in the country's health sector. Moreover a study carried out in Tanzania concurred with results since it established that key stakeholders were not taken in to account with regards to the district health plans and budgeting (Shayo et al., 2013). A local study by Waithaka et al, (2018) also supported the findings of this study because it revealed a lack of commitment in stakeholder involvement in the budgeting process.

4.5.4 Descriptive Statistics for Budgetary Variance

The descriptive results for budgetary variance are illustrated in Table 4.7.

Table 4.7: Descriptive Statistics for Budgetary Variance

	SA (%)	A (%)	N (%)	D (%)	SD (%)	χ^2	p-value
Our health facility has significantly sound budget planning mechanisms	29.6	59.3	7.4	3.7	0	42.3	.000
The expenditure in public health facilities is usually higher than the disbursed amount	42.6	18.5	24.1	5.6	9.3	23.0	.000
There are effective strategies laid down to address budgetary variance in our institution	13.0	57.4	25.9	3.7	0	35.6	.000
Public health facilities rarely conduct budget variance analysis	9.3	61.1	16.7	11.1	1.9	60.1	.000
The amount allocated to our hospital is the same as the amount disbursed	35.2	18.5	11.1	25.9	9.3	12.5	.014
There is significant disparity between the amount of funds requested and the amount allocated to our hospital	16.7	22.2	11.1	22.2	27.8	4.3	.393

As shown in Table 4.7, the study noted that 92.3% of the surveyed managers, accounting and finance officers concurred that the health facilities had significantly sound budget planning mechanisms. However, 3.7% disputed the assertion while 7.4% were unclear of the stated view. It was further noted that 61.1% of the sampled staff were in admission that the expenditure in public health facilities was usually higher than the disbursed amount, while 14.9% disagreed with the notion. A total of 24.1% were indifferent of the aforesaid opinion. It was also found out that 70.4% of the participating members admitted that there were effective strategies laid down to address budgetary variance in the institutions, whilst 3.7% disagreed with the proposition. A slightly over a quarter (25.9%) of the sampled staff were unclear regarding the stated assumption.

It was further established that 70.4% concurred that public health facilities rarely conducted budget variance analysis while 13.0% disagreed with the opinion. A total of 16.7% were unsure of the foregoing statement. Most (53.7%) of the participating staff agreed that the amount allocated to the hospitals was the same as the amount

disbursed. Nonetheless, 35.2% disputed the stated assertion. Only 11.1% were indifferent of the view. It was further agreed, by 38.9% of the surveyed staff that there was significant disparity between the amount of funds requested and the amount allocated to the hospitals. A half (50.0%) of the sampled staff disagreed with the aforementioned view while 11.1% were not sure of the assertion.

The Table 4.6 further showed that the notion that there is significant disparity between the amount of funds requested and the amount allocated to the hospital were disagreed by most (50.0%) of the respondents. As a result, the hypothesis regarding the aforesaid assertion failed to be rejected ($p > 0.05$). Furthermore, the respondents admitted to all other arguments put across in relation to stakeholder engagement. This led to rejection of the hypothesis associated with the stated arguments as evidenced by the chi-square results ($p < 0.05$). The results of this study concurred with earlier observations that a significant portion of health budget of the State Ministry of Health in Nigeria was not actually spent, hence signifying budgetary variance.

4.5.5 Descriptive Statistics for Financial Sustainability

Lastly, the study sought the views of the sampled staff regarding financial sustainability in health facilities. Their opinions were analyzed and presented in Table 4.8.

Table 4.8: Descriptive Statistics for Financial Sustainability

	SA (%)	A (%)	N (%)	D (%)	SD (%)	χ^2	p-value
Our health facility has realized increased revenue over the years	55.6	40.7	1.9	0	1.9	48.7	.000
User charges have increased significantly leading to enhanced financial sustainability of our hospital	55.6	37.0	3.7	1.9	1.9	66.9	.000
Our health facility has maintained exceptional relationships with its financiers	42.6	20.4	29.6	5.6	1.9	30.8	.000
There is sustained funding of our hospital which has enhanced effectiveness of service delivery	42.6	24.1	24.1	1.9	7.4	27.9	.000
Our hospital has been experiencing intermittent financial difficulties which have compromised effective service delivery	14.8	61.1	13.0	7.4	3.7	59.1	.000
Our hospital is largely financially autonomous	31.5	25.9	13.0	18.5	11.1	8.0	.090

As shown in Table 4.8, the study found the majority (96.3%) of the surveyed staff admitted that the health facilities had realized increased revenue over the years. In addition, 92.6% agreed that user charges had increased significantly leading to enhanced financial sustainability of the hospitals. Only 3.8% disputed the aforementioned view. It was also noted that 63% of the sampled members concurred that the health facilities had maintained exceptional relationships with its financiers. Nevertheless, 7.5% disagreed with the opinion while 29.6% were unsure of the said assumption. It was noted that more than half (66.7%) of the selected staff admitted that there was sustained funding of the hospitals which enhanced effectiveness of service delivery. A slightly less than a quarter (24.1%) of the surveyed staff were not clear regarding the foregoing notion while only 9.3% disagreed with the view.

It was established that most (75.9%) of the said staff concurred that the hospitals had been experiencing intermittent financial difficulties which had compromised effective

service delivery. Those staff that disputed the aforesaid argument were 11.1%. There were a number of the staff that were not sure of the foregoing view. They totaled 13.0% of the total sampled population. Additionally, the study noted that most (57.4%) of the surveyed staff concurred that the hospitals were largely financially autonomous. However, approximately a third (29.6%) of the sampled staff disputed the view while 13.0% were indifferent of the stated proposition.

The chi-square results showed that the hypothesis in regard to the statement that the hospital was largely financially autonomous in the context of financial sustainability failed to be rejected ($p > 0.05$). The foregoing implied that the respondents disagreed with the stated view. On the same note, the respondents agreed with all the other assertions concerning financial sustainability of public health facilities. The results of the chi-square further showed that the null hypotheses in connection with these assertions were rejected ($p < 0.05$). The findings of this study were in agreement with the results of a past study conducted in Vietnam which led to the inference that there was lack of financial sustainability in the country's health sector (Barroy et al., 2014).

4.6 Inferential Results, Interpretations and Discussions

The inferential findings show the association between the independent and dependent variables. In this case, the association between financial sources, budgetary allocation criteria, stakeholder involvement, budgetary variance, and financial sustainability of public health facilities in Nakuru West Sub-County. The Spearman's rank correlation and multiple regression were used to determine the existing relationship between the stated variables and analyze the influence of the mentioned predictor variables on the outcome variable.

4.6.1 Correlation Analysis

Correlation is used to show the relationship between two variables. Correlation coefficient which ranges from -1.0 to 1.0 is used to determine the direction of the relationship between relative movements of two variables while p-values are employed to test the significance of the mentioned relationships. The results of Spearman's rank correlation coefficient are presented in Table 4.9.

Table 4.9: Spearman Rank Correlation Matrix

			SI	FS	BV	BAC	FS
Spearman's rho	SI	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
	FS	Correlation Coefficient	.432**	1.000			
		Sig. (2-tailed)	.001	.			
	BV	Correlation Coefficient	.270*	.351**	1.000		
		Sig. (2-tailed)	.049	.009	.		
	BAC	Correlation Coefficient	.459**	.060	.068	1.000	
		Sig. (2-tailed)	.000	.664	.623	.	
	FS	Correlation Coefficient	.685**	.590**	.483**	.173	1.000
		Sig. (2-tailed)	.000	.000	.000	.211	.
		n	54	54	54	54	54

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

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

Key:

SI = Stakeholders Involvement

FS = Financial Sources

BV = Budgetary Variance

BAC = Budgetary Allocation Criteria

FS = Financial Sustainability

The results as shown in Table 4.9 revealed that financial sources had a positive, moderately strong and statistically significant relationship with financial sustainability ($r = 0.590$; $p < 0.05$) at 95% confidence level. The results showed that as financial sources were increased, there was a likelihood to moderately enhance the financial sustainability of the surveyed public health facilities. The reverse of the foregoing was equally true. In other words, the origin of the hospital funds, whether from government kitty or user charges, moderately determined financial sustainability of

the aforementioned facilities in Nakuru West Sub-County. These results supported findings in a past study conducted in Nigeria which underpinned the importance of financial sources in ensuring success of healthcare financial system in the country (Uzochukwu et al., 2015).

The results further indicated that there existed a weak, positive and not statistically significant relationship between budgetary allocation criteria and financial sustainability ($r = 0.173$; $p > 0.05$). The interpretation of these results was that, as the criteria of budgetary allocation were enhanced, there was minimal likelihood to positively change the financial sustainability of the surveyed health facilities. As such, it can be deduced that the criteria used to allocate the funds at the surveyed hospitals was likely to influence the financial sustainability of these hospitals only marginally. However, the influence would be inconsequential. Yet, budgetary allocation criteria should not be wished away as long as there is a likelihood of enhancing financial sustainability. In reference to budgetary allocation, the foregoing findings concurred with observations made in a study conducted by Ehikoya and Mohammed (2013) which had indicated that budgetary allocation criteria encapsulating the budgeted amount did not reflect on betterment of health status of the country.

As indicated in Table 4.9, there was a positive, strong and statistically significant relationship between stakeholder involvement and financial sustainability ($r = 0.685$; $p < 0.05$). Impliedly, there was a great and substantive likelihood that involving pertinent stakeholders would enhance financial sustainability of surveyed health facilities. As such, the health facilities ought to involve all stakeholders particularly in the budgeting process of the health facilities in order to enhance the institutions' financial sustainability. Though several past studies (Shayo, 2013; Barasa et al., 2017; Waithaka et al., 2018) addressed the subject of stakeholder involvement in the budgetary process in the health sector, they fell short of relating the stated involvement to financial sustainability of public health facilities. The foregoing gap has, however, been addressed by the present study.

The relationship between budgetary variance and financial sustainability was established to be positive, moderately strong and statistically significant ($r = 0.483$; $p < 0.05$). The foregoing results meant that there was a moderate chance of enhancing financial sustainability through budgetary variance. That is, ensuring that the amount

requested, disbursed and allocated is spent and spent prudently was bound to significantly improve financial sustainability of the surveyed health facilities in Nakuru West Sub-County. This study has bridged the gap which had been left out by past local studies in relation to both budgetary variance and financial sustainability of public health facilities in Kenya. These studies had looked into the genesis of budgetary variance (Kamau et al., 2017), and budget variance analysis (Mbothu, 2012).

4.5.2 Regression Analysis

The Ordinal Least Squares (OLS) method was employed to linearly regress budgetary allocations against financial sustainability of public health facilities in Nakuru West Sub-County. The results to this effect are as shown in Table 4.10, Table 4.11, and Table 4.12 respectively.

Table 4.10: Regression Weights for Overall Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785 ^a	.616	.585	.45449

a. Predictors: (Constant), Financial sources, Budgetary allocation criteria, Stakeholders involvement, Budgetary variance

The results shown in Table 4.10 revealed that the general relationship between all aspects defining budgetary allocations and financial sustainability was positive and strong ($R = 0.785$). The results further indicate the coefficient of determination ($R^2 = 0.585$) which was used to determine the contribution of budgetary allocations (financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance) on financial sustainability. It was established that budgetary allocations explained 58.5% variance in financial sustainability of the surveyed public health facilities in Nakuru West Sub-County. The remaining 41.5% was as a result of other factors not investigated by the current study. Such factors could be financial prudence or financial management amongst others. The foregoing results of both R and R^2 underpinned the important role played by budgetary allocation criteria in ensuring financial sustainability of public health facilities in the aforesaid Sub-County and Kenya at large.

Table 4.11: Significant Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.265	4	4.066	19.686	.000 ^a
	Residual	10.121	49	.207		
	Total	26.387	53			

a. Predictors: (Constant), Budgetary Variance, Budgetary Allocation Criteria, Financial Sources, Stakeholders Involvement

b. Dependent Variable: Financial sustainability

The analysis of variance results are used to test the significance or assess the suitability of the regression model adopted by a study. As indicated in Table 4.11, the effect of budgetary variance, budgetary allocation criteria, financial sources and stakeholder involvement on financial sustainability of surveyed health facilities was established to be positive and statistically significant ($F = 19.686$; $p < 0.05$). Therefore, the regression model, $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ adopted by the study was found to be significant and thus appropriate in determining the influence of budgetary allocations on financial sustainability of public health facilities in Nakuru West Sub-County.

The results of the overall regression model are as shown in Table 4.12.

Table 4.12: Results for Overall Model

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	-.008	.754		-.011	.992		
Financial Sources	.372	.148	.254	2.512	.015	.763	1.310
Budgetary Allocation Criteria	-.220	.181	-.128	-1.216	.230	.711	1.407
Stakeholder Involvement	.666	.124	.618	5.392	.000	.596	1.677
Budgetary variance	.267	.128	.194	2.085	.042	.901	1.110

a. Dependent Variable: Financial Sustainability

As illustrated in Table 4.12, diagnostic tests were conducted to determine the extent of multicollinearity problem arising from interactions of predictor variables. This was measure using the Variance Inflated Factor (VIF) which is a reciprocal of Tolerance level. The recommended or acceptable threshold is $VIF < 10.000$. With regard to the results indicated in Table 4.12, it is evident that none of the explanatory variables (financial sources, budgetary allocation criteria, stakeholder involvement, and budgetary variance) occasioned serious multicollinearity problems ($VIF < 10$).

The regression model used is illustrated below.

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

Where

Y = Financial Sustainability

β_0 = Constant

X_1 = Financial Sources

X_2 = Budgetary Allocation Criteria

X_3 = Stakeholder Involvement

X_4 = Budgetary Variance

ε = Error term

$\beta_1, \beta_2, \beta_3, \beta_4$ = Regression Coefficients of Predictor Variables

The model was substituted as follows:

$$Y = -0.008 + 0.372X_1 - 0.220X_2 + 0.666X_3 + 0.267X_4$$

Therefore, it was revealed that a unit change in financial sustainability of public health facilities was subject to 0.372 unit change in financial sources, -0.220 unit variation in budgetary allocation criteria, 0.666 unit change in stakeholder involvement and 0.267 unit change in budgetary variance while other factors were held constant. In addition, it was established that the effect of financial sources on financial sustainability was statistically significant ($t = 2.512$; $p < 0.05$). It was deduced that the sources of funds were crucial in enhancing financial sustainability of the surveyed health facilities. It was further noted that the effect of budgetary allocation criteria on financial sustainability was not statistically significant ($t = -1.216$; $p > 0.05$). The results were interpreted to mean that the methods of allocating the budgeted funds did not substantially determine financial sustainability of the aforementioned health facilities. Indeed, the current methods only served to negate the financial sustainability ($\beta_2 = -0.220$). This could be attributed to prioritizing allocation of funds to recurrent expenditure which reduces financial sustainability of public health facilities. Moreover, the study established that stakeholder involvement had a statistically significant effect on financial sustainability ($t = 5.392$; $p < 0.05$). Involving key stakeholders was thus paramount in enhancing financial sustainability of the health facilities. It was also revealed that the effect of budgetary variance on financial sustainability was statistically significant ($t = 2.085$; $p < 0.05$). Therefore, budgetary variance was found to be vital in ensuring financial sustainability of public health facilities in Nakuru West Sub-County. Stakeholder involvement was noted to be the most important among the surveyed facets of budgetary allocations. Moreover, it is critical to note that budgetary allocations were generally established to play a very crucial role in determining the financial sustainability of public health facilities in the aforementioned administrative jurisdiction.

4.5.3 Testing Null Hypotheses

The null hypotheses were tested at 95% confidence level (p -value = 0.05). The first null hypothesis (H_{01}) stated that: There is no statistically significant effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County. The alternative hypothesis (H_A) stated that: There is statistically significant effect of financial sources on financial sustainability of public health facilities in Nakuru West Sub-County. The results of the t -statistics as shown in Table 4.12, showed that the effect of financial sources on financial sustainability was statistically significant ($t = 2.512$; $p < 0.05$). Therefore, the null hypothesis was rejected and the alternate hypothesis taken to be true.

The second null hypothesis (H_{02}) stated that: There is no statistically significant effect of budgetary allocation criteria on financial sustainability of public health facilities in Nakuru West Sub-County. The alternative hypothesis (H_A) stated that: There is statistically significant effect of budgetary allocation criteria on financial sustainability of public health facilities in Nakuru West Sub-County. The t -statistics results indicated that the effect of budgetary allocation criteria on financial sustainability was not statistically significant ($t = - 1.216$; $p > 0.05$). Therefore, the null hypothesis was not rejected ; rather, it was considered to be true.

The third null hypothesis (H_{03}) stated that: There is no statistically significant effect of stakeholder involvement on financial sustainability of public health facilities in Nakuru West Sub-County. The alternative hypothesis (H_A) stated that: There is statistically significant effect of stakeholder involvement on financial sustainability of public health facilities in Nakuru West Sub-County. The results of the t -statistics showed that stakeholder involvement had a statistically significant effect on financial sustainability ($t = 5.392$; $p < 0.05$). Thus, the null hypothesis was rejected and alternative hypothesis deemed to be true.

The fourth null hypothesis (H_{01}) stated that: There is no statistically significant effect of budgetary variance on financial sustainability of public health facilities in Nakuru West Sub-County. On the other hand, the alternative hypothesis (H_A) stated that: There is statistically significant effect of budgetary variance on financial sustainability of public health facilities in Nakuru West Sub-County. The results of t -statistics ($t = 2.085$; $p < 0.05$) showed that the effect of budgetary variance on financial

sustainability statistically significant. Therefore, the null hypothesis was rejected. Instead, the alternative hypothesis was taken to be true.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study analyzed the influence of budgetary allocations on financial sustainability of public health facilities in Nakuru West Sub-County. In this chapter, a summary of the vital findings in respect to the aforementioned thesis statement are first presented. Thereafter, conclusions and key recommendations are outlined. The study also suggests other areas for further research.

5.2 Summary

In this section, the key findings are presented in a summarized form, that is both the descriptive and inferential. The summary is outlined in tandem with the specific study objectives.

5.2.1 Financial Sources and Financial Sustainability

It was established that the national government allocated only a small percentage to devolved health facilities. Furthermore, it was discovered that the largest percentage of the funds channeled to the facilities came from the county governments. It was further noted that income obtained from user charges such as fees for consultancy, lab tests X-rays amongst other services constituted the largest percentage of the hospitals' finances. On the same note, the health facilities were presently operating on significant amount of debt. In addition, the various financial sources for the surveyed health facilities were noted very reliable. It was also disputed that there had been an increased amount of donor funding in the surveyed health facilities. The financial sources had a positive, moderately strong and statistically significant relationship with financial sustainability ($r = 0.590$; $p < 0.05$). As such, financial sources for the surveyed health facilities were crucial to their financial sustainability.

5.2.2 Budgetary Allocation Criteria and Financial Sustainability

It was noted that funds availability was the most important budgetary allocation criterion and that budget for essential drugs and medical equipment was given the first priority in budgetary allocation. The size of the hospitals was a minor factor in determining the allocated amount. It was, however, disputed that the location of the

health facilities was rarely considered when doing budgetary allocation. The relationship between budgetary allocation criteria and financial sustainability was weak, positive and not statistically significant ($r = 0.173$; $p > 0.05$). The influence of budgetary allocation criteria was likely to be inconsequential on financial sustainability of surveyed health facilities.

5.2.3 Stakeholder Involvement and Financial Sustainability

It was observed that there was limited level of stakeholder involvement in budgetary allocation in the hospitals. It was further found that internal stakeholders were fully involved in the budgetary allocation process but only few stakeholders participated in budgetary allocation in the hospitals. Moreover, it was discovered that involvement of stakeholders was highly voluntary. It was unclear whether external stakeholders were hardly engaged in the budgetary allocation process or not. Stakeholder involvement had a positive, strong and statistically significant relationship between stakeholder involvement and financial sustainability ($r = 0.685$; $p < 0.05$). Stakeholder involvement was fundamentally essential in financial sustainability of the surveyed health facilities in Nakuru West Sub-County.

5.2.4 Budgetary Variance and Financial Sustainability

The study noted that the health facilities had significantly sound budget planning mechanisms and that the expenditure in public health facilities was usually higher than the disbursed amounts. In addition, it was established that there were effective strategies laid down to address budgetary variance in the institutions and that public health facilities rarely conducted budget variance analysis. It was not clear whether or not that the amount allocated to the hospitals were the same as the amount disbursed. In the same vein, it was also not clear if there was significant disparity between the amount of funds requested and the amount allocated to the hospitals. The relationship between budgetary variance and financial sustainability was positive, moderately strong and statistically significant ($r = 0.483$; $p < 0.05$). There was therefore great likelihood of enhancing financial sustainability through budget variance.

5.2.5 Financial Sustainability

It was found out that the surveyed health facilities had realized increased revenue over the years. Notably, the user charges had increased significantly leading to enhanced

financial sustainability of the hospitals. The surveyed health facilities had maintained exceptional relationships with its financiers. Moreover, there was sustained funding of the hospitals that enhanced effectiveness of service delivery. However, the hospitals had been experiencing intermittent financial difficulties that compromised effective service delivery. It was, howbeit, not clear whether the hospitals were largely financially autonomous. The 61.6% of financial sustainability of the surveyed health facilities was contributed by budgetary allocations. More so, stakeholder involvement was pointed out to be the most important tenet of budgetary allocations that would enhance financial sustainability.

5.3 Conclusions

There were a number of conclusions that the study made in regard to the findings reached. The conclusions are highlighted in this section.

5.3.1 Conclusions on Financial Sources and Financial Sustainability

The study inferred that the health facilities obtained finances from the national government, the county government, user charges and debt. The county government and user charges contributed the largest share of funds to the health facilities. It was further concluded that the health facilities operated on borrowed funds. The financial sources for the health facilities were very reliable. The study concluded that financial sources were crucial to financial sustainability of the studied health facilities.

5.3.2 Conclusions on Budgetary Allocation Criteria and Financial Sustainability

The study concluded that funds availability was the most important budgetary allocation criterion. The budget for essential drugs and medical equipment was highly prioritized. The size of the hospitals was least prioritized in determining the allocated amount. The study further inferred that the location of the health facilities was considered when doing budgetary allocation. Though budgetary allocation criteria would result insignificant financial sustainability, it was considered vital in prioritizing most important areas in the operations of the health facilities.

5.3.3 Conclusions on Stakeholder Involvement and Financial Sustainability

The study concluded that was limited level of stakeholder involvement in budgetary allocation in the hospitals. In addition, internal stakeholders were fully involved in the

budgetary allocation process but only few stakeholders participated in budgetary allocation in the hospitals. Stakeholder involvement was concluded to be fundamentally essential in financial sustainability of the health facilities in Nakuru West Sub-County. As such, the surveyed health facilities ought to consider involving all the key stakeholders to ensure financial sustainability.

5.3.4 Conclusions on Budgetary Variance and Financial Sustainability

It was inferred that the health facilities had sound budget planning mechanisms. It was also noted that that the expenditure in public health facilities was usually higher than the disbursed amounts. Notably, there were effective strategies laid down to address budgetary variance in the institutions. The study also concluded that the surveyed health facilities rarely conducted budget variance analysis. Budget variance was noted critical in enhancing financial sustainability of the hospitals

5.4 Recommendations

The study recommended that the health facilities should keep track of the amounts borrowed in order to avoid going into financial distress. The facilities should strike a balance between the amount borrowed and that received from both the national and county governments. There should be financial prudence at the facilities in order to ensure financial sustainability and sustained service delivery.

It is also recommended that the management of health facilities should come up with priority areas to allocate funds received or generated. This is important in enabling accountability of funds and identifying areas underfunded.

Stakeholder involvement was noted to be the most important in influencing financial sustainability of the health facilities. It was recommended that all the key stakeholders be involved and engaged in budgetary allocation process. The interests of the stakeholders ought to be aligned to avoid conflict of interest which may be detrimental to the financial sustainability of the health facilities. Decisions such as pricing of health care services and sourcing borrowed funds ought to be deliberated by key stakeholders with the intent of ensuring financial sustainability and service delivery.

It is recommended that that the health facilities uphold the sound budget planning mechanisms. Negative budget variances should be addressed with the object of

ensuring that the facilities operate with compromising the quality of health services offered. The management of surveyed health facilities should try to lobby for funds from donors by liaising with county and national governments. The facilities should design other income generating activities to supplement their revenue.

5.5 Recommendations for Further Research

The study suggests various themes in the context of budgetary allocations and financial sustainability in Kenya. It is suggested that a similar study may be carried out but in the context of private hospitals in Nakuru County. It is also suggested that a study on how financial prudence or accountability influenced financial sustainability of the health facilities. Furthermore, a comparative study on the challenges affecting financial sustainability in private and public health facilities ought to be conducted. Lastly, it is suggested that a study on how budgetary allocations influenced operations of health facilities should be conducted.

REFERENCES

- Altman, D.G. (2009). Parametric versus non-parametric methods for data analysis. *BMJ*, 338, a3167.
- Atuoye, , K. N., Vercillo, S., Antabe, R., Galaa, S. Z., & Luginaah, I. (2016). Financial Sustainability versus Access and Quality in a Challenged Health System: An Examination of the Capitation Policy Debate in Ghana. *Health Policy and Planning*, 31(9), 1240-1249.
- Barros, F. F. (2013). *Priority Setting for Health Resource Allocation in Brazil:A Scoping Review and Ethical Analysis*. Unpublished thesis of Master of Sciences, University of Toronto, Brasilia.
- Barroy, H., Jarawan, E., & Bales, S. (2014). *Universal Health Coverage for Inclusive and Sustainable Development; Country Summary Report for Vietnam*. Hanoi: WORLD BANK GROUP.
- Bolarinwa, O.A. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Niger Postgrad Med Journal*, 22, 195-201.
- Bowman, W. (2011). Financial Capacity and Sustainability of Ordinary Non-profits. *Nonprofit Management and Leadership*, 22(1), 37-51.
- Chen, S. (2010). *How the PEcking -Order Theory Explain Capital Structure*. Taipei.
- Davari, M., Haycox, A., & Walley, T. (2012). Health Care Financing in Iran; Is Privation A Good Solution? *Iranian Journal of Public Health*, 41(7), 14-23.
- Dulal, R. K., Magar, A., Karki, S. D., Khatiwada, D., & Hamal, P. K. (2014). Analysis of Health Sector Budget of Nepal. *Journal of Med Assoc*, 52(194), 811-821.
- Eboh, A., Akpata, G. O., & Akintoye, A. E. (2016). Health Care Financing in Nigeria:An Assessment of the National Health Insurance Scheme(NHIS). *European Journal of Business and Management*, 8(27), 24-43.
- Ehikioya, I. L., & Mohammed, I. (2013). Determinants of Public Health Care Expenditure in Nigeria:An Error Correction Mechanism Approach. *International Journal of Bussiness and Social Science*, 4(13), 220-233.
- Freeman, R. E. (1984). *"Strategic Management: A Stakeholder approach."*. Boston: MA: Pitman.
- Freeman, R. E. (1999). Response:Divergent Stakeholder Theory. *Academy of Management Review*, 24(2), 233-36.
- Friedman, A. L., & Miles, S. (2006). *Stakeholders: Theory and Practice*. London: Oxford University Press.
- Gakuru, M., & Mungania, A. (2016). Budgetary Allocation and the Success of Public Sector Management in Central Province,Kenya. *European Journal of Business and Social Sciences*, 4(10), 151-158.

- Joshi, A., Kale, S., Chandel, S., & Pal, D.K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science and Technology*, 7(4), 396-405.
- Kamau, Rotich and Anyango (2017)
- Kenya Healthcare Federation. (2016). *Kenyan Healthcare Sector*. Nairobi: Kenya Healthcare Federation.
- Kimberlin, C.L., & Winterstein, A.G. (2008). *Research fundamentals*. Am J Health-SystPharm, 65.
- Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: Wiley.
- Kothari, C. R. (2008). *Research Methodology: Methods and Techniques*. New Delhi: Wiley.
- Lavrakas, P.J. (2008). *Encyclopedia of Survey Research Methods*. Retrieved on August 28, 2018. DOI: <http://dx.doi.org/10.4135/9781412963947.n61>
- Leider, J. P., Resnick, B., Kass, N., Sellers, K., Young, J., Bernet, P., & Jarris, P. (2014). Budget-and Priority-Setting Criteria at State Health Agencies in Times of Austerity:A Mixed Methods Study. *American Journal of Public Health*, 104(6), 1092-1099.
- Lukwago, D. (2016). *Health Spending in Uganda: Implications on the National Minimum Health Care Package, Kampala*. Kampala: ACODE.
- Machado, J. P., Martins, M., & Leite, I. C. (2016). Sources of Payment for Hospitalization and Clinical Performance. *Saude em Debate*, 40(111), 74-86.
- Maritim, C. F. (2013). *The Effects of Budgeting Process on Financial performance of Commercial and Manufacturing Parastatals in Kenya*. Unpublished MBA Project, University of Nairobi, Nairobi, Kenya.
- Maskin, E. S. (1994). Theories of the Soft Budget-constraints. *Japan and the World Economy* , 125-133.
- Mugo, P., Onsomu, E., Munga, B., Nafula, N., Mbithi, J., & Owino, E. (2018). *An Assessment of Healthcare Delivery in Kenya under the Devolved System*. Nairobi: Kenya Institute for Public Policy (KIPPRA).
- Munge, K., & Briggs, A. H. (2014). The Progressivity of Health-care Financing in Kenya. *Journal on Health Policy and Systems Research*, 29(7), 912-920.
- Musgrave , & Richard, A. (1959). A Study in Public Economy. *The Theory of Public Finance*.
- Myers and Majluf (1984)
- Nassiuma, K. (2008). *Survey sampling: Theory and methods*. Nairobi, Kenya: Nairobi University Press.
- Netherlands Enterprise Agency. (2016). *Kenyan Healthcare Sector*. Hague: Netherlands Enterprise Agency.

- Nyaga, P. (2015). *Determination of Financial Sustainability of Social Enterprises Established by Public Benefit Organizations in Kenya*. Nairobi.
- Odame , E. A., Akweongo, P., Yankah, B., Asenso-Boadid, F., & Agyepong, I. (2013). *Sustainability of recurrent expenditure on public social welfare programmes: expenditure analysis of the free maternal care programme of the Ghana National Health Insurance Scheme*. Accra: Oxford University Press.
- Ogbuagu, M. I., & Ekpenyong , U. I. (2015). *Estimating the Impact of the Components of Public Expenditure on Economic Growth in Nigeria; A Bound Testing Approach*. Abuja.
- Okech, T. C. (2012). Empirical Analysis of Possible Alternative Sustainable Financing Options for Primary Health Care Services in Kenya. *Journal of Pharmacy*, 2(4), 84-96.
- Oketch, T. C., & Gitahi, J. W. (2012). Alternative Sustainability Financing of Public Health Care in Kenya. *International Journal of Business and Social Science*, 178-193.
- Okungu, V., Chuma, J., & McIntyre, D. (2017). The Cost of Free Health care for all Kenyans: Assessing the Financial Sustainability of Contributory and Non-contributory Financing Mechanisms. *International Journal for Equity in Health*, 16(39).
- Oni, L. B. (2014). Analysis of the Growth Impact of Health Expenditure in Nigeria. *Journal of Economic and Finance*, 3(1), 77-84.
- Otieno, M. (2016). *Resources Allocation to Health Sector at the County Level and Implications for Equity, A Case Study of Baringo County*. Unpublishe master of Science Degree in Health Economics and Policy, University of Nairobi, Nairobi.
- Republic Kenya. (2016). *Budget Highlights*. Nairobi: Government Printer.
- Republic of Uganda. (2017). *Health Sector Budget Framework Paper FY 2018/19-FY 2022/23*. Kampala: Government Printers.
- Shiraz, F., Matemilola, B. T., & Bany-Arifin, A. N. (2011). *Pecking Order Theory of Capital Structure: Empirical Evidence from Dynamic Panel Data*. International Journal on GSTF Business Review.
- Smith, P. C. (2008). Resource Allocation and Purchasing in the Health Sector: The English Experience. *Bull World Health Organ.*, 86(11), 884-888.
- Sparrow, R., Budiyati, S., Yumna, A., Warda, N., Suryahadi, A., & Bedi, A. S. (2016). Sub-national health financing reforms in Indonesia. *Health Policy and Planning*, 91-101.
- UNICEF, 2017
- United Nations Childrens Fund. (2017). *Health Budget South Africa 2017/2018*. Retrieved August 22, 2018, from https://www.unicef.org/esaro/UNICEF_South_Africa_-_2017_-_Health_Budget_Brief.pdf

- World Bank. (2013). *Health Financing and Fiscal Health in Africa*. Washington D.C: World Bank.
- World Health Organization. (2011). *Responding to the Challenge of Financial Sustainability in Estonia's Health System: One Year on*. Denmark: World Health Organization.
- World Health Organization. (2013, January). *State of Health Financing in the African Region*. Retrieved July 23, 2018, from <https://www.afro.who.int/sites/default/files/2017-06/state-of-health-financing-afro.pdf>
- Zakumumpa, H., Bennett, S., & Ssenooba, F. (2017). *Alternative financing Mechanism for ART programs in health facilities in Uganda: a mixed-methods approach*. Kampala.

APPENDICES
APPENDIX I
LETTER OF INTRODUCTION

APPENDIX II

RESEARCH QUESTIONNAIRE

The following questionnaire seeks to facilitate collection of data integral to a study titled: **Analysis of budgetary allocations and financial sustainability of public health sector in Kenya. A survey of health facilities in Nakuru West Sub-County.** Kindly put a tick (√) against the correct choice. The data collected will exclusively be used for academic purposes.

Part I: Background Information

1. What is your job designation?

Accounting officer []

Finance officer []

Manager []

2. How many years have you worked in the public health sector in Kenya?

3. How many years have you worked with the present health facility?

4. To what extent have you participated in the budgetary process?

Large extent []

Moderate extent []

Small extent []

Never []

Part II: Financial Sources

Kindly use the following Likert scale to indicate your views regarding the stated propositions where:

1 (SD) represents Strongly Agree; 2 (D) represents Disagree; 3 (N) represents Neutral; 4 (A) represents Agree; and 5 (SA) represents Strongly Agree.

	SA	A	N	D	SD
	5	4	3	2	1
5. The largest percentage of the funds channeled to our facility come from the County Government.					
6. The National Government allocate only a small percentage to devolved health facilities.					
7. Our facility is presently operating on significant amount of debt.					
8. There has been an increased amount of donor funding in our health facility.					
9. Income obtained from user charges such as fees for consultancy, lab tests, X-rays amongst other services constitute the largest percentage of our hospital's finances.					
10. The various financial sources for our health facility are very reliable.					

Part III: Budgetary Allocation Criteria

Kindly use the following Likert scale to indicate your views regarding the stated propositions where:

1 (SD) represents Strongly Agree; 2 (D) represents Disagree; 3 (N) represents Neutral; 4 (A) represents Agree; and 5 (SA) represents Strongly Agree.

	SA	A	N	D	SD
	5	4	3	2	1
11. Funds availability is the most important budgetary allocation criterion.					
12. Budget for essential drugs and medical equipment is given the first priority in budgetary allocation.					
13. Only a small percentage of our budget is allocated to staff remuneration.					
14. The size of our hospital is a minor factor in determining the allocated amount.					
15. The location of our health facility is rarely considered when during budgetary allocation.					

Part IV: Stakeholders Involvement

Kindly use the following Likert scale to indicate your views regarding the stated propositions where:

1 (SD) represents Strongly Agree; 2 (D) represents Disagree; 3 (N) represents Neutral; 4 (A) represents Agree; and 5 (SA) represents Strongly Agree.

	SA	A	N	D	SD
	5	4	3	2	1
16. There is limited level of stakeholders involvement in budgetary allocation in the public health sector.					
17. Only few stakeholders participate in budgetary allocation in our hospital.					
18. Internal stakeholders are fully involved in the budgetary allocation process.					
19. External stakeholders are hardly engaged in in the budgetary allocation process.					
20. Involvement of stakeholders is entirely voluntary.					

Part V: Budgetary Variance

Kindly use the following Likert scale to indicate your views on the stated propositions where:

1 (SD) represents Strongly Agree; 2 (D) represents Disagree; 3 (N) represents Neutral; 4 (A) represents Agree; and 5 (SA) represents Strongly Agree.

	SA	A	N	D	SD
	5	4	3	2	1
1. Our health facility has significantly sound budget planning mechanisms.					
2. There is significant disparity between the amount of funds requested and the amount allocated to our hospital.					
3. The amount allocated to our hospital is the same as the amount disbursed.					
4. The expenditure in public health facilities is usually higher than the disbursed amount.					
5. Public health facilities rarely conduct budget variance analysis.					
6. There are effective strategies laid down to address budgetary variance in our institution.					

Part VI: Financial Sustainability of Public Health Sector

Kindly use the following Likert scale to indicate your views regarding the stated propositions where:

1 (SD) represents Strongly Agree; 2 (D) represents Disagree; 3 (N) represents Neutral; 4 (A) represents Agree; and 5 (SA) represents Strongly Agree.

	SA	A	N	D	SD
	5	4	3	2	1
7. Our health facility has realized increased revenue over the years.					
8. User charges have increased significantly leading to enhanced financial sustainability of our hospital.					
9. There is sustained funding of our hospital which has enhanced effectiveness of service delivery.					
10. Our hospital is largely financially autonomous.					
11. Our health facility has maintained exceptional relationships with its financiers.					
12. Our hospital has been experiencing intermittent financial difficulties which have compromised effective service delivery.					

Thank you for your time and cooperation.