# THE MODERATING EFFECT OF FINANCE IN DETERMINATION AND PROVISION OF UNIVERSAL HEALTH CARE IN KENYA

**JOHN KOBIA RIMBERIA**

**THESIS SUBMITTED TO THE SCHOOL OF BUSINESS AND ECONOMICS IN PARTIAL FULFILMENT OF THE REQUIREMENT OF DOCTOR OF PHILOSOPHY DEGREE IN BUSINESS ADMINISTRATION AND MANAGEMENT (FINANCE OPTION) OF KENYA METHODIST UNIVERSITY**

**SEPTEMBER, 2022**

## DECLARATION

I declare that this Thesis is my original work and has not been presented for a degree or any other award in any other university.

Sign………………............................... Date…………………………...

**John Kobia Rimberia**

**BUS-4-0162-1/2017.**

This thesis has been submitted with our approval as the University Supervisors.

Sign………………................................. Date…..………………...

**Prof. Peter Kihara Mwangi**

School of Business and Economics

Kenya Methodist University

Sign………………........................................ Date…..………………...

**DR. Wilson Muema**

School Business and Economics

Kenya Methodist University

## COPYRIGHT

© John Kobia Rimberia

All rights reserved. No part of this thesis may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronically, mechanically, by photocopying or otherwise, without prior written permission of the author or Kenya Methodist University, on that behalf.

## DEDICATION

I dedicate this research to my lovely family; my wife Stella Mugure for her patience, emotional and support when I was writing this thesis research work, my children Edna Makena, Ann Kagwiria, Humphrey Muthomi and Joy Wanja for their encouragement and patience they portrayed while I was carrying out research task, particularly when I was not available for them. To my sister Mrs Florence Nkumbuku, my brothers David Murungi, Peter Murithi and my late mother Tabitha Mwari for their support, encouragement and continually urging me to finish the work and not to give up, thank you all for being with me.

## ACKNOWLEDGEMENT

I would like to first thank the Almighty God for granting me blessings and opportunity to pursue a PhD degree. Special acknowledgement goes to my two supervisors Professor Peter Kihara and DR. Wilson Muema for their excellent guidance towards writing this thesis work.

I would also want to take this opportunity to acknowledge my immediate and extended family members for always supporting me both materially and emotionally towards achieving the best in my professional progress. To my church pastors Rev. Fr Samuel wachira, Rev. Fr John Zanata, church and all other church members who encouraged me, May the almighty God bless you all for always urging me towards enrolling and pursuing the highest level of education in Kenya.

I would also like to thank the Kenya Methodist university staff especially Nairobi campus lecturers for always sparing time for me when I needed their assistance in relation to various precepts of this research. Appreciation goes to my class mates PhD 2017 group for the enjoyable team work and deliberations we carried out on various academic issues and assignments embarked together.

Finally is to give thanks to all my lectures at the university who helped me in one way or the other. This goes to Prof. George Thuranira Kingo'ria, Dr. Risper Orero, Prof. Eng.Thomas Senanji, Prof. Paul Gichui, Prof. Eva Gichunge, Dr. Gilian Mwaniki, Dr Ann Thuo Rintari and Dr Joshua Miluwi may the almighty God bless you all.

# ABSTRACT

This research work explores the potential role of finance in determining the implementation of Universal Health Care in Kenya. UHC refers to a global health system that ensures all individuals have access to quality health care services in the country without having to endure any financial destitution. It has two fundamental goals: optimizing the impact of health care services, and eradicating financial crisis that bring impoverishment to families due to high health care costs (WHO, 2016). Governments all over the world have been exploring ways and means of achieving a lasting solution towards a stable and cost effective UHC system for all the citizens. The research was guided by the following objectives: to determine the influence of drugs in hospitals on delivery of health care services, to assess the impact of health care personnel in health institutions, to determine the influence of medical machines, Equipmentss and to assess the influence of infrastructure in health care facilities on delivery of healthcare services in Kenya. Logic positivism a mix of strategy methodology which involves qualitative as well as quantitative analysis was applied. It was also guided by the theory of demand and supply by Mclure (2017) and adopted positive paradigm philosophy. Further, it used descriptive survey research design. The research study was carried out in Nyeri County in central Kenya. There are 101 healthcare institutions in that county. The sample size for this research was 78 respondents derived by applying Yamane (1967) formula from the population of study which was 101 healthcare facilities. Data was collected from the county hospitals level 6, 5, 4, and level 3 facilities through the use of questionnaire inquiry on drop and pick method. Data was manipulated using descriptive and inferential statistics which involved frequencies, percentages and cross tabulations. Data was run by application of SPSS version 25 method of getting the values of central tendency such as, variances analysis, standard deviation, inferential statistics, correlation coefficient and regression results to assemble the data. Bivariate correlation and regression results findings supported the attempt to test hypotheses direction. The four main valuables tested in the hypotheses study were found to be reliably significant and in right direction in attempt to discover the Moderating effect of finance in determining the provision of UHC in Kenya health institutions. The drivers are; medical drugs in hospitals, health personnel, modern medical Equipmentss and infrastructures. The research study concluded that financing in health services has direct influence on provision of UHC programs. However financing fails to have the moderating effect on UHC in comparison to the other variables because it assumes the superiority position as observed from the regression coefficient analysis results (beta = 0,383). Financing is always there it can only be enhanced. The study recommends further investigation on other areas perhaps individual personal health care insurance cover to take care of health needs, away from out of pocket payment for healthcare bills. Governments should encourage citizen to utilize NHIF health scheme available in the country by enrolling as many members as possible.

## Table of Contents

**DECLARATION** ........ ii

**COPYRIGHT** ........ iii

**DEDICATION** ........ iv

**ACKNOWLEDGEMENT** ........ v

**ABSTRACT** ........ vi

**LIST OF TABLES** ........ xi

**LIST OF FIGURES** ........ xiii

**ABBREVIATIONS AND ACRONYMS** ........ xiv

**CHAPTER ONE** ........ 1

**INTRODUCTION** ........ 1

**1.1 Background of the Study** ........ 1

**1.2 Statement of the Problem** ........ 30

**1.3 Purpose of the Study** ........ 31

**1.4 Research Objectives** ........ 32

**1.5 Research Hypotheses** ........ 32

**1.6 Justification of the Study** ........ 33

**1.7 Significance of the Study** ........ 36

**1.8 Scope of the Study** ........ 37

**1.9 Limitations of the Study** ........ 38

**1.10 Delimitations of the Study** ........ 39

**1.11 Assumptions of the Study** ........ 39

**1.12 Definition of Key Operational Terms** ........ 40

**CHAPTER TWO** ........ 43

**LITERATURE REVIEW** ........ 43

**2.1 Introduction ........ 43**
**2.2 Theoretical Review ........ 44**
**2.3 Theoretical Framework for this Study. ........ 60**
**2.4 Conceptual Frame Work ........ 62**
**2.5 Health Care Services Provision ........ 67**
**2.6 Critique for the Existing Literature ........ 68**
**2.7 Drugs in Hospital Pharmacies ........ 83**
**2.8 Health Care Personnel in Hospitals ........ 93**
**2.9 Machines and Equipments in Hospitals ........ 105**
**CHAPTER THREE ........ 119**
**RESEARCH METHODOLOGY ........ 119**
**3.1 Introduction ........ 119**
**3.2 Research Philosophy ........ 119**
**3.3 Research Design ........ 121**
**3.4 The Population of Study ........ 123**
**3.5 Sampling Technique ........ 123**
**3.6 The Sample Size for Health Care Facilities ........ 124**
**3.7 Data Collection Instruments ........ 125**
**3.8 Pre-Testing of Research Instruments ........ 126**
**3.9 Reliability Test ........ 127**
**3.10 Ethical Considerations ........ 137**
**CHAPTER FOUR ........ 139**
**RESULTS AND DISCUSSIONS ........ 139**
**4.1 Introduction ........ 139**
**4.2 Response Rate ........ 139**

**4.3 Reliability Test Results** ........................................................................................ **140**

**4.4 Demographic Information**........................................................................................ **141**

**4.5 Analysis of the Study Findings**........................................................................................ **147**

**4.6 Diagnostic Tests**........................................................................................ **165**

**4.7 Correlation Analysis** ........................................................................................ **168**

**4.7.2 Drugs in Hospitals and Provision of Universal Health Care. .....**Error! Bookmark not defined.

**4.8 Medical Personnel and the Provision of Universal Health Care;**............................ **175**

**4.9 Regression Coefficient Findings** ........................................................................................ **198**

**CHAPTER FIVE** ........................................................................................ **200**

**SUMMARY, CONCLUSIONS AND RECOMMENDATIONS** .................................. **200**

**5.1 Introduction**........................................................................................ **200**

**5.2 Findings of the Study** ........................................................................................ **200**

**5.3 Conclusion from the Research Study**........................................................................................ **209**

**5.4 Theoretical Studies and Academic Implications.**........................................................ **211**

**5.5 Recommendations Originating from the Study Finding**........................................... **212**

**5.6 Suggestion Areas for more Research Work.** ............................................................ **213**

**5.7 Importance of the Study to Kenyans**........................................................................................ **214**

**REFERENCES**........................................................................................ **216**

**APPENDICES** ........................................................................................ **237**

**Appendix I:** ........................................................................................ **237**

**Letter of Authorization**........................................................................................ **237**

**Appendix III:**........................................................................................ **239**

**Questionnaire for Health Facility Executive Officers.** .................................................... **239**

**Appendix VI:** ........................................................................................ **253**

**List of Heath Facilities Nyeri County**........................................................................................ **253**

**Appendix VII: NACOSTI Research Permit .................................................................. 255**

**Facility approval letter ........................................................................................ 256**

## LIST OF TABLES

Table 3.1: Sample Size ........................................................................................... 125

Table 4.1: Response Rate of the Study .....................................................................140

Table 4.2: Reliability Test.........................................................................................141

Table 4.3: Financiers of the Healthcare Facilities .....................................................144

Table 4.4: Distribution of the Respondents by the Position Held..............................146

Table 4.6: Descriptive Statistics on Availability of Drugs .........................................148

Table 4.7: Descriptive Statistics on Availability of Human Resources......................153

Table 4.8: Descriptive Statistics on Availability Medical Equipmentss......................156

Table 4.9: Descriptive Statistics on the Availability of Infrastructure .......................159

Table 4.10: Descriptive Statistics on the Availability of Finance .............................162

Table 4.11: Provision of Universal Healthcare...........................................................164

Table 4.12: Kolmogorov-Smirnov and Shapiro-Wilk Normality Tests .....................167

Table 4.13: Correlation Analysis Results ..................................................................170

Table 4.14: Model Summary .....................................................................................172

Table 4.15: Analysis of Variance (ANOVA) .............................................................173

Table 4.16: Regression Coefficients..........................................................................173

Table 4.17: Model Summary……………………………………………………………173

Table 4.18: Analysis of Variance (ANOVA) .............................................................176

Table 4.19: Regression Coefficients..........................................................................177

Table 4.20: Model Summary .....................................................................................180

Table 4.21: Analysis of Variance (ANOVA) .............................................................180

Table 4.22: Regression Coefficients..........................................................................181

Table 4.23: Model Summary ........................................................................................ 183

Table 4.24: Analysis of Variance (ANOVA) ........................................................................ 183

Table 4.25: Regression Coefficients ........................................................................ 184

Table 4.26: Summary of the Model………..…………………………………...………..184

Table 4.27: Analysis of Variance (ANOVA) ........................................................................ 187

Table 4.28: Regression Coefficients ........................................................................ 187

Table 4.29: Model Summary ........................................................................................ 189

Table 4.30: Analysis of Variance (ANOVA) ........................................................................ 190

Table 4.31: Regression Coefficients ........................................................................ 190

Table 4.32: Model Summary ........................................................................................ 192

Table 4.33: ANOVA ........................................................................................................ 193

Table 4.34: Regression Coefficients ........................................................................ 194

## LIST OF FIGURES

Figure 2.1: Theoretical Framework .......................................................................................... 61

Figure 2.2: Conceptual Framework ....................................................................................... …62

Figure 2.3: Operational Framework........................................................................................ 118

Figure 4.1: Gender of the Respondents...................................................................................142

Figure 4.2: Level of Education ...............................................................................................143

Figure 4.3: Level of Experience..............................................................................................145

Figure 4.4: Q-Q Plot for Normality Test ................................................................................168

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **AIDS** | Acquired Immune Deficiency Syndrome |
| **AIA** | Appropriation in Aid |
| **APA** | American Psychological Association |
| **CBA** | Corrective Bargaining Agreement |
| **CEO** | Chief Executive Officer |
| **CHAI** | Clinton Health Access Initiation |
| **CO** | Clinical Officer of Health |
| **DEA** | Direct Efficiency Approach |
| **ERP** | System that Ensures Efficiency Service Delivery |
| **EC** | European Commission |
| **GBDHFCN** | Global Burden of Diseases Health Care Financing Collaboration Net Work |
| **GCP** | Gross County Product |
| **GDP** | Gross Domestic Product |
| **GGE** | General Government Expenditure |
| **HAO** | Health Administrative Officer |
| **HCH** | Health corporation of Singapore |
| **HISP** | Health Insurance Subsidy for the poor |
| **HEDP** | Health Development plan |
| **HLFPPT** | Hindustan Latex Family Planning Promotion Technology |
| **ICT** | Internet Computer Technology |
| **IMF** | International Monetary Fund |
| **IPSAS** | International Public Sector Accounting System |

| | |
|---|---|
| **KEMSA** | Kenya Essential Medical Supplies Authority |
| **KeMU** | Kenya Methodist University |
| **KNBS** | Kenya National Bureau of Statistics |
| **KNH** | Kenyatta National Hospital |
| **KRA** | Kenya Revenue Authority |
| **LMICS** | Low and Middle-Income Countries |
| **MDG** | Millennium Development Goals |
| **MEDS** | Mission for Essential Drugs |
| **MO** | Medical Officer of Health |
| **MOH** | Ministry of Health |
| **MRI** | Magnetic Resonance Imaging |
| **NDP** | National development plan |
| **NGO** | Non-Governmental Organizational |
| **NHIS** | Nigeria Health Insurance Scheme |
| **NHIF** | National Hospital Insurance Finance |
| **NACOSTI** | National Council of Science, Technology and Innovation |
| **NSSF** | National Social Security Fund |
| **OOP** | Out of Pocket Expenditure |
| **PCGDP** | Per County Gross Domestic Product |
| **PHE** | Public Health Expenditure |
| **PPE** | Personal protective Equipmentss |
| **QMP** | Quality Management Program |
| **RBF** | Results Based Financing |

| | |
|---|---|
| **SDG** | Sustainable Development Goals |
| **SPSS** | Scientific Program for Social Sciences |
| **UHC** | Universal Health Care |
| **UNDPI** | United Nations Department of Public Information |
| **VRS** | Variable Return Scale |
| **USAID** | United States Aid in Development |
| **USSR** | Union of Soviet Socialist Republic |
| **WHO** | World Health Organization |

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Universal Health Care (UHC) can be termed as a system in which everyone within the society is able to receive health care services when needed without burdening the immediate family members with financial hardships when sourcing for finance to compensate healthcare bills for the patient (Kieny & Evans, 2013). The underlying theory is that universal health care programme can improve the provision of vital health care amenities for all the members of the society, safeguard financial protection and ultimately may lead to better health care output for the entire society in general. The definition of universal health care expresses three similar objectives: equity in getting health care services with ease where the notion is affordable health care services not only for those with resources to pay for such health care attention but the entire society inclusivity if well applied (Okech & Lelegwe, 2016).

The full meaning of UHC therefore includes but not limited to expanding frontline health care services particularly primary health care to the communities. Beeping up investments in trained health personnel force in public health care facilities. Improving access to affordable drugs and other health essential services related to health care requirements, improved technology and innovations in tackling such undertakings. Innovations to counter possible emerging challenges in health care environment that evolves and are threat as susceptible and side-lined category of people in the society. Expanding engagements with non- state providers of health care service financing facilitation, improving patients' safety and quality of health services especially the remote areas, informal settlements in cities and marginalised

rural areas through infrastructure provision. Executing global health care guidelines and service delivery models that encourage pliability and nurturing multi-sectorial actions to address the communal factors of health care needs of the people and environment surrounding the communities (World Health Organization [WHO], 2021).

The improved health care services can be sufficient to increase the health status of beneficiaries and enjoying fiscal risk safety while attempting to contain cost of procuring the services such that it does not place the concerned families at risk of financial hardships and the family budgets. Provision of health care services has two fundamental goals namely: maximizing health care impact and eliminating or reducing impoverishment as well as guarding against wealth declination due to health care escalated expenditures in the family kitty (WHO, 2021). Health and wellbeing of the citizens can be influenced by many factors, those that are negatively associated with ill health includes but not limited to disability, disease outbreaks or deaths but more threatening is poverty penetrating the family by depleting resources when payments of huge health care bills are paid through out of pocket by service consumers upon receiving treatment public health facilities (Teodorowski et al., 2020).

It has been a great concern to various governments across the world on how a lasting-solution can be achieved towards a stable and cost effective health care system financing in the country's long term planning for sustainability. Governments have been gearing up formulating policies and innovations that can empower citizens get the very best health care service necessities within their borders with minimal cost implications directed to individuals in need of health care services (International Health Partnership, 2019). UHC is a unifying platform for country's health care system in development plans. It can be defined as the aspirations of those in leadership to obtain a working programme that enable citizens access

essential health care services based on affordability with minimal risk to the families financial resources. It aims at providing all-inclusive approach for undertaking the challenging health care system impediments faced across by a variability of situations within the wider society (WHO, 2021).

Despite the massive expansion of health care infrastructure installations in Kenya since independence, in centrally comparison there has been increase in population growth and escalating demand for health care services across all social class set ups, this has been escalated by frequent disease outbreaks recently observed like the Ebola, HIV aids, Covid-19 and others. The development curtails the capability of the national administration to make available sufficient health care amenities to the populace with increased demand.

According to Ministry of Health (MOH, 2018), it remains a challenge to be resolved by health care managers and planners in national and county health administrations through combined efforts. Universal health care implementation programs vary across a diverse of nations; hence a nation is tasked with the responsibility of customizing systems based on resource opportunities available in each country. It must be observed that nations with stable and effective UHC system enjoys the advantages of improved quality of lives to her citizens, enhanced social security and motivated economy for all-encompassing growth and development among other advantages of sustained healthy nation (WHO, 2021).

In the global context the health care services development has evolved from very remote start to advanced levels in some countries. The first government to implement a comprehensive national health insurance system for her citizens was the federal republic of Germany in the year 1883. It started with sick off duty insurance cover, where the individual employers were mandated to offer damage and off duty sick covers for their wage-earning workers, the scheme was sponsored and managed jointly by both employees' and employers collectively

through a fund pool program called “sick finance”. The financing of the program was drawn from deductions made at pay point from the workers’ wages, where the amount contributed was added the portion from the employers’ side as appreciation towards quality health care package benefitting the work force of the organisation (Hallberg, 2017).

In Western Europe, other countries followed the Germans way of worker’s health care mitigation support program approach. Where countries like Great Britain formed a legislation policy known as the National Insurance Act; of 1911. The law stated that wage/salary earning employees must be provided at all times with health care coverage insurance scheme at least for the primary level health care. However, the programme was a shallow plan service that was limited and could not take care of medical specialist’s attention or admission in hospital inpatient wards, theatre fees and other surgery services inclusive of the follow up costs and other related expenditures (Hallberg, 2017).

In other parts of Europe there have been various universal health care advancements recently achieved. For example, in Austria, there have been sufficient employment of a higher number of physicians to take care of any eventualities at all times ranging from common cold to Ebola epidemic and COVID 19 virus mitigation measures put in place (European Commission [EC], 2019). In Belgium there have been compulsory health care insurance schemes which have given 99 % of the population a chance to access affordable health care attention when needed (EC, 2019). In France, citizens enjoy subsidised health care expense because the government puts significant amounts of finance in the budget to meet all costs related to health care to her citizens. Other European Union member countries have health care insurance schemes that take care of health expenditures for their citizens, where costs are funded conjointly by the government initiatives and private sector complementary health care insurance schemes (EC, 2019).

The government of Germany is among the European nations with health care insurance schemes that takes care of health expenses throughout the entire country population. It does this by providing a broad based health care benefits basket of goodies, high level of service provision and easily accessible to health care in every state and cities of the country (EC, 2019).

In Asia, the latest improvement strides made on universal health care include a country such as the Philippines' where the senate passed Universal Health Care Bill making health care services free to all the citizens even where treatment is carried out locally or overseas attention cases wherever it may be the costs are waved by the state (Bloom, 2019). Singapore increased the coverage of Medical shield Life assurance at more sustainable cost than before, and also introduced Care Shield Life insurance scheme, one of the region's first long-term health care insurance plan (Primary Health Care Performance Initiative, 2018).

In Indonesia, the national government has been paying hospital bills for her citizens under the universal health care coverage strategies for a long time without any of the beneficial lies being compelled to contribute towards the cost of medication from out of pocket spending to finance the health care services sought by citizens and residents (Bloom, 2019).

The developing and near developed nations have also been keen on improving universal health care systems in their countries despite several hiccups among them the insufficient sources of revenue to fully finance UHC. Other challenges include the population increase and preference for the health care services sought, destination and by who depending on resources available at that moment (WHO, 2019). In the Africa continent, a country such as South Africa which is the most advanced Nation in the region, has both public and private sector working towards improving health care systems where both the poor and wealthy citizens are able to access

medical care attention effectively without the family straining financially at the hour of need to raise money to settle health care bills for the patient (WHO, 2021).

In Sub-Saharan Africa getting improved health care service amenities, whether protective or therapeutic desired, it remains an urgent to be addressed by the concerned authorities in order for the populace to reach maximum wellbeing in health care and attain good lives. In this region Sub-Saharan Africa, 27 countries still maintain the system of cash payment for health care amenities sought, which are greater than 30% of household budget costs. In this approach therefore, universal health care coverage (UHC) as propagated within the vision 2030 flagship plan as an item of consideration for Supportable Development, is explained by the World Health Organization (WHO) as all citizens and societies in general partaking accessible health care services they desire.

To achieve sufficient quality health care for all and remain significantly improved and observed devoid of any financial hardship when health problems strike. The programme can minimise the financial straining of millions of people who stand the risk of becoming impoverished yearly due to huge health care expenses. Its persistence mainly in low- and middle-income families who have not taken any precaution plan by taking an insurance cover for themselves. However most of this countries have developed permanent solutions to counter check health problems in order to control the situation before escalation through health care finances pooling together.

In Nigeria for example the National Health Insurance Scheme (NHIS) was formed in the year 1999, and officially installed in the year 2005, the purpose was to deliver monetary risk defence for citizens and lessen the high burden of cash expenditure on individuals and families incurred in health care (Kindig et al., 2014). The purpose was to guarantee everybody inclusivity and that none of the citizens is left out unshielded from the health

schemes, the NHIS has a number of programs including, societal health insurance for the informal sector workers, community-based health insurance, private sector health insurance, and voluntary health insurance schemes all operating.

The NHIS' objectives initially were ensuring access to better health care services to Nigerian citizens, where such programmes have been viewed as positive step towards achieving universal health coverage sustainability. However, gathered evidence shows that NHIS has been unable to achieve the intended population coverage with financial risk protection where the success remained significantly minimal so far. Utilising out-of-pocket expenditures constitute nearly 90% of the total individual health care service procurement sought, putting a significant burden on families. About 60% of all health care spending is financed directly from the family kitty in the absence of any insurance cover to supplement the costs of medical bills (Ibe et al., 2017).

In Nigeria, there exist two health care financing approaches one from the taxable incomes and the other from private friendly volunteer contributions towards health care. This is in line with the Nigerian budgetary and the underlying social and political factors in place (Onwujekwe et al., 2019). The republic of Ghana has developed tax-financed national health care insurance system (WHO, 2015). The system is called National Health Insurance Scheme; the programme is able to effectively fund medical care expenses to the range of about 95 % of the entire country's health care needs, a good significant coverage for that country, given the many tropical diseases exposed to Ghanaians just like other tropical climatic countries. The existing government health care insurance structure in Ghana assisted a lot during the country's concerted fight against the Ebola epidemic which had hit the West African nations recently and currently Covid 19 virus epidemic (WHO, 2020).

In South Africa the introduction of National Health Insurance Scheme, which intended at attaining widespread health care attention for the country, has been termed as the most significant subject presently in the agenda of South African policies on health care. In the year 2011, the then minister for health in that country, suggested a national health insurance cover for all South Africans with the aim of delivering universal health care and access to medication by all residents and citizens. A single plan fund intended to cover the cost of health care to all in whatever the level of income brackets the citizens are in (Honda et al., 2015).

The national health insurance scheme is based on the principle envisaged in that country's constitutional rights of the populaces that is to access superior health care services provided fairly, affordable, efficient, effective and appropriately based on social solidarity, progressive universalism, equity and health care provision as a public good and also social investment. South Africa is currently reforming her health care system to match the WHO recommended standards by developing national health insurance scheme NHI program which resembles that of Ghana and Vietnam (Fusheini & Eyles, 2016).

The NHI signifies a considerable policy shift that will demand enormous re-organisation of the present health care systems in the region, both public and private. One key thing to note is that, it delivers its key mandate from the National Development Plan commonly known as the NDP. Which is in line within the blue print of the South African society of vision 2030 flagship (Peltzer et al., 2014).

Turning attention to Eastern part of the continent of Africa, a country such as Ethiopia has in place a health care extension program that basically continuously train and employ health care personnel who are then assigned the responsibilities of extending primary health care wellbeing amenities in the marginalized and remote areas of that country reporting the data to a central

office for analysis and compiling the processed information readiness for future reference for comparisons and planning the future (Medic East Africa, 2017).

The program has enabled the government offer jobs to over 38,000 health care workers since inception of the program, advocating for the essence of governments to invest in human resources as a way of delivering health care mandate to her citizens (Medic East Africa, 2017). Rwanda also in Eastern Africa rolled out the Universal Health Care coverage whereby it has been doing value addition improvements since the year 2000 to date, each year reporting diversified increased value addition. The most recent improvement was the reform for community-based insurance cover which has boosted the life expectancy rate in that country for the last two decades tremendously improved (Medic East Africa, 2017).

In Uganda the ministry of health has been involved in bilateral talks with other countries with an aim of increasing her citizen's access to quality health care across boarders as the key aim of increasing the financial health budget containment. One main strategy that has been incorporated is the Common African Position Post 2015 Development Agenda, the United Nations Sustainable Development Goal (SDGs) and the Abuja Declaration where the African countries and governments committed to setting aside 15% of their country's budget to improving health care sector in back at home. However, Uganda, is still limited in accessing health care by most citizens especially the northern remote region, notable there are 41% out-of-pocket expenditure that can be traced on health care service costs provision in that region (Medic East Africa, 2017). The situation is that sometimes people have to sell their investments to pay for health care service bills. This negative development has kept citizens financially constrained in terms of family budgets and savings**.** A positive observation to note is the coming of Health Sector Development Plan HSDP of the years 2016-2020 which put a lot of emphasis on the need to have a faster adoption strategy on the Universal Health care

full Coverage. This is in line with the Uganda government second National Health Policy (NHP II), that aims at enhancing and improving on the access to the health care package to her citizens (Aquilina & Kraus, 2016).

In Kenya the government receives health care financing support from both the national and international friendly partners. International finance sourcing may come in as friendly donations or loans (Aquilina & Kraus, 2016). The above sources of finances account for approximately 31% of the total national health care sector budget financing requirements (Government of Kenya, 2019). International financing is basically pegged on the friendly interactions between the receiving and the issuing governments' diplomatic good will candial relationship existing, however, this is beyond the scope of this study (Glassman et al., 2016).

Recently there has been an increase in government investment in new initiatives as the country moves towards universal health care full coverage. One step being the introduction of new mechanisms of budget financing health care and reducing family financial burden especially the poor and vulnerable groups (Munge et al., 2018). Recently Kenya made strides in increasing public health care package with both health care services, and financial risk protection well taken care and incorporated in the new plan. This implies that the government has enhanced efforts to expand and access health care services and minimised or attempted to eradicating financial hardships in families as regards to health care expenditures, the move is bearing fruits significantly (MOH, 2014). Where the government has invested heavily on extended health carer provision by enforcing a culture of equity and all inclusive participation in both private and public, a people centred approach which encompasses the participatory by engaging her citizens.

The ministry of health has been decentralised to counties level from the year 2012 devolution implementation strategies. The purpose being to reduce regional disparities in health care provision outcomes and increase responsiveness to the unique epidemiological and social contexts inherent within each of the country's 47 counties (Kenya National Bureau of Statistics[KNBS], 2018**).** By transferring some function of health sector from the national government to the devolved county governments to administratively manage the unique needs, the government has successfully promoted the implementation of new national policy system. The system is being championed by creating the financial and technical empowerment on capacity building to the sub county level and designed to enable the county government to fully champion and carry out their roles of oversight adequately. (Nyikuri et al., 2017).

The government administration has a scheme through which the National Hospital Insurance Fund is mandated to enhance and expand the access to health care services to her citizens in all corners of the country. The scheme was launched in the year 2012 and has greatly improved the country health care services provision (National Hospital Insurance Fund [NHIF], 2017). Among them is the *Linda Mama* programme that was launched by the head of state aimed at providing free and accessible maternity services to Kenyan mothers in public hospitals country wide. It is a subsidiary of the social Health care Insurance plan for the Poor (SHIP) the programme aims to provide free health care services to more than nine million mothers by the year 2020. The other attempt forward is *Inua Jamii* program which aims to provide a comprehensive health care insurance cover to the elderly people and those with physical disabilities living within the communities and are in low or zero income blankets (NHIF, 2017).

### 1.1.1 Drugs in Health Care Facilities

The financing challenges towards health care provision have always remained significant limitations to complete universal health care coverage fully reaching its potential peak in developing nations including Kenya. Nations and governments are struggling to achieve more millage on universal health care coverage so as to reach the targeted implementation levels within their areas of jurisdiction (Osborn et al., 2016). In advanced economies like the USA, Canada as well as the Great Britain the governments are struggling a lot to contain expenditure votes in their annual budgets by doing re-organization to improve on health care strategies every financial year.

There are new strategic plans in place every time planning deliberation takes place to chart the way forward. The major re-organization attempts include budgeting to contain the spread of contagious disease outbreak eventualities and significantly the preventive service innovations especially on unforeseen threats and epidemics occurrences like Covid 19, Ebola, malaria and others. Adequate insurance covers for all classes of citizens and residents living within the country but not citizens. Mitigation efforts to contain cross border challenges like contagious diseases (Papanicolas et al., 2019; Boudreau, 2017; Osborn et al., 2016). This is by stocking hospital pharmacies with enough drugs that are effective and affordable by service consumers.

European countries have streamlined health care services in that, compensation is often done to restore financial positions to the affected persons upon billed for health services. There are high level of premiums done by health insurance companies when healthcare expenditures are incurred and no claims made for compensations in the entire insured period. This is a situation where premiums diminish if compensation claims are not made within specific time but remain constant throughout the entire duration of the insurance cover taken. Inequality

discouraged medical care commitment wants by the lower income individuals in addition to inefficiencies in timely delivery of health care wellbeing services when needed by those under such insurance covers. However the challenges are limited resources on health care financing by European Economic Community states' budget forecasts (Cherny et. al., 2016).

Asian continent the drawback such as the legislation drafting where uncertain clauses on the contract agreements more so the rewards to subscribers are vague. Risk dragging short comings such as excessive entitlements in a single move in deceptive manner by members capitalizing on legislation weakness. Insufficient finance allocations in the budget in Nepal (Lesiyampe E, 2021). The health care systems in Indonesia has been causing the government budgets experience discrepancies each year creating condensed limitations at the health care facility kitty due to unavailability of sufficient financing to spend on health care programs aimed at lowering the cost health services (WHO, 2019).

Africa's universal health care systems for example the one in South Africa, have been strangling with the shortage of medical personnel, where those trained seek employment elsewhere in Europe and American job markets where the rewards are good, immigrating from situations (third world) with poor financing strategies administrations. A controlled and exorbitant insurance covers for those wishing to enjoin in the existing health care schemes. Finally, there are stiff competition from private sector health care providers, who provide advanced medical care attentions but at higher prices hence catering for only a section of the population or certain class of wealthy citizens who can afford such services. Selective arrangements cannot be termed as universal health care Parsee by any standards (Maphumulo & Bhengu, 2019).

In West Africa, a nations like Nigeria universal health care coverage have a low adoption rate in terms of recent medical innovations technology and limited sources of finance to cater

for continuous research and development advancements; poverty challenges especially contributions to the health schemes by members of the lower income bracket earners. The absence of awareness among the general public concerning the importance of universal health care systems plus the benefits that accrue to the intended beneficiaries when enrolled to full scheme. Scarcity of finances in the budget to purchase recent medical machines and Equipmentss to facilitate diagnostics spot check operations (OECD and Development, 2016; World Bank Group, 2016).

In North Africa for example Egypt, Tunisia, Algeria and morocco have low participation of private sector investors' incorporation in health care system financing. Inadequate administration innovative skills regarding health care systems by those mandated to do so especially the board of directors and facility administrators who need regular bench making to acquit themselves on new developments (Bloom et al., 2018; Gericke et al., 2018). In East Africa, Tanzania, Rwanda, and Ethiopia have been experiencing under developed health care policies; especially the embezzlement of health care finance by those entrusted to manage the schemes, where it occurs mostly on procurement applications (WHO, 2015). Low allocation of finance in the national budget on health care votes due to scarcity of finances in the consolidated pool and low priorities upon allocating available resources at disposal. Unavailability of financing partners externally who would be willing to supplement the internal sources for the required financing in health care. The absence of awareness creation to the general public on health care financing alternatives available to them like health insurance schemes open to the public in general and savings arrangement to cater for future eventualities (United Nations Department of Public Information[UNDPI], 2017).

One key major challenge of health care service programmes in Kenya is the acute shortage of finance resources and inadequate professionals with the required skills. Kenya faces an uphill

task in accessing financial resources to spearhead adequate health care budgets. This has been hardest obstacle to overcome combined with the decrease in the growth of the country gross domestic product from 5.7 to 1.5 per capital (World Bank, 2020). Also on the negative aspect is the declining donor financing and increase of external debt servicing burden that cost the National treasurer GDP ratio to 3.6 percent in 2019 (KNBS, 2020).There is also finance embezzlements by those entrusted to manage strategic sectors KEMSA and other unreported public rooting of resources within institutions of the government statutory bodies.

It is always the wish of every government in power to support her citizens in accessing improved health care service delivery either at subsidized cost or entirely free depending on the circumstance prevailing and the availability of financial resources (budget). It depends on how the health care concern is being handled by both the national and devolved units' regulations and legislation in force, written down administration mechanisms by those in power (Papanicolas et al., 2019). However, as governments try to strengthen out ways and means to have this kind of development happen in health care provision to the public satisfaction, there have been numerous challenges faced in an attempt to have full implementation of UHC program in developing countries like Kenya fully working as per the plans set out in vision 2030 agenda (Akacha, 2017).

### 1.1.2 Health Care Personnel

Globally, many countries in the world face huge shortage of health care personnel with a projection to reach 12.9 million health personnel difference in the year 2035. Currently, the global number of health care personnel stand at 7.2 million. According to WHO report of (2013), regarding third health conventional on universal health care debate regaeding human resource personnel in health care institutions point out that the major challenges need to be

addressed in order to combat serious shortage of health care personnel across the world. Observed is that over 50% of the total world population resides in the rural areas but on the contrary only 38% of nurses and 25% doctors work in the above mentioned areas which highly populated. Therefore Proper management of human resources is crucial in management of organization health care personnel. There is need to have a proper functioning organizational regarding human resources administration practices on formulation and implementing emphasised on health care strategies (Myloni et al., 2004).

The thoughts then echo an extensive range of policy partakers who are entrenched specifically into three purposes of health care financing, they include adequate finance sourcing, managing the resources prudently, and careful recruitment of health care participants as required in health care facilities (Akachi & Kruk, 2017). Finance sourcing is concerned with the requirements put down by the financers of UHC in all the stages, they include the health care finance managers and administrators of the finances who are the entities mandated to accumulate resources intended for general administration in their facilities; (McIntyre et al., 2017).

### 1.1.3 Hospital Machines and Equipments

The items are required by health professionals to carry out certain assignments at the health care facilities specific areas such as theatres, physiotherapy rooms, dental clinics, etymological rooms, oncology centres and other essential areas of health care service offering designated points in hospitals, they also include amenities such as power supply, tapped water and transport systems. Without such tools operations would severely be hindered.

Universal Health Care programs have shown significant impact in health care service provisions for many nations both developed and developing. Developed nations such as USA, universal health care system financing is provided as a result of coalescing both private and public health care insurance coverage (Commonwealth Fund, 2020). The health sector has none the less continued to face a number of challenges including; inadequate modern medical machines and Equipmentss, quite often the existing tools are poorly designed and not maintained as required, hence frequent break downs. The poor situation then courses high mortality rates and low access to quality health care facilitations by beneficiaries (WHO, 2019).

In Kenya there is a huge shortage of health care tools and Equipmentsss which have significantly delayed the attainment of health care connection with improvement reaching the maximum goals. There is need to enhance growth to reach real universal health care coverage in the entire country. Like any other low-income country, Kenya is experiences health care working tools shortage or completely absence particularly the specialized medical machines to cater for the rapidly growing population needs and other desired requirements for the people (MOH, 2015). Proficient use of the existing health care machine operators comprising shifts is of great concern as a short-term stop gap measure while thoughtful exertions are being put on retaining rules and enlarged enlistment of health care personnel focussed on modern machine operators and maintenance (MOH, 2015).

### 1.1.4 Hospital Infrastructure

Upgrading and expanding health care infrastructure as basic utilities is major pillar in any developing country. Developing countries should not be left behind as they strife to move towards the middle income status economically. International Monetary Fund survey for the developing countries existing infrastructure in the year 2016 revealed that the external

finance and administrative constrains poses a major obstacles in the development of the public infrastructure (WHO, 2019).

But more so, the national government in her national budget estimates should put more finance towards boosting the health care systems such as facility infrastructure establishments and general maintenance of the existing infrastructures. Point of importance is to ensure availability of finances to procure the latest infrastructure facilities that are needed in housing health care services such as operating theatres, consulting rooms, wards and others; cost effective specialized health care operating rooms for providing out procedures like sophisticated brains, heart and nerves surgery facilitating special rooms; procuring the most advanced technological expert knowledge software will need housing for custodial purposes. Others are like special rooms used in prevention of disease structures especially oncological screening applications (Common Wealth Finance, 2020).

To satisfactorily move towards full working UHC, devolved units in Kenya (county governments) must discover and device unique approaches to apply in order to generate more finances and effectively manage extra incomes that are available prudently and effectively so as to have an effective impact on health care service delivery (Chan, 2016). Notably, there has been differing miss-understandings that have showed negative discussions over the utilization of friendly finances in respective applications such as DANIDA health care financing on level 2 and 3 hospitals where the complaint by the donor has been the non-timely submission of financial reports on health care segments funded by the above mentioned financier as agreed in the memorandum of understanding signed (Watkins et al., 2017).

A finance moderating strategy is a plan through which finances are sourced by an entity for certain pre-desired applications such as health care pharmacy re-stocking, Health care

personnel management motivation enticement, Equipmentss procurement and infrastructure financing projects (Aquilina & Kraus, 2016).

According to reports by SDG Partnership Platform and Intellcap (2018) various county governments in Kenya have been using different finance moderating strategies to facilitate health care programs. The financing moderating strategies vary from partnership source of finance to another with various non-governmental organizations responding to different segments of health care sector divide as mentioned in the above case DANIDA (donor) finance level two and three hospitals in the entire forty seven counties in Kenya. THS a program of the (World Bank) taking care of level 5 and referral hospitals in the whole country. Besides that, there are facility fees and other charges generated from within the health centres themselves for services rendered and bills set to be paid by patients; health care allocation share from revenues generated in other types of government operations such as taxies, trade licenses, land rates and other levies charged by devolved entities also serve as source of revenues towards health care support subsidies, they includes buildings approval charges; county government penalties and fines; barter markets and trade permits, parking fee charges (SDG Partnership (Plat form & Intellcap, 2018). The strategies have traditionally been uniformly used by various devolved governments in Kenya to run health care systems in all the 47 counties and the national government referral hospitals, namely Kenyatta national hospital, Moi referral hospital and Mathare mental hospital in Nairobi.

### 1.1.5 Health Care Service in Hospitals

In support of health sector, the Kenya government unveiled universal health care program as one of the big four agendas of the government and vision 2030 flagship (MOH, 2018). The pilot project on universal health care is currently being done in phases. The first four counties to benefit from the pilot project have already kicked off; they include Kisumu, Nyeri, Isiolo

and Machakos Counties which are some of the regions the government choose to pilot Universal Health Care coverage on trial (SDG Partnership Platform & Intellcap, 2018). The decision to launch the program in the four counties was evidence based on consideration of the health care burdens experienced in the past through various research studies carried locally.

Kisumu County was identified because the region leads in infectious diseases along the lake region category especially HIV/AIDS, tuberculosis and malaria (SDG Partnership Platform & Intellcap, 2018). Machakos county health care amenities have history of the highest number of road accident injuries on bed occupiers, mostly due to accidents happening on the super highway along the Mombasa Nairobi portion of the Trans African highway (SDG partnership Platform & Intellcap, 2018). Nyeri County region on the other part was chosen as a pilot project in central Kenya due to prevailing cases of non-communicable disease segment of lifestyle, especially diabetes, high blood pressures, arthritis, rheumatism and obese (SDG Partnership Platform & Intellcap, 2018). Lastly, Isiolo County region has traces of people without permanent dwelling homes hence the area was chosen because the government intended to establish how the package can well be suited for nomadic life style and migratory populations' life style (SDG Partnership Platform & Intellcap, 2018).

The program was geared towards granting Kenyans access to quality and affordable health care services without any financial hardship when they seek medical care related services. The President during the inauguration of the program highlighted that with NH IF card, citizens in the four counties and even the neighbouring individuals can access health care services stretching from emergency to mother and child health care attention (MOH, 2018). The head of state highlighted that the program would mainly focus on the primary health care approach by topping up the maternal immunization and child health services through

incorporating the family planning skills during birth delivery making it available to all the citizens.

### 1.1.6 Health Care Services and the Moderating effect of Finance

There has been a mixed financing approach towards health care services with debt sources having flexible repayment terms where award and non-award (obligation) financing is mixed and financed as obligations with adaptable reimbursement alternatives to social venture financing (Cashin et al., 2017). For example, Bill and Melinda Gates Foundation (BMGF) contributed US$ 10 million to secure a stake in Liquidia Technologies, a biotechnology organization taking shot at better approaches to convey immunizations awareness in the republic of Canada (Cashin et al., 2017). BMGF gave an assurance to Clinton Health Access Initiative (CHAI) to structure volumes of certifications to diminish the costs and increase access to life-sparing products in creating scenes in New York City (Cashin et al, 2017). There has been Advance Market Guarantee which is an insurance offer to banks that are ready to stretch out advances to health care improvement programs co-financing activities (Connor et al., 2018).

In Europe for example, Obligation Swaps has been identified as a way of improving health care services which is a technique for changing obligation into assets for health care improvement works (Mathauer et al., 2017). At the same time "Worldwide Fund" a pioneer project paying off debtors' that trade in wellbeing towards health care improvements (Mathauer et al., 2019). For instance, Germany sent to Pakistan and Côte d'Ivoire €59 million of obligations to help UHC programs hence producing €29.5 million for Global Fund ventures (Mathauer et al., 2019). This is a great achievement in this sector of health.

There have been multi payer structures in Germany where contributions to health care financing are made private and public by entities such as local corporations participating in health care financing. Financing has also been achieved from individuals making payments when they pay for health care bills after receiving treatment services (Brearley et al., 2013). There has been a social/development impact bond in China where corporates team up with the government for intervention strategies to close up the gap in finance for better-quality social results that ultimately make product in public sector investments on health care services (WHO, 2016). For example, the Optimus Foundation and the Hindustan Latex Family Planning Promotion Trust (HLFPPT) (WHO, 2016). Where they have done a lot to finance family health care improvement strategies in that country for a long time, the impact can be seen through improved standards of living enjoyed by citizens in that country.

In Europe the Presence of result-based financing grant fund that has been dispensed to beneficiaries in Italy have pre-decided yields where results have been accomplished successfully (SDG Partnership Platform & Intellcap, 2018). There is significant demonstration of an expansion inclusion of institutional conveyances in areas with execution-based financing contrasted in the regions with results-based financing being exercised. Such models have brought about more acceptable responsibilities, expanded productivity empowered to drive towards handed medical services over a period of time.

By adding returnable capital models to their usual standard way of doing finance management, establishments have helped people and different pioneers connect the missing centre financing opportunities; the creation of rotating reserve finance where similar finance can be contributed more than once throughout the years ahead, in this manner expanding capital proficiency and social effect is clearly improved and can be observed from the examples explained above (SDG Partnership Platform & Intellcap, 2018).

In the Asian continent there has been pooled investment financing where finance from different sourcing taps are collected and used to help pre-arranged operations regarding health care activities (WHO, 2016). Other resources are like Lease Financing where the proprietor of the advantage (gear producer or the SPV made for rent financing) gives the option to be utilised as resources for another partner against periodical arranged instalments remitted timely (SDG Partnership Platform & Intellcap, 2018). In Russia, for a long time there has been social insurance schemes introduced to facilitate low interest borrowings that are used to enhance social infrastructure improvement programs to modernise health care services (WHO, 2016). It works in a way that allows social protection finance extended to open private capital by securing the risks against some degree of misfortune in the occasion the task is fruitless or the borrower can't reimburse the initial capital advanced to them, the next move is to enforce recovery. The interest charged is the network driver that acts to assure protection models and the wellbeing shared out among the partakers. There are instances of social protection and insurance schemes that empower buyers/last mile financing to initiate social development programs (WHO, 2017).

In the developing countries there has been a lot of concerted efforts to ensure that individuals voluntarily contribute towards health care systems in a registered scheme (MOH, 2017); there has been partnership with other private organizations, partnership with developed Nations that may provide financial or technical aid in health care services such as specialized skills for example expertise in, psychology, surgery, physiotherapy, oncology and family health care attentions. Other complex areas needed from time to time by citizens are taken care, currently it's happening in Kenya with Cuban doctors volunteering in public hospitals and CUAM doctors from Italy working in mission hospitals extending services even to the very remote areas in all corners of the country.

The use of direct and indirect finances from tax payers is another way of financing health care activities in developing countries whenever need arises (Maphumulo & Bhengu, 2019) borrowing loans from other governments and financial institutions whereby they would pay later the principle and interest. Private borrowing from the investors who have excess reserve accumulations (Maphumulo & Bhengu, 2019). The impact in Kenya is noted in that, there has been establishments known as Huduma centres where citizens can get all government services information such as NHIF requirements and directions on issuance of member cards and other service facilitations in one stop shop, it saves a lot of time when registering members to the scheme. The development has created a lot of awareness to the citizens who seek health care services in public and private hospitals.

Despite all these numerous ways of raising health care finances and creation of awareness in Kenya, the universal health care system is struggling towards accommodating versatile number of citizens with various medical illness and health care needs (Society for International Development 2018; USAID, 2018). The rationale for devolving health sector was in accordance with the new constitution of Kenya (2010) was mainly to allow the county government embrace and implement the innovative models and other interventions strategies that suit their own unique local environment situations and can be home modelled using the available resources.

Ministry of Health being the main financing entity to health sector declined the allocations by 13.7 percent down wards in the financial year 2015/2016 where it contributed 18.7 percent which was a decline from 32.4 percent in 2012/2013 financial year (MOH, 2019). The drop in allocation would not sustain the unique health care needs in their contexts; either encourage effective citizen participation; make autonomous and quick decisions on resources mobilization and management of possible upcoming eventuality issues like diseases out

breaks. But of importance is the preparedness on how to manage such eventualities and emerging calamites like the COVID-19 epidemic, Ebola, HIV AIDS and Malaria program controls which requires a lot of resource mobilization to sustainably control and manage them in the initial stages (WHO, 2020).

However, despite all the short comings the sector in nearly all the counties in Kenya are currently faced with a heavy burden of prudent public finance management marred by inconsistency in long term planning, poor staffing arrangements to strengthen the systems free from any negative personnel agitations for their employment and welfare entitlements, low budgets and cash flow management short comings, inefficiencies in resources distribution priorities and finally the absence of proper coordination between the national and county governments inter twinning activities a case of recent medical Equipments procurement project dispute between national government and the council of governors of Kenya, where the prices were so much exaggerated and billions of money lost to middle men and agents (International Budget Partnership, 2017; Kimathi, 2017). But of interest to note is the finance embezzlements by government trusted appointees who manage and administer the kitties as trustees a good example is KEMSA set up to manage the distribution of essential drugs in the county hospitals.

It is a saddening scenario where the improved effort by the national government financing strategy is not felt at the grass root health institutions despite the huge resources at disposal. There is disconnect between the finance released by the national government to boost health care sector and the actual services being given to citizens in various counties. Inconsistencies in availability of essential supplies and services have pushed citizens to consider other alternatives like raising money for overseas treatments, others are spotted heading towards Tanzania for herbalists attention and treatment (Nation newspaper, 2019).

The private medical service venders, clinics and chemists have mushroomed everywhere in the rural market centres in order to fill the gap left behind by non-delivery of reliable universal health care services (United Nations Department for Public Information [UNDPI], 2017). It is not surprising to see wealthy people being flown out of the country when they require health care related services which could be offered locally by our able health care personnel's and centres. The universal health care system requires concerted attention urgently and now (USAID, 2018). At the main Cities and Municipal streets, there are occasionally patients begging for medical care financing appeals to help them secure treatments on various simple and complicated ailments. The social media platforms, televisions, radios, posters, newspapers and burners are full of health care related financing appeals for health care attentions by people seeking financial assistant for medication. The scenes have become the norm of people seeking help from well-wishers to donate finance for their medical attention locally or overseas (Nation newspaper, May 2018).

This kind of scenarios should not be experienced in a well-administered universal health care system in counties where the program is already rolled out, Kenya is not unique from those other countries in developing world where resources are low but efforts should be made to improve the situation.

It is an efficacious thought to really establish whether it is the low proportion of financing in the national budget accorded to health care docket by the national government and the devolved units synergy put together, or there are other short comings perhaps improper prudent on financial management by those entrusted to manage health care system by the national government that is playing synthesis to full implementation of UHC in the counties of Kenya (World Bank, 2015).

The research study seeks to uncover the root course of the resources mismanagement problems in health care financing for UHC programmes initiated by the government of Kenya in the year 2018 by the head of state and government.

Sustainable health care is a major challenge to developing countries LMICs, in achieving the required Universal Health Care coverage successfully. A greater percentage of the planners of budgets must put substantially good amount of finances set aside in order for the programme to be considered perfectly working (WHO, 2015). The reason is because LMICs allocate very minimal financial resources towards long term developments in health care sector and if not carefully checked may lead to higher catastrophe in diseases containment and occasionally Out-of-Pocket expenses escalation when acquiring medication by the citizens of the LMICs. The final analysis is poor health care services to the public hence a weaker Nation in terms of body health and the ability to maxmumly work and generate national resources for the country (GDP).

The involvement of the national government of Kenya in public health sector to finance and monitor all the counties health care sector programs is key and positive. This is because according to MOH (2019), the national government remained significantly the key source of finance to the health sector in counties. In the financial year 2015/2016 the government contributed 55.1% (346 billion) of the health care budget requirements in the country as compared to other sources of financing which had 44.9% (271 billion) of health care requirements financing.

At a similar period in 2009/2010, the national government contributed 95.4% (663 billion) compared to other sources of health care financing which contributed roughly 4.6% (31.9 billion) to cover up the gap left out (MOH, 2014). However, the proposed 2021/2022 budget

on health care sector has been allocated Kshs 119 billion despite the current threat of Covid 19 and Ebola epidemics persistence.

Given the above statistics it is clear that for universal health care system to work well and have recognizable impact there must be concerted efforts and co-ordination by both the national government and the devolved units with keen monitoring and reporting the progress made timely (MOH, 2014). It's the mandate of the national government to generate sufficient revenues through various channels such as local taxes and other sources so as to significantly improve the national budget kitty more so improve on health care financing allocations during the budgeting process. For example, the overall national health care expenses have increased by Kshs 59.2 billion in 2015/2016 financial year at the same vote Kshs 93.3 billion increase in the year 2019/2020 financial year through supplement ally budgets.

This shows that health care of the citizens is highly placed and receives attention on priority basis among other sectors of the country expenditure plans, the wellbeing of the people first. However, health care system is struggling towards accommodating versatile number of citizens with various unique medical attentions in Kenya (US AID, 2018). The higher the percentage allocation of finance the better for health care improvement it will be accorded. In Kenya, health sector stands among the main priority in vision 2030 agenda of the national government.

In the financial year 2019/2020 national budget health sector allocation towards health was the highest being 37.8% (121 billion); it was followed by education sector which received 7.8 % (7.7 billion); housing 4.9% (3 billion); Manufacturing was (11.1) billion; food security received (7.3 billion) and social protection received (13.4 billion) (Development, initiatives, 2019). The reports indicate that the national government has been putting health care concern of her people first as compared to other sectors of social services development initiatives. In

addition, Health policy plus report (2019) indicate that the county government's health sector budgets have been increasing tremendously as compared to other departments financed by the devolved units in Kenya (Health Policy Plus, 2019).

The devolved units, expenditure combined for health care facilities and inpatient care in the 47 counties increased to Kshs 66.3 billion for the 2015/2016 from Kshs 53.09 billion in the year 2012/2013 which was 25% increase in general; out-patient health care expenditure increased by 19% compared to previous year, while in the year 2015/2016 it was 128.6 billion from 108.5 billion in 2012/2013; prevention and public health care increased by 37 % in the year 2015/2016 where it was Kshs 52.62 billion in 2015/2016 from 38.4 billion in the year 2012/2013; hospitals administration costs increased by 24 % in the year 2015/2016 while it was Kshs 65.5 billion in 2015/2016 from Kshs 52.7 billion in the year 2012/2013 (MOH Kenya, 2019).

It means therefore in as much as the county governments health care facilities are being reasonably financed by various strategies, the impact may not be felt as expected during planning, creating a great concern on the effectiveness of government financing moderating strategies towards improving Universal Health Care system in Kenya (USAID, 2018). The situation has created a gap to be investigated in an attempt to find out whether really the allocations on the budgets by national government to county governments and other health care finance moderating strategies incorporated by county governments have any effect at all on universal health care systems implementation in the counties, and what modification control measure can be done to improve and strengthen the mechanism process (MOH, 2018).

## 1.2 Statement of the Problem

The purpose of this research study was to investigate the moderating effect of finance in determination and the provision of Universal Health Care in Kenya. The issue of finance in health care provision is very crucial and important. The national government being the main financier of health sector in the country has on several occasions failed to clinch the international conventions that have been agreed and signed like the Abuja protocol of 15% annual GDP set aside for health care purposes. The allocations in the national budget have been declining and not consistent. In recent years 2019/2020 health care received Kshs 121 billion but went down in the year 2021/2022 to Kshs 119 billion despite the outbreak of Covid 19 Epidemic. The international standard ratio for trained medical Doctor in a hospital should be 230 per every 100,000 patients in health facilities (WHO, 2019). In Kenya the population of Doctors in health facilities range from 10,000 patients served by two Doctors in Nairobi and zero in Madera County (MOH, 2020).

The impact of finance is significant in health care provision and sustainability from the very beginning. In Kenya 12.7% of sick persons do not seek conventional health care services when they fall ill due to high costs of treatment. From the above ratio 21% of those who do not seek health care services are extremely poor to purchase such services by their own sources without intervention by the state (International Health Partnership, 2019).

Health care facilities face significant challenges in mobilizing finances to meet the requirements needed to sustain health care operations and improve on the population needs. The situation has been made worse by the decelerating economy where recently the GDP growth rates has been dropping to the lowest level due to a combination of many factors including Covid-19 epidemic, and the related period of economic lock down (Institute of economic analysis, 2019). Combined with external debts servicing obligation the economy

has reached unpredictable levels for the governments to supplement health care costs behold (Controller of budgets, 2018). Insufficient budgets for health care have made it difficult for successful recruitment of health care personnel. At the level of individual county government's own allocations, most counties allocate less than 5% of their budget towards health care. The finance are not enough for the realization of proper UHC services to Kenyans, hence patients pay exorbitantly for health service paying direct from their pockets and in extreme cases finance are raised through local mobilization popularly known as *Harambees* which is pooling together (Nation media circulation, 2018).

Vast majority of Kenyans seek medication out of the country, spending carousal amount of money for health care needs. The recent drastic budget cuts in health care financing provisions has led to poor service delivery. The shortage of essential and affordable drugs combined with frequent medical personnel strikes and go slow have led to increased mortality and morbidity when health services are withdrawn. This has affected the implementation of sustainable health service delivery as planned in vision 2030 (Commission on Revenue Allocation 2014).

Governments must encourage citizens to enroll in health insurance schemes like NHIF and other programs so as to mitigate the cost of health care. If nothing is done to improve the financing in terms of enhanced budgets towards health care allocations, then cost of medication will persist and there will be higher number of mortalities and capital flights to other countries by people seeking health care services abroad.

## 1.3 Purpose of the Study

The general purpose of the study was to examine the Moderating effect of finance in determining the provision of Universal Health Care in Kenya.

### 1.4 Research Objectives

The following were research objectives that have been used to uncover the moderating effect of finance in determining the provision of Universal Health Care in Kenya.

#### 1.4.1 Overall Objectives

The overall objective of the research thesis was to examine the moderating effect of finance in determining the provision of Universal Health Care in Kenya

#### 1.4.2 The Specific Objectives of the Study

The main objectives of the research study was to establish the moderating effect of finance in determining the provision of Universal Health Care in Kenya. The following specific objectives were considered key inputs in health care service delivery financing.

i. To determine whether drugs affects delivery of Universal Health Care services in Kenyan hospitals.
ii. To establish whether health care personnel affects delivery of Universal Health Care in Kenyan hospitals.
iii. To determine whether machines and medical equipments affect delivery of Universal Health Care services in Kenyan Hospitals.
iv. To establish whether hospital infrastructures affect delivery of Universal Health Care services in Kenyan Hospitals.
v. To determine whether finance in health care facilities influence the relationship between the demand and provision of Universal Health Care services in Kenyan hospitals.

### 1.5 Research Hypotheses

This study is guided by the following research hypotheses below:

1. $H_0$: Availability of drugs in hospitals has no effect on provision of Universal Health Care services in Kenyan hospitals.
2. $H_0$: Health care personnel in hospitals have no significant effect on the provision of Universal Health Care services in Kenyan hospitals.
3. $H_0$: Medical machines and equipments have no significant effect on the provision of Universal Health Care services in Kenyan hospitals
4. $H_0$: Infrastructure in health care facilities have no effect on the provision of Universal Health Care services in Kenyan hospitals.
5. $H_0$: Finance in health care facilities have no significant effect on demand and provision of Universal Health Care in Kenyan hospitals.

### 1.6 Justification of the Study

In order to provide affordable health care services the Kenyan government needs to have sufficient financial resources made available to health care facility managers to enable them budget and operationalize medical care attention activities (Kimathi, 2017). This is by making sure adequate and affordable drugs are stocked in facility pharmacies, health care personnel remuneration packages and other rewards agreed during the engagement contracts are taken care, equipments and infrastructures put in place to ensure that public hospitals and other health care facilities are placed in strategic positions for easy accessibility when patients need such health care services from the centers (Robert, 2017).

However, the scenario in our country health care facilities depicts health care institutions where the systems are very expansive to reach in some places for faster reorganisation and

change effecting. Health care service costs are above reach by rural and informal settlement areas of the cities and other urban centres. This are Citizens who cannot afford to pay for medication from out of pocket financing by themselves especially the low-income earning citizens (Nation newspaper, 2019).

They have to look for alternative channels to supplement the financial gaps so as to offset medical bills for their loved ones and themselves when health problem crises strikes. The current arrangements in ensuring families enrol through NHIF for any health care eventualities is a great idea if well-articulated and implemented. However, the threshold has been Kshs. 500 per month per family minimum contribution NHIF (2010) which is quite high for unemployed and non-salaried earners especially low bracket earners who include grocery operators, small scale artisan traders, mature youths yet to graduate and become income generating citizens, the nomadic communities in northern Kenya and the informal settlement populations found around the Cities and urban centres popularly known as the (ghettos) including street families and people with disabilities and no reliable income or personal health care insurance covers (Fulton, 2017).

The amount in as much as it may look small, the reality remains that most Kenyans cannot afford to consistently pay the contributions throughout the year, which means in case of illness, the contributor may not qualify to utilize the NHIF card as required to offset the hospital bills especially when a month or two have been skipped in subscription payments and are in arrears. It therefore gives a significant reason to critically check whether health care arrangements are well articulated significantly when budget planning takes place more so in financing to sustain UHC programmes for all the citizens of Kenya. There is need to ascertain whether the Moderating effect of finance in determining the provision of UHC have any influence on health care implementation and growth in the counties' health care facilities

across the country. To find out whether the national government spending patterns have any significant impact on improving universal health care sustainability and expansion.

The research study is therefore necessary to uncover the root course of the financial shortcomings and to get the possible solutions for application in planning and sustainability in future. All these are questions that have prompted the research study to try and uncover the UHC financing assessment in Kenya. Whether it's real or mere slogan by the political class of the elite to confuse the masses (Ellis & Mwabu, 1991).

The study is useful to the national government as it weighs the impact of her spending patterns on each financing strategy regarding universal health care and also to institute proper approaches during planning. The research finding will enable the government formulate reasonable policies based on facts and evidence as they will have been uncovered from the research study results findings (Ellis, 1991).

County governments can learn from the research study possible financing problems that are existing and find possible solutions for fixing them by understanding other experiences in health care sectors in their areas of jurisdiction and hence be conscious as they prepare to roll-out the universal health care system properly (Levy & German 1993).

The health care facility management boards of trustees can get enlightened on various types of health care financing strategies existing in the financial market hence authorise the facility administrators and managers on the best suited method to raise more finances to improve the existing and even expand health care services in their centres (Ellis, 1991).

The public in general can gain more knowledge on universal health care systems financing that exists in other parts of the world in comparison to what is currently observed in Kenya. It will enable them weigh whether the elected leaders have substantially done enough and

prudent administration with the resources that have been dispensed to them to be utilized as stipulated in the constitution of Kenya (2010) especially on devolution aspect touching on health care provision of health care now delegated to counties to manage (WHO, 2020).

The economy of Kenya can positively be impacted and developed since at the time of rolling out universal health care programs, the process should be done in a cautious manner devoid of any pitfalls that would hinder its effective implementation and also when universal health care system implementers adopts the recommended ways of financing as it has been recommended by the present study.

The findings of this study will heavily contribute on Universal Health Care in Kenya. Thus it acts as future reference to scholars who may pursue the subject in the future (Kimathi, 2017).

## 1.7 Significance of the Study

The research study will greatly contribute to the world of knowledge regarding the moderating effect of finance in determining the delivery of universal health care in Kenya mainly by contextualizing the ever evolving health care needs and cementing the priorities that should be embraced when fully incorporated. The programs are implemented in public health care facilities in Kenya.

More so the research study is important to academicians and researchers in general who may be taking up topics especially universal health care finance moderation in relation to health care improvement in the counties? The findings are important to the health ministry and county administration executives more so when initiating new policies that are tailored towards health care value addition. The findings provide crucial information on the challenges in provision of UHC current and in the future in any attempt to enhance health care programs across the county governments.

The outcome of the study enlightens the government health care docket executives on the challenges in provision of UHC regarding financing and possible solutions to be effected when the program is fully rolled out and various approaches towards sustainability improved to rectify the existing situation in health care delivery.

### 1.8 Scope of the Study

Nyeri County in central Kenya was considered for the current research in her public health facilities for the reason that, it was picked through purposive sampling to represent the 47 Counties as the universe with the same composition and characteristics as the other Counties. A medical Doctor only requires a few milligrams of human blood sample to do some lab tests and there after draw conclusion regarding the entire body illness (Kothari 2004).

Nyeri County government had shown potential and interest to incorporate and realize universal health care programs in her area of jurisdiction by signing a memorandum of understanding with the national government to lower the cost of essential health care services within her health care facilities administered by the county. However the services were later reverted from cost free to service paying, hence the need to uncover the reason for the free services withdraw by the County government of Nyeri (Star, 2020).

The County has unique health care needs especially those of non-communicable diseases in her population. It has a huge concentration of people and a large number of health care facilities scattered across the entire County. It was chosen by the national government for trial as a pilot project that was launched on 13$^{th}$ December 2018 by the head of State. The study covered management chief executive officers in charge of public health facilities from Nyeri County, level 6, 5, 4 and level 3 facility in general. The interviewees who participated in the study consisted of the chief executive officer of the facility or as delegated by

themselves to such other senior officers concerned with policy implementation within the hospital management level.

## 1.9 Limitations of the Study

The time schedule for the research exercise was not significant enough to scrutinize the financial aspect of the entire county public health facilities throughout the year to ascertain the consistence in financing. The national government delays in disbursement of cash transfers towards the end of financial year thus coursing artificial disrupt meant of programs which temporary different moment (Controller of budget, 2020)

The other fact is that County governments are managed and administered differently from one another with each devolved unit having different desired focus and priority, the budget set aside for health care from each county government towards health care administration may vary hence results might be slightly different for each county. This means that the results may insignificantly differ to all the other counties in Kenya due to indifference in resources marshalled to them, availability of finance and land mass size of the county including population. However, the difference could be negligible and may not course any impact to the generalized results (Controller of budget, 2020).

The other limitation is that majority of the civil servants interviewed were under public officers' oath of secrecy and that they were reluctant and unwilling to disclose detailed operations and plans to outsiders in a way not to expose and risk the institutional information behold certain levels (Hallberg, 2017). To mitigate the shortcoming, the study opted to use secondary approaches to get information on health care services provision by indicating whether the health services had improved, diminished or remained constant over a particular period of time during the years (Kieny & Evans, 2013). The interviewers explained to the

management that the information was purely for academic research purposes and no material facts would be released to non-authorised persons that was assured to them before the exercise started.

### 1.10 Delimitations of the Study

The hospitals identified for research study being public entities; the management did not refuse access by the research team permission as required and requested in writing from the university department of research and development to participate in research at the facility. There was co-operation among the members of management staff throughout the period of data gathering. Also observed was there was humble time to carefully articulate schedules by generalizing the results of different hospital levels under research study. Carefully aligning the common factors as observed in the chosen parts of the study results and the process to eliminate undesired information that were auxiliary to the main focus (Kindig et al, 2014). The researcher committed sufficient time to achieve the necessary information required from the officers and also adopted the questionnaire in the approach of drop and pick style in order not to interfere with working arrangements of the facility operations.

### 1.11 Assumptions of the Study

The study was guided by the conjecture that there was attempt to introduce universal health care coverage within the sampled county government health care facilities. This is because of the early signing of memorandum of understanding with the national government regarding the implementation of UHC agreement in the county public health facilities to lower cost of medical services such as consultation fees, emergency care service charge, maternity fees, cost on treatment of contiguous diseases like tuberculosis, malaria control and free treatment of HIV, testing and monitoring (Star, 2020).

### 1.12 Definition of Key Operational Terms

***Couverture Maladie Universelle***

The term describes Universal Health care as the financial shield or the risk involved in Financial as the Protector.

**Grocery traders**

Small scale vegetable trader in open market mostly local women in an informal settlement engaged in income generating activities to sustain their families

***Harambee***

It is the term describing the spirit of community pooling resources together to carry out communal project or raise fund for needy person living within vicinity or the surrounding.

**Hospital Fees**

These are charges incurred by patient once they receive medical service attentions in a health care facility as the token of appreciating the services offered.

**Implementation of Universal Health Care**

This is the rolling out of a system of health care system where citizens of a nation are able to get medical treatment freely or at highly subsidized rate. In Kenya the program is done in phases across the country strategically on key regions where health care issues have a frequency history of occurrence.

**Inalienabl**y

A history of events as they occur from time to time within a certain region or area identified after a long period of study to come up possible solutions.

**Insurance Cover**

Insurance cover is a type of ailment indemnification assuarity where the person covered is able to seek medical services attention in any health care facility where the payment is made by the indemnifier or the insurance company/NHIF.

**Kabonokia Faithfuls**

A native religious group of believers mostly from traditional cultural who the roots of ancestors

***Inua jamii***

A programme set up by the government to help rural women begin certain small business to sustain their lively work

***Linda mama***

A programme to help poor rural women attain medication in public hospitals free, mostly the maternity cases informal settlements.

**Ministry of Health**

A department in the national government which is responsible for ensuring safety of her citizens through financing health care prevention, treatment and management of diseases in the Country.

**Universal Health Care**

Universal health care (UHC) is described as the capability of all individuals in a country to acquire services related to health care without being worried about how to finance the bills related to health care services individuals receive.

**Pooling of Resources**

This is the process through which contributed resources from members especially monetary resources, are gathered together to form a huge source of finance. The finance are then

channelled to indemnifying specific individual's against any unforeseen health risks and challenges there after without future repayments.

***Servizio Sanitanio Nazionale***

This is a health care financial protection program. It has a mandate of ensuring all citizens working in the informal sector are medically covered adequately. It is a health care scheme for the citizens of a country.

**Strategic Resource Allocation**

It is the process of ensuring that every department or area is funded based on their needs unique needs

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

The chapter greatly prioritizes on the theoretical framework and empirical studies that have earlier been done related to the current study and have been analysed touching on the variables of the study namely hospital drugs, medical personnel, medical machines and equipments, and infrastructure. The research study began by looking at various studies done on the objectives related to health care financing in Kenya. Precisely the Moderating effect of finance in determining the provision of Universal Health Care in Kenya for the purposes of health care promotion enhancement, growth and sustainability.

The study further looked at health care financing in terms of availability and affordability of medical drugs in healthcare facilities, health care personnel progressive remuneration enhancement as motivation towards job performance and service improvements, purchase of the latest model of medical machines and equipments and finally spacious hospital infrastructure created while the existing old one budgeted for maintenance and improvements. It was further followed by the analysis of major theories which underpins the research area of study objectives which is the Moderating effect of finance in determining the provision of Universal Health Care in Kenya.

This was followed by conceptual and operational framework which elucidated the main information concluding the research study exercise. Further, the chapter is structured into sections each addressing specific themes and objectives of the study including theories written by earlier scholars namely, the conceptual theories earlier researched by other authors

and the empirical review theories that have been utilized to build the study case and justify for the problem existent in health care financing currently experienced across counties' health care facilities in Kenya.

## 2.2 Theoretical Review

A theory is a sets of interrelated concepts and assumptions which have been generalised systematically to describe and analyse certain regulations of behaviour (Corey, 2011).

The research study incorporates theories that tries to embrace the concepts, assumptions of the moderating effect of finance in determination and provision of universal health care in Kenya (Corey, 2011). The following four theories were developed from the analysis of literature review earlier researched by other authors that relates to the current area of research study. The first theory is the demand and supply theory by Smith (1776) the second theory is cost shift theory by (Cutler, 1998) the third theory is resource-based theory by (Burney, 1991) finally welfare theory of economics by (Smith, 1776).

Cost shift theory guided the study on sourcing of finance by health care managers so as to procure the necessities required for the general running of the facility operations especially the restocking of drags, medical personnel in hospitals rewards, medical machines and equipments and infrastructure developments. While the accumulation of financial resources and counties strategic resources allocation were directed by resources-based theory. The welfare theory of economics guided the study to understand the Ministry of health allocation towards health care finance in county hospitals. Finally, the Supply and Demand theory was used to show how improvement of health care services can be enhanced through health care finances transfer to cover up the gaps existing in the demand for Universal Health Care services in Kenya.

### 2.2.1 Demand and Supply Theory

The economic theory of demand and supply was championed by Adam Smith in the year 1776 (Smith, 2010). The theory was mainly popularized by Alfred Marshall in the year 1890. His principles of Economics developed the supply and demand curve that mainly demonstrated the point at which demand and supply are at equilibrium (Hart, 2003). The Marshall principle of Economic incorporated the demand and supply curve to demonstrate the point upon which the market is at an equilibrium level. Supply is the quantity that makers and companies are ready to sell for every market place for a good price. The fundamental principle for supply is that a fall in price leads to reduction in prices for goods supplied (Stigler, 2010). Smith (2010) stated that a fall in price leads to no sales till the price is favourable.

The current research study can be related to this theory in that when the supply of health care services incorporates the law of demand and supply the patient acts as the demand while the supply can be the financiers in this case the government. However, the lower the prices the higher the demand of a commodity in this case the health care services. It should also be recognized that in the law of supply and demand, as the price increases, then demand diminishes, thus supply and demand are uniformly related (Salerno, 2020).

In free markets, apparatus of regulating the availability of certain services depends on the current market price. However it should be noted that supply and consumption of such services are controlled by forces of supply and demand (Buechner, 2018). More simply, in an effort to supply health care services, patients or otherwise consumers are those who show a demand for specific service, depending on the affordability of those services. Hospitals do provide the necessary heath care services with an aim of meeting the needs of the community and its consumers. Thus demand levels should be optimally high (Stigler, 2010).

The principle of demand and supply apply to health care services just like in any other markets: this is because when the fee charged for health care service increases, patients avoid or demand less of it or seek alternative supplement like the traditional treatments by unregulated doctors and spiritual healers (kabonokia faithful). Under most health-insurance contracts, the marginal private cost of care to a household is less than the marginal social cost of providing that care (Buechner, 2018). The household had an incentive to procure many health care services due to the purchase effects. However the ability to purchase and access the health care services is mainly limited and influenced by the income levels of a person (Angamuthu, 2020).

The demand side in health care services needed is founded on the individual will to consume a good or a service up to the point where the marginal estimate from one more unit equals the price of that extra piece of service. The government in her role of essential services control must put in more finances to hospitals where patients are encouraged to take the health care services on offer when ill and requires treatment (Alcala et al., 2017).

However if not carefully administered the supply can be challenging. First of all, particular health-care providers have market power to control prices. But it tricky to compare the price of healthcare services across counties because there is need to consider changes in market place power as well (Roberts et al., 2017). One bigger problem that can be observed by the health care providers is interference by government through price control regulations.

Additionally, prices in health care are essential services where by source and request mechanisms should be controlled by the government attempts of subsidising costs of medication. Government influences prices where some have a price cap on the pharmaceutical products. However some hospitals and drug manufactures do determine the price cap of drugs themselves (Roberts et al., 2017). However, if people need health care

services, the demand will greatly rise where the size of demand does not mainly respond to prices changes (Fulton, 2017).

The distinct structures of health care services offered and analysed above make it clear that health care is a shared private good and its sale to patients is determined by supply of financing which triggers the demand instruments hence affordability. Nonetheless, the fact that health care services is not private good does not inevitably mean that it is a public good and this conclusion comes with the execution of the elimination belief, whereby if the physician is not paid for the medical attention offered he/she may exclude the patient and possibly refuse him health services so desired (Gondi & Song, 2019).

The importance of the health care services can mainly be classified as a semi-public good. Entirely the population in a nation must be allowed the right of quality health care services they need. The state can intervene on other health related services and thus develop appropriate policies on health service care (Hassan & Minato, 2019). UHC program being one of the policy the governments utilises to implement citizens affordable health care service in a country is a well thought idea.

The supply and demand in public sector especially the health care goods has very precise unique structures distinguishing it from possessions funded by the administration and not determined by market demand and supply mechanisms. The first peculiarity item associated with health care service product is the doubt existing in all classes of citizens that significantly affects their choices (Gondi & Song, 2019).

In particular individuals who purport to enter into an agreement with private insurance firms to take their health needs or those individuals who are insured by state insurances corporations in case where insurance is compulsory to be taken. The health features have

asymmetric information, in which patients' maintain a different level of information about their health status, that is how it's managed and the treatment may be received contrary to information available to the physician handling the health care affair (Vuong et al., 2018).

Moreover, physicians do tend to encourage their patients to keenly be closer to health care attention in a greater extend so as to achieve the best managing of their health problems and thus achieve the best health care control (Lazar & Davenport, 2018). The Theory of Supply and Demand underpins all the variables in this study hence the key theory in the study highlighting how availability of finances on the supply side influence provision of Universal Health Care services on the demand side to remain balanced (Hassan & Minato).

### 2.2.2 Cost Shift Theory

The definition of Cost Shift Theory assumes that the public seeker for the health care services initiates the cost-shifting dynamics. It occurs when the government must increase the subsidy transfers to all health care facilities in order to make up for the shortfalls incurred when reimbursement is done to some service consumer and contributors towards NHIF health care services scheme (MOH, 2020). The theory of cost shifting theory held that, when public consumer for health care services make less payments towards hospital services offered or when health facilities receives an increased number of uninsured patients seeking health care service through a system of out of pocket expenditure. The same hospitals may respond by raising the prices for health care services above what is charged to private insured patients which is an agreed scheme in terms of costs. This often calls for an internal intervention mostly from the government for regulation purposes (Wangsness, 2009).

The cost sift theory was developed by (Cutler, 1998). This theory is best suited to guide the influence of finances in the provision of health care services in hospitals in Kenya. The

theory states that as a result of one party paying less than articulated amount for the health care services provision then, the other party ends up paying more for the same service to complement the shortage created by the noncompliance actions of the other party. The main purposes of this relationship are for continuity and goodwill (Wangsness, 2009).

However, the theory allows Price discrimination on the notion that two different patients can be charged two different prices for similar health care service provider in the same health facility. It is wrong to charge one consumer more than the other but with no causal connection indifferent between the two prices charged (Abuya et al., 2015).

When the government budgets less finance than expected for health care provision in public health facilities, then the citizens who are consumers of such health care services have no choice but to pay exorbitantly for the same in order to cross the gap created by the other party by way of non-compliance of the constitutional right. The expression is that in any public health facility there are normally two types of patients. There are those patients whose hospital bills are paid by the government's various healthcare schemes instituted while the other type of patients are those who pay direct from their own pockets (OOP) to finance for the health care services offered (Abuya et al., 2015).

Where hospitals desire to generate more revenues from operations, then they have to make a decision whether to accept government covered patients whose payment is normally fixed (low) by the ministry of health or accept more patients who pay various fees to access specific health care services at the market rate through (OOP) arrangements (Akacho, 2014).

The self- paying (OOP) patients pay more as compared to government covered patients where remittance of finance take lengthy time to reach the facility bank accounts due to public sector bureaucratic tendencies and lengthy procedures and protocols in government

offices. The indifferent costs are absorbed by the health facility administration vote, which later pushes the costs to the (OOP) patients in the form of increased costs for the services rendered (Abuya et. al., 2015).

The theory has been adopted in support of the study because there have been cases where patients who pay from their own pockets get billed up more as compared to patients who are insured by the administration through the scheme of NHIF arrangement (Abuya et. al., 2015). It means therefore the general public under NHIF scheme pay Kshs 500 per month and they can access various unlimited services such as consultation, pathology investigations (Laboratory investigation), pharmacy services, hospital bed admissions as well as dispensing of materials for family health care clinics, dental health care services, radiology examinations, nursing and midwifery services, surgical services, physiotherapy as well as psychology services (NHIF, 2015).

Interestingly, the paradox of the matter is that, patients who are under NHIF schemes take lengthy time before being admitted in public hospitals due to paper work processes as compared to patients who pay from out of pocket charges (Omondi, 2016). At the same time, patients paying in cash are billed more and admitted faster than those covered by NHIF in the absence of paper work encumbrances (Omondi, 2016). It eventually causes a cost shift from NHIF covered patients to cash paying patients' coursing disparity in service delivery in terms of fees charged and time taken to secure the dearly desired services faster enough (Omondi, 2016).

Cost shift theory has been criticized by Murphy and McCague (2003) and Owino (2014) who aver that in a competitive environment where there are commercial health care facilities entities offering health care services for a profit, then the theory does not portray the truth on the ground, in other wards it hardly occurs in reality. The reason being the fact that when

patients get billed more, they may opt to seek medical care services elsewhere in those profit making health care facilities. Perhaps the services offered there are more attractive in terms of public relations (PR) and hospitality approach as compared to public health care facilities where they are charged more and offered similar services as the patients whose bills are catered for by the government through NHIF option scheme (Owino, 2017).

The current study on UHC looked at free health care as per the Constitution of Kenya (2010) where health care services are guaranteed by the state and serviced from the taxies accruing and other levies charged from citizens in order to access general public services provided by the government of the day which include and not limited to health care and security but a combination of many more, it could be elusive and tricky affair that requires national policy and planning. The cost shift theory supports the variables of the study (Omondi, 2016).

### 2.2.3 Resources Based Theory

The theory was brought about and incorporated by (Barney, 1991). He avers that in every institution the decision making body or the policy makers' at the top level (apex). The first point is to take inventory of resources availability and enhance efforts in mobilization approach to secure additional more. This theory is quite often utilized to look at the connections between materials, intensity and efficiency appreciation of secured resources at disposal. Resource based theory was modified later by (Eisenharde & Martin, 2000).

It include the investigations to inquire about the effective replication; the appropriateness of profits in comparison to innovations to be implemented; the impact of fragmented information in causing contrasts on benefits that accrue between contending firms and the methods by which the assets collecting system can support competitiveness (Barney, 1991).

The commitments together add to what is called the organization's asset-based pooling plan of action.

However, the weakness of this theory is that implications for key administration of health care resource-based accumulation of resources stay ambiguous for two reasons: - There is the absence of a typical consolidative structure for the various health care financing assurances and promises made by resources mandated providers (Pooyan et al., 2018).

The second reason is that there is almost no exertion to build up the consistent of health care financing results of the set up pool continuously. This is an absurdity for the future sustainability expectation put in place (Pooyan et. al., 2018). Third the theory recommends an asset-based technique definition method that consolidates a scope of key standards drained from the considered health care planning utilized in preparing a health care-based financing program.

The procedure therefore incorporates a five-phase technique, creation process which must involve the following; the investigation of the health care asset base; the assessment of the health care finance abilities, reliability and sustainability; well at the same time examination of health care income acquiring potential and long term acuity of the resources; the decision taken on the methodology and the turn of events that must bring about improvements of health care programs in place, secure future assets and performance repository value additions for long term planning and sustainability (Rosati, 2019).

The theory is most appropriate to the current research study in Nyeri County government health care facilities, in that the health care reform planners need to engage reasoning in making sure that where new and extra resources for the upgrade of administration conveyance in health care facilities are to be sourced, then proper accountability must be

emphasized to regulate the process (Pooyan et al). The theory under pins and elaborates the way governments need to utilise assets at their disposal and the situation techniques in order to amplify the existing pooled resources within reach by those to utilize them in a unique way that favours positive growth and development for the public interest (SDG, 2018).

Health care system designs have four fundamental service capacities which includes issuing disease preventive and safety mechanisms, medical care services conveyance to the recipients, financial resources generation and stewardship by administration management which must be keenly and regularly observed through frequent audit report generations tabled to an independent board of management for deliberations and actions taken there after (UNDPI, 2017). A definitive objective of any health care framework is that of giving medical care service advantages to a network of individuals proficiently, impartially, professionally and timely when required regardless of any monetary encumbrance articulated during planning stages (UNDPI, 2017).

The idea of value addition when gaining access to health care administration performance is an undisputable matters in developing and near developed economies, along the lines finance and economic experts are continually attempting to furnish the network with the best top-notch human services acumen in order to benefit the wider populace of the counties by enhancing accessible resources in the best way possible and in a transparent and costs control mitigation approach (Kirigia et al., 2016).

The reasonable access to such approaches surprisingly in the network to health care administrations that advance health care to the required level for social services, and the building up of an environment for enabling development and improvement in the general public health care sector has been inactive in developing countries for long. Subsequently

therefore, access to health care opportunities by citizens is a requirement for the improvement of value chain in the public eye (Glassman et al., 2016).

The existing standards recommend that health care frameworks and social welfare choices should be constantly tested to check for maximum utilization perfection from the available scarce resources at the administrator's utilisation. Where there is absence of the necessary resources to address certain issues or persisting problems on the ground in the community health care issues, the results can be low quality of lives and economically weak work force, graded down wards in activities of economic value, hence the lower GDP in general for the country (UNDPI, 2017). At the same time all the medical care issues earlier targeted during planning and the gathered financial resource needs of the people require urgently to be addressed precisely and timely actions taken before any undesirable levels are reached that might require costs to rectify it later or damage correction efforts budget set a side (Reich et al., 2016).

Some opinion theorists accept that albeit moderately significant financing for money related resources can be dedicated to health care divisions, a generally enormous and dangerous option that stands between the objectives and the outcomes to be accomplished (UNDPI, 2017). A suitable sharing mechanism of health care resources and effective utilization of these finance is viewed as the bear basic necessity. The appraisal for appropriate rectification of health care framework that appears to be inescapable to some extent at all levels of management. This must be emphasised especially the public sector service delivery equitably and efficiency is key point of consideration (UNDPI, 2017).

The adjustment is conceivable through an assessment of possible arrangement actions and efforts concerted by all the players deliberating on the issue and drawing inferences (audit programs), expanded proficiency routine measures, restriction mechanism of pointless public

expenditures, and avoiding reaction to the necessities of the society in response to inquiry a reactive approach style of management (Watkins et al., 2017).

However, where the endeavour to change the right resources portion approaches which means to improve tuck over the previous year's style of doing things. This has always been viewed as the right way to change health care service frameworks impact in developing economies (UNDPI, 2017). In this kind of approach, most nations have looked for ways to give resources assignment equation that can guide assets utilization to additionally contending and assembling of more value addition for control measures purposes (Kirigia et al., 2016).

This approach of ideas obviously seems to experience the scenario where choices are made to assign national resources available in a topographical region approach or for treatment to certain communities in a way of concessional and social favours like offering essential services inequitably skewed towards the weak communities and poor families within the society.

Some factors other than those communicated in the recipe are most commonly mulled over time and generally accepted by the society through understanding to other citizen's inherent problems (UNDPI, 2017). Indeed, even in certain nations where thoughts are valued and appreciated, policy makers consider their recorded elements and the generally accepted recorded encounters, avoiding the current equation, rules and regulations which are misguiding to the original idea of enhanced health care program administration, where at times applications can be elusive and requires concerted reasoning without any indication of prejudice to the entire health care set up in a country (Watkins et al., 2017).

Accordingly, therefore, thinking about the significance of productive utilization of health care resources and the requirements for the reasonable access by the citizens (consumers) of health care administration dispensation is an uphill task for that reason (Watkins, 2017). The task given to enforcers of primary health care concern and value addition connected to effectiveness in assessing asset assignment choices are of paramount importance in administration of health provision to the welfare of the society in general. In any region across the world both in developed economies and even those developing like Kenya the challenges of health care inequality significantly persists in every aspect of public resources administration (UNDPI, 2017). However, the current study only considers the various possible ways of universal health care financing and not the distribution of available assets of the government from the general pool (national budgets), this can be a separate study by other researchers in other parts of the world in the future.

**2.2.4 Welfare Theory of Economics**

The welfare theory of economics in money matters was developed by Smith (1776) it is concerned with wealth distribution. The author come up with the idea that is very fundamental which is the equilibrium related to Economic theory. The theory of welfare in economics was (Dupuit, 1844; Gossen, 1854; Walras, 1874). The opposite is true; it could be wastage if the government spends money in health care services and nobody or fewer people in the community (citizens) gain. The advancement of the theory by Pareto (1909) contributed to the theory of welfare of money matters as mentioned by (Arthmar & McLure, 2017). Weakness in Adam Smith theory is that he avoided the notion that: the principal of human motive is self-interest and not society in general.

The theory guided the study into the objectives of, finance required to purchase hospital drugs in public health facilities, hospital personnel capital, equipments and machines and

infrastructure as they are positioned and made accessible for consumption by the public in general. Welfare theory seeks to explain how public finance systems operates and how finance allocation from the government kitty governs the overall well-being of the society in health care concerned to the citizens (Arthmar & McLure, 2017).

There is need to have a control framework to check/balance mechanisms for control purposes, any potential dangers identified early enough and clutched (eliminated) before causing harm within the system, a good example is KEMSA a government agency for distribution of essential medicines in Kenya that failed due to persistent mismanagement. The theory has a lot of applicable resemblance to the current study since estimation of society well-being used by the health care department is intended to upgrade the allocation component of the budgetary procedures at the county level policy making board's action plan for re-organisation (Akono & Ndjokou, 2013).

The expanded multifaceted nature of the public health care UHC implementation and growth conditions demands that there must be consistent need to adjust the ever increasing necessities of the society's health care service requirements to the already constrained financial assets at hand, generation of enhancement resources by making sure finance are made accessible for a particular reason and utilized for that purposively without any form of diversion.

The government organizations as entities are all dependent on the residents of the specific counties for their survival and are thus dependent upon significant open segment opportunities and regulatory procedures in managing incomes and consumption pattern tendencies for the well-being of the society in general (Alhassan et al., 2015).

Globally, where there are insufficient formulation by some government entities the results have been disorganisation all round until efforts are made to rectify the situation as desired. To be specific where there are frail government spending practices and responsibilities that requires satisfactory capacity building with respect to overseeing open finance proper utilization the end results are frequent regulatory drawbacks and system failures leading to wastage of resources and huge debts to be serviced which is wealth sunk (Aregbeyen & Baba, 2013).

At the point of spending plan portions of policy making in the open segment, is to oversee constrained monetary resources that cannot guarantee the economy any positive productivity in the conveyance of yields as required to accomplish the desired results that serve the requirements of the network necessities as per the original plan (Bhatia, 2018).

A sound spending regulation procedures permits government entities flexibility of expenditure vote's selection during the budget making process (health care facilities) to utilize every single accessible resource in the best way possible and independently checked. It may include the world wide public spending set standardization of events that improved the personal satisfaction of the society expected health care service improvement. It may incorporate overseeing consumption of goods and services, raising the required incomes and not just an issue of spending patterns only, yet it brings the idea of augmentation of the effect of open financial assets maximum utilization capacities that are a challenge and currently a difficult task presently in Kenya (Bhatia, 2016; Chang, 2015).

A perfect working budgetary system allows performance to be achieved through hierarchical targets and executions that result from best designed financial plans as indicated by (Chang, 2015). Prudent managerial procedures empower government entities to have budgetary

feasibility forecast that predicts its finance yields related to usage throughout the financial year as planned.

The vast majority of the association's normally get ready every year in order to formalize its planning process, control their exhibitions and observe fluctuations while adjusting for shortfalls as sported by the analysed results from time to time (Silva & Jayamaha, 2015). Spending plans fill in as an impression of the monetary ramifications of hierarchical earlier plans, it distinguishes the asset requirement as far as sums and times are of essence (Chang, 2015).

The structures that measure and experiment the genuine yields against assessed spending estimate plans which take the important activities that are to be addressed occasionally is the independent financial review annual reports if consistently followed (Sharma, 2012). Assessments in financial management plans quite often do allow positive objectives and build up gauges of execution with experiment of genuine outcomes where there are the concurred set guidelines. The ones to be included in the requirements are looked forward instead of backward review or reverse tread analysis but optimistically about future (Hope & Fraser, 2015).

Financial plans make objectives understood by the users, in this manner the elaborative guidelines accompanying the document plainly imparting execution of an association to a singular representative (National Relationship of College and University Business Officers, 2005). The theory is utilized to clarify budgetary control portion of execution and fulfilment of set targets by the fund manager's. A financial plan is basically a tool for directing devices for arranging and usage of Improvement programs at the service level. Through planning advancement targets are defined and exercises executed so as to understand the said target perimeters as per the plan of action (Mahato, 2021)

Spending plans give norms in the type of focus that has to be accomplished. The Objectives give room to observe and make assessment for the control measures in place. However, the theory has been criticized by Amartya (2001) who avers that social welfare requirements are difficult to combine for example, the utility of numerous citizens that have contrary marginal consumption patterns of various needs including finance related desires. An example is the wealth of the lower marginalized people who have different levels of needs at any particular time in their lives. The limitation may not affect the current study though the rich and poor have different needs for money related desires, but universal health care needs are universal to both the rich and the marginalized in general and that health care needs cut across the divide line of wants ( Hope & Fraser, 2015)

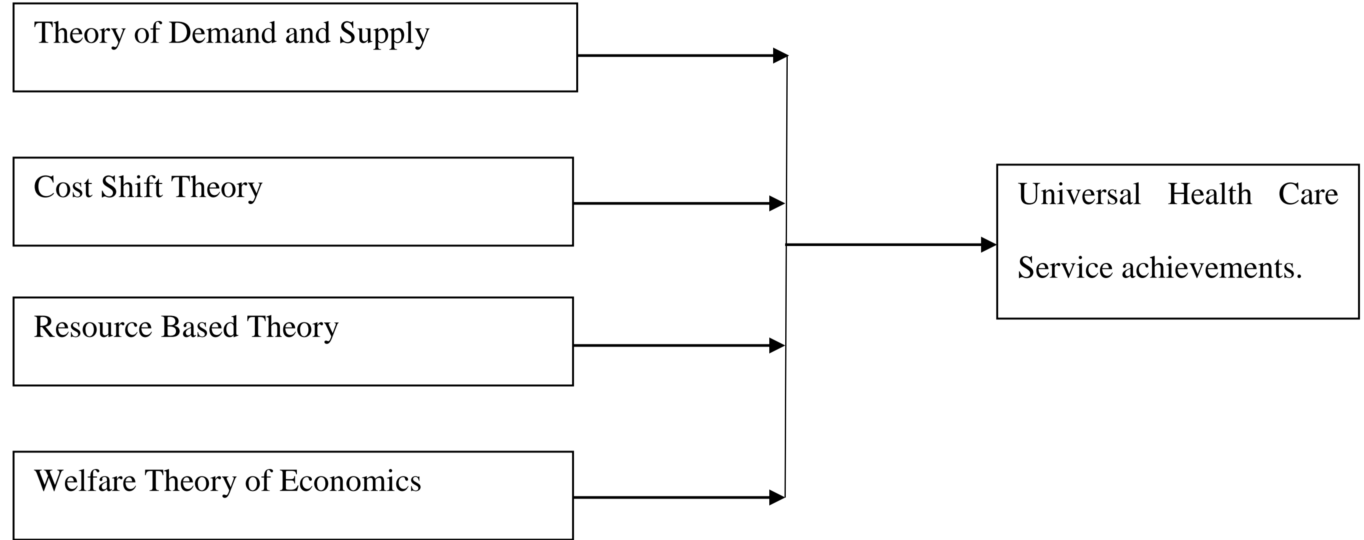
## 2.3 Theoretical Framework for this Study.

A theoretical frame work is the "blue print" of the whole research study. It acts as a guide and the process of idea development of the study.

The following theoretical framework was developed from the analysis of the above literature review as shown on Figure 2.1 below

**Figure 2.1**

*Theoretical Framework*




**Source: Mclure (2017) Cutler (1998), Barney (1991), Smith (2010).**

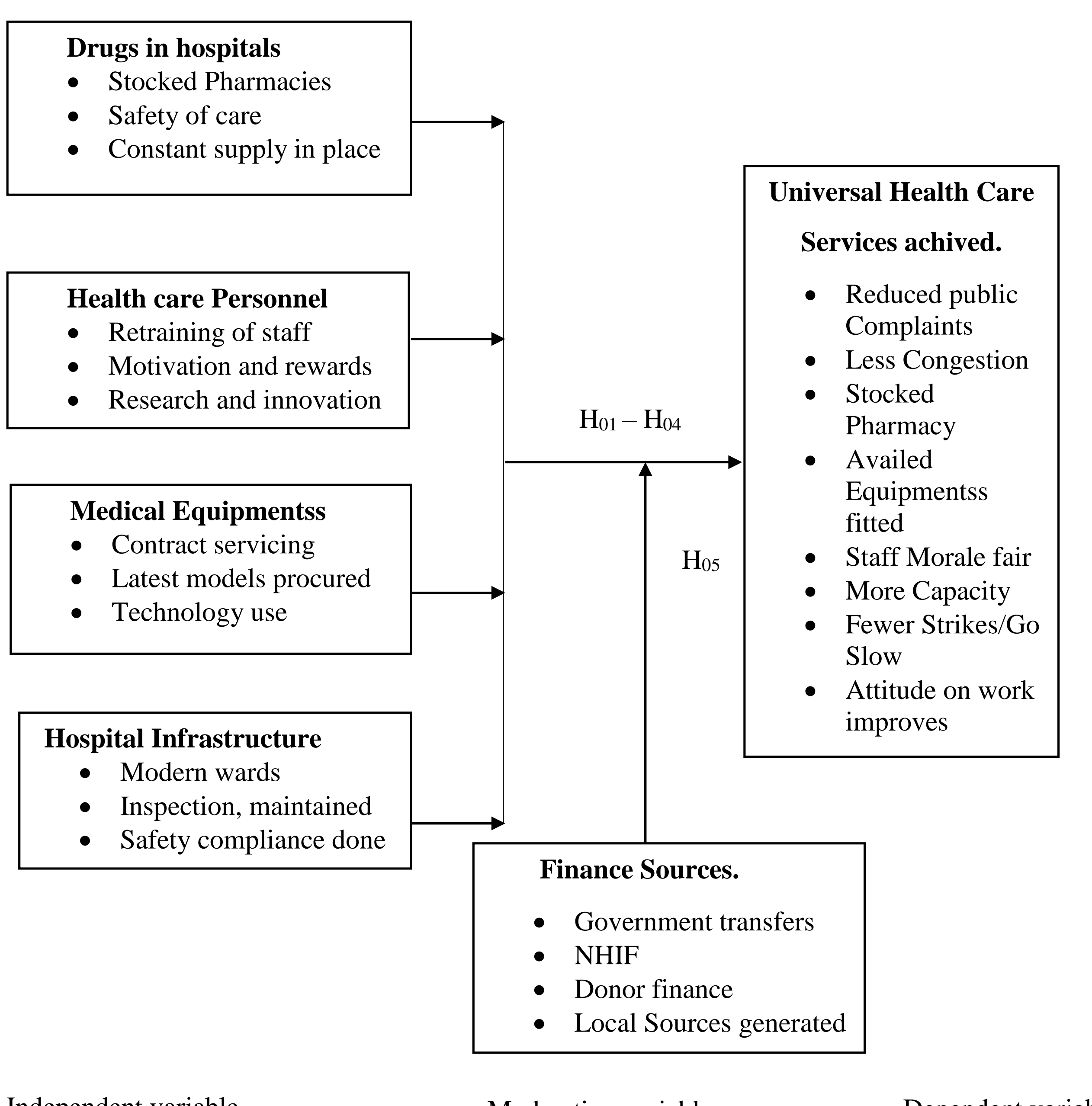
The research study examined the Moderating effect of finance in determining the provision of universal health care in Nyeri County public health care facilities. It was guided by the theory of demand and supply, cost shift theory, resource based theory and the welfare theory of economics. The variables based on the literature review are as presented on figure 2.2 where the independent variables are drugs in hospitals health facilities, health care personnel, medical machines equipments, and hospital infrastructure. Dependent side is the achievement of health care services offering to the public measured by less complains emanating from the health facility users, stocked pharmacies with medicine, fewer or no strikes and go slows by nurses and other service providers.

Theoretical is visual diagram that explains the system theory which showcase that the objectives of the system should be realised when the components are put together to establish a relationship. .

## 2.4 Conceptual Frame Work

Conceptual framework is a visual presentation that highlights graphically the variables to be studied (Miles & Huberman, 1994; Robson, 2012). Where Kothari (2003) defines variables as a concept which can take on qualities of quantitative values. To examine the Moderating effect of finance in provision of universal health care in Kenya, the study was guided by various independent intervening and dependent variables. The dependent variable is effective health care and independent variable is the health care financing. The independent variables are shown on the left hand side on figure 1.2. They include availability medicines, health care personnel, and hospital machines, equipments and hospital infrastructure requirements in health care facilities throughout the county health care facilities in her area of jurisdiction

**Figure 2:** *Conceptual framework*




Source: Research data 2022

### 2.4.1 Drugs in Health Care Facility Pharmacy

Availability of medicine in health care facilities is commonly cited as the most important element of a good health care service by consumers of the services offered where the absence of fairly stocked pharmacies could be key factor in assessing the quality of services offered by such facilities. County administrators have had several setbacks as pertains to the availability of essential pharmacy items and other supplies (non pharmaceuticals) in their health centre facilities. Bruno et al. (2015) avers that the concept of essential pharmacy items was brought about by the (WHO, 2021).

Where it was pronounced that about 30% of the world's population lacks access to essential medicines when needed by patients attending hospitals. A study conducted by World Health Organization (WHO, 2011) found out that shortage of essential medicine and availability of the same in rural areas, particularly in the public sector, is key barrier to accessing treatment by the citizens more in rural and remote areas.

### 2.4.2 Health Care Personnel

Human resource capital is one of three principle health care systems major inputs. Defined as clinical and non-clinical workers accountable for health care delivery to the public and also individual health services mediation (Amartya, 2001).

When examining health care systems in a global context human capital is among the key items of consideration, a significant number of human resource issues of discussion is where the question arises as to what calibre, quality and size is most appropriate. The number and skill mix of human resource for health is generally not available across all cadres and areas service specialisation. Observed is that management is still very manual and thus several human resource managements tools such as staff appraisal, promotions, training and

placement suffer inefficiency. Human resource for health has not been addressed properly. The control of health workers migration to other parts of the world for better remuneration packages should concern governments to investigate the main course, and socio-demographic factors, geographical and cultural backgrounds put into consideration. The variations of size is great concern and must be addressed appropriately in order to sustain the satisfied work force that is motivated. There is need to adopt a robust hospital personnel modern managements system approach (Miles & Man, 1994; Robson, 2012).

### 2.4.3 Medical Machines and Equipments

It is extremely important to maintain machines and equipments in hospitals to have efficient optimum level in order to provide quality standard care services and cut costs in wellbeing service endowment at the facilities especially public utility centres by utilising self-fitted machines and equipments. Medical machines and equipments can be defined as tools of work and general machines and equipments used for diagnosing health problems in human being (Kieny & Evans, 2013) which are directly or indirectly used for medical purposes by health care personnel, this is as per the National Health Surveillance Agency (2000), they include therapy and monitoring tools during checking the health concern of patients in Intensive Care Units, Emergency Department and Surgical Centres. Others are like adult weighing scales, infant weighing scales, thermometers, stethoscope and blood pressure machines (Perry, L, 2011).

The devices have great relevance in health care operational procedures. However, caution and care must be emphasised when considering procurement and maintenance cost out lay, diversity of models, greater sensitivity in the handling and operationalization, key among them being the observations to verify the equipments those with high potential to cause harm to patients where such should  be avoided. Putting into consideration, the management of

medical-care facilities may require machines and equipments that satisfy their desired organizational structure needs and ensures the effective acquisition contracts for maintenance, usage and after sale service follow up put in place and the agreements flexibility (Nation media newspaper, 2010).

### 2.4.4 Provision of Hospital Infrastructures

In Kenya health care infrastructure facilities are becoming increasingly outdated among them not spacious enough hence allowing congestion during pick hours, enormous finance capital is needed to sustain and improve these facilities to the internationally recognised standards (Kimathi, 2017).

There is geographical variation in coverage of health infrastructure by tier, where urban regions have better coverage of improved facilities than rural. The tracer items include rooms with privacy, power supply, improved water sources, adequate sanitation. In the absence of improved facilities health care providers normally find it difficult to operate and offer the essential services that are needed from time to time. Rural health care facilities have struggled over the past several years to improve causing social apathy resulting to herbal medication sourcing when citizens are faced with difficult situations (Koenig & Peterman, 2009).

### 2.4.5 Financing Health Care Services

The strategy of health care fiscal system has inferences in the way to access health care services in Kenya. In worldwide perspectives the Lower and Middle Income Countries, health care financing is predominantly done through pre-arranged contributory schemes, and non-contributory mechanisms supplementing it (Hope & Fraser, 2015). In Kenya there is escalating costs of health care services, and mandatory prepayments for health care services.

The approach is chosen because they have the prospective to create high revenues for the health care facilities and health care services when need arises by the citizens.

Quite often observed scenario is that of erratic cascade of spending on health care finances where the percentage of government expenditure is 4% - 6% per capital but when viewed from 12% as recommended by Kenya health care strategic plan initiative as well as the Abuja Declaration of 15% of GDP declaration by African heads of states and governments which set some guidelines that have never been followed to date more so by the sub sequent governments of Kenya taking power (MOH, 2014).

## 2.5 Health Care Services Provision

The characteristic anticipation was that upgrading of superior services would upsurge demand. This could be observed by the attraction of new users or by increasing the number of visits done by existing users. The research findings however add further support on the quality of health by utilizing patterns. A Seroquel modified method tool of measurement fits this study due to the econometric procedures where studies are limited in examining the properties of specific features of quality and demand for health care services cutting across (Ellis & Mwabu, 1991; Lavy & German, 1993).

Improvement of health services must also reflect on health care personnel motivation enhancement by promising good monetary rewards and other benefits as per the regularly revised terms of employment. It also can be observed from less complains emanating from the public in general regarding the facility services offered and quality of medication extended to them. The physical impression of the infrastructure in place is a significant show of management reorganization improvement and contributes a lot to consumers of services

offered and cultivates on digestion of what to expect from such health care facilities from a distance (Miles & Huberman, 1994: Robson, 2012)

## 2.6 Critique for the Existing Literature

Empirical review is facts based on earlier experiences by other researchers and scholars, observations and previous experiments. Related literature reviewed on the Moderating effect of finance in determination and provision of universal health care in Kenya follows the same procedural approach of literature review. This happens all over the world in research studies matching and relating of studies for comparisons and analysis of events (Kimathi, 2017). Health care facilities require sufficient and reliable sources of financing acceptable to offer the best medical amenities to the citizens regardless of their social class, age, gender or positions in the society in generally.

In order to offer health care services to citizens of a country in the best way possible the optimum level of financing must be sufficient enough, the sources known and most important it can be articulated with precision. The flow must be continuous, timely and regular as per the budget plan. Measuring the improved health care service changes is of great interest to County governments and other health care concerned bodies across the world to measure progress (Miles & Huberman, 1994; Robson, 2012).

Empirical tools of modern finance theory were being applied increasingly to study the country's economic effect on health care financing in institutions offering modern Health care related services (WHO, 2018). An anticipated changes in the flow of finances towards health care institutions may cause a concurrent modification in the nation's economic progress and development where the citizens' full participation in economic activities may also be limited hence impairing the GDP for the county and entire country. The empirical review is organized according to the research objectives of the study. The objectives have

been arranged according to the reforms effected by the devolved county governments from time to time in order to improve on health care in county health facilities.

The study exercise examined reforms in the health sector on financing in the selected county government of Nyeri health care services in their effort to accommodate universal health care services as charges derived at bring in positive health care development (Kimanzi, 2017) and (Abuya et al., 2015).

The existing literature does not take into consideration the latest constitutional changes that Kenya have just under gone, where the devolved governments have the mandate to manage health care dockets financially both from own resources and others. This kind of development has introduced new challenges of health care set up that did not exist before complete with new structures and personnel (Kimathi, 2017). Sourcing for finance to govern such challenges has not been easy for the very new set up. The current research study therefore captures the challenges as observed from the field, mostly scarcity in the cash flow estimations in meeting finance obligations in health care. The hardest obstacle is when services have to be offered despite low budgets in the hospital kitty to run operations.

### 2.6.1 Empirical Literature Review

A study carried out by Cai et al. (2020) regarding systematic economic analysis on anticipated out of pocket charges to a single payer in health care services in the "USA". Cai et al. (2020) analysed the results and concluded that the citizens were being under insured and others left out completely from various medical scheme covers instituted by the regional authorities. While considering the secondary data obtained pre-existing lists for formal economic studies of the projected costs for single-payer plan in the "USA" or for specific states as from 1st January to 31 December 2018, (Cai et al., 2020) found out that there were

only 22 single payer health care scheme plans for over the last 30 years. 19 of the 22 health care scheme plans were approximately 86% percent of the evaluation being for specific states, on the same note projected net reserves during the foremost year of program operation and 20 out of the 22 plans projected reserves over previous years.

Cai et al. (2020) also confirmed further that large proportions of the reserves originated from easy payment methods in hospitals and subsidized pharmacy costs (cost sharing). However, the study made some quite significant omissions because of insufficient practical information availed since the data came mostly from private insurers and not from government insurer schemes itself as a direct source of information.

It therefore created a gap to establish the influence of health care financing in attempt to acquiring medication in health care facilities in the USA and how that experience can impact the implementation of UHC in Kenya assuming some common status apply uniformly and others held constant in both countries despite the size and economic per capital of the two countries. The current study focused on health care operations that captures a wide range of citizens in the middle and lower status group of people who form the greater number of consumers of public health services.

According to Visconti and Morea (2020), in their study on health care services in developed nations such as those found on the continent of Asia, Europe and North America health care service administrations are quite advanced to a great extent more so in order to cope with diverse and unique needs of the population growth in the specific countries. Patients are required to digitally pay through a new financing method platform called “smart hospital project financing” this is a software initiative that enable patients interact with various specialist doctors while at the comfort of their homes and pay health care service bills based

on performance or profession hours attended by the specialist for the consultation (Visconti et al., 2020).

What happens is that, patients enter their details expressing their body feelings, moment temperature levels, duration of illness and the frequency of occurrence on such feelings, thereafter answer few simple clinical questions online and the doctor is able to form an opinion regarding the symptoms expressed online while the patient remained at their home awaiting prescription and the mode of receiving medical treatment. The same procedure is repeated during follow up of the progress reporting after duration of time other things held constant.

The health care official prescribes the required medication after which the patient pays for the profession fee based on hours taken and cost analysis done digitally without physical presentation by the patient to the health care facility for diagnostics, check-up and payments. Thus cutting costs of patients transport tremendously in terms of time and travel expenditures including other risks associated in mobility to and from the hospital. This is a great improvement in medical dispensation innovation that should be emulated in Kenya on health care service delivery (Kimathi, 2017).

The system is time saving and works faster than the traditional face to face approach style. It avoids biases related to human inherent weakness where visual expression is avoided and only facts are taken for the diagnostic analysis. The procedure is financially cost effective, and as well as it saves the health care official many hours of work enabling them to serve more patients within a short period of time as they carry out consultations given the days challenges experienced in listening to various health cases some extremely complicated.

However, in the current study the researcher noted and has discussed other alternative ways in order to avoid and eliminate numerous shortcomings sported in the above study case. Where significant weakness is reviewed from the above study in that the application of the procedure was flawed, this is especially the adequacy of diagnostic and initial identification of the health problem (Amartya, 2021).

However, this can critically be argued by the relevant professionals themselves on the line of diagnostic approach to healthcare problems regarding the extent of adequate enough time to precisely articulate the root course of illness, in the absence of physical observation and on spot judgement by a medical specialist. Surgery, mental health, antenatal attention and psychological services are impossible to be put on digital platform at any level of illness for treatment. Each environmental region requires unique approach to health care services and style of handling and solving the root cause of illness once and for all (Miles & Huberman, 1994; Robson, 2012).

Visconti and Morea (2020) were intrigued to examine the digital health care medical store supply chain challenges faced in various public health facilities especially rural set ups, the most notable and common one being poor network systems instituted in various health care facilities spread across rural set ups and unconnected to the rest of the world via internet. Digital platforms when done on cost-benefits analysis in health care facilities as a management tool in consideration for possible application and be used in remote rural areas, this may requires extensive capital out lay. To effect decisions and turn around changes faster as required the exercise is not viable in Kenya given the absence of development factors existing across (Nation newspaper, 2014).

The study found out that through sharing of information at the comfort of familiar environment (residence) there is improved patient fulfilment and tolerance; disease

surveillance; decongestion at health care facility office space; financial savings on infrastructure budgets; consistent flow of revenues; and timely reliable information direct from the primary sources received without any form of intimidation by the patient can be positive innovation and cost effective management reorganisation approach, however such development can only be effected in certain areas and not universally applied across diverse environments more so the republic of Kenya (Kinyua, 2017).

There is need to assess various mechanisms through which health care charges can be reduced such as through adopting digitalized health care platforms in which UHC can be implemented in Nyeri County where logistics and resources can allow such developments (WHO, 2018). In Kenya vast majority of health care facilities are found in rural and remote areas where internet information connectivity, electricity, piped water and other essential facilities and communications effective technology are not available. The research focused on what is available for majority of the citizens in selected areas of the research study in Nyeri County representing Kenya (WHO, 2018).

In a study carried out by Pickens et al. (2017) while researching on cost of health care in the USA they carried out observations on various changes that happens in health care facilities especially on inpatient services offered in hospitals. They observed that significant improvements in the USA health care system minimized a lot of administration costs which later are accumulated and turned round for procurement of pharmaceutical store items (medical drugs). While utilizing health care cost data and all other available project information from the main computers kept by state department of health in the section of inpatient database in the past years from, (2011–2014).

Pickens et al. (2017) found out that admissions in hospital facilities by patients from government insured scheme programs increased a lot. While Patients health care insurance

covers improved by 28.5 % as compared to patients who paid health care bills out of pocket payments option which had decreased by 55.1% as at that time. The study then concluded that patients who did not have the government coverage and who required complicated medical services such as surgery, head scanning, orthopaedic services or oncology, immediately made the decision to enrol in the scheme in anticipation of benefiting in the future eventualities that may occur in the future.

Gaffney (2020) while doing research study on health care in public hospitals in Europe, they concentrated only on inpatients admission cases, referral cases, sensitive surgical operations, accident cases, and length of stay in health care facilities, cost accumulation of bills, and patient illness severity upon admission.

However despite the adequacy and in-depth of the above study it did not take into account areas such as doctor-patient ratio, routine case follow ups procedures on reporting progress achieved through innovations. The researchers left a significant area of examination in as much as there were admissions in the health care facilities, the number of doctors in the hospital would determine how fast patients receives the required treatment in timely and adequate satisfaction (WHO, 2019). Early diagnostic of specific health care problems would create value for the subscribed insurance policy cavers by the patients, and more so it motivates others with similar predicaments scenario to enjoin as soon as all conditions permit new admission to the scheme.

In addition, studies done on various health care charges such as the research carried out to inquire on issues regarding equity and access to health care in Portugal. The study concluded that long hospitalization in terms of days by patients consumed unnecessary hospital resources, space, meals, conservancy and attention whose costs lead to increased fees with ambulatory care also loaded making the cost of treatment more escalated. Therefore making

conditions become more complicated as far as family members and relatives state of minds were worried concerning their loved ones absence from home and family get together sharing and cerebrations on various feasts (Morea et al, 2020).

However, there was serious significant shortcoming in the above study that the present research intended to seal the gap. This is especially the cost benefit analysis of UHC program financing the moderating effect and implementation in Nyeri County government especially putting in mind how patients would be diagnosed for illness early enough. Proceed to receive treatment as fast as possible including prevention and detection mechanism put in gear at the early stages in the same way it happens in the developed economies of the west nations (Hope & Fraser, 2015).

In a study carried out by WHO (2019a) report avers that patient charges in health care facilities were presented as quite high in numerous developing nations such as those found in the sub-Saharan Africa and Asia pacific regions. During the nineteen eighties this was as a result of huge monetary limitations and expanding contributor pressure at that time.

Advocates for high patient charges and out of pocket expenditures contended that costs would create extra income accumulation kitty to be utilized for the facility expansion. Which then could be administered to improve on value addition and productivity towards the health facility. While those in support for the graduated charges argued that the approach energizes the utilization of minimal effort essential to human service benefits as opposed to exorbitant hospital charges; and that they improve on focusing for resources allocated by diminishing pointless interest accumulation that demoralize health care facility maximum utilization by all the stake holders regardless of social status in the society (WHO, 2019).

The study has short coming in that the process can be effected by utilizing modern economies of scale to contain unnecessary costs like stationary sharing in offices, paper recycling and electricity switching off when not required and during day time investing finance which are not for immediate use in fixed deposit banks account to earn some interest (Kimathi, 2017).

The above research study analysis has serious and significant inherent shortcomings where the current study has tried to rectify certain aspects of crucial importance; first the data captured by the above researchers' shows that it's already over two decades since their presentation was successfully carried out. It is now being revisited, while things have changed tremendously and a lot of innovations and modifications in terms of re-engineering effected in the process.

The present research study which has just been carried out where the findings of the same proof shows that patient's health care attention and expenses accumulation have accomplished more mischief than anything that can substantively be admired in equitable fair share in the national resources distribution. The move always acts adversely towards oppressing the interest of patients' health care service accessibility there by introducing disadvantaging tendencies and consumption of available facilities negatively. It also contributes a lot towards poverty in the families budgets where assets have to be disposed of in order to compensate for the loan repayments or other bank advances taken for health care expenditure bills incurred. The process produce little tangible benefit to the targeted beneficiaries of the schemes but economic depression to families who are highly affected by such situations when they occur (Bhatia, 2018).

Waivers and concessions in medical treatment expenditures have for the most part been neglected by the social welfare service departments, and even when applied or administered

by institutions there is a lot of biasness, corruption and nepotisms, skewed towards encouraging malpractices by institutional administrators (WHO, 2019a). There has been no mitigation attempts curried out to ensure destitute persons access to health care attention in public health care facilities comfortably without financial distress and worries of cost escalation in terms of medical bills and other harassments. This kind of concessions attention is completely unavailable and not put into action plan in counties health care management attentions during planning.

While concluding who should benefit is troublesome; where lower income earner families have little or limited information on deferring components available to the general public in a way of concessions, and how to make the approach in seeking them; the way forward towards gaining a waiver is mind boggling and tedious process for the suffering patients in county public health facilities across the country. Those who argue against waivers contest that such attempts could at times affect cash flows used to pay merchants contracted to supply pharmaceuticals and non-pharm store items required in the health care facilities general running because of insufficient budgets and cash flow for that purpose brought about by social concessions and wavers if effected by hospital managements (Bloom et al., 2018).

The current study avoided the narrow spectrum of health care financing by bringing on board donor financing, the utilisation of prepayments, facilities own revenue generation and government enhanced budget costs control and corruption blocking. Therefore, waivers and concessions are part of the general administration costs and should be factored in the facility annual budgets estimates because the poor families and destitute exists within the communities (Bloom et al, 2018).

In support of the above exercise Alhassan et al. (2018) proved that there were a lot of management inefficiencies and this was the biggest obstacle faced by individual country

from achieving the health care Millennium Development Goals targets MDG on Universal Health Care service provision to all.

The outcome indicated 31% of the services were efficient enough while 69% of health care expenditures had no value addition at all. It was out right wastage of public resources with impunity benefiting nobody as earlier intended. Further noting excessive depletion of properties in rural areas including medical personnel where a lot of time was wasted travelling to and from the health facilities especially the spatially distributed health centres in remote areas with infrastructure remaining under developed for long due to unplanned distribution of the national resources across the country. The current study concentrated on the availability of financing towards health care and left out other areas of concern like monitoring and efficiency checks for another research in future exercises.

A study carried out in Central Africa, in the republic of Cameroon et al. (2019) did a study on Cameroonian health care sector strategy. The researchers found out that there were technical inefficiencies and that rural health centre facilities performed better than urban health centre facilities. This was the opposite of the findings in Ghana where wastage was more in urban centre facilities than in rural set up facilities. Alhassan et al. (2015) in their research study they made an attempt to measure the relative efficiency of peripheral health care facilities, the researchers employed a model that relaxes the assumption of constant returns to the scale but allowing variable return to scale.

The results were that efficiency improvement was correlated with cross supervision and careful monitoring of events with reports forwarding made mandatory and checked beforehand by independent team of examiners, there was existence of strong management technical committees, motivated and professionally qualified section heads being emphasized and employed for that purpose, issues regarding absenteeism being severely reprimanded.

Remuneration packages put above average with extra performance on assignments rewarded above normal rates of pay, prime age recommended in highly technical areas and also locations of the health care facility and infrastructure development modernized to create a psychological site impression that attract admiration.

The outcome was a motivated personnel and improved performance at work place with highly admired end results and satisfaction by the consumers of health services in the public health facilities (Alhasan et al., 2015).

Further research on evidence of hospital inefficiency was demonstrated in Angola by researchers (Kirigia et al., 2018). The results of the experiment found out that about 60% of recurrent estimated expenditures in the public health ministry was used for processes of immovable health facility daily expenditures, overlooking the budgetary requirements for mobile clinics expansion. Approximately 61% of health care facilities considered were found to be in excessive and incompetent in terms of medical personnel and the available utilities underutilized for long. The study recommended that the affected health facilities should improve their output and transfer some of the excess medical personnel to areas with inadequate personnel capacity in order to operate more efficiently to the desired standards throughout the country (WHO, 2019).

There were concerns raised in respect to the outcomes of patients' charges and other direct out of pocket expenditures required before any effective medication is administered to patients using OOPs. The results prompted an ongoing monitoring movement in health care financing in Eastern Africa a model devised and designed that works in a way that a client expenses are put to a system that empower prepayment and a tax subsidizing program instituted to supplement for the patients billing (Bump et al., 2016).

For example, Uganda government have just done away with the health care charges instituting an all essential social insurance schemes regarding health care concerns. Zambia ministry of health have also done away with patient’s medical care expenses in all the provincial government health facilities. The same trend is happening across other East African countries where different nations including Tanzania and Burundi are considering and currently putting into statute legist ration amendments doing away with patient’s health care expenses in public health facilities completely.

The new development encounters with patient’s health care charges minimization in Eastern Africa where they have and by large prompted expanded use of social insurance applications (Nation newspaper, 2010). In Uganda, practically all health care facility administrations have recently announced 50–100% expansion including the inclusivity and community participation. Half of the new increment being accounted for among adults in the most unfortunate quintile development (Kutzin, 2012).

However, of interest to note is the tendency to introduce changes in usage of the available financial resources where at times attempts have been utilized to legitimize expense evacuation negatively by defeating the intended purpose of cost savings for the future in the facility improvement?

Assessments of patient’s health care charges expulsion have mostly been significantly identified in the primary years of strategy performance, this is the period when the normal positive change effects are probably going to be most noteworthy which could be the maturity stages where familiarity is maximum (Maphumulo & Bhengu, 2019).

The above study is similar to the current research investigation, where the findings have prompted the assessment of client health care cost elimination (OOP). This change can at

times over estimate the strategy positive achievements and gains made earlier that might be neglected in order to catch the encounters of strategy implementers in their endeavours to stick to new narrow strategic desired changes.

This can happen regardless of whether expanded health care facility usage rates are supported, the degree to which health care administrators keep on holding 'new' arrangements and innovations requires a careful investigation, the effect on health care administration arrangement and the nature of maximum attention regarding effective health care financing have scantly been investigated to date especially in Nyeri County. The gap therefore requires a research study review exercise to bring in positive charges in health care delivery in Kenya (Mbau et al., 2020).

The absence of such guiding information, managers find themselves in serious efficacy that results in underutilization of prudent financial management skills approach in health care finance administration. Without the application of such scientific proven technical innovations cost containment remains elusive, where pricing of health care service products can remain far from reach by many middle and lower class citizens of any county, thus resulting to alternative medical solutions or worse death.

In the republic of Kenya, a study review has been done by Mbau et al. (2020) on various procurement reforms done towards universal health care coverage by the National Hospital Insurance Fund to contain health care facilitation expenditures where any savings achieved goes to contributors' kitty. Mbau et al. (2020) considered the influence of various reforms introduced by NHIF such as premium contribution rates increase, widening of benefit packages, and provider payment methods. The study found out that the unaffordability of monthly premiums by the less fortune families hindered many potential member recruits

from enrolling and embracing the innovative changes introduced by the fund scheme hence defeating the original purpose.

At the same time benefit packages are not well known by most of the intended beneficiaries. The inadequacy of the scheme finances to innovate closed methods of payments which should tighten all loop holes of corruption and ensure transparent open accountable process that maximizes revenue collections towards the kitty. Thus Promoting equality in services offered to the intended members of the scheme. The finance has of late concentrated too much on membership expansion to the detriment of quality of services currently offered to existing members and their families.

In support of Mbau et al. (2020) in their research study findings, (Oraro-Lawrence & Wyss ,2020) agreed that poor tactical leadership from the County governments has allowed loop holes to penetrate in the health systems, bringing the issue of resources scarcity and artificial shortage created especially on essential ingredients in the sector (drugs in pharmacy). The situation has brought about disagreement on various issues by participants' understanding to what exactly is UHC all about and what it means as a priority in its implementation and application style benefitting the public (Mbao et al, 2020 ).

The system therefore opened a window of inadequate service satisfaction on key phenomenon of the program such as how much fees for medication patients should pay or not pay in case they are enrolled under UHC program. Following the development Wyss et al. (2020) in their study on health care financing, they did an evaluation on how the policy will handle key and significance settings and how it might impact on health care financing strategy in Kenya. Despite the revelation, Wyss et al. (2020) gathered their data using interviews in-depth approach method which could have resulted to biasness by the responses given. They were highly controlled by the interviewers which means it must have been

skilled in support of one side to the detriment of the other hence cannot be significantly relied on for any meaningful research conclusion nor be related to the situation in Nyeri county health care facility finance management applications (Kimathi, 2017)

The current study exercise used a mixture of both interview and questionnaire in gathering data to avoid biasness and also extract as much information as possible devoid of any external influence from the health facility management officials under study investigation. This was to ascertain how finance from the ministry, county budgeted finance for health care and other sources charged from facility users, donor finance and contributions channelled to the pool may work inclusively to provide for medical needs of the residents. The reason is to have an impact towards implementation of complete UHC in Kenya successfully functioning (Bloom et al 2018).

### 2.7 Drugs in Hospital Pharmacies

The procurement of Essential drugs and Medical Supplies for delivery to health care amenities in Kenya is the delegated responsibility of Kenya Medical Supplies Authority. The agency is mandated to secure drugs stock and dispense curative materials to the counties and all other public health facilities within the nation (MOH, 2013). The procurement of the essential drugs and medical commodities is financed mostly from the national treasury through budget allocations to the counties. The sources of finance for the Central Medical Stores have a great influence on quality and efficiency of service delivery in health care facilities.

Where UHC has to succeed as planned and as expected significantly there are some factors that require modification. The factors are; consumer care and attention, quality of services, national policies on health and all other information availability. There is no single way of

bringing reforms in health care facilities other than enhanced financing to move closer to achieving an effective UHC system successfully in place. The devolved governments have to create policies that go beyond the usual tax- financing models and National insurance policies put in place. There is need for significant changes to create new ways to achieve equity in health care for all the partakers' and inclusivity (Kutzin, 2012).

Several countries that have taken this journey to innovate UHC programs have had to go through a metamorphosis of sorts as they try to get the right fitting style on financing health care improvement within the Country. In Asia for example a country like Singapore, the approach and mode of financing from national government to the private sector has been successfully managed through both parties involvement. It must be noted that one of the most innovative ways to go about the task was financial management innovation. It was achieved by restructuring hospital administration departments through mapping. Such that the public sector health care facilities have certain levels of autonomy to control.

At the same time, the facilities are not privatized; where the health care facilities are 100% owned by the Health Corporation of Singapore and only operational issues are decentralized (Meng-kin, 1998). This means that the hospitals are able to make their own demand and quantification so as to buy the medicines supplies they need with certain degree of independence. The fees paid by the patients through the HCS programme helps to keep the hospitals financially running and administratively responsible in controlling their budgets. This way efficiency is improved and any likelihood of stock outs of essential medicine reduced tremendously and successful.

However, due to squeezed budgetary allocation from the national government treasury and unchecked increased inefficiencies in the distribution chain, the HCS programme must be restructured appropriately. The restructuring must include changes in the financing approach

management reorganisation. In Kenya, Academic Model Providing Access to Health- Care did a study between 2011 and 2012 to find if Revolving Fund Pharmacy would ensure sustainable access to essential drugs in the health facilities of Kenya (MOH, 2015). The RFP model works in this way, USAID-AMPATH collaborate to have the initial donation of certain drugs to the county pharmacy central store. The drugs are sold at a mark-up price to the patients who use the county hospital facility pharmacy for securing drugs. The insignificant mark-up retail price is used to generate a marginal profit lower than the open market prices in order to attract patients and encourage them prefer buying from the MOH pharmacy outlets where prices of drugs are subsidized compered to open market venders.

The finance received from the sale of the USAID-AMPATH initial medicine stocks are then used to create a revolving fund for the county pharmacy by procuring new stocks of medicine, the process was sabotaged at initial stages by those who were entrusted in administering it and the finance misappropriated causing the donor to withdraw the financing out right. The Ministry of health through KEMSA remains the main supplier of drugs to the counties and therefore does not absolve the role of the devolved units in supplying medicine to the citizens being constitutional obligation (MOH, 2015).

The county government of Nyeri can apply the same technical approach to achieve a Constance and regular supply of essential drugs by selecting a centrally placed depot within the facilities own infrastructure. Where a revolving loan fund is availed to health care facilities to draw certain amount of essential medicine and refund the utilised amount later.

Furthermore, looking at developed economy nations of the west where health care financing strategy such as the regions in Western Pacific, a study done by (Chu et al., 2019) on health care financial restructurings. Chu et al. (2019) did conclude in their research findings that inhibitors that affects health care reforms are poor stewardship, poor technical skills

application and imprudent accountability shortcomings, non-equitability regulation mechanisms, relying too much on foreign financing with limited local input to supplement health care budgets and poor priority choices towards determining the choice of the pools to use at certain times. The place of application matter allot and by who the trust of administering resources is to be bestowed also play a greater role in financial management stewardship (Chu et al, 2019).

On the brighter side, Chu et al. (2019) in their research study confirmed that most of Asian nations are accepting the pre-paid methods of health care financing system but are being dragged backward by the application of poor administration approach and low-level growth of social health care insurance schemes in operation. Notably the Pacific island countries in Asia, are faced with stagnating economic growth and rely mostly on government financing wholly, with some countries receiving decreased external financing. The situation has brought about the importance of having strong stewardship and public sector financing systems in place (Chu et al, 2010).

It gives an intrigue task to investigate some of the challenges that Nyeri county health care sector face as they implement UHC given that there are similarities resembling the above mentioned scenario in terms of environment and general economic status with the Asian countries of the pacific region.

The above research study finding, may not apply perfectly in the local situation reason being that vast majority of Kenyans face the challenge of irregular and unreliable income to constantly pay for health care insurance taken.

Pooyan et al. (2018) in their research exercise they examined the influence of reserve portion adoptions from pooled resources on productivity and value chain in health care in eleven

nations chosen at random. The nations included United States of America, Greece, China, and Australia amongst others. The research findings revealed that the fundamental strategies for resources assignment comprised: undeviating programming, Markov model analysis, price-feasibility investigation, per-capital supply allotments. Demonstrating the importance of resources assignment portion in management of public utilities.

The most interesting aspect of the finding was that, the examination looked at the impact of the benefit circulation techniques on health care administration, but Significantly the study missed entirely on how health care facility administrators were tracking the pooled resources utilization's impact assessment prudently in a way that benefit the beneficiaries the best of their satisfaction within the jurisdiction of the facility itself (Pooyan et al, 2018)

Earlier research study carried out in 188 nations by Global Burden of Diseases Health Care Financing Collaborator Network (2018) the results finding gave various trends that have surrounded UHC from 1995 to 2015 in developed economy nations of the world. It began by noting that contributions towards UHC program should not stress out much of the financial resources in the family financial reserves or savings.

The study while utilizing Gross Domestic Product of the 188 nations from 1995 to 2015 realized that UHC index had a significant relationship with pooled resources per capital. That is, the more a nation invested on pooled resource financing availability, the higher the performance on UHC impact, on growth and sustainability of the programs in general and can be reflected on the country Gross Domestic Product (GDP) (Global Burden of Diseases Health Care Financing Collaboration Net Work [GBDHFCN], 2018).

Various factors given as main contributors linking this relationship are improved medical personnel resource in health care sector, enhancement of quality health care services offering

that are responsible for increasing more benefits from the insurance cover packages. However GBDHFCN (2018) did not exhaust all the contributing factors such as major issues like political influence in a country, prudence financial management of the pooled resources and inflation rate degrading the nation's local currency against the hard currency US$ and Euro currencies at the material time of implementation. The current research study will assess the influence that politics have towards the pulling of insurance schemes in Kenya which are causing hindrance towards implementation of UHC in the entire country including Nyeri County central Kenya under the current research study and on pilot assessment.

A research study carried out by Gok and Altındağ (2014) where they attempted to assess the suitability of pooling of resources and prudent use of the said resources from the middle and low-income blanket earner family contributors in republic of Turkey. The results were that adequate financing of universal health care was viewed as the basic unit of consideration. Its evaluation and legitimate remedy of the health care framework appeared to be unavoidable. Therefore, the amendment is conceivable through an assessment of arrangements, expanded proficiency, restriction of superfluous uncontrolled expenditures, and reacting to necessities of society in a timely manner or proactive approach to issues.

Turning attention to literature review done earlier in emerging nations such as Senegal in West Africa, (Daff et al., 2020) in their research study mentioned health care insurance scheme system as the core factor that cannot be undermined when doing serious economic planning in a country. This is because every nation wants to achieve the ultimate goals in regard to UHC maximum benefits to her citizens regardless of their economic status. In the case of Senegal according to Daff et al. (2020), there was launch of universal health care financial protection program in the year 2013 called "*la Couverture Maladie Universelle". T*he program had a mandate of ensuring that Senegalese citizens working in informal sector

are fully covered and adequately accommodated in the health care program packages operated by the state department of health.

The research study done by Daff et al. (2020) in their findings elucidated further that the programs had encountered negative issues such as low membership enrolment drive and inadequate amounts coming from member contributors towards the finance in general. There was low compactness of benefit packages availability. The study further documents that Senegal government in a way of getting a remedy to the problem reacted by raising the risk pool to the desired level. They also improved initiatives such as periodical fees by organizing medical camps and consolidation of information systems making them simple in order to counter the challenges faced initially in planning and also to iron out any negativity and eventualities creeping in the future as surety of safety measures (Daff et al., 2020).

Given such a scenario the current study leaves an efficacy regarding the measures taken to ensure the member information data consolidated in the information system was secure to avoid abuse of data and for future usage safety. Where the custodian and retrieval access by users made easily identifiable. Caution against any attempt of manipulation to the desired results by management deception tactics emphasised and avoided. This therefore creates a gap to establish some of the challenges that Kenyan social insurance fund NHIF is facing and how the government is handling the challenges at various public health care facilities in the country to tighten any loop holes by mismanagement of health care coffers fund, such that all benefits going to the citizens are intact and safe where only the members of the scheme benefit (Daff et al., 2016).

Further a research study carried out by a group of researchers in West Africa, Oyekola et al. (2020) in their research experiment examined how UHC can be improved through engaging community partnership participation in the republic of Nigeria. The results by Oyekola et al.

(2020) were highly motivated by the inequality gap that was widening day by day setting out social classes of citizens in the same community regarding health care services. There were unregulated spending by the government agencies and administrators of the fund, non-comprehensive medical insurance schemes to certain groups of Nigerians mostly the poor and lower / middle income earners in the same society.

The results finding of Oyekola et al. (2020) uncovered that UHC growth was not improving due to low budgetary allocation at the regional county level provided by health care programs and the national government treasury. Patients were being forced to pay excessively from their pockets when accessing health care services in public health facilities within the country.

The research study further conclded that encouragement for risk pooling in financial resource mobilizations ware needed urgently in Nigeria as it was short charged at the time of the research exercise. However, the study relied heavily on secondary data that was earlier studied and records coded and filled by other researchers. Where the information materials were contained in the storage rooms and could be perused to see their experiences and observations done on health care financing systems earlier observed for comparisons purposes. It must be noted that such information were old and many things had changed tremendously with time passing approach to doing things taking a different direction (Oyekola et al., 2016).

Therefore, the outcome could be challenged on the basis of time lapse. It was historical information where time had changed putting a limitation pertaining the real scenario currently on UHC in the republic of Nigeria. All other factors held constant exclusive for that matter. The current research study applied a composition where the use of questionnaire and

oral interview approach methods of data collection to gather information on the real situation and time being an important factor regarding UHC in Kenya reflecting current situation.

In a study carried out by Otieno (2016) while doing a research investigation study in Baringo County Kenya on health care financing, they stipulated that there were no measures or formula for monetary resource assignments; at the same time there was slanted dispersion of human resource with some sub- county regions being sustained while others were distraught. Finally there were no traces of any party-political obstruction with the conveyance of the health care resources from the national pool. The result of the study was that there was dissimilarity of both budgetary and human resource designation/conveyance among the sub-counties of Baringo County. Where some areas being very remote compared to others with minimal or completely no means of communication or any infrastructure development existing (Otieno, 2016).

It was demonstrated further that sub county of East Pokot had the most notable in population and the biggest land territory in the County. The most noteworthy uniqueness from the nature expectation noticed is separation from the rest of other sub -county, yet it had the most minimal per capita consumption and the least in health care accessibility. The personnel resources per 100,000 of the population are less than normally anticipated. The research findings information additionally found out that, because of solid political impact on resources allotment, it was hard to create value addition (kaizen) in the appropriation of assets. Given such a situation, the research investigation study didn't inspect the impact of resource allotment on administration channel and health care prudent management of the available resources at disposal in Baringo County (Otieno, 2016).

In another research carried out by Mwangi (2015) who investigated on the association between key courses of action performance and organization movement at National Hospital

Insurance Fund NHIF in Kenya. The research examination similarly presumed that advantage assignment had impact noteworthy implications on the limit and pace of key planned performance along the lines' of organization movements. The assessment presumed that there was significant problems glanced in the utilization of key course of action at NHIF, for instance, non-attendance of correspondence between the system formulators and the agents, this acted more less like bottle neck in the flow of information linking the systems.

The study examination found out that the task had huge repercussions on the limit and pace of indispensable course of action execution and thus organization transport was affected tremendously which was key ingredient in the smooth management task. The examination recommended the separation of the identified risks during planning and execution which should be outfitted with agreeable and available resources since the investigators expected an essential activity and indispensable course of action on assets utilization (Mwangi, 2016).

In another experiment carried out by Kimanzi (2017) the research exercise examined the elements affecting course of action in health care maximum application in significant activities in health care facilities in Mwingi Sub County of Kitui County Kenya. The investigation utilized purposive examination in the choice of six medical officer specialists' clinicians and 12 general health care practitioners based at the Sub County emergency clinic (casualty area) they enjoyed the privilege of being the officials accountable for giving clinical and general health care administration services. There were also 20 medical caretakers and all the groups chosen by utilization of straight forward arbitrary inspection. The results were an aggregate of 38 respondents who took part in the examination. The investigation found out that finance related designation by the legislature was in deficient and far below the expenditure budget target, therefore the bargaining arrangement of value addition in health care administrations in Mwingi Sub County clinics ware severally

compromised. In the conclusion analysis indicated substandard services offered to the intended consumers of services in the public health amenities of the sub County.

A research study done by Lesiyampe (2021) where the researcher pointed out that issues of unbiased distribution of financial benefits is one of the determinant issues which can ruin every single past exertion to locate a maintainable arrangement. In addition this evoked high uneasiness to all the concerned players taking part. In some low-income nations, spending portion designs disregard changes in extra time on medical service needs like population size increase and illness portrayed limiting the capacity of social insurance administrations to react to the progression. The development intensely impacted on the existing health care administration flexibly designs to suit each locality with unique set ups to accommodate the environment remoteness where health service are offered and can never be uniform application throughout but only by plea clear designs.

## 2.8 Health Care Personnel in Hospitals

There is increased focus on personnel resource management across the world, if well-handled can be reorganised to deliver significant performance in health care facilities to a greater extend. Concentrated and owed hard-working attention is being focused on how personnel resources management can effectively be improved to turn around complex tasks. To be more precise and specifically point out that personnel resource are some of the three major health care system ingratiates, with the other two major inputs being infrastructure, tools including equipments as capital and key provisions of consideration. Health care personnel when considering to health care services, can be said to be the different kinds of clinical and non-clinical staff responsible for public and individual health care intervention and its crucial service in health care delivery (Mwangi, 2016).

When examining health care systems in a perspective of the global systems a lot of personnel resources are used to check on issues and questions that arise. Size, composition and the distribution of the health care personnel, capacity building of the staff, motivation, migration of the health care workers the level of economic development in a particular county and socio-demographic, geographical and inherent cultural practices of the people is a major concern. All these combined determine the retaining of motivated workers in a county health care facility (Mwangi, 2016).

All this is done with an aim of providing the best health care services that residents can access from within their reach without reference to overseas medical tourism for diagnostics and treatment abroad that can be carried out locally.

The various types of county strategic resources that can be allocated include personnel resource capital, technological resources, and financial resources and physically built in resources. Where medical health personnel capital means recruiting and retraining of medical staff and non-medical staff employed by the county government public service boards. They include finance managers, accountants, health care administrative officers, social workers and general staff engaged in the facilities. Technological resources are the high tech modern machines and equipments's bought by county governments to be utilized in assisting para medical personnel in making informed decisions pertaining the diagnostic of illness at the early stages or detection spotting mechanisms (Miles & Man, 1994; Robson, 2012).

Financial resources can be any monetary contributions from the county government prudent budget distribution procedures which includes authority to secure short-term credits when need arises. This may include bank overdrafts, seeking for financial donations and grants that are offered by various friendly development partners through the county government's

connectivity, much of it goes to cater for personnel requirements at work place (Kimathi, 2017).

Employees also require physical resources which may include all other facilities that are provided by the county government but which are not medical services in nature. They could include buildings, electricity generators, vehicles/ambulances, hospital beds, computers accessories and savers, general office stationery. Counties are moving endlessly from inactive and holding onto vital resource allocation approaches as these strategies tend to improve health care frame works performance through minimization of costs escalation and budgetary control containment procedures. Expanding effectiveness, and improving access to the required health care services (UNDP, 2017). Encouraging financial innovations like budget making process utilizing just in time technology by hospital finance staff and procurement officers.

Regarding the same phenomenal as above, developed nations like China according to earlier studies carried out by health care financing strategy researchers there is a lot of improvement made regarding health care staff welfare financing in recent years. A case study by Tao et al. (2019) the exercise involved the synopsis on the milestone achieved in China since the inception of health care reforms in the year 2009. They used secondary data evaluation approach where Tao et al. (2020) analysed the data to derive at the information that were able to confirm out of pocket payments had substantially decreased by 30%, while health care insurance cover usage had progressed by almost 70% amongst other latest developments (Hope & Fraser, 2015). However, in as much as there were remarkable positive developments observed, significant traces of fragmentation remnants of OOP were noticeable. This include inequality in health care delivery systems, increased demand for high quality health care services including medical specialist attention anchored to service

delivery to the citizens. The demand is far above what the regional governments can deliver to her people in dire need. The report therefore is a prove that developed nations such as China are still struggling with unreliable systems in force especially on how resources are being strategically allocated to ensure the elimination and disintegration from one region to another within the confined boundaries (Oyekola et al., 2020).

It therefore creates a gap on how to understand some of the challenges that Nyeri county face when strategically being in the procedure of assigning resources to health care facilities in order to achieve a reliable UHC programs in their area of jurisdiction either from own resources or from the national government annual cash transfers.

A research study carried out by Figueroa et al. (2019) revised some of the challenges and primacies that were uncovered and were hindering health care implementation and improvement in the twenty first century. Across the world leaders strangle to improve health care services especially in relation to personnel administration and remuneration hindrances. After reviewing sixty three previous literature analysis, Figueroa et al. (2019) divided the issues into three groups.

The first group which was called (macro)-group with characteristics incorporating societal, demographic and cultural inherent characteristic issues characterized on how members of health care staff were administered. The second group which was identified as (meso) had characteristics pertaining to performance measures and changing engagement structures. The last group was (micro) which focused on the shifting roles and expectations challenging how employees welfare issues were being administered by their employers, among the challenges being professional carrier progression and on job re-training (Figueroa et al., 2019).

In relation to the above study observations, the current research is similar to the above especially on how county governments are often tasked with the mandate of managing health care facilities at the county and sub county levels both rural and urban areas including regional referrals for complicated health care cases and where working equipments's and medical personnel are not adequately recruited to the optimum level required (Kimathi, 2017).

The county governments' health care facility managers are at times faced with challenges whereby they have to accommodate diverse medical personnel interests and desires originating from different back grounds and past exposure experiences, ethnic groups inherent cultures, religion believes back ground and different opinions plus future expectations. It therefore means that as long as the county health care facilities have to be functional, it is the mandate of the devolved units management to strategically strategize finance resources carefully, allocate human resource in equitable logistic attention and remunerate them adequately and timely so as to facilitate a work force competent enough to manage UHC programs implementation smoothly without any bottle necks arising out of financial resources short comings and the society diversified needs (Figueroa et al., 2019) .

In another study curried out by Figueroa et al. (2019) regarding health care personnel welfare self-sustaining the research study findings confirmed that management technique approaches are always transforming with time, the research study did not elucidate further some of the ways that various health care facility administrators have utilized their a acumen ship skills to ensure changes and diversified opinions are properly harmonized and accommodated, classified accordingly and adapted.

The current study therefore is committed to extensive and thorough research on personnel welfare strategies in health care facilities and implementation of "UHC" in the mediating role

of finance in provision of universal health care in Nyeri county government Kenya. The study uncovered some of the ways the region health care facility managements have been operating in attempt to ensure medical professionals demands are settled amicably and any agitations by trade unions resolved agreeably by parties concerned and conclusively, it includes the sourcing of finances and making available the required gadgets including the "PPEs" in health care facilities, personnel comprehensive medical insurance covers to mitigate the effect of health care eventualities, special duty allowances and career progression clearly documented. These are the major areas of concerned for the research study (Figueroa et al., 2019).

The study focused on how facility managements address the issues pertaining to financing of medical personnel labour force reward packages and replacement of those retiring or changing jobs. Technology and modernization of operational areas and facilities. The financing strategy could vary from each county government due to locality, environment and the coordinating aspect with the facility management, the operators then must be trained with the latest skills and knowledge embedded in their minds. Offer incremental salary to senior personnel operating the equipments in accordance with the international standards recommendation range, offer employment to more medic staff among other ways of prudent personnel management (Amartya, 2001).

Previous research study such as Ganesh (2015) analysed the adequacy of the ways to deal with worth of medical health care services and consequently to increase on the conveyance in private emergency clinics administrations. A sum of 122 replies was expected after the polls were carried out. The study examination found out that adequate social insurance strategy benefits affected the roll-out of administration for better innovations and facility improvements where reliable source of financing is assured. Quality medical care service

approaches mirrored to specific commitment with three quality measurements, to the required structure, procedure and result estimations (Ganesh, 2015).

In another experiment by Mosadeghrad (2016) where the researcher attempted to separate the factors affecting the idea of personnel administration matters in respect to the republic of Iran health care facilities. The assessor did all the round exploratory basic investigations and focus gathering interviews using 222 medical care administration accomplices including human resource administration specialists, selected heads of departments. The idea was to recognize factors that influence the social protection in organizations administered in the republic of Iranian human resource administration affiliations (Mosadeghrad, 2016).

The important point is that most social protection providers who were interviewed with this kind of examination approach consented that nonattendance to duty was rampant in public health care facilities, where they oblige the idea of human administration in organizations that require maximum financial rewards and motivation in order for it to function properly. In such an establishment it couldn't be viewed as patient concerns issue but management weakness sought comings in prudent financial management on personnel management administration matters (Mosadeghrad, 2016).

In another research experiment carried out in developing Nations Twea et al. (2020) assessed how resource allocation can be implemented to boost UHC in Malawi. Twea et. al. (2020) concluded that insufficiency of resources is a major problem of not low-income nations but also medium-income nations.

The study underpinned the policies that are key towards changing technical ideas into tangible results that have been missing in Malawi for a long time. Twea et .al. (2020) uncovered the short coming after evaluating the (2019) supply sharing method for the

physical circulation of the government health sector budget to the devolved units responsible for distributing health care information and materials. The study is related to the current study in that it looks critically at examining the kind of strategic resource allocation formula used by Nyeri devolved county towards boosting UHC from the respective annual expenditure budgets estimates (Twea et al., 2020).

Further, similar studies were carried out by Love-Koh et al. (2020) they documented various approaches that were applied earlier to enhance equity towards health care resources allocation in developing and near developed nations. The approach is of greater benefit incidence analysis to measure devolved unit's health care expenditure budget and the marginal incremental benefit incidence analysis in order to measure how groups benefit from additional expenditure in relation to the percentage of finance increase verses the degree of change in terms of service delivery benefits accrued (Koh et al, 2020).

However, Love-Koh et al. (2020) didn't specify the point of indifference when it comes to county budget allocations based on equity, whether it is both vertical and horizontal incidence equity accrued. In horizontal equity, counties with similar health care requirements are allocated the equivalent resembling resources. While in vertical equity, counties with diverse health care requirements are allocated with diverse supply given their unique desired resources quest (Love et al, 2020).

It therefore creates the need to do research on how this kind of resource sharing formula that Nyeri county government have been receiving from the national government of Kenya and whether it plays any crucial role in determining the proportions used to fund various health care needs in the counties under the research experiment especially the personnel issues.

In another research carried out by Birhanu (2016) in the republic of Ethiopia while attempting to find out financial hindrances in health care staffing, the final analysis saw that the accessibility and nature of Human resource management had unique general weakness, the sorts of correspondence between the wellbeing of employees and patients was very poor, for example in the emergency wing in the health care facilities there was need to give a token of appreciation in the form of hardware materials or simple tools to the health attendants during end of the year staff parties, at times cash in a way of compensation for the good work done. Motivating force and remunerations improvement designated to promote efficiency by changing the psychological mind set of job appreciation at the work place by the employer has a long lasting impact and it's always a fixed mind set (psychomotor) (Birhanu, 2016).

In the absence of such recognition is the limitations of employee's energy relaxation and mind set blocking in terms of job approach innovations early and completion. However, the study experiment carried out in Ethiopia failed to analyse the part of human asset improvement and its impact on administration conveyance at the medical health care facilities in the republic of Ethiopia they left a huge gap to be filled. The end results should have indicated whether there was any value addition at the same time it measures the degree of change in output given the resources consumed to promote motivation at the work station to the employees in order to trigger efficiency (Odhiambo, 2015).

Locally in Kenya a study by Musyoka et al. (2016) embarked on an experiment to find out factors affecting predominance office personnel conveyance in the network health care in Nyahururu level five health facility in Kenya. Upon gathering the information, the investigators used spellbinding study approach. The experiment at that point utilized delineated irregular testing to get objective populace of 129 respondents' of office staff, medical personnel, including specialist doctors, medical officers of health MOHs, health care

takers (Nurses), clinical medical officers (CO), research centre technologists and medical pharmacist ( Musyoka et al., 2016).

The research study found out that absence of specialized advancement and data framework connectivity extended to the professionals was a significant reason for help less short coming for consideration. Along these lines it was recommended the possibility of an open medical clinic putting up resources into innovations for improved treatment of patients in level twos and threes at county health care facilities, the expansion therefore was expected to achieve financial resources desired goals through cost minimizations by sharing available tools and stationaries (Musyoka et al., 2016).

Again, in Kenya Odhiambo (2015) carried out an examination to find out the impact of staff usage of ICT in medical health care facilities drugs dispensation out lets programs in pharmacies. The research study found out that there was moderate appropriation of computer information technology ICT in the vast majority of the public health facilities in the country, more so the rural and remote areas with electricity connections and staff technical knowledge (Odhiambo, 2015).

Following the outcome of the investigation that was carried out, the results and suggestions were the application of a coordinated technological method to deal with Quality Management Programs and expanded installation of ICT advancements in the medical health care centres. More so those tasked with the duty to improve turnaround time especially in the rural and remote localities. However, in the case of Odhiambo's experiment end results didn’t show how the circumstance could influence administration conveyance at the wellbeing offices of the facilities under research study, and its overall impact on cost minimization especially on staff motivation and morale improvements. The current study keenly looks at the short

comings and attempts to address the issue conclusively and amicably given the same environment (Odhiambo, 2015).

In an attempt to improve further on the above research findings Kihara, (2021) experimented further on up grading and improving the abilities and information on labourers (unskilled work force) by placing them in a superior situation to pass on items and endeavours in the safest way possible, acclimating to make alteration and obligation promise to improve work performance by advancing in products or procedures of doing things faster. Representatives were prepared for extra duty, where they saw an incentive as vital readiness motivation and it helped them advance in their professions and where it also improved their quality capacity and that of performing duty assignments (Kihara, 2021).

Again in another experiment Kimanzi (2017) in an experiment on behaviour saw that in Kenya the ministry of health experiences proficient departure commonly known as cerebrum channel. As indicated in the data book of nursing council of Kenya a certain number of nursing workforce was taken for research study, 1278 medical caretakers left the country somewhere in between the year 2008 and 2012 for greener pasture abroad in the developed economies of the west. At around the sometime somewhere in the years (2008) and (2012), another group of 826 medical officers also left public service employment to join the private segment as green pastures where remuneration package is good (Kimanzi, 2017).

In the same year Gitonga and Keiyoro (2017) in their research study examined the issues encompassing the execution of human services extended in the winder Meru district under the National government administration framework before devolution (2012). They took a sample size of 15, 224 support stuff employed in open medical clinics in the area of jurisdiction that is department of Health, Meru Central district.

They also oversaw the department of Health care officials in the wider Meru district and 10 health Administrators of health care services, there were social workers picked to take part in the study. The study depended on four hypotheses; strengthening hypothesis, ideal asset dispersion hypothesis, financial decentralization hypothesis, and hierarchical hypothesis of learning. The study demonstrated that effective usage of region subsidized finance on health care service programs were influenced by the district's designation of wellbeing human capital planning and application of skills (Gitonga, 2017).

At the same time a research examination by Owino (2014) who researched on the adequacy of value-added chain in medical staff services approach when upgrading the conveyance of administrations in Kenya's local referral emergency level five facilities. The outcome of the study uncovered that the usage of various levels of human service job grades calibre approach is fruitful in improving the medical health facilities administrations.

The study built up a case that Health care approaches, for example, Information and Communication Technology ICT, where the board of management should practices and effect procedures that some data framework development and have a relationship that support strong conveyance. Well like other arrangement of activities, usage of ICT and its advancements greatly affected follow-up of office forms (Owino, 2014).

It therefore showed clearly that key Leadership Training and its applicability, together with Results Based Financing, and explicit key intercessions at the departmental level both had a high critical impact in improving and assisting quality result outcomes, for example, the pace of re-confirmation of reports, time taken to serve a patient and normal holding up is desired ideal opportune to be observed at all times. While Quality improvement activities through ICT application by certain officers in a way to minimize cases of holding time showed

somewhat noteworthy good relationship contrasted with different intercessions taking place (Owina, 2014).

## 2.9 Machines and Equipments in Hospitals

The devices are essential for the health care services offered in health facilities for deterrence, analysis, dealing and restoration of various sickness and diseases, they are extremely important to medics as tools of work. More so they help to identify specific problems causing illness that bring suffering to the people. There are various types of tools and medical equipments which are used in health care facilities, among them MRI machines, X- ray machines and others (Miles & Huberman, 1994; Robson, 2012).

Medical devices need to be carefully managed for better utilization to produce an effective and efficient health care intervention for its citizens, However, inappropriate selection and attainment of knowledge; ideal skills base; conservation and overhaul budget; satisfactory support of substructure; and satisfactory administrative skills and can effect in wastage of incomes across the counties. This may lead to decreases in the quality of the health services in the delivery of hospitals services.

.According to Papanicolas et al. (2018) in their analysis of health care spending across the world. Papanicolas et al. (2018) sheds light that in as much as the USA government is spending more to reform the country's health care delivery, there is little proof of significant impact on improved health care as compared to other developed economies. The value addition for the huge amount of financing is not reflected across as having unique advantage over other nations of the same status in terms of health care provision and satisfaction coming from the consumers of the services offered (Papanicolas et al., 2018).

The study utilized secondary data obtained from 2013 to 2016 according to reliable sources to come up to a conclusion that USA was spending twice as much as other developed nations on health care expenditure yet the usage rate of health services were as equal as that of other developed nations that spent slightly less as compered, the overall impact is the same viewed from service satisfaction by consumers of health care services (Papanicolas et al., 2018).

It means therefore they were overspending to achieve the same services but utilizing unnecessary huge resources while the end result analysis were the same as compared to a nation such as United Kingdom amongst other developed nations. In as much as this study was to articulate the cost of health care spending, it failed to consider the fact that the data collected since 2013 to 2016 was under the leadership of different regimes and the study was done in the year 2018 when there was change over to different office holders. It meant that the overspending could be as a result of policies directed by two different governments having deferring approach in priorities. The study over-looked the policy administration as an important aspect when gathering data for research and analysing the results (Papanicolas et al., 2018).

In a study carried out by Lee and Wang (2015) they embarked on an experiment to check the impact of budget spending on health care. This was conducted across three nations of USA, Taiwan, and China in the past is keenly emphasizing on spending patterns on health care equipments. The investigation revealed that spending budgetary estimates had differential effect on the general spending especially the development votes in various nations: there were a noteworthy (significant) connection between spending designation and spending for development in Taiwan. In any case, the relapse constants were undesirable for the USA and China yet factually critical to have an impact on the general health care sector budget regulation making exercises across the board (Lee et al., 2015).

In another study carried out by Orina et al. (2019) studied the examination on aspects manipulating budgetary allotment processes in connection to procuring health equipments in selected county governments of Kenya. To start with, incomes generation were critical to budgetary distribution in certain areas depending on the saviour needs and remoteness in such regions; the county administrations had information of genuine regular incomes accrued as being the methods for distinguishing the designs for observing income accumulation (Orina et al., 2019).

Regional government headquarters being assigned the responsibility of ascertaining accuracy of revenues generated (controller of budgets). Second strict rules were firmly followed against cost centres' spending direct from the revenues and significant divergences of remittances examined against the budget.

The end result generated were that budgetary controls on procurements are significant in budget allotments in sub counties; budgetary assignments were finalized considering the determined revenue estimates and the use of projections emphasized; County government spending plans (budgets) contained in a special file for the necessary data reference purpose. The end results is human capital improved tremendously and the spending patterns outside the budgets ware significantly contained in the regions under observed control experiments; the government had established spending cost centres that organized and imparted data for analysis and reporting procedures; the county governments had set up strategies that controlled all the spending activities making members of staff prepared to refrain from spending from source and observe control mitigation procedures which is the budgetary checks and balances from time to time (Orina et al., 2019).

There was also the budget process with abilities to precise and timely come up with tentative working annual estimate with strict warning on expenditure provisions and supplementary budgets midterms reviews in the (FY).

A research by Nkanata (2017) where the researcher embarked on an experiment to find out the major elements influencing the administration spending appetite on equipments repair and maintenance from office expenditure votes behold the estimated despite the accounting stuff frequent advice against doing so in Kilifi County government. The experiment embraced an enlightening study structure on cost of spending escalation. The number of population target in the experiment comprised of 42 government services entities spread across service centres. The example configuration utilized an estimate of 70 respondents.

The investigation results reviewed that strategies and approach to work, proper utilisation of materials like paper recycling, stationary sharing in the offices careful electricity control in offices planned in a way of cost savings were never followed at the costs centres. The votes could be utilised in medical equipments repairs. There by excessively escalating spending patterns by designations of cost centres.

The lawful and institutional structures were found to be frail and needed change with the members handling the legitimate arrangements for upgrading spending adaptability, while the governing body was found to have the capacity to control the usage of spending portions of the budget votes heads and devise cost control mechanisms required to upgrade the system routinely in order to equate the centres with current changes in the world and develop even better systems in order to compete effectively with the rest of the world in expanding on unnecessary over heads that can be turned around completely and avoided for cost saving (Nkanata, 2017).

### 2.9.1 Hospital Infrastructure Development

Infrastructure in the health sector is an important investment asset for promotion of health care and development within the health sector system in the nation. It puts importance upon creation necessities of health care facilities in the country (WHO, 2018). It mainly encompasses five key components: skilled human labor force, integrated electronic information systems, public health organization amenities, resources and research innovations plans. One of the important factors to plan for in medical and health care centers, must be the problems and deficits identified. When identified in time, measures need to be formulated to bring about improvements. However, there is need to incorporate the scientific and innovative approaches in research methods by bringing about the developments in the health care infrastructure.

Investment and development in health care sector is a major significance contribution in promoting and enhancing social wellbeing of the health of the individuals in the county irrespective of the age groups, community's categories and backgrounds. Main areas that are factored in this research paper is the meaning and significance of the health infrastructure, understanding the functions of the health infrastructure and the areas the health infrastructure on how improvements can be done to take place on priority basis given the existing budget projection (WHO, 2018).

Accomplishing universal health care has become a predominant arrangement attraction across the world where health care network implementation and applicability mechanisms are in gear. Internationally, progress towards UHC includes eager objectives for extending access to modern medicine to citizens that can be equated as scope of powerful health care management, a significant increment in health care utility and setting up more health

infrastructure prominent dependence on prepayments and pooling instruments (resources) to fund such health infrastructure catering for all the participators of a given jurisdiction may it be people with disabilities and others (WHO, 2010b).

### 2.9.2 Relationship between Financing and Health Care Provision

Achieving substantial and meaningful UHC experts predict nations have to spend in any event approximately the tune of US $ 86 per capita in the year 2020 on health care provision, and about 15 % of Gross Domestic Product (GDP) (McIntyre et al., 2017).

To support the above hypothesis two separate reports, have been analyzed the first being by Debie (2022) and an earlier publication by WHO (2011) both assessed how far the African states were reacting towards achieving the Abuja declaration of 15 % of GDP set aside for health care spending. According to WHO (2011), and in the year (2001) reports approximately 189 African heads of states and governments signed a pact on behalf of their governments committing that they would always honor and set aside 15 % of their annual national budgets to improve on health care in their countries. To make good the promise in the year (2011), 27 African nations had increased the health care budget proportionally to march 15 % of their GDP, but notably only Rwanda and South Africa republics were able to surpass and allocate more than 15 % of their countries GDP as at that time (WHO, 2011).

In the year 2016 the reverse happened, 19 African Nations had actually reduced their health care budget to even lesser than it was before signing the Abuja declaration (Masaba, 2020) However, a positive change occurred in the year 2020, where the republic of Ethiopia, Gambia and Malawi had already surpassed the 15 % Abuja declaration target (Masaba, 2020) In East Africa for example Kenya has been dragging behind towards achieving the Abuja declaration since then. More recently, budgets estimates in the years 2012/13 on health were

(7.8 %); 2013/14 (5.5 %); 2014/15 (7.5 %); 2015/16 (7.7 %); 2016/17 (7.6 %); 2017/18 (8.2 %); 2018/19 (9.2 %) of the country's gross domestic product (Health Policy Plus, 2019).

Some of the various reasons put forward as to why this agreement has never been achieved even once in any financial year since the historic signing of the agreement is a mixture of theories for example, the national treasury explains that for several regimes in the past, Kenya government has been basically tied to an increase in external public debt servicing.

Another reason being that of political influence where leaders are not serious on international conventions signed earlier and the final theory being inflation catching up including Covid 19 epidemic disrupting the gains achieved so far making the situation not conducive to increase the budgetary allocations by the national treasury (MOH, 2019). Clearly, without emphasizing keen interest on the financial space for health care financing it can be detrimental to the achievement of UHC in Nyeri County government, given the estimates above it does not envisage any extra ordinary severe out breaks like Ebola or Corona virus that might consume more of health care resources not planned for or put in the national budget estimates (National treasury 2020) in any year.

The idea of medical coverage has gotten in-depth integral concern for the UHC advancement, in conviction of budgetary and chance assembling of resources bargains the best assurance for practical use and shielding the citizens from money related hardships when faced with managing health care financing requirements from OOP sources (Lagomarsino et al., 2012). Public financing should play the very basic role and it has been generally contended that, certain residential tax assessment ought to be tied to health care financing so as to extend the monetary space for citizens' wellbeing and seek social equity objectives.

Various research studies have been carried out and documented pertaining the Moderating effect of finance in determining and provision of UHC in Kenya particularly the health care

spectra across the world. In Ethiopian republic, an assessment by Shiferaw and Zolfo (2018) in their experiment saw non ideal ' one size fits for all ' or "one stop shop" formula developed plan, and it is firmly proposed that joint inter operation advances be used by closely related governments and be done for all settings.

'Tele' medicine is still operational and remains a favorable innovation of progression in Ethiopia and other sub-Saharan African countries, this has impartially been used when discussing the quantifiable impact of its use and remains relevant alternative to date in spite of the way it has shown utilitarian intangibility in the past, there is reasonable vulnerability in its applicability (McIntyre et al., 2017).

A research study by Omondi (2016) where he did a study on gender as the components influencing open clinic administration conveyance in the county of Nairobi. The experiment was carried out at Kenyatta National Hospital and referral, Mbagathi level 4 Hospital and Mama Lucy Kibaki level 4 Hospital. The consequences confirmed that information framework was not totally synchronized into techniques on gender biases in disaster clinics. Samples of 96 members included in the scrutiny were 34 KNH respondents, 31 Mbagathi hospital medical facility respondents, and 31 Mama Lucy Kibaki hospital respondents. The examination outcomes disclosed that the health care attention flexibly in emergency clinics was not adequate for most part in view of acquisition and administrations.

The overall National Treasury allocation to the entire forty seven counties is based on a resource allocation formula that takes seven factors into consideration this are: population density, general poverty level in the area, land mass and other factors. County governments also collect some of their own revenues called appropriation in aid (AIA) which are utilised as part of the County budgets before distribution to diverse sectors. In FY 2014/15, 38 of the 47 counties allocated at least 15% of their budget to health (CGDP) (Omondi, 2016).

However the application of inefficient models of health care and service networks that have not fully been tested to be adequate respond rate based on the current needs of the society on priority basis brings about some hindrance in development. Limited response and managerial capacity on the first level of care has negative draw backs (Shiferaw & Zolto, 2018).

In order to ensure healthy lives and promote the wellbeing for all citizens in Nyeri County the Government needs to include a target to be achieved on universal health coverage by the year (2030). It includes fiscal risk shield, right to use superiority and vital health care drive. Health services access and safe lives should be impressive, effective and affordable enhancement of health services.

Health care managers should be in position to carry out vaccination to all residents and the venerable groups. The government must consider incorporating the following strategic lines of financial management section. Growing unbiased admission to inclusive quality health care to all the people and community health services, Strengthening good stewardship and governance in management of health care in facilities (Omondi, 2016).

Moreover, increasing and improving financing with own sources to improve on reliability and efficiency, advancing the elimination of cash and direct payments that may pose a barrier in the health care at the points of offering and strengthening multi sectorial coordination to address the social determinants of wellbeing care financing that will ensure that the sustainability of universal health coverage to be seen revived and working (Shiferaw et al., 2018).

There is need to incorporate technology and innovation to fast delivery of the required health care services in the counties to coup with the current innovation of modern world.

### 2.9.3 Universal Health Care Services Provision

The world health organization states that besides the presence of extended health facilities in a country other factors such as availability medical drugs, at affordable prices, reliable health care financing, well trained human personnel capital, technology and equipments do matter significantly. Sustainable financing is a key factor that affects the access to essential medicines (WHO, 2004). County executives for health should come up with clear policies focused on reducing and containing cost of health care provision to citizens under their care, improving quality health services in the facilities (WHO, 2019).

Good health care can affect job productivity positively or negatively through improved financing of health centres effectiveness. This can be observed by the reduced absenteeism rate by employees, energised work force through incentives like training and conducive work environment to avoid strikes and go slows in health care facilities. A motivated work force encourages innovation and other invention and performance improvement that leads to quality work where by minimizing incidences of mortality in service delivery (Shiferaw, 2018).

For a well-financed health care system in a county several benefits accrue including the achievement brought about by well financed Universal Health Coverage, such benefits include the following; gross domestic product improvement, value addition (kaizen) on goods and services. There exist well-managed and efficient health care systems that does meets the priority health needs through the people centered integrated management care.

This includes offering services like (HIV, tuberculosis, malaria, non-communicable diseases, maternal and child health). Where there is sufficient information that encourages people to stay healthy and prevent illness through; careful monitoring and early detection of diseases

and other health conditions made possible by improved health facilities services availability. Having the machines and equipments with capacity to detect and diagnose health problems early enough so as to initiate treatment early. Financing also helps facilities equip special centers that help patients with permanent disabilities get rehabilitation and therapy carried out easily and regularly when needed (WHO, 2019).

A well-financed system enables affordability of health care services through a system where pre pay policies is encouraged for financing health care services and avoid citizens suffering financial hardship when using the same due to excessive cost of services. Achieved in a variety of ways. Public health and the primary health are a critical for sustainability health care system.

### 2.9.4 Health Care Quality Indicators and Measurability

When health care policies and financing are effected in attempt to promote efficient health systems then there is the question of measurability of quality services offered to the citizens (Lawrence & Olesen, 1997; Mainz, 2003; EC, 2016). In the common man's language, an indicator is referred to as "a measurable quantity that offers data about a variable which is hard to quantity indirectly' using metric quantity units of measurements like kilos, tones (Calhoun, 2002).

Organizational superiority displays are mainly used to access the setting of health care and in such offer adequacy of services and apparatus at disposal, workforce ratio, qualifications of the medical staff and the overall administrative structure. The structured indicators are related to the effectiveness and thus include the availability of the staff with appropriate skills mix. The development of pointers is mainly used to assess the capacity of high level of quality care that should be assumed during the service delivery. The service indicators are

mainly built on the dependable methodical sign that mainly comply with the pointers for a better outcome of care (Lawrence et al., 1997).

### 2.9.5 The Knowledge Gap

Extensive research studies presented conflicting views on contributions made regarding key variables in the mediating role of finance in provision of Universal Health Care. Such Extensive research studies relating to UHC finance mediating role, growth, implementation and sustainability reforms have been carried out in the past, but from the literature review the researcher noted that none of the earlier research studies mentioned the alternative approaches towards financing health care programs and improvement on UHC other than out of pocket financing in the developing economy countries to be precise the East Africa. Much has been researched on regulations and financing of UHC among the developing Counties that are far much advanced in technology and science with little political influence (Hope & Fraser, 2015).

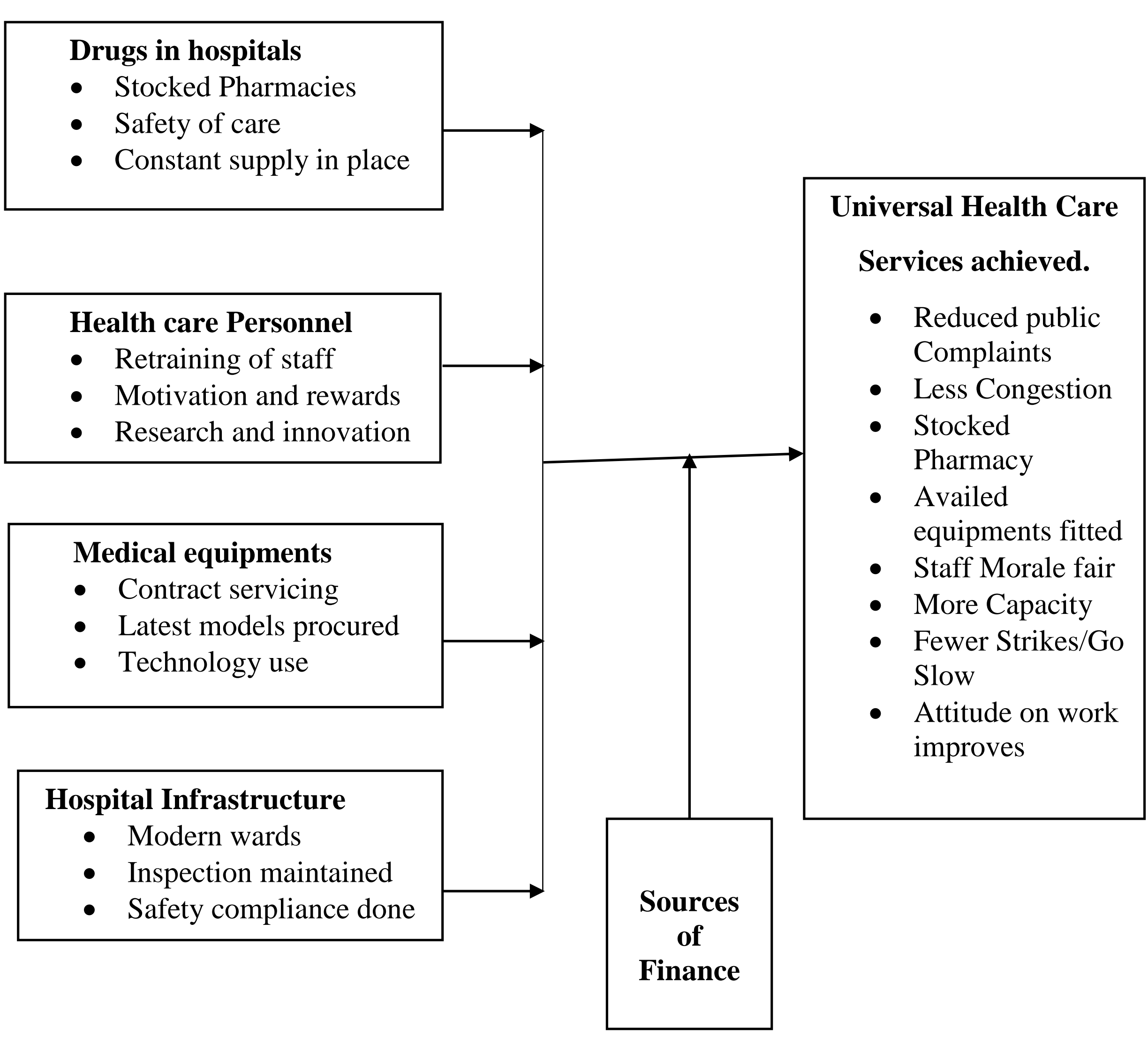
The current study therefore looks upon to fill the empirical gap in terms of health care financing in Nyeri County. The study provides an empirical evidence experienced from the sampled level 6, 5,4, and 3 health care facilities where the trial on free health care services are already in gear. A typical knowledge gap demonstrated that studies done before did emphasize on quality of health care expansion and other regulations leaving out quality of service, availability of affordable medicines and participants' inclusivity in sourcing of finance deliberations that generates diverge opinions of many consumers and participants of health care services throughout health spectra (McIntyre et al., 2017).

However, there is insignificant study so far done that has been on research seeking to find out the devolved unit strategies on UHC financing, implementation and growth in Nyeri County

Kenya. The current study therefore fills the empirical gap in terms of alternatives to health care financing in devolved units health facilities in Nyeri. To first track the phenomenal "GARCH" model was used to examine the significant different alternatives to health care financing completely devoid from OOP payment styles as are currently applied in Kenya. The study provides empirical evidence from an emerging application of technological methods utilization in cost containment upon service delivery to public health facilities in Nyeri which includes the application of online diagnostics to simple illness prescriptions by medical officials while the patients are at the convenience of their homes no matter the distance away from each other (Kimathi, 2017).

**Figure 2.2:**

*Operational Framework*




Independent variable Moderating variable Dependent variable

**Source: Research data 2022**

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

The chapter describes the relevant research philosophy that was applied in this research, the research strategy used, target population, data collection tools and procedures that was taken, reliability tests, validity of instruments used, data processing and presentation.

## 3.2 Research Philosophy

The research study applied positivism philosophy in the process of gathering information of study that enabled the formation of opinion and conclusion. Research philosophy guides researcher's attention when dealing with the phenomenon in terms of gathering data. Data analysis and the usage of interpretation approach from the analysis. While epistemology relates to acceptability of facts in an area of study, at the same time doxology is about what is believed to be true. While objectivism and subjectivism are central themes of ontology which is socially centred themes that reflects on focusing the reality, where a statement can only be meaning- full if it can be classified either to be true or false with clear boundaries separating the two facts from one another.

According to Ooms (2014), research philosophy can be classified into the following four aspects when investigating: positivism, interpretation, realism, and pragmatism. A research philosophy is the relationship that exists with other variables that are able to be viewed and describe the reality called positivism philosophy. This can be described as factual knowledge gained through observation culminating in forming opinion and later conclusion. Research

findings are usually observable and quantifiable through analysis of data gathered from the respondents' answers or opinions (Dudovskiy, 2012). The research study was instituted on the positivism paradigm philosophy. A study's paradigm replicates the method used when steering an investigation for research study purpose (Mwangi, 2014). This means that, it allows predilections used when noticeable common certainties in the investigation are revealed and the inference of which can be law-like overview similar to those formed by ordinary research investigations. Research paradigms can be recognized by their investigative philosophy tendency and also the chosen approach style. On the other hand, investigative philosophy relays more to growth and nature of information sought at any material time (Saunders et al., 2009).

At the same time, investigative approach is the methods used to collect and evaluate data in a research exercise activity. Positivism and social constructivism are the main paradigms commonly used when carrying out research exercise. Positivism approach was the most suitable in this study because it anchors on the fundamental convention of the paradigm compared to social constructivism which depict stoichiometric choices.

Positivism approach emphasizes on the fact that the surroundings and the actions of concentration are normally unbiased both to exterior and sovereignty of the investigator doing the research study exercise (Bryman & Bell, 2003).

In their study exercise by Blaxter et al. (2013) where the three researchers tried to elaborate further the fundamental point that positivist studies purposively clarify and discover the lead to control the expectedness. This is a major technique when carrying out research in comprehending the social world as palpable from its tradition style approach. Social constructivism, nevertheless adopts the idea that the surroundings and actions carried out are

informally created and independent from any personal biases originating from the investigator's approach tendencies (Bryman & Bell, 2003).

In the current research study exercise, there is an approach of the first principle especially the presumption explained by positivism style approach. The data was collected to formulate and demonstrate the model that was also verified empirically to back or discard the hypotheses that may have been introduced for the purpose of this study and for comparison. Based on those procedural deliberations agreed upon, the study was based and anchored on quantitative approach technique of the general research work without deviating from the standard working procedures in research methodology and procedures of APA style.

### 3.3 Research Design

Saunders (2009) defined research study design as a comprehensive plan that gives guidance on how the exercise is to be conducted. It guides data collection process, data entry and the analysis of the raw materials into useful information for interpretation of the outcome related to the study. Further Saunders (2010) defines research as detailed plan that gives guidance on how the study will be conducted step by step. It guides on the initial stages of data gathering and the scrutiny, explanation and presentation of the outcomes to the beneficiaries for assimilation purposes and further polishing to suit the desired application. According to cooper and Schindler (2014), research design is the framework for specifying relationship between the variables in the research study.

Under these beliefs, information is accrued through reasonable cognitive and experiential exposure as well as gathered experiences (Creswell, 2003: Scotland, 2012). Several scholars have used the comprehensive approach in various studies in the past because of its ability to increase validity of the outcomes while at the same time compensating for the weaknesses of

each method observed and applied (Creswel & plano, 2011; Johnson & Onwuegbuzie, 2004; North house, 2013). Quantitative being used to quantify the hypothesis, the influence of Moderating effect of finance in determining the provision of Universal Health Care in Kenya. While qualitative strategy used in open ended questionnaire to question a given variable for further information and comparison of notes obtained.

Research design therefore is a guide used to frame work for gathering, dimension and investigation of the data in any research study exercise (Kothari, 2004). The current study therefore intended at forming the inspiration of the moderating effect of finance in determining the provision of universal health care in Kenya. The study combined qualitative and quantitative design approach methods for maximum achievement of the desired data and the best results free from any form of manipulation and falsification (Kothari, 2014).

Data was collected without necessarily influencing the normal operations of the respondent routine activities or interference of the general administrative tasks and duties at work place. It therefore gave an opportunity and the prospect to experiment and evocate information that entailed the measuring of variables as they naturally occur free from any external influence. The study clarifies the reasons pertaining to how the vicissitudes of moderating effect of finance in determining the provision of universal health care in Kenya. The purpose being to uncover how the programme can be improved and enhanced to serve the public better and achieve wide coverage to serve the community populace and behold. The future sustainability and success of the project once initiated into full programme in other counties of Kenya.

### 3.4 The Population of Study

Sekaran (2003) defines population of coverage as the entire cluster of persons, things of interest the researcher desires to examine in the study research exercise. According to Piper, B. (2014) a target population is that population at which the scholar wants to generalize the results obtained from the study exercise already carried out. A target population describes the unit of analysis that was applied in the study to underpin the research objectives (Bryman & Bell, 2003).

The current research study targeted Nyeri County health care facilities that are already under the Universal Health Care on experimental (pilot) program. The reason being that the County government of Nyeri was among the very first devolved County governments that were targeted by the national government for trial as pilot projects while waiting the process of full implementation rollout in the entire country towards universal health care program. The pilot project trial was launched on 12th December 2018 by the head of state in four counties of Kisumu, Machakos, Nyeri and Isiolo. Nyeri County is unique in that the County government later temporally discontinued the services midway before full implementation of the project mid-way after launch by the president of Kenya. Hence the curiosity to investigate the reasons for any hindrances regarding the financing of the project after launch (MOH, 2020).

### 3.5 Sampling Technique

Sampling technique is defined as the assortment of some essentials of the populace to be used in the research exercise to represent the universe. A sample is an item representing the whole populace used for research purpose and contains all the characteristics of the entire population or universe. It should be noted that this only happens where the population is homogeneous in all the features and behaviour. Kothari (2004), the critical quality of a

illustration is how it symbolizes the full spectrum features of the whole populace. It is the technique and method of approach upon picking the sample from the population methodically. Laboratory technician in hospitals only takes a drop of the human blood to test for infection causing illness in the entire body, such blood sample represent the entire human body, hence the drop of blood is the sample representing the entire body.

Stratified random sampling is a technique that is mainly employed in the population of interest that has a mixed of characteristics that can be subdivided in various groups or strata to get a representative. According to Etikan (2017), stratified random sampling tend to produce an estimates that have an overall population parameters with a high precision and thus ensures that representatives of the sample that is relatives homogeneous population. The main purpose for using this method was that it reduces any chances of bias when picking the samples, where all items have the same chance to be nominated from the strata for research presentation.

### 3.6 The Sample Size for Health Care Facilities

According to Wierman (2010), the researcher put forward an argument that an ideal sample should be big enough so that wherever the investigation is carried out the researcher can be sure of a sizeable degree of perfection from the results obtained. While Gay (2011) recommends representative sample size ($n > 30$) which minimizes sampling error in the data collected.

**The Sample Size for Health Care Facilities in Nyeri County under UHC were Determined by the use of Yamane (1967) mathematical Formula.**

$$n = \frac{N}{(1 + Ne^2}$$

Where: **n** = minimum sample size

**N** = Population = health facilities in the county

**e** = precision set at 95% (5% = 0.05)

Hence; **n** = 101/ 1+ (101 x 0.0025) = **80**

Therefore, the sample size picked for investigation from the respondents who were directly involved in health care administration in decision making and implementation of UHC programs in the sampled health care facilities levels 6,5,4 and 3 in Nyeri County government is 80 respondents. The figure arrived at was 80 CEO or delegated officers were the respondents for ease of the experiment and tabulation of the information obtained

**Table 3.1**

*Sample Size*

| Facility | Target population | Sample size | Percentage (%) |
|---|---|---|---|
| Level 6 | 1 | 1 | 1% |
| Level 5 | 1 | 1 | 1% |
| Level 4 | 4 | 3 | 4% |
| Level 3 | 95 | 75 | 94% |
| Total | 101 | 80 | 100% |

Adapted from the County Government of Nyeri (2020): health care facilities

### 3.7 Data Collection Instruments

The data was gathered from a sampled county government public health facility: level 6, level 5, level 4 and level 3 hospitals through the use of questionnaire booklets applying the method of drop and pick. The questionnaire method of data collection was chosen because of

the following reasons: first it has the potential to reach out a large number of respondents within a reasonable short period of time, second by use of questionnaire it gave the respondents suitable time to respond to the items listed for answers in their own convenient time even at the comfort of their homes. Third It offers confidentiality to the respondent and it is an objective method since there are no biased out comes that can result from the personal interactions. At the same time it minimizes situation influence as compared to oral interview and face to face approach style of investigation. Unlike other methods of interviews utilized to secure data from the respondent's, the questionnaire is the best approach for this type of exercise.

The study employed open and closed ended surveys as the main tools for data gathering. The study incorporated the use of open ended and close ended questionnaires as a form of secondary sources of the main tools for the data gathering. The subordinate facts studied concerned the county budget on health and fiscal records regarding health care operations in the county, any important correspondences and audit reports which gave an indication of how financial information flows including vote book movements. This is for the period under study where information and materials were sought confidentiality and integrity awareness observed. The research assistants helping in the study had to depend on the insights gotten from the questionnaires issued to the county hospital executive officials.

### 3.8 Pre-Testing of Research Instruments

It's vital and important to start by pre-testing the instruments and other equipments before the main operation starts to ascertain the completeness and dependability of the tools used in the main study. This is to guarantee that the questionnaire gathers relevant information desired for the study and that they are effective as grasped from the respondents (Bolarinwa, 2015). Pre-testing was done at a specific health facility level four hospital in a sub county facility of

Nyeri County. However, the facility chosen for the pre-test trial of instruments was not included during the main study to avoid reputation of the exercise. The aim of the pilot study was mainly to evaluate the instruments reliability.

### 3.8.1 Results of Pilot Test

The tools used for the study were pre-tested using one health facility as a sample for pre-test as suggested by (Mugenda & Mugenda, 2003) a trial of 1% to 10% of the definite sample size is satisfactory for pilot study resolutions. Respondents were health care facility executive officer in charge or others authorised to do so by the management. However, the facility was not in the main study exercise.

The purpose of this exercise being to gauge and assess dependability of the various devices used in the research. From the result obtained, it highlighted that the instruments were mainly reliable and had a cronbach alpha above 0.70. Though, there was multi collinearity amongst the variables that is availability of drugs, medical personnel, medical equipments and spacious infrastructure. To remedy the abnormality observed the in the questionnaire, we thoroughly corrected and checked the identity and isolated similar questions in different variables after which the items were then checked for reliability test. Numerous other actions on variables and approaches used for facts study stayed rectified.

## 3.9 Reliability Test

Reliability refers to trustworthy aptitude resulting from an investigator regarding the instrument's that generates the outcomes when applied at certain population of interest (Ko et al., 2017). It guarantees that the outcomes will continue unswerving the same results when used again and again given same conditions and opportunities. It is the degree to which instruments yields consistent results after repeated trials in the same environment given the

same factors. To make sure that the questionnaire is dependable at all times even when applied to a similar situation anywhere, the researcher had a pre-test done as defined in section 3.8.1 above on a level 4 hospital in Nyeri county.

Calculation of Cronbach alpha constant value in defining the steadfastness of the instruments was done and tried.

Tabulation of the Cronbach alpha value was used and tried in the defining of the resoluteness of the tools. Cooper and Schindler (2014) the reply occurrence should have at least Cronbach alpha constant frequency value of 0.7 or above which articulates high resoluteness in research exercise being carried out by the use of the instruments applied to gather data.

### 3.9.1 Validity of Research Instruments

When data collection instruments perform their intended purpose effectively, reliably it is referred to as validity. Validity of the questionnaire as a tool of data collection is determined by its ability to allow the content of the subject matter to be fully captured in the instrument through the questions asked in unambiguous approach but direct to the point, the face validity is all inclusive without any unclear statement and maximum representation of topic content under investigation (Mugenda & Mugenda, 2013). Diverse independent, intervening and dependent variables as covered in chapter two of this research study formed the foundation for the questionnaire's validity.

Types of validity such as content criterion and face validity ware observed throughout the study in order to rectify any inconsistency discovered in the process giving room for early rectification. Content validity was observed by making sure that questions inquired information that are relatable to health care facility financing, Moderating effect of finance in determining the provision of Universal Health Care in Kenya, effective implementation in

the selected counties of Nyeri. The prior literature by other researchers facilitated the need to make sure the questionnaire issued for data collection had done purposively what is required to be done in full and complete precision without any slanting or twisting of material facts.

Criterion validity guided the study exercise on how well to do with the outcome of the research. The data gathering exercise was consistent and there was no trace of any biases or extreme deviation results obtained identified as emphasised by earlier researchers. The proof was observed when comparison of the pre-tests results with various similar empirical studies that have earlier been researched on the same variables and similar to the current research study. To achieve that, the study research heavily consulted the reviewed literature to identify the ideas that have been discussed and deduced from the narrative regarding the main constraints of the study which is Moderating effect of finance in determining the provision of Universal Health Care in Kenya, the County government of Nyeri (Mugenda & Mugenda, 2013).

The questionnaire used for the study exercise maintained paradigm validity by guaranteeing that there are inquiries linked to availability of drugs in hospital pharmacies, as well as properly administered hospital personnel resource capital in the facilities, there are machines and equipments of the latest models functional and installed. Hospitals have standard infrastructure which are well maintained. The reason for the choice of the particular facility is that level four hospitals being government health care facilities coordinates level 3 and level 2 which have smaller equipments, stock of drugs and fewer number of medical personnel in their operations within the sub county that directly benefits from the universal health care system (MOH, 2018). Apart from that it is located in one of the counties that the main study (pilot) was selected for the main study exercise. The executive officer in charge or an appointee answered the pre-test questionnaire.

The office holders were selected through direct picking and identified direct since the numbers ware small. Brief explanations regarding the exercise was given, the main purpose for doing this was to re-articulate the queries that many respondents do not comprehend the precise requirements, thereby avoiding technical sections hence defeating the purpose of the questionnaire during the main study. According to Mugenda and Mugenda (2013), a researcher needs to develop instruments with which to gather the necessary data in un-biased environment free of any manipulation.

In order to achieve precise and unbiased data that can bring meaningful results towards the end of the research exercise and also be relied upon in future as credible information. The researcher had to pay keen attention on how data is to be gathered from the respondents during the exercise so as to reflect on real pertinent issues pertaining to UHC financing in Kenya.

### 3.9.2 Data Collection Procedure

To carry out this study exercise the first step was to seek research permit as per the standard regulations regarding research in Kenya. This was done by obtaining an introductory letter from the Kenya Methodist University department of research and development, to facilitate the application for research permit to be issued by National Commission for Science Technology and Innovation NACOSTI. It is a requirement by the national research council of Kenya to any person or organisation carrying out research in Kenya to do so at a fee.

While the researcher and data clerks waited for the research permit to be processed and approved by NACOSTI, the research assistants were taken for awareness orientation and trained on data gathering procedures in preparation for the identification and issuance of the

questionnaire to the respondents as per the time table earlier drown and other guiding directions regarding time budget, the language to use and other attributes.

The research assistants were equipped with the background knowledge and training exposure in finance related background knowledge and later tested on various aspects such as presentation style and Public relations protocols. The main purpose for such preparation was to impact confidence on what to expect and finally the introduction of ethical code of conduct, regarding moral issues and tactical skills all embedded in their minds beforehand, creating an atmosphere of team work spirit and responsibility as they move to face the respondents.

Once the research permit was issued by NACOSTI and was carefully in custody of the researcher. Where research assistants were also fully acquitted with job orientation process, then letters seeking authority to carry out research in the specific health facilities were dispatched to the selected county of Nyeri public hospitals. The request letters were to senior health facilities administrators as the facility chiefs for authorization of the exercise so as the researcher can be allowed to correct data for research study. Once the permission was granted, the research assistants proceeded to identify the respondents in a way to issuing the questionnaire by asking the authorizing officers to assist in identifying the relevant respondents within the health care facility departments concerned.

Once the respondents were identified, the research assistants then introduced themselves and elucidated the tenacity of the research study exercise, the aim of the research and the way it will be approached, all these were elaborated further through the researcher introductory letter lodged with the administration and stamped received and approved.

The research assistants issued the questionnaire to the respondents and there after informed them how they should fill in the questionnaire booklets at their own convenience time and alerted them regarding schedule for collecting the scripts. However, in case any of the respondents was not able to fill in the questionnaire due to some technicalities anticipated, help by the research assistants was promptly given. One-week duration was sufficient enough for the respondents to complete the exercise successfully. Given their busy schedules one-week period of time was sufficient enough. After one week, the research assistants approached the respondents in a way of picking the already completed questionnaire for data analysis.

### 3.9.3 Data Analysis

Data analysis is the whole process which starts immediately after data gathering is completed and end up when processed results are generated and interpreted, tabulated into information and formatted. The research assistants collected data in quantitative information that is in its row form using the normal questionnaire gathering procedures. The collected data was first inspected for completeness and geniuses. The exercise was accomplished by checking for any unfinished sections of questionnaire through proof reading, there after removing those incomplete questionnaires from the rest of the questionnaire booklet in a way to minimise vagueness in the data gathered for the study hence sieving the vague data. Once this was done, suitable coding of data materials was carried out to check the completion by the application of “SPSS” version 25 software. The coding included transmission of diverse data responses with numbers to aid during analysis process. The main objective of coding was to reduce the large amount of information collected through questionnaire into a database that was basically utilized in the analysis.

Multiple regression analysis model was applied as the most suitable for this kind of data analysis that was categorical. The model concerns with data that is lined in constraints but cannot be linear variables or the data that can be made so by suitable transformations of the variables. The attractive feature of the model is the slope coefficient $B^2$ which measures the elasticity change of Y with respect to X. That is the percentage change in Y for a given small percentage change in X. However, the main disadvantage with the model is when to distinguish among a percentage alteration and a fraction point of change in the application.

The model was earlier used by Arthmar and Mclure (2017) in their theory entitled "welfare theory of of economics". An example of the application reality is when the government develops same interest in knowing the rate of change in development of assured financial variables such as populace, currency circulation, (GCDP) in certain counties, under employment and empowerment of youth in those counties, productivity and trade surplus in the counties for possible mitigation factors in the long term measures, the model fits in very well and normally achieve good results that matches the problem and generates better reliable solutions.

An examination for scrutiny of poorly completed questionnaire booklets was carried out in order to discard the poorly filled booklets, while the good ones were filed systematically ready for data processing. After analysing the data, research assistants archived the processed questionnaire in a safe place under lock and key. The analysis of data was completed successfully for future reference and custody of the research materials as working papers kept safe by the researcher coded for ease of retrieval.

### 3.9.4 Measurement of the Study Variables

The first item to observe in any performance measurement system for improvement is the formulation of a robust conceptual framework within which performance measures can be developed. It should fit into criterion such as face validity, reproducibility, acceptability reliability, sensitivity and predictively valid. The instruments used in measuring the variables in this research applied the philosophy of logical positivism Scotland (2012) coherent analysis is used as tool for deciding any dispute arising in the process. Statements were established in an effort to gauge the correlation among real items and the obstruct concept of the theory developed as psychometric measure of the independent variables which are: availability of medical drugs, health personnel welfare, functional equipments and spacious modern infrastructure. Where the dependent variable being health care services improvement in health care facilities.

The health facility performance was measured by the sufficiency of pharmaceutical stock of drugs in hospital stores. The patients' perception upon receiving the service at the facility, where possible these can be gotten from the suggestion box fixed at the hospital compound strategically for ease of spotting. Scaling up investments in skilled health workers through training and better remuneration terms of engagement which are revised from time to time with motivation sweetener packaged in the terms. Efficiency can be observed in service delivery devoid of any material wastage and working time maximum utilisation in service delivery. Availability of modern tools and equipments for performing tusks, with contracts signed for repairs and maintenance allowing minimal or no anticipated break downs in the years of operation. Modern and spacious buildings for tasks performance including but not limited privacy rooms, power supply, piped water source, improved sanitation facilities and transport availability. For the pilot study carried out apparatus were perfectly working and

generated admirable results that could be relied on to drive a positive conclusion regarding health care provision in hospitals.

### 3.9.5 Analysis of Quantitative Data

A likert scale type of psychometric instrument Boom and Boom (2012) was developed to capture the information using a questionnaire with the measure beginning (1-strongly disagree, 2 –disagree, 3-not sure, 4-agree, 5-strongly agree). A mean score of 3.4 and above on each item indicated the respondent agreed with the statement given, while those with below 3.4 assumed to disagree with statement. The regular mean per health facility was gotten from combining the mean by dividing the five items obtained. The higher the tally the superior the statement in terms of health care services. When a statement is true or false, that is when it can prove to be meaningful. Under this philosophical nature, knowledge is thus accumulated through an aspect of rational thinking and experiential involvement. (Creswell, 2003: Scotland, 2012)

Quantitative data collected by the use of questionnaire was analysed to check descriptive and inferential statistics. Descriptive statistics is mainly involved in the use of frequencies, the percentages and cross-tabulations. While inferential statistics involved the procedure adopted when testing the study hypotheses. The research implemented a multiple regression model that attempts to forecast the degree to which each independent variables Y= ($X_1$, $X_2$, $X_3$, $X_4$, & $X_5$) and the moderating variables on how they influence the dependent variable Y, which is (Universal Health Care services). In order to get and achieve the main objective of the research, three multiple regression models were established to clearly show the stages on which the variables in the study were tested in hierarchical manner.

Where Y in this study is a linear function of a set of the predictor variables. That is,

**a) Model 1** ***( Univar ate - Multi Variate)***

$Y = \beta_0 + \beta_i X_i + \acute{\varepsilon}$ (i= 1, 2, 3, 4) ………………………………….. (1a)

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \acute{\varepsilon}$…………………………. (1b)

Where

Y is the universal health care services

$\beta_0$ is the Y intercept or constant

$\beta_1$ is the coefficient of independent variable Xi where i= (1,2,3,4,5) variables which are:

$X_i$ is drugs in hospitals

$X_2$ Is health care personnel

$X_3$ Is Health care machines and equipments

$X_4$ Is the attention of health care infrastructure

$X_5$ Is the universal health care services

$\acute{\varepsilon}$ Is the stochastic disturbance error term

The prototypes used were to create the effect of the independent variables (Drugs in hospitals, Health care personnel, machines and equipments, hospital infrastructure and finance to administer UHC). On the dependent variable side is Y = (Universal Health Care services).

**b) Model II** *(moderator incorporated)*

*$Y = \beta_0 + \beta_i X_i + \beta_j Zj + \acute{\varepsilon}$ where (i= 1, 2,3,4,5, j = 1, 2)………………………………… (2a)*

*$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_j Z_j + \acute{\varepsilon}$………………….... …...... (2b)*

Where

$Z_j$ Is the moderating variable (health care finance)

$\beta_j$ Is the coefficient of the moderator as a predictor

The variables were used as defined in model 1. The regression models was used to test whether the variables are significant predictor of Universal Health Care services in Kenya.

**Model III** ***(Now with interaction terms)***

$$Y = \beta_0 + \beta_i X_i + \beta_j Zj + \beta ij\, Xi\, Zj\, \acute{\varepsilon} \quad \ldots\ldots\ldots\ldots\ldots \quad (3a)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_{5+} \beta_j Zj + \beta i_j X_i Zj + \acute{\varepsilon} \quad \ldots\ldots\ldots\ldots\ldots (3a)$$

The regression simulations used to test the contact terms between Xj and Zj to check whether financing has any Moderating effect in determining and provision of Universal health care in Kenya.

### 3.10 Ethical Considerations

The researcher primarily requested consent to undertake the study from the University department of research and development of the Kenya Methodist University to seek research permit from NACOSTI.

The researcher then requested authorization from the health facility management through an authorization letter. Authorization by the health facility management gave the researcher the power to assess and gather the study data materials from the respondents' information storage through letters of introduction. The letters stated the purpose of the study which has actively predicted from the respondents while maintaining high levels of respondent's information identity confidentiality (Mugenda & Mugenda, 2013).

Confidentiality was key in this study hence the intended questionnaire did not have any details such as the names and contacts of the respondents indicated on it, the purpose for this was to conceal the identities of respondents. On the other hand, every county health facility under research was identified with a distinct code. Example, C3000 represented Nyeri teaching and referral hospital. Building trust and confidence with the respondents was key move in installing a conducive working environment during the research exercise at the institutions.

In addition, relevance of the questionnaire towards the area of research interests was highly reviewed. Any other aid acknowledged from various parties and consultations from previous studies referenced as guided by the American Psychological Association (APA). Once the respondents had finished filling in the questionnaire booklets, the researcher kept them in a safe place under lock and keys for future reference information that may be required.

# CHAPTER FOUR

# RESULTS AND DISCUSSIONS

## 4.1 Introduction

The chapter covers the outcomes of the research study that was carried out namely the Moderating effect of finance in determining the provision of universal health care in Kenya. The objectives of the project were to check on the availability of drugs in health care facility pharmacies, adequate number of medical personnel in hospitals, medical machines and equipments and infrastructures in hospitals. It also outlined the response rate of the various questionnaire inquiry done, the results from the pilot study and the analysis of the demographic information from the respondents who participated during the data gathering exercise. Attempt was made to present descriptive analysis from the main findings as well as inferential statistics analysis of the study model is indicated. Finally it outlined the conclusion of the findings as revealed by the results outcome below.

## 4.2 Response Rate

The study involved eighty officers in change of health care facilities. In each health facility, one questionnaire was administered to the health care officer in charge of the facility under the research. A total of eighty questionnaires were circulated to various respondents, and subsequently filled and returned for correctness and filing, however two questionnaires were not correctly filled hence couldn't qualify for analysis. The good questionnaires returned from the respondent were valid for data analysis, therefore the response rate was 97 % successful. According to a study done by Goldfarb and King (2016), in social science study research, a response rate of 60% is effective to represent the study population and make

conclusion and recommendations in a research study. Table 4.1 summarizes the response rate of the study.

**TABLE 4.1**

*Response rate of the study*

| Sample Size | Response | percentage | Non-Response | percentage |
|---|---|---|---|---|
| 80 | 78 | 97% | 2 | 3% |

**4.3 Reliability Test Results**

So as to have a good measure of the interior reliability of the research tools, the reading utilized the Cronbach's alpha that to measure the various items in a set usually correlated. Coefficients value of at least 0.7 is considered reliable for the study. As the findings on Table 4.2 portray, drugs in hospitals being one of the study variables had a coefficient value of 0.896 while hospital medical personnel resources had a value of 0.883, hospital medical machines and equipments had a value of 0.910, hospital infrastructure had a value of 0.905, while aspect of financing had a value of 0.850 and provision of universal health care had a Cronbach's alpha value of 0.862. Therefore according to Sasaka (2018), a Cronbach's alpha value of between 0.70 and 0.96 is a clear indication that the instruments used in the study ware in a better position to give the projected outcome hence the instruments were reliable enough to be relied upon for deriving the required research analysis results.

Validity is the measure of the extent to which the constructs are able to give in a research study exercise.

**TABLE 4.2**

*Reliability Test*

| Variable | Number of Items | Cronbach's Alpha |
|---|---|---|
| Drugs in hospitals | 12 | 0.896 |
| Healthcare personnel | 14 | 0.883 |
| Medical equipments and machines | 12 | 0.910 |
| Hospital Infrastructure | 11 | 0.905 |
| Healthcare financing | 11 | 0.850 |
| Provision of Universal Health care | 8 | 0.862 |

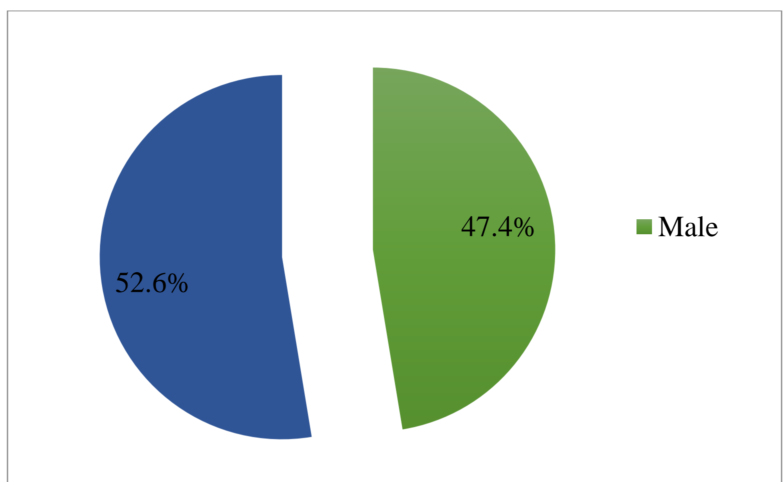
## 4.4 Demographic Information

The demographic information such as gender, level of education, period worked in the organization and the position held were sought as part of the study. These were meant to establish the diversity of the respondents and bring a rapport between the researcher and the respondents.

### 4.4.1 Respondents by Gender

**FIGURE 4.1:**

***GENDER OF THE RESPONDENTS***




The study highlighted the dissemination of the respondent by their gender in Figure 4.1.

From the table above the results portray female respondent were (52.6%), while male respondents were (47.4%). The gender parity has been achieved in the health care organizations leadership; however it can be observed that slight majority of the officers in charge of the health care facilities being female, a good example to modern organization to embrace women inclusivity and equal opportunities for all the genders.

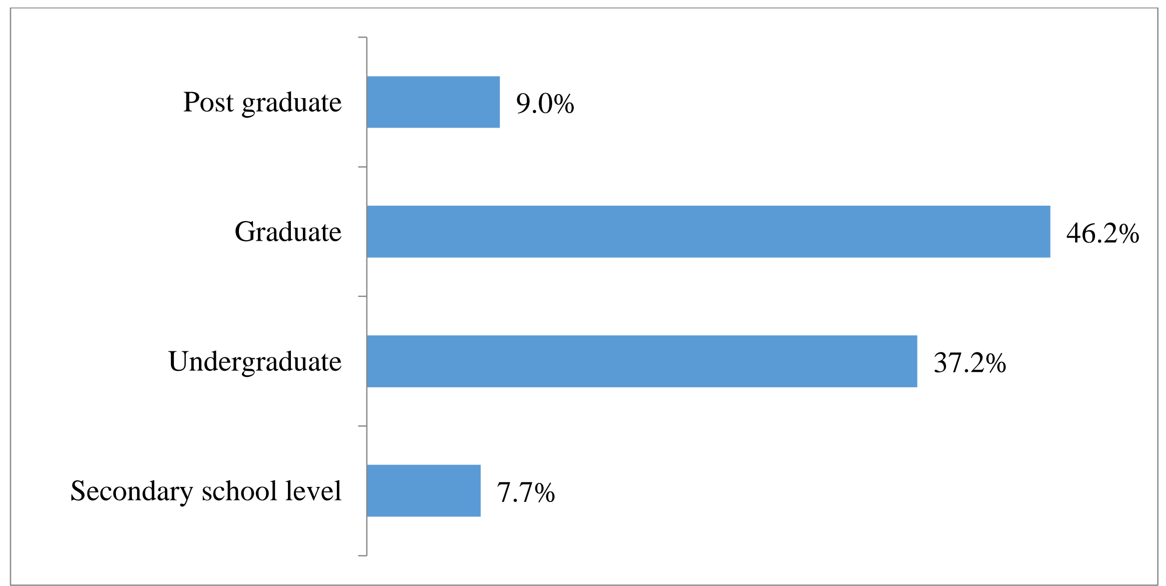
### 4.4.2 Respondents by their Level of Education

The respondent indicated from the questionnaire education status achieved in order to establish the cluster composition by level of education that attained by the respondent. The respondents were expected to specify the utmost level of schooling obtained from a list of

four broad categories which are diploma/certificate, undergraduate, and postgraduate. Figure 4.2 shows the findings.

**FIGURE 4.2:**

*EDUCATION LEVELS*




The outcomes show, postgraduate qualification was approximately 9.0% of the total respondents; while graduate degree was possessed by 46.2% of the respondents, the undergraduate degree level respondents were 37.2% of the total respondents. Secondary school level qualification was the lowest level of education attained that is 7.7% of the respondents. The level of diversity of the educational qualifications attained implies that the diversity of viewpoints on the thematic areas in the study was adequate enough. Therefore the officers who responded in the health facilities were ready to give reliable information and present UHC implementation approach programs of the government from an informed position.

### 4.4.3 Health Care Facility Financiers

The respondents had to indicate the financiers of their respective health care facilities, where they were to choose from the main financiers, who are the government, the health insurance providers including (NHIF), the non-governmental organizations and the revenues generated from daily charges by patients seeking health care services indicated in Table 4.3.

**TABLE 4.3**

*FINANCIERS OF THE HEALTH CARE IN THIS FACILITY*

| Source Finances | Frequency | Percent |
|---|---|---|
| Government | 49 | 62.8 % |
| Insurance claims (NHIF) and others | 24 | 29.5 % |
| Non-governmental organizations | 2 | 2.6 % |
| Charges from patients | 1 | 1.3 % |
| Donors and sponsorships | 2 | 2.6 % |
| **Total** | **78** | **100. %** |

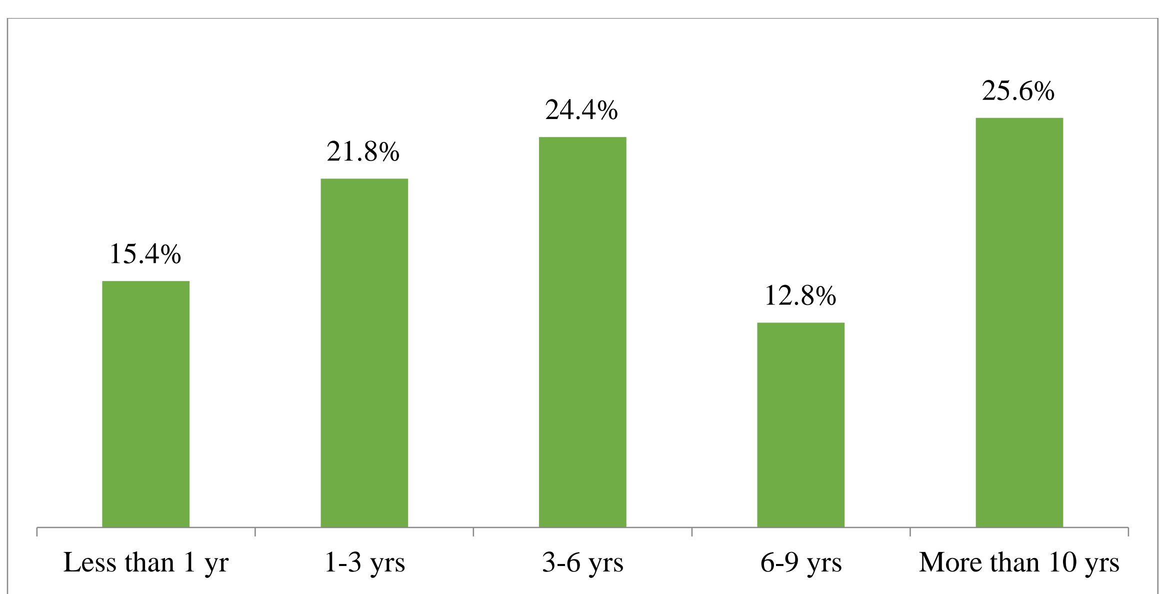
As the findings on Table 4.3 portray, majority of the health care facilities (62.8%) were financed by the government, 29.5% of the same institutions were financed through the insurance claims including NHIF and other health care insurance scheme providers, 2.6% were financed by NGOs, and 1.3% of health care institutions were financed by charges from patients who seek medical services through out of pocket payments (OOP) while 2.6% of the health care facilities financing were received from the donors and friendly sponsors.

### 4.4.4 Length of Service at the Health Facility

The study aimed to get the number of years the respondent worked at the health care facility. The respondents were asked to tick the respective years in ranges provided on a scale. Figure 4.3 summarizes the findings observed on the questionnaire booklets as analysed.

**FIGURE 4.3:**

*LEVEL OF EXPERIENCE*




As the results portray, 15.4% of the respondents had worked in the health care facility for a period of less than one year, while 21.8% had worked for a period of between 1 and 3 years in the same facility, 24.4% of respondents had worked in their respective facilities for a period of between 3 and 6 years, in the same strength 12.8% had worked for 6 to 9 years, while 25.6% respondents worked in the same facilities for over 10 years. The findings imply that most of the respondent had a lot of experience in their current health care facilities for significant longer period and were conversant with the facility management issues; hence

their perception as well as the opinions on the theme of the study would be informed based on their experience and can be significantly be reliable information for research and analysis.

### 4.4.5 Position Held in the Facility

The research worked to know the various positions the respondents hold in their respective health care facilities in terms of responsibility and rank. The respondents were asked to tick their position from a given list of options which included the registered nurses, medical officers, Health Administrative Officers, medical dentists, executive secretaries, finance administrators among others. Table 4.4 highlights the findings.

**TABLE 4.4**

***DISTRIBUTION OF THE RESPONDENTS BY POSITION HELD***

| Position | Frequency | Percent |
|---|---|---|
| Registered Nurses | 21 | 26.9% |
| Medical Officer of Health | 11 | 14.1% |
| Health Administrative Officers | 19 | 24.4% |
| Medical Dentist | 4 | 5.1% |
| Executive Secretaries | 4 | 5.1% |
| Finance Administrators | 1 | 1.3% |
| Pharmacist in charge | 6 | 7.7% |
| Clinical Officers | 3 | 3.8% |
| Medical Intern Officers | 2 | 2.6% |
| Health care Social Workers | 4 | 5.1% |
| ICT Officers | 1 | 1.3% |
| Medical Doctor Specialists | 2 | 2.6% |
| **Total** | **78** | **100.0%** |

The above results revealed that 29.9% of the respondents were nurses in charge of hospitals responded to the questionnaire, while 14.1% were medical officers of health, at the same time 24.4% were health administrative officers, as observed from the table 5.1% were dentists and executive secretaries 5.1% respectively, while finance administrators were 1.3%, Pharmacists were 7.7% of the respondents, 3.8% were clinical officers. The findings further revealed that medical interns and social workers represented, 2.6%, 5.1%, 1.3% and 2.6% of the total respondents in general.

## 4.5 Analysis of the Study Findings

The descriptive statistics analysis of the research findings is meant to describe the findings from the study as reviewed from the data received. This analysis was done using indicators like mean, the standard deviation and percentages. The statistics helped in the understanding the trends and opinions of the respondents by describing just what was observed, without giving any internal meaning. This has been done systematically as per the main variables in the study.

### 4.5.1 Drugs in Hospitals

The study worked to highlight the effect of availability of drugs in health care pharmacies on provision of universal health care in public hospitals. The respondents were then asked to indicate on the agreement or disagreement with specific statements regarding the availability of drugs in hospital pharmacies. Table 4.5 summarizes the findings.

**TABLE 4.6:** ***DESCRIPTIVE STATISTICS ON HOSPITAL PHARMACY DRUGS***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| There are sufficient stocks of drugs in all health care facilities within the County hospitals and a central store is set up for quick supply when demand arises. | 78 | 2.37 | 1.340 |
| Drugs are offered at subsidized rates in the hospital pharmacies, where majority of patients are able to pay for the service or use NHIF cards/ personal medical cover insurance where possible | 76 | 2.67 | 1.193 |
| The facilities offer all the prescribed medicine at affordable rates, nobody is turned away or referred to buy drugs outside the facility pharmacy and all services requested are offered under one stop shop | 77 | 2.55 | 1.231 |
| The hospital has adopted digitalized healthcare platforms that improves medical drugs dispensation efficiency in the County health centres | 75 | 2.89 | 1.247 |
| There are adequate mechanisms for faster procurement and delivery of medical drugs to health care facilities within the county | 78 | 3.08 | 1.171 |
| Restocking of drugs which are out of stock is done timely and promptly before stock out levels limits are reached. | 76 | 3.34 | 1.302 |
| In most cases prescribed drugs are available and patients do not have to go to private chemists in the township open business | 78 | 3.63 | 1.250 |
| The hospital always have adequate stock of various drugs which are commonly requested by patients in the locality | 77 | 3.38 | 1.298 |
| The frequency at which patients are referred to private chemists outside the facility to buy medicine is significantly minimal | 76 | 3.28 | 1.218 |
| Customers rarely complain about services and medical drugs offered through our facilities pharmacy outlets in the County | 76 | 3.20 | 1.327 |
| There is frequent inventory checks to discard expired drugs from the shelves in the facility pharmacies of the County | 78 | 2.78 | 1.065 |
| Management always institutes internal audits to check on compliance regulation as per the MOH which are followed throughout all health facilities within the county managed centres | 78 | 2.96 | 1.062 |

The results above reveal that, many of the respondents disagreed that there were sufficient stock of essential drugs in all health care facilities within the County hospitals and that a central store is set up strategically for quick supply when demand and reorder level is reached as can be shown by a mean of 2.37 and a standard deviation of 1.340 respectively. Most of the respondents further disagreed with the statement that the drugs were offered at subsidized prices in the hospital pharmacies for the general public affordability, hence enabling majority of patients the capability to pay for the service or use NHIF cards, medical insurance covers, where possible (Mean = 2.67; and Standard Deviation = 1.193). The respondents interviewed further disputed the fact that respective health facilities pharmacies offered all the prescribed essential medicine at affordable rates and that nobody was turned away or referred to get drugs not available in the hospital pharmacy for the last five years. Father that all services requested were offered less than one stop shop as shown by a mean of 2.55 and a standard deviation of 1.231 respectively. The respondents also further disagreed with the statement that their respective hospitals had adopted digitalized health care platforms that improved on medical drugs dispensation efficiency in the County health centres across, this is highlighted by a mean of 2.89 and a standard deviation of 1.247 respectively.

The respondents further disputed the fact that there were adequate mechanisms for faster procurement and delivery of medical drugs to health care facilities within the county various hospitals (Mean = 3.08; Standard deviation = 1.171) and that restocking of drugs which were out of stock was done timely and promptly before stock out level limits were reached (Mean = 3.34; Standard deviation = 1.302). The respondents agreed that in most cases prescribed drugs were not available and patients had to go to procure them from private chemists in the Township open business at exorbitant prices (Mean = 3.63; Standard deviation = 1.250). The

results additionally exposed that many of the respondents approved that their individual hospitals always had inadequate stock of various drugs which are commonly requested by patients in the locality and that the frequency at which patients were referred to private chemists outside the facility to buy medicine in the Township was significantly high for the last five years (Mean = 3.28).

The respondents further stated that the customers are used to poor health care services and rarely complained about the quality of such and the availability of essential medical drugs they are supposed to enjoy in public hospitals through the facility pharmacies outlets in the entire County (Mean = 3.20; Standard Deviation = 1.327). The respondents also disagreed that there were frequent inventory checks to discard expired drugs from the shelves in the facility pharmacies of the County as shown by a mean of 2.78 and a standard deviation of 1.065. They further disagreed that the management always instituted internal audits to check on compliance regulations as per the MOH guidelines which are supposed to be followed throughout all the health care facilities within the county managed centres as shown by a mean of 2.96 and a standard deviation of 1.062. The findings are in line with the finding deduced by Hassan and Minato (2019) who established that availing adequate drugs is an essential way of ensuring there are quality health care services to the public. According to Vuong et al. (2018), most of the health care budget in the health ministry should be on the procurement of essential drugs and equipments. It's significantly important to ensure that there are adequate drugs in public hospitals which play an essential role especially the out of pockets expenditures on the public burden when purchasing drugs in private enterprises, thus enhancing quality of health care to the public in general.

### 4.5.2 Hospital personnel Resource

The second objective was aimed to find out the influence of hospital personnel resources on the quality of health care. The descriptive results from respondents is indicated on Table 4.7 which shows that the large number of them disagreed with statement that jobs and individual responsibilities were well understood by members of staff and were reviewed regularly by the facility management frequently with changes and challenges coming in being resolved amicably and timely, as showed by a mean of 2.27 and a standard deviation of 0.989. The respondents also disagreed county government always hired staff with adequate skills and experience regarding health care management especially the specialists' senior personnel and related professional upgrading through continuous training.

Where remuneration is based at market rate as indicated by a mean of 2.28 and a standard deviation of 0.952 respondents could not with the statement, however the respondents were neutral on the availability of significant incentives for members of staff to warrant them expound energy in order to perform better and that they were well motivated to the required levels while serving the public in matters of health care (Mean = 3.03; Standard Deviation = 1.044).

Most of the respondents disagreed that the facility management had an established performance evaluation and appraisal scheme that was carried out on regular basis and the results known by those being evaluated on timely basis (Mean = 2.68; Standard deviation = 1.057) but agreed that there were rewards and encouragements for the employees with creativity and innovation competencies among the members of staff on job accomplishments (Mean = 3.13; Standard deviation = 1.116). The findings further exposed that most of the respondents being unbiased on the statement that patients in their own facilities always gave positive feedback on efficiency regarding the health care services offered throughout the

county facilities as shown by a mean of 3.03 and a standard deviation of 1.143. The respondent nevertheless disagreed that the replacement of critical staff in the facilities was always given top priority by the management during the annual planning (Mean = 2.91; Standard Deviation = 1.168) but agreed that medical staff were compensated in all the tasks they were exposed to within the health care institutions including on call allowances token of appreciation.

The findings further revealed that the annual turnover rate of the members of technical and medical staff remained minimal compared to before the coming of UHC and that there were no properly organised refresher trainings or in house courses to members of staff on regular basis to equip them on latest skills (Mean = 2.77; Standard deviation = 1.258). It was further established that the health care facilities had not maintained adequate number of doctors, nurses and other technical staff and that the members of staff were well protected against hazardous diseases and dangerous chemicals that may harm them (Mean = 2.77).

The respondents disagreed that the supervisors interacted well with members of junior staff and often made corrections where necessary (Mean = 2.60), and that the employees worked as a team and significantly there was friendly relationship across the departments. The findings imply that the human resource aspect has not been effective in the county hospitals, this could be a major setback to the provision of quality health care service compromise. The findings can be compared with those by Okech and Lelegwe (2016) who established that the major determinant of the success in the health care services offering is the human resources capital availability. Peltzer et al. (2014) argues that the staff at the health care facilities play an essential role in disseminating the health care services to the public, however this cannot be achieved not unless they are well equipped, adequately trained and motivated, they may

not fully dedicate their skills and competencies to health care provision as anticipated in the absence of such improved terms of engagements.

**TABLE 4.7:**

***THE DESCRIPTIVE STATISTICS ON HOSPITAL PERSONNEL RESOURCES***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| Jobs and individual roles and responsibilities by members of staff and are reviewed regularly by the facility management frequently with changes and challenges coming in being resolved amicably and timely. | 78 | 2.27 | .989 |
| The county government always hire staff with adequate skills and experience regarding health care management and related professional training, where remuneration is at market rate. | 78 | 2.28 | .952 |
| There are significant incentives from members of staff to warrant them expound energy in order to perform better and that they are well motivated to the required standards as they serve the public | 78 | 3.03 | 1.044 |
| The facility management has an established performance evaluation and appraisal scheme that is carried out on regular basis and the results known by those being evaluated timely. | 77 | 2.68 | 1.057 |
| There are rewards and encouragements from employees with creativity and innovation competencies among the members of staff on job accomplishments. | 77 | 3.13 | 1.116 |
| Patients always give a positive feedback on efficiency regarding our healthcare services offered throughout the county. | 76 | 3.03 | 1.143 |
| Replacement of critical staff in the facilities is always given top priority by the management annual planning. | 76 | 2.91 | 1.168 |
| Our medical staff are compensated in all the tasks they offer within our health institutions including on call allowances. | 73 | 3.26 | 1.155 |
| The annual turnover rate of our members of technical and medical staff as remained minimal compared to before UHC. | 75 | 2.68 | 1.117 |
| There are properly organised refresher trainings and in house courses to members of staff on regular basis to equip on skills. | 78 | 2.77 | 1.258 |

| | | | |
|---|---|---|---|
| Our health facilities have maintained adequate number of doctors, nurses and other technical staff. | 77 | 3.08 | 1.167 |
| Members of staff are well protected against hazardous diseases and dangerous chemicals that may harm them. | 78 | 2.77 | 1.216 |
| Supervisors interact well with members of staff and make corrections where necessary. | 77 | 2.60 | 1.067 |
| Employees work as a team and there is friendly relationship across the departments inter twining. | 78 | 2.71 | 1.106 |

### 4.5.3 Hospital Medical Machines and Equipments

The third objective highlighted to assess the effect and the availability of medical equipments on offering quality health care in county government public health care facilities. The findings of the objectives are as shown in Table 4.8 that exposed that many of the respondents were in agreement that there were sufficient budgets set aside by County government for replacing old and unserviceable medical equipments and machines in all health care facilities within the County as revealed by a mean of 3.24 and a standard deviation of 1.229. The respondent were always neutral on that the facility management had instituted contracts for regular calibrating and servicing of medical equipments within the hospitals by the manufacturers or other experts contracted to do so regularly (Mean = 3.04; Normal deviation = 1.156) but differed that the equipments installed at the facilities were the latest models in the market where the results obtained from such machines were significantly highly reliable for laboratory diagnostic purposes (Mean = 2.96, and standard deviation of 1.221). They were also a neutral on that the patients and the community utilizing the facility were satisfied with diagnostic results originating from the facility equipments installed (Mean = 2.65, and normal deviation of 1.226).

The findings exposed that many of the respondent disagreed with the statement that the personnel using the machines were highly trained, such that instances of mishandling and breakdowns were minimal as demonstrated by a mean of 2.36 and a standard deviation of 1.105. Respondents however agreed that the servicing of the equipments was done on timely basis and the management always made sure they were in working condition (Mean = 3.16; Standard deviation = 1.089) and that the county government had set aside finance in the budget to procure specialised equipments to grow and expand the facilities further as need arises (Mean = 3.14; Standard deviation = 1.272). Many of the respondent however did disagree with the statement that hospital management ensured protective equipments (PPE) were available to members of staff when they require them at work place upon performing duties (Mean = 2.51; Standard deviation = 1.125) but agreed with the statement that the ICT department had sufficient budgets to buy the latest technology software and computing devices at the laboratory inquiry that produces accurate and adequate reliable results information sought (Mean = 3.41; standard deviation = 1.050).

It was further established through the questionnaire inquiry response that the health care institutions did not effectively maintain adequate number of the necessary equipments in accordance to the designated level of the health care facility by the ministry of health assessment and grading reports (Mean = 2.91, standard deviation 2.96) but majority were neutral on the statement that there existed within the health care facilities ERP system that ensured efficiency service delivery in the centres as showed by a mean grade of 3.00 and a standard deviation of 1.217. However the respondents did disagreed that there was a technical team that always peer reviewed to ascertain MOH regulations compliance in the health institutions are strictly adhered to. The findings therefore imply that similar to human resources and drugs as earlier mentioned, the medical equipments in hospitals have also not

been adequately availed to enhance the delivery of quality public health services. The findings can be compared with those analysed by Lazar and Davenport (2018) who indicated that the aspect driving inefficient health care delivery services is the absence of adequate and properly working medical equipments in public hospitals. According to Ibe et al. (2017), medical equipments are significant in health care delivery since they are the tools used to diagnose, detect, isolate for treatment the health care problems and control disease prevalence on human being, thus when not availed the opposite can happen. Machines and equipments supplement the offering of quality health care services and are effective tools, the absence of such can paralyse service delivery in facilities of health care.

**TABLE 4.8:**

***THE DESCRIPTIVE STATISTICS ON MEDICAL MACHINES AND EQUIPMENTS***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| There are sufficient budgets set aside by County government for replacing old and unserviceable medical equipments and machines in all healthcare facilities within the County. | 78 | 3.24 | 1.229 |
| The facility management has instituted contracts for regular calibrating and servicing of medical equipments within the hospital by the manufacturers or other experts contracted. | 78 | 3.04 | 1.156 |
| The equipments installed at the facilities are the latest models in the market and results obtained from such machines are significantly highly reliable for laboratory diagnostic purposes. | 78 | 2.96 | 1.221 |
| Patients and the community utilizing the facility are satisfied with diagnostic results originating from the facility equipments installed. | 78 | 2.65 | 1.226 |
| Personnel using the machines are highly trained, such that instances of mishandling and breakdowns are minimal. | 74 | 2.36 | 1.105 |
| Servicing of equipments is done on timely basis and the management always make sure they are in working condition. | 77 | 3.16 | 1.089 |

| | | | |
|---|---|---|---|
| The county government has set aside finance in the budget to procure specialised equipments to grow and expand the facilities further. | 76 | 3.14 | 1.272 |
| Our hospital management ensures protective equipments (PPE) are available to members of staff when they require them at work place. | 78 | 2.51 | 1.125 |
| The ICT department has sufficient budgets to buy the latest technology software and computing devices at the facility that produces accurate and adequate reliable information. | 78 | 3.41 | 1.050 |
| Our health institutions maintain adequate number of the necessary equipments in accordance to the designated level by the ministry of health assessment report. | 78 | 2.91 | 1.186 |
| There exists within the healthcare facility ERP system that ensures efficiency service delivery in our centre. | 78 | 3.00 | 1.217 |
| There is a technical team that does peer review to ascertain MOH compliance in our health institution. | 78 | 2.79 | 1.231 |

### 4.5.4 The Hospital Infrastructure

The fourth objective worked to highlight the accessibility of infrastructure on the provision of quality health care service delivery in the county public hospitals. The findings from the respondents are as shown on Table 4.9 which showcase that many of the respondents disagreed with the statement that their respective hospitals had adequate, spacious and modern infrastructures that allow members of the medical staff perform their tasks smoothly and comfortable with minimal complains regarding infrastructure and more so space (Mean = 2.90; Standard deviation = 1.325). The respondents further disagreed with the statement that there was a vote head in the county budget for infrastructure development every year in the county government planning to ensure sufficient new buildings match the demand of the population increase (Mean = 2.99; Standard deviation = 1.157). The respondents did not agree with the statement further that the repairs and maintenance were given priority by

hospital management where resources are availed so as to keep buildings modern and usable throughout the years (Mean = 2.78 and standard deviation of = 1.127) but agreed with the statement that the infrastructures were spacious enough to allow all types of diagnostic machines to be fitted in without difficulty and can be removed when need arises e.g. during repair or when new ones are brought in for installation and fixing (Mean = 3.24; Standard deviation = 1.261) and that there was significant enough space created for expansion in the long term plans as more health services are sought by citizens with population increase in plan, shown by a mean of 2.87 and a standard deviation of 1.185 on the table below. However the respondents were neutral with the statement that the board of management in their respective facilities were always conscious regarding expansion of infrastructure beyond the existing ones in the facility for future development in the years to come (Mean = 2.88, and standard deviation of = 1.116) and that their vision and mission envisage the hospital that is able to serve the communities in all health care problems they face, where space and shelter is key issue of consideration (Mean = 2.60; Standard deviation = 1.199).

The findings however did reveal that many of the respondents disagreed with the statement that in provision of UHC adequate infrastructure was required and the management had instituted significant mechanism to provide the required infrastructure (Mean = 2.92 standard deviation = 1.061) and that the buildings were always inspected by technical teams from the department of public work services for safety compliance (Mean = 2.81; Standard deviation = 1.318). The respondents agreed with the statement that peer reviews has always been carried out by experts from other counties for the purposes of comparison and improvements but disagreed with the statement that the entrance to buildings have special non staircase paths for people with disability using the buildings for their safety (Mean = 2.46 and standard deviation of =1.296 ). The answers suggest that the availability of infrastructure has not been

given maximum attention in the county hospitals management attention despite being an essential driver of quality health care services. The findings concurred with those derived by Gondi and Song (2019) who in their research paper established that lack of adequate infrastructure has been a major setback in enhancing quality health care provision for all in the county government hospitals. The finding are in agreement with a study carried out by Angamuthu (2020) which revealed that though health care facilities require adequate infrastructure to offer valuable health care services there is need for further modification to accommodate persons with special needs living among the communities.

**TABLE 4.9:**

***DESCRIPTIVE STATISTICS ON HEALTH INFRASTRUCTURE***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| The hospital has adequate, spacious and modern infrastructures that allow members of medical staff perform their tusks smoothly and comfortable with minimal complains regarding space and infrastructure. | 78 | 2.90 | 1.325 |
| There is a vote head for infrastructure development in the county government budget so as to ensure sufficient new buildings match the demand of the population increase. | 78 | 2.99 | 1.157 |
| Repairs and maintenance are given priority by hospital management so as to keep buildings modern and usable throughout the years. | 78 | 2.78 | 1.147 |
| Infrastructures are spacious enough to allow all types of diagnostic machines to be fitted in without difficulty and can be removed when need arises e.g. during repair or when new ones are coming in for installation and fixing. | 78 | 3.24 | 1.261 |
| There is significant enough space created for expansion in the long term plans as more health services are sought by citizens. This entails both for healthcare attention and staff houses. | 77 | 2.87 | 1.185 |
| In our healthcare facility the board of management are always conscious regarding expansion of infrastructure beyond the existing ones in the facility for future development in the years to come. | 78 | 2.88 | 1.116 |

| | | | |
|---|---|---|---|
| Our vision and mission envisage the hospital that is able to serve the communities in all healthcare problems they face, where space and shelter is key issue of consideration. | 78 | 2.60 | 1.199 |
| In provision of UHC adequate infrastructure is required and the management has instituted significant mechanism on that. | 77 | 2.92 | 1.061 |
| Buildings are always inspected by technical team from the department of public work services for safety compliance. | 77 | 2.81 | 1.318 |
| Peer review is always carried out by experts from other counties for the purposes of comparison and improvements. | 78 | 3.10 | 1.158 |
| Entrance to buildings has special non staircase paths for people with disability using the buildings for safety. | 78 | 2.46 | 1.296 |

### 4.5.5 Health Care Finances

The study was aimed to establish the Moderating effect of availability of financing on the provision of universal health care in Kenya. The results in Table 4.10 which exposed that many of the respondents agreed with the account that their respective hospitals had experienced financial sustainability within the last five years as a result of free universal medical cover financing provided by the various sources of fund taps including the government towards enhancement of health care services as evidenced by a mean of (3.32 and a standard deviation of 1.134). However the respondents disagreed with the statement that the patients had been provided with maximum health care services due to universal health care protection system introduced by county government as shown by a mean of (2.81 and a standard deviation of 0.994). They further did not agree with the statement that the health care services had been available throughout over the last five years courtesy of UHC system recent introduction (Mean = 2.99; Standard deviation = 1.099). The respondents further disagreed with the statement that good health care services in their respective hospitals had been sustained for the last five years as a result of universal health care

financing support given by the National Government (Mean = 2.95; Standard deviation = 1.169) and disagreed with the statement that the pharmacy stock of medicine had tremendously posted positive improvements such that very few patients have to go to private chemists to secure medicine in Town for the last five years (Mean = 3.31; Standard deviation = 1.262). Many of the respondents did not agree with the statement that over the last five years hospital infrastructure had expanded significantly to accommodate all the departments desired when attending patient's needs (Mean = 2.88; Standard deviation = 1.298) and that in the last five years members of the medical staff remuneration package is within market rate hence their morale to work is reflected at work place and job performance improvement in comparison to the past (Mean = 3.28; Standard deviation = 1.216).

The findings however showed that many of the respondent had agreed with the statement that in a span of five years congestion in hospital words had remained minimal due to faster discharge of patients who were already cured as evidenced by a mean of (3.29 and a standard deviation of 1.106). The respondents further disagreed that strikes and go slows due to non-timely remittance of staff dues and salaries had been decreasing every year for the last five years since introduction of UHC (Mean = 3.45 standard deviation of =1.392) but majority of the respondents were neutral with the statement that over the last five years their respective hospitals had witnessed decreasing number of complaints from patient in the surrounding and within the facility regarding services (Mean = 3.00 and standard deviation = 1227 ). The respondents disagreed with the statement that there were public suggestion boxes strategically fixed at the entrance for management to open and analyse, read complains raised by patients in a way of getting solutions on any negative issues arising and possibly come up with solutions. The findings clearly imply that financing has not been effectively upheld in the county government hospitals in order to enhance the provision of universal health care

programme. According to a research done by Fusheini and Eyles (2016), one of the major drivers of successful health care provision is adequate financing to the health care systems and projects. A research study done by Nyikuri et al. (2017) reflected the implication of these findings where their results revealed that the availability of proper financing to the health care facilities enables most of the internal operations of the health care facility attain the desired aim of dispensing quality health care to proceed effectively thus achieving the intended goals. Universal health care would require adequate financing, not unless this is effectively achieved, the access to quality health care may not be realized and remain just an ambitious project of the government.

**TABLE 4.10:**

***THE DESCRIPTIVE STATISTICS ON HEALTH CARE FINANCES***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| Our hospital has experienced financial sustainability within the last five years as a result of free universal medical cover financing provided by the government towards enhancement of health care services. | 78 | 3.32 | 1.134 |
| Patients have been provided with maximum healthcare services due to universal health care protection system provided by county government. | 78 | 2.81 | .994 |
| Health care services have been available throughout the years for the last five years courtesy of UHC system. | 73 | 2.99 | 1.099 |
| Good healthcare services in our hospital have been sustained for the past five years as a result of universal health care support given to us by the National Government. | 77 | 2.95 | 1.169 |
| Our pharmacy stock of medicine has tremendously posted positive improvements such that very few patients have to go to private chemists in town for the last five years. | 78 | 3.31 | 1.262 |
| Over the last five years hospital infrastructure has expanded significantly to accommodate all the departments desired when attending patient's needs. | 77 | 2.88 | 1.298 |

| | | | |
|---|---|---|---|
| In the last five years members of the medical staff remuneration package is within market rate hence their morale to work is reflected at work place and job performance improvement in comparison to the past. | 78 | 3.28 | 1.216 |
| In a span of five years congestion in hospital words has remained minimal due to space creation and faster discharge of patients who are already been cured. | 78 | 3.29 | 1.106 |
| Strikes and go slow due to non- timely remittance of staff dues and salaries have been decreasing every year for the last five years since introduction of UHC. | 78 | 3.45 | 1.392 |
| Over the last five years our hospital has witnessed decreasing number of complaints from patient in the surrounding and within the facility regarding services. | 78 | 3.00 | 1.227 |
| There is a public suggestion box strategically fixed at the entrance for management to open, read complains raised by patients in a way of getting solutions on any negative issues arising possible solutions. | 78 | 2.49 | 1.266 |

### 4.5.6 Provision of Universal Health Care

The study worked to establish the provision of universal health care services in county government hospitals in Kenya. The findings are as shown in Table 4.11 which revealed that most of the respondents were however neutral with  the statement that the government allocated enough resources to reduce the cost of medication in their respective public health facilities as shown by a mean of 3.00 and a standard deviation of 1.238. The respondents disagreed with the suggestion that there has been development of a policy that was effective and efficient in managing the allocation of the facility resources prudently as per the financial budget (Mean = 2.85; Standard deviation = 1.140) and that the government allocated sufficient financial resources in order to upgrade the relevant professional skills to enhance high-quality health care services at the facility (Mean = 2.87; Standard deviation = 1.242). The respondents disagreed with the statement that the county government allocated 30% of

the county budget for health care services both recurrent and development as shown by a mean of (3.12 and a standard deviation of 1.117).

The results further revealed that most of the respondents were however neutral with the statement that there were organized NHIF scheme that catered for patients medical bills fully both for the bed and other services enjoyed at the facility as shown by a mean of (2.53 and a standard deviation of 1.266). The respondents however disagreed with the statement that the budget allocation given by the county government was adequate to cater for hospital current and future development expenditures (Mean = 3.55 standard deviation =1.195) but agreed that the NHIF claims were prepared and remitted early enough, timely and within the quarters as expected in the County arrangements (Mean = 2.78 standard deviation= 1.136). The respondents further disagreed that their respective hospitals' management had improvised ways and means of resolving the shortfall experienced in the national government finance reductions through cost cutting. The findings imply that the provision of the universal health care is not effective in most of the county hospitals. According to research by Onwujekwe et al. (2019), universal health care would be effective if arrangements were there to ensure affordable access to quality health care services in public hospitals. However, due to lack of adequate financing, ineffective health care management policies and lack of other key required inputs, the universal health care has not been realized in county health facilities as expected.

**TABLE 4.11:**

***PROVISION OF UNIVERSAL HEALTH CARE***

| Statements | N | Mean | Std. Dev. |
|---|---|---|---|
| The government allocate enough resources on the inputs and the services so as to lower the cost of medication in our public health facility. | 78 | 3.00 | 1.238 |
| There has been development of a policy that is effective and efficient in managing the allocation of the facility resources prudently as per the financial budget | 78 | 2.85 | 1.140 |
| The government allocates sufficient financial resources in order to upgrade the relevant professional skills to enhance high-quality health care services at the facility. | 78 | 2.87 | 1.242 |
| The county government allocates 30% of the county budget for health care services both recurrent and development. | 73 | 3.12 | 1.117 |
| There are organized NHIF scheme that caters for patients medical bills fully both for the bed and other services enjoyed at the facility | 78 | 2.53 | 1.266 |
| The budget allocation given by the county government is adequate to cater for hospital current and future expenditures. | 77 | 3.55 | 1.198 |
| NHIF claims are prepared and remitted early enough, timely and within the quarters as expected in the County arrangements. | 78 | 2.78 | 1.136 |
| Hospital management has improvised ways and means of resolving the shortfall experienced in the national government finance reductions through cost cutting. | 78 | 2.85 | 1.239 |

## 4.6 Diagnostic Tests

To ascertain the assumptions of the regression models were satisfactory carried out, the following diagnostic tests were performed. The purpose for doing such tests was to ascertain that the model is reasonably fits for the data. In other wards the correlograms of both autocorrelation and the partial autocorrelation must give the imprint that the estimates from

the equation are purely random and that there was no need to look for another alternative model to ascertain the strength of the togetherness or dispersion of the data gathered.

### 4.6.1 Normality Test

The objective of the normality test was to highlight the estimation of the various parameters of the regression from the mid-point. Normality of the error term is fundamental assumption of the equation, however it is not necessary in order to obtain the parameter estimate, but it must be assumed to hold in order for the formulae to derive accurate estimates.

The normality test was carried out in the study to ensure that the data collected was normally distributed. The regression model assumes that the data used in the analysis is normally distributed such that it forms a linear pattern. A normally distributed data takes the form of a symmetric bell-shaped curve. The quantile-quantile plot (Q-Q) plot and the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests were used to check for normality in the study. They both highlighted that if the two distribution matches well, then the points on the middle line formed is a linear pattern that has a unit slope through the origin. As the findings on Table 4.12 reveal, the significant values under Kolmogorov-Smirnov and Shapiro-Wilk are above 0.05 an indication that they are insignificant. This scenario therefore implies that the data is typically unbiasedly dispersed.

### 4.6.2 Normality for all Variables

A data scrutiny process mainly depends on the supposition of the data sampled using the Gaussian distribution model application. However, the paramount way to assess on how far the data is associated to Gaussian is to evaluate on the graph and check on how the delivery deviates wholly from a bell shaped usual distribution partan (Athanasian et al., 2010).

**TABLE 4.12:**

***THE KOLMOGOROV-SMIRNOV AND SHAPIRO-WILK NORMALITY TESTS***

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | Df | Sig. |
| Provision Of Universal Healthcare | .043 | 78 | .200* | .991 | 78 | .839 |
| Availability Of Drugs | .058 | 78 | .200* | .989 | 78 | .752 |
| Human Resources | .110 | 78 | .021 | .970 | 78 | .060 |
| Availability Of Medical Equipmentss | .084 | 78 | .200* | .983 | 78 | .379 |
| Availability Of Infrastructure | .074 | 78 | .200* | .986 | 78 | .538 |
| Availability of Financing | .069 | 78 | .200* | .987 | 78 | .622 |

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The observation from the Q-Q data indicates that the opinion of the respondents does not have a bigger deviation from the best line fit as observed. This means therefore appositive and significant influence on moderation of financing in order for the universal health care to fully function in public health care facilities in Kenya sufficient financing is necessary and required for such programmes to pick and be sustainable.

A Q-Q plot was also used to test for the normality in the data set. As the results on Figure 4.4 reveal, all the variables had most of their plots are falling along the straight line an indication that the data was normally distributed and can be relied upon in order to form a significant conclusion regarding Universal Health Care financing in hospitals.

The data analysis method employed mainly depended on the sampled data from the Gaussion distribution model (Athanasian et al., 2010). The best way to check this applicability is by looking at a graph and identifying how the distribution deviates grossly from the bell shaped

normal distribution. The graphs below demonstrate the findings of Q-Q projections and the dotted lines for normality tests clearly showing the par tans formed.

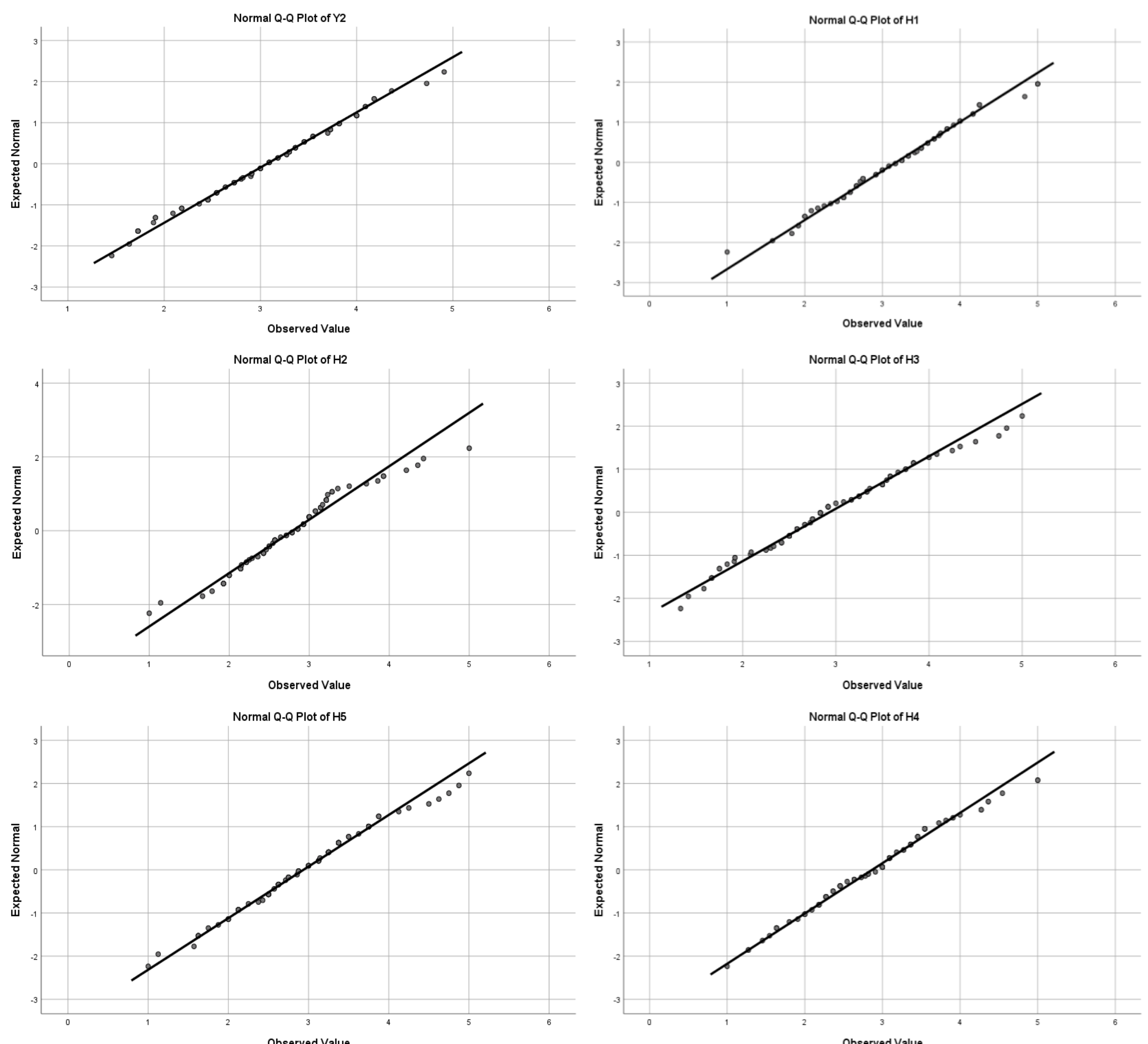



**FIGURE 4.4:**

***Q-Q PLOT FOR NORMALITY TEST***

## 4.7 Correlation Analysis

The primary objective for calculating the association existence investigation was mainly to quantify the forte of the linear association among the variables obtained from data analyzed

that is how closely to mid-point the data is. The correlation analysis measures the relationship between the dependent and explanatory variables or the regressed and the repressor variables for that matter, the extent of the relationship biding them together given certain factors of considerations and others held constant or fixed but directly not interfering in the process.The correlation analysis was then carried out to establish the relationship between the variables under the research study. Table 4.13 shows the findings. The results obtained indicated that the associations between each of the independent variables and the dependent variables were all significant at the 95% confidence level.

**Table 4.13:** ***Correlation Analysis Results***

| | Provision of | UHC | Availability of Drugs | Human Resources | Medical Equipment | Healthcare Infrastructure | Financing. health care enhancing Finance |
|---|---|---|---|---|---|---|---|
| Provision of UHC | Pearson Correlation | 1 | | | | | |
| | Sig. (2-tailed) | | | | | | |
| | N | 78 | | | | | |
| Availability of Drugs | Pearson Correlation | .503** | 1 | | | | |
| | Sig. (2-tailed) | .000 | | | | | |
| | N | 78 | 78 | | | | |
| Human Resources | Pearson Correlation | .658** | .638** | 1 | | | |
| | Sig. (2-tailed) | .000 | .000 | | | | |
| | N | 78 | 78 | 78 | | | |
| Medical Equipmentss | Pearson Correlation | .700** | .587** | .793** | 1 | | |
| | Sig. (2-tailed) | .000 | .000 | .000 | | | |
| | N | 78 | 78 | 78 | 78 | | |
| Healthcare Infrastructure | Pearson Correlation | .708** | .545** | .781** | .822** | 1 | |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | |
| | N | 78 | 78 | 78 | 78 | 78 | |
| Health care Financing | Pearson Correlation | .742** | .470** | .630** | .679** | .736** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | |
| | N | 78 | 78 | 78 | 78 | 78 | 78 |

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

As the correlation analysis results portray on the table above, there was strong and positive significant correlation between the hospital drugs and the provision of universal health care in hospitals as shown in the Pearson correlation coefficient of 0.503 and a p-value less than 5% level of significance ($p = 0.000 < 0.05$). The correlation between the availability of health care personnel resources and provision of universal health care was high and significant with

a Pearson correlation coefficient range of 0.658 and a P-value below the standard deviation p-value of 0.05. The correlation between the availability of medical machines and equipments and the provision of universal health care was also significant at a Pearson correlation coefficient of 0.700 and a p-value of ($p = 0.000 < 0.05$). The correlation between health care infrastructure and provision of universal health care was the strongest and positive with a Pearson correlation coefficient of 0.708 and a p-value of ($P = 0.000 < 0.05$). The correlation coefficient between the hospital facilities financing and the provision of universal health care was also significant at a Pearson correlation coefficient of 0.742 and p-value of ($p = 0.000 < 0.05$).

### 4.7.1 Hypotheses Testing

The hypotheses tests carried out was intended to check whether there is any influence that can be deduced between the Drugs in hospitals and delivery of Universal Health Care.

### 4.7.2 Drugs in Hospitals and Provision of Universal Health Care

**Hypotheses Testing Medical Drugs;**

***$H_0$; Drugs in hospitals have no significant influence on delivery of Universal Health Care delivery***

***$H_1$; Drugs in hospitals have significant influence on delivery of Universal Health Care delivery.***

Where: $H_o \quad \beta_1 = 0$ versus $H_1 \; \beta_1 \neq 0$ was tested. The outcomes from the bivariate correlation analysis on table 4.13 above shows that there is significant and confident relationship between medical drugs in hospitals and delivery of Universal Health Care, the values are. $r = .503$, ($p = 0.000 < 0.05$). This lead to the disproval of the null hypothesis ($H_0$) and the recognition of the alternative hypothesis ($H_1$).The research exercise finally concluded that

there is important association between drugs in hospitals and Universal Health Care in county health care facilities.

The aim of performing the hypothesis test was to find out whether there is any an asymmetry on how the dependent and descriptive variables are tested and related. Where the dependent variable is supposed to be numerical, unsystematic with probability distribution, the explanatory variable being assumed to have fixed values. With an observation to articulate or predict the mean or average value of the variable, in terms of the known or fixed values in the distribution analysis of the data in order to get the unknown value be known and identified for analysis.

### 4.7.3 The Model Summary on Drugs in hospitals

The study aimed to establish and highlight the relationships that exist between the drugs in hospitals and the provision of universal health care in county government health care facilities. The summary of the model results are on Table 4.14 which revealed that the R-square of 0.253 was obtained as a result of drugs in hospitals, an indication that a 25.3% variation of the provision of universal health care is obtained as regards to drugs in Health care facilities.

Table 4.14:

***MODEL SUMMARY***

| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate |
|---|---|---|---|---|
| 1 | .503[a] | .253 | .244 | .64728 |

A. Predictors: (Constant), Drugs in hospitals

The ANOVA results on Table 4.15. Indicates that the results portray, the F-value being 22.816 at a significance level of ($P = 0.000 < 0.05$). This observation then suggests that the model used is important and can thus be used to predict the relationship between the drugs in hospitals and the provision of universal health care in county public health facilities.

**TABLE 4.15:**

***ANALYSIS OF VARIANCE (ANOVA)***

| | Model | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23.694 | 1 | 5.923 | 22.816 | .000[b] |
| | Residual | 18.953 | 76 | .260 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision Of Universal Health care

B. Predictors: (Constant), Drugs

The regression coefficients for the association between hospital drugs and the provision of universal health care are as indicated on Table 4.16. Where the results portray, the Beta coefficient for the variable being 0.458 which imply that a unit change in hospital drugs supply would influence provision of universal health care by 45.8% if change is affected. The P-value for the variable being ($P = 0.000 < 0.05$). This implies that drugs in health care facilities have a major, significant and positive effect on the provision of universal health care in county health care facilities in Kenya.

**TABLE 4.16:**

***THE REGRESSION COEFFICIENTS***

| | Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | Beta | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 1.613 | .296 | | 5.452 | .000 |
| | Drugs in hospital | .458 | .090 | .503 | 5.078 | .000 |

A. Dependent Variable: Provision Of Universal Health care

**4.7.4 Discussion on the Findings Regarding Drugs in Hospitals**

The results finding are in agreement with the work of many modern researchers cited in previous literature work who resolved that without sufficient supply of drugs in health care facilities, then services are extremely hampered and operations could be affected, therefore intervention attempt are very necessary (Taylor & Malcolm, 1990). The process of securing drugs in hospital pharmacies are through procurement processes that requires significant amount of financial resources to secure them from pharmaceutical suppliers, hence finance in health care facilities is important and must be secured at all times.

The above results obtained from the study research indicates that, there is a strong correlation between financing and availability of drugs in hospitals. This is in agreement with similar finding from earlier studies carried out by Mwabu et al. (1993) who investigated and reportedly found out that patients visiting public hospitals equate the facilities pharmacy drugs with high quality health care services in anticipation. Availability of drugs in health care facilities means that the patient's confidence is achieved and secured out right by the presence of and the simple impression emanating from pharmacies arrangements.

In another study by Brawley (2000) the researcher found out that patients believe health care facilities with good quality services must be equipped with sufficient amount of essential drugs at all times. The literature review identified hospital drugs in the facilities as the main drivers that influence delivery of Universal Health Care in county government hospitals.

### 4.8 Medical Personnel and the Provision of Universal Health Care;

The following is the test hypotheses to check and determine the effect of medical personnel in delivery of Universal Health Care in health care facilities of the county.

**Testing of the Hypotheses on Medical Personnel Resources;**

*$H_o$; Medical personnel resources have no effect on the relationship with the provision of universal health care in county government hospitals.*

*$H_1$; Medical personnel resources have effect on the relationship with the provision of universal health care in county government hospitals*

$H_0$ $\beta_1 = 0$ versus $H_1$ $\beta \neq 0$ was tested. The results obtained from the bivariate correlation on table 4.13 shows a significant and optimistic relationship that exist amid medical personnel and delivery of universal health care, ($r = .658$, $p = 0.000$)

This development then leads to the rejection of the Null hypothesis ($H_0$) and the acceptance of the alternative hypothesis ($H_1$). Where the study clinches that there is a significant relationship in medical personnel and the delivery of Universal Health Care in county health care facilities in Kenya.

The purpose for the hypothesis testing was to test whether there is any influence between the attention to medical personnel and delivery of universal health care in county health care facilities,

The goals and purpose of the research study was to highlight whether there is any association relationship amid the availability of human personnel resources (health care personnel) and the provision of Universal Health Care in county government health care facilities. The summary results of the model are obtained and shown on Table 4.17 where it clearly exposes the R-square value of 0.433 was obtained, an indication that 43.3% variation can be observed as the result of provision of universal health care in hospitals personnel resource in facilities.

The findings are in support with the research work of earlier scholars namely Glied, Sherry A (2008) who argued that medical personnel in health care facilities are vital assets that require to be maintained, appraised, promoted and properly trained in the relevant profession skills regularly for prosperity of the facility to glow and offer the deserved services with minimum challenges that could course interruption in the delivery of the health services.

**Table 4.17:**

***Model Summary***

| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate |
|---|---|---|---|---|
| 1 | .658[a] | .433 | .425 | .56428 |
| A. Predictors: (Constant), personnel Resources | | | | |

The ANOVA results are indicated on Table 4.18. Where the results portray the F-value obtained was 57.934 at a significance level of ($P = 0.000 < 0.05$) this indicates there is a strong correlation between the values of the variable tested. This shows that the model under the investigation is statistically important and significant and can be used to predict the relationship between the hospital medical personnel resources and the provision of universal health care in county health care facilities in Kenya.

**TABLE 4.18:**

***ANALYSIS OF VARIANCE (ANOVA)***

| | Model | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 18.447 | 1 | 18.447 | 57.934 | .000[b] |
| | Residual | 24.199 | 76 | .318 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision Of Universal Health care

B. Predictors: (Constant), personnel Resources

The regression coefficients for the relationship that exist between the hospital personnel resources and the provision of universal health care are as indicated on Table 4.19. Where the results portray, the Beta coefficient for the variable being 0.709 implying that a unit change in the availability of medical personnel in health facilities would influence provision of universal health care by 70.9% range. The P-value for the variable being ($p = 0.000 < 0.05$). This implies that facility medical personnel resources in health care facilities was significant and optimistic as indicated from the result obtained regarding the provision of the universal health care in county health care facilities medical health personnel.

**TABLE 4.19:**

***REGRESSION COEFFICIENTS***

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 1.090 | .268 | | 4.070 | .000 |
| | Human Resources | .709 | .093 | .658 | 7.611 | .000 |

A. Dependent Variable: Provision Of Universal Health care

### 4.8.1 Discussion on the Finding regarding Medical personnel Resource in Hospitals

The source based view opinion of organizations (Barney, 2001) support that by recognizing the medical personnel resource capital who provide institutions with important assets that when utilized well can lead to superior competitive advantage over the others in the same or similar operational entities much better. Ejeve and Ugochuku (2012) who researched and came up with the empirical research results, where both the researchers come out with the view that human capital in any organization is key in achieving the desired results set up by the institutional management goals. Teece (2012) highlights that the capacity and capability of people can be achieved by enhancing their knowledge and skills by continuous improvements in medical personnel through sponsoring trainings exposers mostly by allowing participation in scientific conventions and conferences. The results from this research concur with the work of several other modern scholars who found out that there is a confident relationship that exist between medical personnel Capital and facilities performance improvements (Amin et al. 2014; Cho et al., 2006, Olrando & Johnson, 2001; Osman & Galong, 2011; Wong et al., 2013; Wright et al., 2013).

Amin et al. (2014) also highlighted that medical personnel resources must be equipped with good practices like promotions to higher grade, fair competitive recruitment, capacity building to sharpen skills, appraisal of performance, employee direct participation and career planning has a direct relationship with institutional timely task accomplishment and perfection. The study findings confirms with earlier findings by Beh and Loo (2013) who found out that employees welfare do positively affect work performance in institutions of service provision more so the health care facilities.

4.8.2 Medical Machines, Equipments and the Provision of Universal Health care.

The purpose for testing the hypothesis was to check on the impact of medical equipments in health care provision at the facilities

**Hypotheses Testing; On Hospital Machines and Equipments**

*$H_o$; medical Machines and equipments have no significant relationship with the provision of universal health care in county government hospitals.*

*$H_1$; medical Machines and equipments have significant relationship with the provision of universal health care in county government hospitals.*

The hypotheses tests were done with the intention to find out whether there was any influence between the attention to availability of medical machines and equipments in hospitals and delivery of Universal Health Care.

$H_0$ $\beta_1 = 0$ versus $H_1$ $\beta \neq 0$ was tested. The outcome from the bivariate correlation on table 4.13 indicated that an important and significant association amid availability of equipments and delivery of Universal health care in health care facilities existed where r = .700, (p = .000 05). The study therefore concluded that there is a strong and significant relationship between the availability of medical equipments and machines upon the delivery of UHC in county health care facilities

The aim and purpose for the check of hypotheses was to establish the relationship that exists between the hospital medical machines and equipments and the provision of universal health care in county government hospitals. In the same strength the model summary is has follows: the results on Table 4.20 revealed that the R-square of 0.490 was obtained as a result of the testing, where an indication that 49.0% variation existed as results of provision of universal health care is obtained upon the availability of medical machines and equipments in county health care facilities.

**TABLE 4.20:**

***MODEL SUMMARY***

| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate |
|---|---|---|---|---|
| 1 | .700[a] | .490 | .483 | .53492 |

A. Predictors: (Constant), Medical machines and Medical equipments

The ANOVA outcome are as shown on Table 4.21. Where the results portray, the F-value as 73.040 at a significance level of ($P = 0.000 < 0.05$). This suggests that the model is statistically significant and thus can be used to predict the relationship between the availability of medical machines and equipments and the provision of universal health care in county health care facilities in Kenya.

**TABLE 4.21:**

***ANALYSIS OF VARIANCE (ANOVA)***

| | Model | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 20.900 | 1 | 20.900 | 73.040 | .000[b] |
| | Residual | 21.747 | 76 | .286 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision Of Universal Health care

B. Predictors: (Constant), Hospital Machines and Medical Equipments

The regression coefficients for the relationship between machine and medical equipments and the provision of universal health care are as highlighted on Table 4.22. As the results portray, the Beta coefficient for the variable is 0.634 implying that a unit change in the availability of medical equipments and machines would influence provision of universal health care by 63.4%. Where the P-value for the variable was at ($P = 0.000 < 0.05$). This

implies that availability of medical equipments and machines has a significant and positive effect on the provision of universal health care in health care facilities of county health care facilities.

**TABLE 4.22:**

***REGRESSION COEFFICIENTS***

| | Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | Beta | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 1.210 | .226 | | 5.359 | .000 |
| | Availability of Medical Equipmentss | .634 | .074 | .700 | 8.546 | .000 |

A. Dependent Variable: Provision Of Universal Health care

**4.8.3 Discussion on Medical Machines and Equipments in Health care facilities**

The results shown on the table above are an indication that a strong relationship exists between the availability of medical machines and equipments in provision of Universal Health Care. According to the findings by earlier researchers who tried to link medical Machines and equipments with faster delivery of health care services in medical institutions. Medical Machines and equipments and innovations are key factors in institutional service delivery and they are mainly inevitable in the institutions offering health care services that compete to grow and preserve a greater service delivery to the citizens who seek medical services in public institutions (Amin et al., 2014; Choet al., 2006, Olrando & Johnson,2001).

### 4.8.4 Hypotheses Test for Health Care Infrastructures and the Provision of Universal Health Care

The hypotheses tests ware aimed at finding out whether there is any influence that exist between the hospital infrastructures and delivery of Universal Health Care in public health care facilities.

**Hypotheses Testing on Health Care Facility infrastructures;**

*$H_o$: Health care infrastructures have no significant relationship with the provision of universal health care in county government health facilities.*

*$H_1$: Health care infrastructures have significant relationship with the provision of universal health care in county government health facilities.*

The purpose for such hypotheses aimed to show whether there is any influence that exist between the health care infrastructures in hospitals and delivery of Universal Health Care in public health care facilities.

$B_1 = 0$, versus $H1 \neq 0$ was tested. The results from the bivariate correlation in table 4.13 indicated that there is major significant and positive relationship that exist between health care infrastructures and delivery of Universal Health Care, $r = .708$, ($p = 0\ .000 < 0.00$)

The study intended to establish the association among the accessibility of health care and infrastructure in provision of universal health care in county government hospitals. Infrastructure is one of the dynamic capabilities that influences effective delivery of health care in any environment by virtual of sheltering the operation activities, in this fact therefore it significantly influences the delivery of UHC in the facilities in that shelter is vital for action performance. The model summary results on Table 4.23 revealed that the R-square of 0.502 was obtained, an indication that 50.2% variation of provision of universal health care is

obtained as a results of the availability of health care infrastructure improvement in health care facilities in Kenya.

**TABLE 4.23:**

***MODEL SUMMARY***

| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate |
|---|---|---|---|---|
| 1 | .708[a] | .502 | .495 | .52868 |

A. Predictors: (Constant), health care Infrastructure

The ANOVA results outcomes in Table 4.25. Indicates that the results portray the following findings. The F-value is 76.578 at worthy level of ($P = 0.000 < 0.05$). This implies that the model is most statistically significant and thus can be used to predict the relationship that exists between accessibility of health care services in health facilities structure and provision of Universal Health Care.

**TABLE 4.24:**

***ANALYSIS OF VARIANCE (ANOVA)***

| | Model | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 21.404 | 1 | 21.404 | 76.578 | .000[b] |
| | Residual | 21.242 | 76 | .280 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision Of Universal Health care

B. Predictors: (Constant), health care Infrastructure

The regression coefficients for the affiliation in the accessibility of health care infrastructure and the provision of universal health care are shown on Table 4.25. The results depict, the

Beta coefficient for the variable to be 0.614 implying that a unit alteration in the availability of health care infrastructure would influence the provision of universal health care by 61.4%. The P-value for the variable is ($P = 0.000 < 0.05$). This implies that health care infrastructure has important and a direct optimistic effect on the provision of universal health care in county hospitals in Kenya.

Further without proper shelters health care service provision is impossible, the administering of medicine need to be carefully put under shelter and the equipments will always require a building for safety and custody against the effect of weather damages. WHO describes infrastructure has the most basic variable in provision and delivery of public health care in any country.

### 4.8.5 Regression Coefficient

The regression coefficient was done to define the statistical relationships that exist among the variables under the study research, independent variable which is the cause of behaviour of the other four dependent variables namely (drugs, personnel, equipments and infrastructures).

The first model that was investigated in this research aimed to highlight the influence of finance on delivery of universal health care in county public hospitals in Kenya.

The following model equation apply;

**The Regression Model Equation**

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \acute{\varepsilon}$$

Where Y= effective UHC delivery, the Coefficients that represent the association related independent to variables with the dependent variable $X_1$ = Attention to drugs in hospital pharmacy, $X_2$ = health Personnel, $X_3$ = medical equipments, $X_4$ = Infrastructure, $X_5$ =

Sources of finance for UHC implementation and έ is the error term the base under which the first five objectives. Each of the objectives in the study and the hypothesis were then confirmed and examined in establish if they confirm to what the research had projected to realize, which is the Moderating effect of finance in provision of Universal Health Care in Kenya.

**TABLE 4.25:**

***REGRESSION COEFFICIENTS***

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | Model | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 1.307 | .210 | | 6.223 | .000 |
| | Availability Of Infrastructure | .614 | .070 | .708 | 8.751 | .000 |

A. Dependent Variable: Provision Of Universal Health care

**4.8.6 Overall results when Un- moderated Model is tested.**

The study intended to establish the association that exists among the independent variables and the provision of universal health care in county government public hospitals. The model summary outcomes is on Table 4.26 where the outcomes revealed that the R-square of 0.556 was obtained; this is an indication that a 55.6% variation of provision of universal health care is obtained as results of the collective result of all the four independent variables of the study are tested as regards the provision of Universal Health Care in Kenya.

The results indicate that when compared to other four key variables which are (drugs in hospitals, personnel resource capital, machines and equipments and infrastructure). Where infrastructure has the strongest and most significant influence in comparison to the other

variables tested on Universal Health Care delivery? This can be interpreted to mean that buildings shelters all other activities in a hospital and that there cannot be health facility in the absence of infrastructure. It includes but not limited to hospital amenities, rooms with privacy, power supply, improved water sources, adequate sanitation facilities, internet access, emergency transport system available and assessable road networks.

**Table 4.26:**

***Summary of the Model***

| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | Df1 | Df2 | Sig. F Change | |
| 1 | .745[a] | .556 | .531 | .50953 | .556 | 22.816 | 4 | 73 | .000 | 2.149 |

A. Predictors: (Constant), Availability Of Infrastructure, Availability Of Drugs, Human Resources, Availability Of Medical equipments

B. Dependent Variable: Provision Of Universal Health care

The ANOVA outcomes shown on Table 4.27. Also portray the F-value being 22.816 at significant level of (P = 0.000 < 0.05). This shows that the model is important and can be used to predict the relationship between the hospital Infrastructure, accessibility of drugs in hospitals, health care personnel, Medical machines and equipments and the provision of universal health care in county public hospitals.

**TABLE 4.27:**

***ANALYSIS OF VARIANCE***

| Model | | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23.694 | 4 | 5.923 | 22.816 | .000[b] |
| | Residual | 18.953 | 73 | .260 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision Of Universal Health care

B. Predictors: (Constant), medical hospital Infrastructure, hospital Drugs, personnel Resources, Medical equipments

The regression coefficients for the relationship between the drugs in hospitals, personnel resources, medical machines and equipments, hospital infrastructure and the provision of universal health care are as shown on Table 4.28. As the results portray, the Beta coefficients for the variables are 0.070, 0.129, 0.248 and 0.301 respectively. While this outcome implies that all the variables had a positive effect on provision of universal health care when combined, only the availability of infrastructure had the strongest significant effect on provision of universal health care with P-value of ($P = 0.021 < 0.05$) being greater than all the other variables.

**Table 4.28:**

***Regression Coefficients***

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Bet | T | Sig. | Tolerance | Vif |
| 1 | (Constant) | .894 | .262 | | 3.416 | .001 | | |
| | Availability of Drugs | .070 | .094 | .077 | .746 | .458 | .576 | 1.737 |
| | Human Resources | .129 | .157 | .120 | .821 | .414 | .286 | 3.499 |
| | Availability of Medical Equipments | .248 | .139 | .274 | 1.790 | .078 | .260 | 3.850 |
| | Availability of Infrastructure | .301 | .128 | .348 | 2.354 | .021 | .279 | 3.583 |

A. Dependent Variable: Provision Of Universal Health care

### 4.8.7 Overall Model with the Moderator as an Independent Variable

**Hypotheses Testing for the Variables;**

*$H_0$; Health care financing have no significant moderating effect on the provision of universal health care in county government hospitals.*

*$H_1$ health care financing have significant moderating effect on the provision of universal health care in county government hospitals.*

The hypotheses tests intended to check on the influence of the health care financing arrangements and delivery of UHC in county health care facilities.

**The Hypothesis Testing on Health Care Financing;**

Ho $B_1 = 0$ versus $H_1$ $B \neq 0$ was tested. The results from the bivariate correlation on table 4.13 shows there is a significant and strong relationship between financing towards health care delivery of UHC, where(r = .742, (p = 0.000 < 0.05)

This then allows the rejection of the Null hypothesis ($H_0$) and the approval of alternative hypothesis ($H_1$). The research accomplishes that, there exist a significant relationship between financing and the delivery of UHC in county public hospitals under the study.

The study research aimed to establish the relationship between the independent variables with the moderator as an independent variable and the provision of universal health care in county government hospitals. The model summary results on Table 4.29 revealed that the R-square of 0.637 was obtained, an indication that 63.7% variation of the provision of universal health care is obtained as a result of the independent variables and the moderator (finance) as the independent variable change in one unit.

**Table 4.29:**

***Model Summary Results***

| | | | | | Change Statistics | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate | R Square Change | F Change | Df 1 | Df 2 | Sig. F Change | Durbin-Watson |
| 1 | 798[a] | .637 | .612 | .46381 | .637 | 25.249 | 5 | 72 | .000 | 2.023 |

A. Predictors: (Constant), Health care Financing, Hospital pharmacy Drugs, Hospital personnel Resources, Medical Machines and Equipmentss, Hospital Infrastructure

B. Dependent Variable: Provision Of Universal Health care

The ANOVA effects on Table 4.30. As the results portray, the F-value is 25.249 at a significance level of (P = 0.000 < 0.05). Implying the model is statistically significant to be

used in predicting the relationship between the health care (financing, Hospital pharmacy Drugs, Hospital Personnel Resources, Availability of Medical machines and equipments, Hospital Infrastructure) and the provision of universal health care in county public hospitals.

**TABLE 4.30:**

***ANALYSIS OF VARIANCE (ANOVA)***

| | Model | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 27.158 | 5 | 5.432 | 25.249 | .000[b] |
| | Residual | 15.488 | 72 | .215 | | |
| | Total | 42.646 | 77 | | | |

A. Dependent Variable: Provision of Universal Health care

B. Predictors: (Constant), hospital Financing, hospital pharmacy Drugs, medical personnel Resources, Medical machines and equipments, hospital Infrastructure

The regression coefficients for the relationship between the four independent variables (Health care financing, Hospital pharmacy drugs, personnel resource capital, Hospital medical Machines and equipments and Hospital infrastructure) and inclusion of the moderator (Health care financing) as an independent variable are as shown on Table 4.31. As the results portray, the Beta coefficients for all the independent variables show optimistic effect on the provision of universal health care. However, all the variables have insignificant influence (P -values > 0.05); while only the health care financing has a significant influence at (P = 0.000 < 0.05). This is an indication that financing has a direct influence on the provision of universal health care services in public hospitals in county managed facilities.

**TABLE 4.31:**

***REGRESSION COEFFICIENTS***

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | Model | B | Std. Error | Beta | T | Sig. | Tolerance | Vif |
| 1 | (Constant) | .658 | .245 | | 2.681 | .009 | | |
| | Availability Of Drugs | .051 | .085 | .056 | .595 | .554 | .574 | 1.742 |
| | Human Resources | .110 | .143 | .102 | .767 | .446 | .285 | 3.503 |
| | Availability Of Medical Equipments | .176 | .127 | .194 | 1.382 | .171 | .255 | 3.928 |
| | Availability Of Infrastructure | .105 | .126 | .122 | .834 | .407 | .237 | 4.213 |
| | Availability of Financing | .383 | .095 | .430 | 4.013 | .000 | .439 | 2.280 |

**A. Dependent Variable: Provision of Universal Health care**

### 4.8.8 The Overall Model with the Interaction Effect of Financing $R^2$

The study aimed at establishing the interaction effect of the health care financing on the relationship that exists between the other four independent variables and the provision of universal health care. The summary of the model results are shown on Table 4.32 which revealed that R-square for the model was 0.665 roughly (66.5%) which is an increase from the previous model that had indicated $R^2 = 0.556$ roughly (55.6%) for the moderated model without the moderator and $R^2 = 0.637$ roughly (63.7%) for the un moderated model with the moderator as an independent variable. This implies that the model strength is enhanced by the interaction effect of the availability of financing and the medical drugs stocked in hospital

pharmacies, medical personnel, medical machines and equipments and the hospital infrastructures.

The results from above table then indicates that $R^2$ changes that have taken place implies that finance has always been there and that it can only be enhanced by the interaction effect of the variables and health care financing as the moderator. Finance has no significant moderating effect in comparison to the other four variables because it takes the overall control of the other variables and resumes superiority position as seen from the regression coefficient analysis model observed above. The other variables entirely depend on financing in order to function in attempt to kick start the provision of Universal Health care to be operationalized effectively. It is an indication that from the very beginning of the initiation of the Universal Health Care programmes there was finance involved, hence for any continuity financing must be enhanced ie budgets increase from the previous.

**TABLE 4.32:**

***MODEL SUMMARY***

| | | | | | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error Of The Estimate | R Square Change | F Change | Df1 | Df2 | Sig. F Change |
| 1 | .745[a] | .556 | .531 | .50953 | .556 | 22.816 | 4 | 73 | .000 |
| 2 | .798[b] | .637 | .612 | .46381 | .081 | 16.103 | 1 | 72 | .000 |
| 3 | .816[c] | .665 | .621 | .45809 | .029 | 1.452 | 4 | 68 | .227 |

A. Predictors: (Constant), B4, B1, B2, B3

The ANOVA results of the overall moderated model in Table 4.33 elucidate, the consequences depict the moderated model (third model) has F - statistic of 15.025 at a significant level of ($P = 0.000 < 0.05$). This infers that the model is statistically significant

and can adequately be used to predict the moderating effect of finance in determination and provision of UHC on the relationship between the variables of drugs, medical personnel resources, medical machines and equipments and hospital infrastructure in an attempt to provide universal health care in county health care facilities.

The bivariate results also shows that all the variables are significant in health care provision and are key drivers in delivery of the essential services to the citizens of Kenya. Various studies have been carried out and documented pertaining the moderating effect of finance in provision of UHC in Kenya particularly the spectra of human health (Shiferaw and Zolfo 2018).

**Table 4.33:**

***ANOVA***

| Model | | Sum Of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23.694 | 4 | 5.923 | 22.816 | .000[b] |
| | Residual | 18.953 | 73 | .260 | | |
| | Total | 42.646 | 77 | | | |
| 2 | Regression | 27.158 | 5 | 5.432 | 25.249 | .000[c] |
| | Residual | 15.488 | 72 | .215 | | |
| | Total | 42.646 | 77 | | | |
| 3 | Regression | 28.377 | 9 | 3.153 | 15.025 | .000[d] |
| | Residual | 14.270 | 68 | .210 | | |
| | Total | 42.646 | 77 | | | |

Dependent Variable: Provision of Universal Health care

### 4.8.9 Research Study Findings and Interpretation of Results (Variance Analysis)

The main purpose for the study was to investigate the relationship that exists in moderating effect of finance and provision of Universal Health Care in Kenya. The study was guided by the statistical equation below. The first equation being the univariate expression while the second was multivariate expression with the interruption terms where the moderator is incorporated into the expression terms (Bj, Zj).

The statistical expression elaborating the data analysis and tabulation on moderating effect of finance in determination and provision UHC in Kenya is shown below.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_j Zj + \beta i_j X_i Zj + \acute{\varepsilon}$

Where the first equation model shows the relationship with the dependent variables and the independent variables of the study being run individually to assess the correlation significant existing within the variables themselves and the provision of universal health care. Where from the analysis there is a significant relationship between drugs in hospitals and provision of universal health care R squire of 0.556,

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_j Zj + \beta i_j X_i Zj + \acute{\varepsilon}$

The second model now introduces the other variable which are now being run in a multivariate attempt to assess the significant out moderating effect of finance in provision of universal health care. Infrastructure seem to be the most significant among the other variables under the study with R squire 0.700.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_j Zj + \beta i_j X_i Zj + \acute{\varepsilon}$

While the third model shows the interaction terms (Xi, Zj) where the moderator is now introduced to existing variables to check the behaviour or the relationship between the moderating effects of finance in determination of Universal health care in Kenya. Where the bivariate results obtained was $R^2 = 0.253$ indicating that 25.3% variation in provision of

health care services can be explained by the presence of sufficient drugs in health care facilities, medical personnel, machines and equipments, infrastructure and financing. The above findings are in agreement with earlier researchers like Taylor and Malcom (1991) who argued that without sufficient supply of drugs in health care facilities, then health services are extremely hampered. This is because drugs are the main drivers of health care services in hospitals and any insufficiency would corrupt the health operations severely.

Health care personnel where the results of regression coefficient results indicated $\beta = 0.709$ which can be interpreted to mean that unit change in health care personnel would influence the provision of health care services by 70.9%. This is in agreement with earlier researchers who came up with the same results Ejeve and Uguchuku (2012) their findings are in agreement with empirical research results that personnel in health care facilities are key instrumental in achieving the desired results of the organisation. Teece (2012) avers that capacity and capabilities of people can be enhanced through personnel training motivational programmes and job appreciation by the employers. The current study finding are in agreement with the work of several other researchers who avers that health care personnel helps a lot on performance improvements (Amin. et al, 2014).

Medical machines and equipments from the regression coefficient results tested showed a figure of 0.634 implying that a unit change in the availability of the variable would influence the provision of UHC by 63.4%. While the $R^2$ for medical machines and equipments was 0.49, an indication that 49.0% variation existed as a result of the influence on provision of UHC in county health care facilities. Where the lower the percentage it then mean that inadequate existence of machines and equipments may delay the attainment of health care connections improvements from reaching the maximum goals (WHO, 2015)

Health care infrastructures in health care facilities are dynamic capabilities in that they influence effective delivery of health services by virtual of sheltering them. The bivariate results indicated $R^2 = 0.502$ this is indication that 50.2% variation can be explained by inclusion of infrastructure in health care facilities. The analysis of variance results indicates a β coefficient of 0.614, this can be interpreted to mean one unit change in the availability of infrastructure would affect the UHC by 61.4%. The IMF survey on health care infrastructure in developing countries in the year (2016) revealed that infrastructures needs to be modernised because they are key in health care services (WHO, 2019).

Health care finance in hospitals are also the main drivers of all the activities that are carried out including procurements of drugs, personnel remunerations and all other essential activities. The bivariate results indicated $R^2$ on the bivariate results of 0.742 which indicates that finance is key in health care service delivery in hospitals activities. The F values were 25.249 implying that finance is significant. Achieving substantial health care services nations must spend approximately US dollars 86 per capital roughly 15% of GDP (Mclutyre et al, 2017).

The correlation analysis was carried out to establish the relationship between the variables. As the tables above portly, there was strong correlation between drugs in hospitals, medical personnel, machines and equipments and infrastructures in health care facilities.

The correlation between the availability of financing and the provision of universal health care was significant at a Pearson correlation coefficient of 0.742 and p-value of $0.000 \leq 0.005$.The findings are in support with the work of earlier researchers like Glied and Sherry (2008) who argued that finance in health care facilities are vital and requires to be enhanced from time to time in order to improve the facility services.

**TABLE 4.34:**

***REGRESSION COEFFICIENTS***

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | .894 | .262 | | 3.416 | .001 |
| | $B_1$ | .070 | .094 | .077 | .746 | .458 |
| | $B_2$ | .129 | .157 | .120 | .821 | .414 |
| | $B_3$ | .248 | .139 | .274 | 1.790 | .078 |
| | $B_4$ | .301 | .128 | .348 | 2.354 | .021 |
| 2 | (Constant) | .658 | .245 | | 2.681 | .009 |
| | $B_1$ | .051 | .085 | .056 | .595 | .554 |
| | $B_2$ | .110 | .143 | .102 | .767 | .446 |
| | $B_3$ | .176 | .127 | .194 | 1.382 | .171 |
| | $B_4$ | .105 | .126 | .122 | .834 | .407 |
| | $B_5$ | .383 | .095 | .430 | 4.013 | .000 |
| 3 | (Constant) | .042 | .769 | | .055 | .956 |
| | $B_1$ | .454 | .350 | .499 | 1.297 | .199 |
| | $B_2$ | .767 | .638 | .712 | 1.202 | .234 |
| | $B_3$ | -.806 | .547 | -.890 | -1.474 | .145 |
| | $B_4$ | .214 | .582 | .247 | .367 | .715 |
| | $B_5$ | .568 | .230 | .639 | 2.471 | .016 |
| | $B_1z_1$ | .143 | .114 | -.893 | -1.247 | .217 |
| | $B_2z_2$ | -.208 | .193 | -1.182 | -1.077 | .285 |
| | $B_3z_3$ | .332 | .174 | 2.089 | 1.906 | .061 |
| | $B_4z_4$ | -.038 | .184 | -.242 | -.204 | .839 |

Dependent Variable: Y1

### 4.9 Regression Coefficient Findings

Table 4.34 shows the regression coefficients for the moderated overall model in comparison to the un- moderated model. As the results analysis clearly portray, finance had significant and important effect in controlling the other variables under the study. The results on bivariate table 4.13 analysis indicated a strong association among the obtainability of drugs, personnel resources, medical machines and equipments and hospital infrastructure in relation to provision of universal health care in public health care facilities. Therefore it cannot moderate the other four variables in the sense that it must be there. More studies are required to come up with the real moderator on Universal Health Care in Kenya. However, the study found out that significant relationship on the moderation of finance among individual drivers existed. This can be shown by the un moderated values of drugs in hospitals at 0.503, health care personnel beta = 0.658, equipments beta = 0.700, infrastructure beta = 0.708 and finance beta = 0.742 respectively. When the moderation interaction is introduced the values change to drugs beta = 0.042, personnel beta = 0.568, machines and equipments =0.639 and the infrastructure = 0.568 at (p = 0.00).

When the moderator is introduced ($B_1Z_1 \ldots\ldots B_4Z_4$) the Beta coefficient tends to be lower figures and insignificant, only for infrastructure that remain high which shows that the driver is the most influential among the other variables. This can be interpreted to mean that buildings shelters all other activities in hospitals and that there cannot be services without infrastructure. Infrastructure includes but not limited to hospital amenities, rooms with privacy, power supply, improved water sources, adequate sanitation facilities.

#### 4.9.1 Conclusion from the Result Findings

When the moderator is combined with the other variables, it immediately assumes and takes the role of the other variables as it can be seen from the regression coefficient table above

where $\beta$ = (.038, p =.000). While all the P – values of the other variables become insignificant. It means therefore that all the other variables entirely depend on the availability of financing in order to function in any health care facility of the county. With no finance to procure essential drugs, attend to personnel recruitment and remuneration matters, securing of equipments and infrastructures engineering attention and maintenance. Operations are completely hampered by the absence of finance in health institutions service delivery.

Concluding the findings from the available data and the research analysis above it is observed that, financing towards health care facilities in Kenya is not the main moderating factor that determine the effective influence on UHC implementation variable because it has always been there and must be there. Upon the analysis of the factors that influence UHC, there could be other important factors that are crucial and important in enhancement of Universal Health Care inclusivity, like health care insurance covers for individuals that take care of any eventualities in their live.

Finance therefore fails to moderate role of provision of universal health care in county health care in Kenya. The delivery of universal health care could be influenced by other factor as shown from the overall model with interaction effect. The regression coefficients results showing the values ($\beta$ =.383). Meaning that finance does not make the relationship better because it has to be there even before and during the full implementation of Universal Health Care. The role of financing enhancement therefore is to improve the already existing service provision in health care service offering.

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

The chapter highlights the summary, conclusion and recommendations of the research and its findings as analysed in chapter four. It highlights the Moderating effect of finance in determining the provision of universal health care in Kenya. The chapter also covers the conclusion and recommendations of the study for future reference. The summary, conclusions and recommendations have been presented in a systematically approach based on a number of precise objectives which were to institute the result of drugs in hospital pharmacies, medical personnel resource capital in hospitals, medical machines and equipments in hospitals and infrastructure development and other sensitive areas within the health care facilities financing. More important is infrastructure in provision of universal health care in county public health facilities that shelters all the other variables of the study and operations in health care service provision.

## 5.2 Findings of the Study

The purpose of the study was to establish the influence that finance has on implementation of universal health care in Kenya, in specific the study was aimed to define on how financing is directly linked to implementation of the Universal Health Care programmes in Kenya.

### 5.2.1 To Determine the Effect of Medical Drugs in Hospitals and Influences on Delivery of Universal Health Care in Kenya

The study findings regarding the first objective of the research was to establish the effects of drugs in health care facilities on providing the anticipated programme on universal health

care in Kenya, as revealed by the study results obtained in chapter (IV). Many of the respondents disagreed that their facility pharmacies had insignificant levels of drugs to meet the demands of the ever increasing number of patients seeking health care services. They further disagreed that the drugs were offered at subsidized and affordable rates in the hospital pharmacies and that the respective facilities offered all the prescribed medicine as and when required by the patients. Further they disagreed that there is no patient who is turned away or referred to procure the prescribed medicine outside the health care facility pharmacy and that all services requested by patients were offered under one stop shop to minimise unnecessary time wasting. The findings further revealed that the adoption of digitalized health care platforms that often improves prescribed drugs dispensation and re-order quantity requisition efficiency in the County health centres the gadgets were missing in most of procurement process of the facility drug stores. Therefore the mechanisms for faster procurements and delivery of medical drugs from suppliers to health care facilities can be said not effective from what the respondents expressed. Most of the hospitals did not uphold timely restocking of drugs which were out of stock. The respondents agreed that in most cases prescribed drugs were partly available and patients were served well except for sensitive and deserving prescriptions that they were often requested to procure outside the health centres pharmacy. Other essential services like scanning, x-rays and pathology test services were quite limited in some health care facilities and were to be sought in private laboratories outside the hospital compound in private enterprises mostly in Town. The public hospitals however had adequate stock of other drugs which are commonly requested by patients in the locality and the frequency at which patients were referred to private chemists outside the facility to buy drugs could be contained if significant amount of budget financing was improved and enhanced. The respondents also agreed that most of the hospitals received complaints from the customers (patients) in regard to the availability of adequate drugs. The correlation

analysis results revealed that availability of drugs was strongly and significantly correlated with the provision of universal health care services. The regression analysis results on the other hand revealed that availability of drugs had a major effect on the provision of universal health care in county public hospitals in Kenya. Patients equate availability of drugs with high quality service delivery in health care facilities and such feeling influence the utilisation of the facility health services on offer. Patients believe that health care facility with good quality services must be stocked with sufficient medicine at all times. If the drugs were sourced from a central medical store managed by the county government entity then quality and efficiency of service delivery could be improved. It could work better by the government creating a revolving fund for pharmacy items that ensures sustainable access to essential medicine and avoid squeezed budgetary allocations from county treasury each financial year.

### 5.2.2 The Determination Effect on Medical Personnel in Hospitals and Delivery of Universal Health Care in Kenya.

The second objective of the study was the medical personnel in hospitals and the provision of universal health care in county government public hospitals in Kenya, where the results revealed that personnel resource capital were not adequate enough in most of the health institutions that the research study investigated. The respondents indicated that there were no clear elaborate lines of engagements as regards to career progression and individual responsibilities pertaining to the contracts and were not reviewed regularly by the facility board of management given the changes in economic times. They also disagreed that the county government health department and the hospital board of managements always had plans and budgets to improve the welfare and re-training of staff in order to improve and equip them with adequate skills and experience regarding health care management and related professional trainings. The respondents also indicated that remuneration was not at

market rate hence demotivation to perform better and be professionally innovative. The results further revealed that the employees in the county government hospitals did not have adequate incentives; there were indications that staff members may not have the motivation to commit their skills and competencies to their jobs maximally.

The findings also revealed that the facilities' management didn't have an established performance evaluation and appraisal scheme to evaluate and appraise the employees. Most of the health facilities the management lacked an effective framework for replacing the critical staff who terminate their engagements for one reason or the other. There were high annual turnover rate by the members of technical and medical staff with specialised skills to private institutions and overseas labour transfer markets. Most of the health facilities did not have programs for refresher training courses to enhance skills of their members of staff.

The respondents also strongly disagreed that health facilities maintained adequate number of specialised doctors, nurses and other technical staff to avoid overworking the few who are there. In conclusion institutions require a significant number of professionals in every stage of operation since every positive performance requires resourceful personnel. The demand and supply theory earlier discussed had the opinion that supports this approach by recognising that social resource capital equips the institution with a key asset, when used effectively and may lead to greater presentation and earn a modest gain. However this can be achieved by building strong capacities and capabilities in personnel resource capital. It is better when adequate skills are developed and firm strategies where actions are made clear, targets set before hand, and motivation fostering articulated. Confidence enhanced among the personnel where set standards are known to them. The correlation coefficient analysis results revealed that the availability of medical personnel resources had a significant and strong correlation with the provision of universal health care. This was also confirmed by the

regression analysis model which revealed that the personnel resource capital had a positive and significant effect on the provision of universal health care.

The finding of the study can be related with earlier studies done by other contemporary scholars like who found out that there is appositive relationship between human resources and institutional service offering performance in the health care facilities?

According to the two factor theory of labour personnel work force which require motivation in order to expound energy and improve performance. Other than the financial reward or pay they also require job appreciation, promotion, appraisal, and other motivating rewards enjoyed by employees in the engagement agreements. Policies that change technical ideas into tangible results that need to be put into consideration.

### 5.2.3 Medical Machines and Equipments Influences the Delivery of Universal Health Care in Kenya

The above objective aimed to establish on whether the attention to medical machines and equipments influence the provision of universal health care in county government health care facilities, it was revealed that the availability of medical machines and equipments was influential in enhancing the provision of universal health care in county health care facilities. The expressive inquiry of the outcome exposed the feeling of the respondents who agreed with the suggestion that there were insignificant amount of money in the budgets set aside by County government for replacing old and unserviceable medical equipments and machines in all health care facilities within the County.

However the respondents disagreed that the equipments installed at the facilities were the latest models in the market and results obtained from such machines were significantly highly reliable for laboratory diagnostic and other test check purposes requested and done

Patients and the community utilizing the facilities were satisfied with diagnostic results originating from the facility equipments installed. It was further established that the hospital board of management did not ensure protective equipments (PPE) gears were available to members of staff when they require them at work places and that health institutions did not effectively maintain adequate number of the necessary equipments in accordance to the designated level by the ministry of health assessment reports.

The respondents thus did disagree with the fact that there were a technical team that peer reviewed health care facilities to ascertain MOH compliance in all the institutions across the counties. The findings on the above research is in line with previous academicians and researchers' works who have come up with study results revealing that equipments in health care facilities assist in faster delivery of health services. Further, machines and equipments improve modernization in the way of doing work. If well-articulated institutional service delivery could have significant development and maintain superior service provision to the public.

### 5.2.4 Hospital Infrastructure in Provision of Universal Health Care

The objective was aimed at assessing the outcome of availability of infrastructure in provision of universal health care services in county health care facilities. The findings expressed by many of the respondents disagreed with the statement in respective of the health facilities having adequate, spacious and modern infrastructures that allow members of medical staff perform their tasks smoothly and comfortable with minimal complains regarding space and architectural designs, pathways with provisions for people with physical disabilities.

There were no vote heads in the county budget for infrastructure development so as to ensure sufficient new buildings match the demand of the population increase. It was further revealed that there were no significant enough space created for expansion the long term plans given the demands from the public seeking health services. The board of managements in their respective facilities were not conscious regarding expansion of infrastructure beyond the existing ones in the facilities for future development in the years to come.

Most of the responses approved the statement that in provision of UHC adequate infrastructures were required, and the management must institute significant mechanism to provide the required infrastructure. The respondents disagreed that the buildings were always inspected by technical team from the department of public work services for safety and compliance. The outcomes showed that there were insignificant adequate health care infrastructures such as emergency rooms that could be a major hindrance to the delivery of universal health care in the county administered hospitals when the programme is fully implemented.

### 5.2.5 The Moderating Effect of Finance in Determining the Provision of Universal Health Care in Kenya

The objective of the research was aimed at scrutinizing the Moderating effect of finance on provision of universal health care in Kenya. The findings further revealed that many of the respondents agreed that their respective health care facilities had experienced financial sustainability within the last five years as a result of free universal medical cover financing provided by the government towards enhancement of health services. But disagreed that the patients have been provided with maximum health care services due to universal health care protection system provided by county government budget financing.

The findings revealed that health care services availability earlier was constrained but somehow significantly improved throughout the last five years courtesy of UHC system and that good health care services in the facilities had not been sustained for the past five years as a result of universal health care support given by the National Government. Most of the respondents disagreed that there were public suggestion boxes strategically fixed at the entrance for management to open, read complains raised by patients in a way of getting solutions on any negative issues raised for possible solutions in amending the anomaly.

Earlier researchers argued that for any meaningful UHC system to work experts predict that nations have to spend to the tune of US dollars 86 per capital. The Abuja declaration where the heads of state signed a memorandum of understanding by committing 15% of GDP towards health care in every year has never been achieved in Kenya so far.

The model summary results with the interaction of availability of financing, where the model results revealed that $R^2$ for the model was 66.5% an increase from the previous model which had 55.6% for the un-moderated with moderator as an independent variable.

It implies that finance availability is always there and that it can only be enhanced by the interaction effect of health care financing. Availability of finance has no significant moderating effect in comparison to all the other four variables. This is because it takes the overall control of the other variables and resumes superiority position as it is observed from the regression coefficient analysis. The other four variables entirely depend on the availability of financing in order to function in provision of Universal Health Care delivery.

Perhaps other important factors are crucial and important to consider in enhancement of Universal Health Care. Possibly personal medical insurance covers for citizen could take the moderating effect in determining the provision of Universal Health Care.

Finance therefore fails to take the moderating role in determining the provision of health care and delivery of Universal Health Care programme at coefficient regression value of (Bita = 0.383). In conclusion finance must always be there for the other variables to function, from the very beginning there was initial financing of the project or the seed.

### 5.2.6 The universal Health Care Service Provision achievements

The maximum benefits measurement of achievement can be reviewed by observing the presence of extended health facilities in all corners of the country with availability of stocked drugs at affordable prices. Reliable health care financing, well trained health care personnel, medical machines and equipments and other technology installations fitted. There should be less complains from the users of such health care facilities emanating from insufficiency in delivery of health services. The health professionals' work force should be well taken care both remunerations and other motivational accompanying rewards from employment package.

At the national level of significant to observe are improved gross domestic product (GDP), Value addition (Kaizen) on goods and services. A healthy nation as well as the systems of health care that meets priority of health care needs through people cantered, integrated health care system. There is sufficient information that encourages people to stay healthy and prevent illness through careful monitoring and detection of diseases control and other conditions made possible by improved health care facilities service availabilities.

Finally, public health and primary health care are the cornerstones of sustainable health care system, and it should be reflected in the health care policies and professional education system in order to perform well.

There is need therefore to assess the out comes by engaging process indicators to unveil whether actions indicating high-quality health care is under taken during the period of service provision. They should be built on reliable scientific evidence that comply with the indicators as related to better outcomes of care and caution.

## 5.3 Conclusion from the Research Study

The study concludes with note that the availability of drugs in hospital pharmacies was essential in provision of universal health care facilities in the county government public hospitals in Kenya. It was concluded that the availability of adequate stocks of drugs in facility pharmacies is essential in containing disease control. There is need in putting the safety care and caution of the drugs stocked and having a reliable constant supply of drugs hence avoiding stock outs were significantly associated with the provision of universal health care in the county public health care hospitals. There is a strong and major connection amid availability of drugs and provision of universal health care in public health care facilities, this implies that insufficient provision of universal health care services could be as a result of inadequacy of drugs availability in hospital pharmacies across the health care facilities managed by county governments.

Objective two of the study which aimed to institute the effect of availability of well trained and motivated health care personnel on the provision of universal health care, it was established that there was a major and optimistic association among availability of health care personnel and provision of universal health care. The training of the personnel, motivation of the employees through reward and recognition incentives as well as the embracement of research and innovation are essential ways that were found to be useful in enhancing the provision of universal health care in county public health care facilities. The study therefore concludes that health care personnel though being not effectively upheld in

the county government hospitals are instrumental in enhancing the provision of universal health care programmes and their sustainability in the long run.

The third objective aimed to assess the effect of availability of medical machines and equipments on the provision of universal health care in public health facilities. The study revealed that there were insufficient machines and equipments especially the latest models to run the medical operations and processes in most of the hospitals. The study therefore concluded that there is a strong correlation that exists between the availability of medical equipments and better provision of universal health care in public health facilities. The inadequacy of such latest models of equipments, low embracement of technology and the unavailable equipments and absence of effective contract servicing were evident from the respondent's opinions, and indication that these could be among the drivers of inappropriate provision of universal health care services in most of public health care institutions.

On the fourth objective which aimed to measure the consequence of availability of infrastructure in health care institutions on provision of universal health care, it was concluded that the facility infrastructures ware strongly significant to the provision of universal health care.

The study revealed that modern architecturally designed and spacious infrastructure, with proper and regularly maintenance of the structures and their safety compliance of the same were essential in provision of universal health care in public health institutions. The study concluded that most of the hospitals fail to provide universal health care due to insufficiency of facility infrastructure, sufficient space and designs that allow people with disability some comfort, may they be pavement, ablutions and stair case.

The study finding found out that such provisions were an essential requirement to enable the delivery of effective health care services towards universal health care in the county government health care facilities.

The fifth objective of the study on financing concluded that the availability of financing through various sources such as the county budget of 30% from all revenues generated, national government supplements, the friendly donor financing, financing from various medical covers and NHIF as well as individual charges from the patients were instrumental in enabling the hospitals acquire adequate drugs supply, modern medical machines and equipments, maintain personnel resource capital and infrastructure for enhanced provision of general wellbeing attention in public fitness facilities. The research thus established appositive significant relationship sufficient enough for health care financing and provision of universal health care in public health facilities in Kenya.

**5.4 Theoretical Studies and Academic Implications.**

The findings obtained from the study contributes to established body of literature by availing practical health care financing policy application in public facilities on health Care delivery in Kenya. Many research finding in health care implementations have tended to ignore financing of health care activities in the facility improvement and innovation.

This research finding has laid the emphasis on four main issues of key on health care drivers of availability of significant stock of drugs in hospitals, well trained health personnel, medical equipments and infrastructure development in health care facilities to the existing literature. In putting extra values beside the current form of information, the research study established the responsiveness to health care financing as an important driver in delivery of

Universal Health Care. The results indicate that financing is crucial for meeting and providing health care services sustainability.

Regarding the study methods and methodology implications it must be pointed out that the study exercised applied cross-sectional approach utilising expressive and measurable design methods. The research exercise also depended on data founded on the insight feeling of the health facility chief executive officers their understanding of health care financing in Kenya. The absence of tangible fiscal information is possible to introduce some minute preconceptions in this study thus increases the steadfastness of the research out comes in forthcoming studies that would attempt to acquire authentic fiscal archives from the ministry of health and the county government of Nyeri executive registry central data and retrieve information of importance to analyse and uncover any limitation towards UHC.

### 5.5 Recommendations Originating from the Study Finding

The study recommends the need for the governments – both county governments and the national government, to intensify the financing of health care programs that aim at enabling the public health facilities acquire adequate medical drugs in their pharmacies so as to effectively provide the universal health care requirements and sustainability to the citizens of Kenya. The provision of UHC cannot be effectively be strong if the health care institutions lack adequate medical drugs in their pharmacies. It is therefore recommended that the hospitals management boards should be able to effectively be in position to align their procurement processes so as to avail adequate drugs for successful provision of universal health care in the health care institutions.

The management boards of hospitals has the duty of care to ensure that the members of staff are well trained and properly motivated through reward and recognition so as to relax the

energy and steer their performance towards effective productivity. On the other hand, both county and national governments have the duty of ensuring that the health facilities are significantly well funded to employ adequate number of trained personnel and sponsor their on-job training for effective provision of the universal health care, as well as incorporate scientific innovations in their work place in a way of emblazing technology and costs savings in a way they utilise time, materials and other resources at their disposal.

Availing the required modern and effective medical equipmenes is essential for the provision of universal health care at the public health institutions. It is therefore recommended that the hospitals seek the available mechanisms to raise finance to acquire the modern medical Equipments for provision of universal health care in the hospitals. The government should also frequently ensure adequate financing towards the hospitals so as to enable the board of management acquire the latest models of medical equipments and also service the existing equipments so as to offer proper diagnostic results and offer treatment timely.

Health care facility infrastructure is fundamental for effective provision of universal health care in the health service facilitations. The study recommends the need for modern designed construction of infrastructure that is spacious and accommodative in order to ensure effective provision of the universal health care in public health institutions. The design of the hospital infrastructure such as buildings should be accommodative and considerate of all the safety requirements as per the WHO requirements on health care facilities so as to significantly contribute to the provision of universal health care in the communities using such facilities.

### 5.6 Suggestion Areas for more Research Work.

The study exercise focused on universal health care financing and how it can enable the provision of medical drugs pharmacies, hospital infrastructure, medical equipments and

professional resources as the main drivers of universal health care provision. It is recommended that future research works may focuses on other factors that determine the provision of universal health care apart from the four aspects that this study has highlighted.

The research exercise concentrated on Nyeri County central Kenya, which was one of the pilot counties that were selected for piloting of the universal health care provision. Since the program has now been launched to all the 47 counties in Kenya, it is recommended that a similar study should done focusing on other counties which still are yet to experience the effective provision of universal health care.

The study reviewed that individual citizens insurance covers that take care of any health eventualities is important precaution attempt hence encouragement for NHIF enrolments is important and must be encouraged. At the same time the rate should be considered as the minimum amount is quite low for any reasonable health cover for the families. Social welfare schemes should be utilised to pay subscriptions for the poor in the society.

## 5.7 Importance of the Study to Kenyans

This study will be useful to Kenyan citizens by creating the awareness of how the program can be implemented and be sustained in the long run. It will explore how paying for healthiness can be administered without paying directly from the pocket expenditures.

A well-financed system of health care enables affordability of health care services through a system where pre pay policy is encouraged for financing health care services and avoid citizens suffering financial hardship when using the same due to excessive cost of services. Public health and primary health care are the cornerstones of sustainable health care systems, and it should be reflected in the health policies of the county. Sustainable financing is key factor that affects the access to essential medicines. There is need to incorporate technology

and innovation to faster delivery of the required health care services in the counties to coup with the current innovation.

# REFERENCES

Abuya, T., Maina, T., & Chuma, J. (2015). Historical account of the national health insurance formulation in Kenya: experiences from the past decade. *BMC health services research*, *15*(1), 1-11. https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-0692-8

Akintoyese Oyekola, I., Olusegun Ojediran, J., Albert Ajani, O., Joseph Oyeyipo, E., & Rasak, B. (2020). Advancing alternative health care financing through effective community partnership: *A necessity for universal health coverage in Nigeria. Cogent Social Sciences*, *6*(1), 1776946. https://www.tandfonline.com/doi/pdf/10.1080/23311886.2020.1776946

Alcala, H. E., Chen, J., Langellier, B. A., Roby, D. H., & Ortega, A. N. (2017). Impact of the Affordable Care Act on health care access and utilization among Latinos. *The Journal of the American Board of Family Medicine*, *30*(1), 52-62. https://pubmed.ncbi.nlm.nih.gov/28062817/

Alemayehu, Y. K., Dessie, E., Medhin, G., Birhanu, N., Hotchkiss, D. R., Teklu, A. M., & Kiros, M. (2022). *The impact of community-based health insurance on health service utilization and financial risk protection in Ethiopia*. https://www.researchsquare.com/article/rs-1525536/v1

Alhassan, R. K., Nketiah-Amponsah, E., Akazili, J., Spieker, N., Arhinful, D. K., & Rinke de Wit, T. F. (2015). Efficiency of private and public primary health facilities accredited by the National Health Insurance Authority in Ghana. *Cost Effectiveness and Resource Allocation, 13*(1), 1-14. https://resource-allocation.biomedcentral.com/articles/10.1186/s12962-015-0050-z

Alipouri Sakha, M., Mohtasham, F., & Mostafavi, H. (2018). The effect of resource allocation decisions on efficiency and equity in the health sector: A systematic review. *Caspian Journal of Health Research*, *3*(1), 28-34. https://cjhr.gums.ac.ir/article-1-75-en.pdf

Amin, M., Ismail, W., Rasid, S., & Salemani, R. (2014). “The impact of human resource management practices on performance: Evidence from a Public University". *The TQM Journal, 26*(2), 125 – 142. https://www.slideshare.net/KiharaPeter/publication-human-resources

Angamuthu, B. (2020) Health insurance services*: its market growth and determinants of consumer purchase decisions, 10(1), 21-50http://www.publishingindia.com/gjrim/40/health-insurance-services-its-market-growth-and-determinants-of-consumer-purchase-decisions/884/6104/*

Aquilina, M., & Kraus, W. (2016). Market-based finance: its contributions and emerging issues. *FCA Occasional Paper*, (18). https://www.aima.org/static/uploaded/32c75499-8b9a-487e-8a7f116fdbb6b250.pdf

Aregbeyen, S., & Baba, L. (2013). Causal Linkages between Government Revenue and Spending: *Evidence from Ghana*. *Bank of Ghana Working Paper,* WP/BOG-2013/13, 3(3), 215-228. https://www.irjp.org/index.php/IRJEF/article/view/66

Arthmar, R., & McLure, M. (2017). *Cambridge theories of welfare economics. In The Palgrave Companion to Cambridge Economics* (pp. 51-71). Macmillan.

Athanasiou, Debas & Darzi (2010). *Key Topics in Surgical Research & Methodology*. Springer

Augier, M., & Teece, D. J. (2012). *An Economics Perspective on Intellectual Capital1. In Perspectives on intellectual capital (pp. 3-27).* Routledge

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120. http://dx.doi.org/10.1177/014920639101700108

Beh, L. S., & Loo, L. H. (2013). Human resource management best practices and firm performance: A universalistic perspective approach. *Serbian Journal of Management*, *8*(2), 155-167. https://doi.org/10.5937/sjm8-4573

Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British journal of management*, *18*(1), 63-77. https://onlinelibrary.wiley.com/doi/full/10.1111/j.1467-8551.2006.00487.x

Bhanushali, S., Ghosh, P., Ganesh, A., & Cheng, W. (2015). 1D copper nanostructures: progress, challenges and opportunities. *Small*, *11*(11), 1232-1252. https://onlinelibrary.wiley.com/doi/full/10.1002/smll.201402295

Bhatia, D., Mishra, S., Kirubarajan, A., Yanful, B., Allin, S., & Di Ruggiero, E. (2016). Identifying priorities for research on financial risk protection to achieve universal health coverage: a scoping overview of reviews. *BMJ open*, *12*(3), e052041. https://bmjopen.bmj.com/content/12/3/e052041

Bhatia, R. (2018). Universal health coverage framework to combat antimicrobial resistance. *The Indian journal of medical research*, *147*(3), 228-232. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6022393/

Bloom, D. E., Canning, D., Kotschy, R., Prettner, K., & Schünemann, J. J. (2019). Health and economic growth: reconciling the micro and macro evidence (No. w26003). *National Bureau of Economic Research.* https://docs.iza.org/dp11940.pdf

Bolarinwa, O. A. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian Postgraduate Medical Journal*, *22*(4), 195-201. https://pubmed.ncbi.nlm.nih.gov/26776330/

Boom, B. J., Huang, P. X., Beyan, C., Spampinato, C., Palazzo, S., He, J., & Fisher, R. B. (2012). Long-term underwater camera surveillance for monitoring and analysis of fish populations. *VAIB12,* 1-4. https://homepages.inf.ed.ac.uk/rbf/VAIB12PAPERS/boom.pdf

Buechner, M. N. (2018). A comment on the law of supply and demand. *Journal of Philosophical Economics*, *11*(2), 67-80. https://hal.archives-ouvertes.fr/hal-03721412/document

Bump, J., Cashin, C., Chalkidou, K., Evans, D., González-Pier, E., Guo, Y., & Yamey, G. (2016). Implementing pro-poor universal health coverage. *The Lancet Global Health*, *4*(1), e14-e16. https://pubmed.ncbi.nlm.nih.gov/26700794/

Buse, K., & Hawkes, S. (2015). Health in the sustainable development goals: ready for a paradigm shift? *Globalization and health*, *11*(1), 1-8. https://globalizationandhealth.biomedcentral.com/counter/pdf/10.1186/s12992-015-0098-8.pdf

Carron, A. V., & Brawley, L. R. (2000). Cohesion: Conceptual and measurement issues. *Small group research*, *31*(1), 89-106. https://psycnet.apa.org/doi/10.1177/104649640003100105

Chalkidou, K., Glassman, A., Marten, R., Vega, J., Teerawattananon, Y., Tritasavit, N., & Culyer, A. J. (2016). Priority-setting for achieving universal health coverage. *Bulletin of the World Health Organization*, *94*(6), 462-467.

https://apps.who.int/iris/bitstream/handle/10665/271913/PMC4890204.pdf?sequence=1&isAllowed=y

Chase, M. J., Schlossberg, S., Griffin, C. R., Bouché, P. J., Djene, S. W., Elkan, P. W., ... & Sutcliffe, R. (2016). Continent-wide survey reveals massive decline in African savannah elephants. *PeerJ*, *4*, e2354. https://pubmed.ncbi.nlm.nih.gov/27635327/

Chatrchyan, S., Khachatryan, V., Sirunyan, A. M., Tumasyan, A., Adam, W., Bergauer, T., & Hadjiiska, R. (2011). Dependence on pseudorapidity and on centrality of charged hadron production in PbPb collisions at $\sqrt {{{s_ {\text {NN}}}}}= 2.76$ TeV. *Journal of High Energy Physics*, *2011*(8), 1-34. https://arxiv.org/pdf/1107.4800.pdf

Chu, A., Kwon, S., & Cowley, P. (2019). Health financing reforms for moving towards universal health coverage in the western pacific region. *Health Systems & Reform*, *5*(1), 32-47. https://doi.org/10.1080/23288604.2018.1544029

Cowley, P., & Chu, A. (2019). Comparison of private sector hospital involvement for UHC in the western pacific region. *Health Systems & Reform*, *5*(1), 59-65. https://www.tandfonline.com/doi/pdf/10.1080/23288604.2018.1545511

Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health*, *2013*, 541-545. https://obssr.od.nih.gov/sites/obssr/files/Best_Practices_for_Mixed_Methods_Research.pdf

Cuenca, J. S. (2018). Health devolution in the Philippines: Lessons and insights (No. 2018-36). *PIDS Discussion Paper Series. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1836.pdf*

Daff, B. M., Diouf, S., Diop, E. S. M., Mano, Y., Nakamura, R., Sy, M. M., & Ngom, M. (2020). Reforms for financial protection schemes towards universal health coverage, Senegal. *Bulletin of the World Health Organization*, *98*(2), 100-108. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6986231/pdf/BLT.19.239665.pdf/

Debie, A., Khatri, R. B., & Assefa, Y. (2022). Successes and challenges of health systems governance towards universal health coverage and global health security: a narrative review and synthesis of the literature. *Health research policy and systems*, *20*(1), 1-17. https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-022-00858-7

Delgado, D., Wyss Quintana, F., Perez, G., Sosa Liprandi, A., Ponte-Negretti, C., Mendoza, I., & Baranchuk, A. (2020). Personal safety during the COVID-19 pandemic: realities and perspectives of healthcare workers in Latin America. *International Journal of Environmental Research and Public Health*, *17*(8), 2798. https://www.mdpi.com/1660-4601/17/8/2798

Dudovskiy, J. (2012). *Criticism associated with corporate social responsibility (CSR).* https://research-methodology.net/criticism-associated-with-corporate-social-responsibility-csr/

Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, *5*(6), 215-217. https://medcraveonline.com/BBIJ/BBIJ-05-00149.pdf

Figueroa, C. A., Harrison, R., Chauhan, A., & Meyer, L. (2019). Priorities and challenges for health leadership and workforce management globally: a rapid review. *BMC health services research*, *19* (1), 1-11. https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4080-7

Fulton, B. D. (2017). Health care market concentration trends in the United States: evidence and policy responses. *Health Affairs*, *36*(9), 1530-1538. https://www.healthaffairs.org/doi/10.1377/hlthaff.2017.0556

Fusheini, Adam, and John Eyles. "Achieving universal health coverage in South Africa through a district health system approach: conflicting ideologies of health care provision." *BMC Health Services Research*, *16*(1), 1-11. https://pubmed.ncbi.nlm.nih.gov/27717353/

Gaffney, A., Woolhandler, S., & Himmelstein, D. (2020). The effect of large-scale health coverage expansions in wealthy nations on society-wide healthcare utilization. *Journal of general internal medicine*, *35*(8), 2406-2417. https://pubmed.ncbi.nlm.nih.gov/31745857/

Financing. *International journal of environmental research and public health*, *17* (7), 2318.

Gitau, G., Mukulu, E., & Kihoro, J. (2014 2016). *Literature review on influence of entrepreneurial marketing orientation on competitive advantage among mobile service providers in Kenya.* [Doctoral Thesis, Jomo Kenyatta University of Agriculture and Technology]. Kenya.

http://ir.jkuat.ac.ke/bitstream/handle/123456789/2131/KAMAU%2C%20GEOFFREY%20GITAU-PHD%20ENTREPRENEURSHIP%20HD413-2071-2011.pdf?sequence=1&isAllowed=y

Gitonga, Z., & Keiyoro, P. (2017). *Factors influencing the implementation of healthcare projects: The case of Meru County, Kenya.* [Master's Thesis, University of Nairobi]. Kenya. http://erepository.uonbi.ac.ke/bitstream/handle/11295/101602/Gitonga_Factors%20Influencing%20The%20Implementation%20Of%20Healthcare%20Projects.pdf?sequence=1&isAllowed=y

Glassman, A., Giedion, U., Sakuma, Y., & Smith, P. C. (2016). Defining a health benefits package: what are the necessary processes?. *Health Systems & Reform*, *2*(1), 39-50. https://www.tandfonline.com/doi/pdf/10.1080/23288604.2016.1124171?needAccess=true

Glied, S. A. (2008). Health care financing, efficiency, and equity (No. w13881). *National Bureau of economic research, 1-36. https://www.nber.org/system/files/working_papers/w13881/w13881.pdf*

Goldfarb, B., & King, A. A. (2016). Scientific apophenia in strategic management research: Significance tests & mistaken inference. *Strategic Management Journal*, *37* (1), 167-176. https://onlinelibrary.wiley.com/doi/full/10.1002/smj.2459

Gondi, S., & Song, Z. (2019). Potential implications of private equity investments in health care delivery. *Jama*, *321* (11), 1047-1048. https://jamanetwork.com/journals/jama/article-abstract/2727259

Hallberg, D., & Renström, E. (2017). *Modelling management fees of mutual finance using multiple linear regression.* [Degree Research Project, Kth Royal Institute of Technology School of Engineering Sciences]. Sweden. https://www.diva-portal.org/smash/get/diva2:1114275/FULLTEXT01.pdf

Hart, N. (2003). Marshall's dilemma: equilibrium versus evolution. *Journal of Economic Issues*, *37* (4), 1139-1160. https://www.tandfonline.com/doi/abs/10.1080/00213624.2003.11506646

Hassan, F. A., & Minato, N. (2019). A Systems Thinking Analysis of Healthcare Supply and Demand Management. *International Journal of Japan Association for Management Systems*, *11*(1), 103-110. https://www.jstage.jst.go.jp/article/ijams/11/1/11_103/_article

Honda, A., Ryan, M., van Niekerk, R., & McIntyre, D. (2015). Improving the public health sector in South Africa: eliciting public preferences using a discrete choice experiment. *Health policy and planning*, *30* (5), 600-611. https://pubmed.ncbi.nlm.nih.gov/24876077/

https://annualreport.undp.org/2017/?utm_source=EN&utm_medium=GSR&utm_content=US_UNDP_PaidSearch_Brand_English&utm_campaign=CENTRAL&c_src=CENTRAL&c_src2=GSR&gclid=EAIaIQobChMIwpSfxOTz-QIVXY9oCR2imQIXEAAYASAAEgJ-EfD_BwE

https://apps.who.int/iris/bitstream/handle/10665/311696/WHO-DAD-2019.1-eng.pdf

https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf

https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)

Hui, D., Mori, M., Watanabe, S. M., Caraceni, A., Strasser, F., Saarto, T., & Bruera, E. (2016). Referral criteria for outpatient specialty palliative cancer care: an international consensus. *The Lancet Oncology*, *17* (12), e552-e559. https://pubmed.ncbi.nlm.nih.gov/27924753/

Ibe et al, (2017) Effect of Corporate Governance Mechanisms on Financial Performance of Insurance Companies in Nigeria. *Journal of Finance and Accounting, 5*(3), 93-103. http://pubs.sciepub.com/jfa/5/3/4/index.html

Kenya National Bureau of Statistics (2018). *Economic Survey 2018.* Government of Kenya

Kerrigan, D., Kennedy, C. E., Morgan-Thomas, R., Reza-Paul, S., Mwangi, P., Win, K. T., & Butler, J. (2015). A community empowerment approach to the HIV response among sex workers: effectiveness, challenges, and considerations for implementation and scale-up. *The Lancet*, *385*(9963), 172-185. https://pubmed.ncbi.nlm.nih.gov/25059938/

Kieny, M. P., & Evans, D. B. (2013). Universal health coverage. *EMHJ-Eastern Mediterranean Health Journal, 19 (4),* 305-306. https://apps.who.int/iris/bitstream/handle/10665/118386/EMHJ_2013_19_4_305_306.pdf?sequence=1&isAllowed=y

Kihara, B. W., & Ngugi, P. K. (2021). *Inventory management systems and performance of public hospitals in Kenya; case of counties under universal health care programme.* [Master's Thesis, University of Nairobi]. Kenya. http://erepository.uonbi.ac.ke/bitstream/handle/11295/93516/Njoroge_Inventory%20Management%20Practices%20and%20Performance%20of%20Public%20Hospitals%20in%20Kenya.pdf?sequence=6

Kindig, D. A., & Isham, G. (2014). Population health improvement: A community health business model that engages partners in all sectors. *Frontiers of Health Services Management*, *30* (4), 3-20. https://pubmed.ncbi.nlm.nih.gov/25671991/

Kirigia, J. M., Mwabu, G. M., M'Imunya, J. M., Karimi Muthuri, R. D., Nkanata, L. H. K., & Gitonga, E. B. (2017). Indirect cost of non-communicable diseases deaths in the World Health Organization African Region. http://imedicalsociety.org/ojs/index.php/iam/article/view/2400/2057

Ko, M. M., Lee, M. S., Birch, S., & Lee, J. A. (2017). The reliability and validity of instruments measuring pattern identification in Korean medicine: A systematic review. *European Journal of Integrative Medicine*, *15*, 47-63.

Kothari, C. R. (2004). *Research methodology: Methods and techniques.* New Age International.

KULOBA, E. (2016). *Effect of procurement procedures on organizational performance: A case of Moi Teaching and Referral Hospital, Eldoret* (Master’s Thesis, Kisii University]. Kenya. http://library.kisiiuniversity.ac.ke:8080/xmlui/bitstream/handle/123456789/368/EFFECT%20OF%20PROCUREMENT%20PROCEDURES%20ON%20ORGANIZATIONAL.pdf?sequence=1&isAllowed=y

Kutzin, J. (2012). Anything goes on the path to universal health coverage? No. *Bulletin of the World Health Organization*, *90*(11), 867-868. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3506412/pdf/BLT.12.113654.pdf/

Lagomarsino, G., Garabrant, A., Adyas, A., Muga, R., & Otoo, N. (2012). Moving towards universal health coverage: health insurance reforms in nine developing countries in

Africa and Asia. *The Lancet*, *380* (9845), 933-943. https://doi.org/10.1016/S0140-6736 (12)61147-7

Lazar, M., & Davenport, L. (2018). Barriers to Health Care Access for Low Income Families: A Review of Literature. *Journal of Community Health Nursing, 35* (1), 28–37. https://doi.org/10.1080/07370016.2018.1404832

Lesiyampe, E. N. (2021). *Assessment of Strategic Healthcare Services Adopted by County Governments in Service Delivery in Level 3 And 4 Public Health Facilities in Laikipia County* [Master's Thesis, Kenya Methodist University]. Kenya. http://repository.kemu.ac.ke/bitstream/handle/123456789/1247/Evalyne%20final%20thesis%20document%20%281%29%20%281%29.pdf?sequence=1&isAllowed=y

Lesiyampe, E. N., Cherono, V., & Muriiki, R. (2021). Influence of Strategic Resource Allocation by Laikipia County Government on Service Delivery in Level 3 and 4 Public Health Facilities. *Journal of Business and Strategic Management, 6*(1), 62-77. https://carijournals.org/journals/index.php/JBSM/article/view/596/801

Love-Koh, J., Cookson, R., Claxton, K., & Griffin, S. (2020). Estimating social variation in the health effects of changes in health care expenditure. *Medical Decision Making*, *40*(2), 170-182. https://journals.sagepub.com/doi/pdf/10.1177/0272989X20904360

Love-Koh, J., Griffin, S., Kataika, E., Revill, P., Sibandze, S., & Walker, S. (2020). Methods to promote equity in health resource allocation in low-and middle-income countries: an overview. *Globalization and health*, *16*(1), 1-12. https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-019-0537

Mahato, R. (2021). Factors affecting budgetary allocation process in public institutions in nepal; case of the national planning commission. *International Research Journal of Economics and Finance*, *3*(3), 215-228. https://www.irjp.org/index.php/IRJEF/article/view/66

Maphumulo, W. T., & Bhengu, B. R. (2019). Challenges of quality improvement in the healthcare of South Africa post-apartheid: A critical review. *Curationis*, *42*(1), 1-9. https://curationis.org.za/index.php/curationis/article/view/1901

Masaba, B. B., Moturi, J. K., Taiswa, J., & Mmusi-Phetoe, R. M. (2020). Devolution of healthcare system in Kenya: progress and challenges. *Public Health*, *189*, 135-140. https://pubmed.ncbi.nlm.nih.gov/33227596/

Masiye, F., Kaonga, O., & Kirigia, J. M. (2016). Does user fee removal policy provide financial protection from catastrophic health care payments? Evidence from Zambia. *PloS one*, *11*(1), e0146508. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146508

Mbau, R., Kabia, E., Honda, A., Hanson, K., & Barasa, E. (2020). Examining purchasing reforms towards universal health coverage by the National Hospital Insurance Fund in Kenya. *International journal for equity in health*, *19* (1), 1-18. https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1116-x

Ministry of Health (2014). *Kenya Household Health Expenditure and Utilisation Survey.* Government of Kenya.

Ministry of Health Kenya (2018). *Access to Essential Medicines in Kenya a Health Facility Survey.* World Health Organization.

McGuire, F., Revill, P., Twea, P., Mohan, S., Manthalu, G., & Smith, P. C. (2020). Allocating resources to support universal health coverage: development of a geographical financing formula in Malawi. *BMJ global health*, *5* (9), e002763. https://gh.bmj.com/content/5/9/e002763

Mcintyre, D., Meheus, F., & Røttingen, J. A. (2017). What level of domestic government health expenditure should we aspire to for universal health coverage?. *Health Economics, Policy and Law*, *12* (2), 125-137. https://pubmed.ncbi.nlm.nih.gov/28332456/

Meng-Kin, L. (1998). Health care systems in transition II. Singapore, Part I. An overview of health care systems in Singapore. *Journal of Public Health Medicine*, *20* (1), 16-22. https://pubmed.ncbi.nlm.nih.gov/9602443/

Moro Visconti, R., & Morea, D. (2020). Healthcare digitalization and pay-for-performance incentives in smart hospital project. *International Journal of Environmental Research and Public Health, 17*(7), 1-25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177756/pdf/ijerph-17-02318.pdf

Mosadeghrad, A. M. (2016). Comments on “Iran hospital accreditation system”. *Iranian journal of public health*, *45* (6), 837-839. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026848/pdf/IJPH-45-837.pdf

Munge, K., Mulupi, S., Barasa, E. W., & Chuma, J. (2018). A critical analysis of purchasing arrangements in Kenya: the case of the National Hospital Insurance Fund. *International journal of health policy and management*, *7* (3), 244-254. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5890069/pdf/ijhpm-7-244.pdf

Musyoka, S. T., Ochieng, I., & Nzioki, P. M. (2016). Factors affecting provision of quality service in the public health sector: A case of Nyahururu district hospital, Kenya.

Mutunga, W. K. (2021). Analysis of Procurement Practices and Growth of Selected Small and Medium-Sized Enterprises in Imenti North Sub-County Meru, Kenya *(Doctoral dissertation, KeMU).*

Mwabu, G., Ainsworth, M., & Nyamete, A. (1993). Quality of medical care and choice of medical treatment in Kenya: an empirical analysis. *Journal of Human Resources*, 28(4), 838-862. https://www.jstor.org/stable/pdf/146295.pdf

National Hospital Insurance Fund (2017). Expanding social health insurance coverage among the informal sector: strategy 2016–2020, Nairobi, Kenya.

Ngure-Ndonga, M. N. (2004). Quality of health care services in Nyeri District, Kenya: patient's perceptions and their effects on service utilization *(Doctoral dissertation).*

Nuñez, I. A., Carlock, M. A., Allen, J. D., Owino, S. O., Moehling, K. K., Nowalk, P., ... & Ross, T. M. (2017). Impact of age and pre-existing influenza immune responses in humans receiving split inactivated influenza vaccine on the induction of the breadth of antibodies to influenza a strains. *PLoS One*, *12* (11), e0185666. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185666

Nyikuri, M. M., Tsofa, B., Okoth, P., Barasa, E. W., & Molyneux, S. (2017). "We are toothless and hanging, but optimistic": sub county managers' experiences of rapid devolution in coastal Kenya. *International Journal for Equity in Health*, *16* (1), 1-11. https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-017-0607-x

Oakley, D., Fraser, J., & Bazuin, J. (2015). The imagined self-sufficient communities of HOPE VI: Examining the community and social support component. *Urban Affairs*

*Review*, *51*(5), 726-746.
https://journals.sagepub.com/doi/full/10.1177/1078087414544461

Obare, F., Warren, C., Kanya, L., Abuya, T., & Bellows, B. (2015). Community-level effect of the reproductive health vouchers program on out-of-pocket spending on family planning and safe motherhood services in Kenya. *BMC Health Services Research*, *15* (1), 1-12. https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-1000-3

Okech, T. C., & Lelegwe, S. L. (2016). Analysis of Universal Health Coverage and Equity on Health Care in Kenya. *Global Journal of Health Science*, 8 (7), 218-227. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4965667/

Onwujekwe, O et al. "Exploring effectiveness of different health financing mechanisms in Nigeria; what needs to change and how can it happen?" *BMC health services research* 19.1 (2019): 1-13.
https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4512-4

Ooms, G., Marten, R., Waris, A., Hammonds, R., Mulumba, M., & Friedman, E. A. (2014). Great expectations for the World Health Organization: a Framework Convention on Global Health to achieve universal health coverage. *public health*, *128* (2), 173-178. https://www.sciencedirect.com/science/article/abs/pii/S0033350613002242

Orina, S. M., Obwogi, J., & Nasieku, T. M. (2019). Factors affecting budgetary allocation in the county governments in Kenya. *The Strategic Journal of Business & Change Management*, *6*(2), 1652-1668.
https://strategicjournals.com/index.php/journal/article/view/1211

Osborn, R., Squires, D., Doty, M. M., Sarnak, D. O., & Schneider, E. C. (2016). In new survey of eleven countries, US adults still struggle with access to and affordability of health care. *Health Affairs*, *35* (12), 2327-2336. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2016.1088

Othieno, C. J., Okoth, R. O., Peltzer, K., Pengpid, S., & Malla, L. O. (2014). Depression among University Students in Kenya: Prevalence and Sociodemographic Correlates. The Journal of Affective Disorders, 165, 120-125. https://pubmed.ncbi.nlm.nih.gov/24882188/

Papanicolas, I., Woskie, L. R., & Jha, A. K. (2018). Health care spending in the United States and other high-income countries. *Jama*, *319* (10), 1024-1039. https://pubmed.ncbi.nlm.nih.gov/29536101/

Peltzer, K., Williams, J. S., Kowal, P., Negin, J., Snodgrass, J. J., Yawson, A., & SAGE Collaboration. (2014). Universal health coverage in emerging economies: findings on health care utilization by older adults in China, Ghana, India, Mexico, the Russian Federation, and South Africa. *Global health action*, 7 (1), 25314. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4216816/

Perry, L., & Malkin, R. (2011). Effectiveness of medical Equipmentss donations to improve health systems: how much medical Equipmentss is broken in the developing world?. *Medical & biological engineering & computing*, *49* (7), 719-722. https://link.springer.com/article/10.1007/s11517-011-0786-3

Pifer, M., & Baker, V. (2013). *Identity as a theoretical construct in research about academic careers. In Theory and method in higher education research.* Emerald Group Publishing Limited.

Piper, B., Zuilkowski, S. S., & Mugenda, A. (2014). Improving reading outcomes in Kenya: First-year effects of the PRIMR Initiative. *International Journal of Educational Development*, *37*, 11-21.

Rauh, C. (2019). EU politicization and policy initiatives of the European Commission: The case of consumer policy. *Journal of European Public Policy*, *26* (3), 344-365. https://www.ssoar.info/ssoar/bitstream/handle/document/66162/ssoar-jeurpubpolicy-2019-3-rauh-EU_politicization_and_policy_initiatives.pdf;jsessionid=CC145941F19B3DFC151270122A3886F5?sequence=1

Reich, M. R., Harris, J., Ikegami, N., Maeda, A., Cashin, C., Araujo, E. C., & Evans, T. G. (2016). Moving towards universal health coverage: lessons from 11 country studies. *The Lancet*, *387* (10020), 811-816. https://www.mm3admin.co.za/documents/docmanager/f447b607-3c8f-4eb7-8da4-11bca747079f/00091462.pdf

Roberts, E. T., Mehrotra, A., & McWilliams, J. M. (2017). High-price and low-price physician practices do not differ significantly on care quality or efficiency. *Health Affairs*, *36*(5), 855-864. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2016.1266

Robinson, S., Williams, I., Dickinson, H., Freeman, T., & Rumbold, B. (2012). Priority-setting and rationing in healthcare: evidence from the English experience. *Social science & medicine*, *75* (12), 2386-2393. https://pubmed.ncbi.nlm.nih.gov/23083894/

Rosati, F., & Faria, L. G. D. (2019). Business contribution to the Sustainable Development Agenda: Organizational factors related to early adoption of SDG reporting. *Corporate*

*Social Responsibility and Environmental Management*, *26* (3), 588-597. https://onlinelibrary.wiley.com/doi/epdf/10.1002/csr.1705

Rubinstein, A., Zerbino, M. C., Cejas, C., & López, A. (2018). Making universal health care effective in Argentina: a blueprint for reform. *Health Systems & Reform*, *4* (3), 203-213. https://pubmed.ncbi.nlm.nih.gov/30067439/

Sagaro, G. G., Battineni, G., & Amenta, F. (2020). Barriers to sustainable telemedicine implementation in Ethiopia: A systematic review. *Telemedicine Reports*, *1*(1), 8-15. https://www.liebertpub.com/doi/10.1089/tmr.2020.0002

Salerno, J. (2020). The Wealth Effect and the Law of Demand: A Comment on Karl-Friedrich Israel. *Quarterly Journal of Austrian Economics*, *22* (4), 579-595. https://mises.org/library/wealth-effect-and-law-demand-comment-karl-friedrich-israel

Sasaka, Y., Ogawa, T., & Haseyama, M. (2018). A novel framework for estimating viewer interest by unsupervised multimodal anomaly detection. *IEEE Access*, *6*, 8340-8350. https://eprints.lib.hokudai.ac.jp/dspace/bitstream/2115/68488/1/A%20Novel%20Framework%20for%20Estimating%20Viewer%20Interest%20by%20Unsupervised%20Multimodal%20Anomaly%20Detection.pdf

Saunders, M., Lewis, P. H. I. L. I. P., & Thornhill, A. D. R. I. A. N. (2007). *Research methods. Business Students.* (4th ed.). Pearson Education Limited. .

Smith, A. (2010). *The Wealth of Nations: An inquiry into the nature and causes of the Wealth of Nations*. Harriman House Limited.

Stigler, G. J. (2010). The place of Marshall's Principles in the development of economics. *Centenary Essays on Alfred Marshall*, 1-13.

Tao, W., Zeng, Z., Dang, H., Lu, B., Chuong, L., Yue, D., & Kominski, G. F. (2020). Towards universal health coverage: lessons from 10 years of healthcare reform in China. *BMJ global health*, *5* (3), e002086.

Taylor, M. G. (1990). Insuring national health care. *The Canadian Experience*.

Teodorowski, P., Woods, R., & Kennedy, C. (2020). The mental health and wellbeing of EU citizens in the UK: A systematic review of the qualitative literature. *Border crossing*, *10* (1), 43-60.

Uganda Population Reference Bureau (2017). Universal Health Coverage in East Africa. https://www.mediceastafrica.com/content/dam/Informa/mediceastafrica/2019/downloads/universal-health-coverage-uganda.pdf.

United Nations. (2019). *International Health Partnership for UHC 2030 (UHC2030) - united nations partnerships for sdgs platform*. United Nations.

Vuong, Q. H., Ho, T. M., Nguyen, H. K., & Vuong, T. T. (2018). Healthcare consumers' sensitivity to costs: A reflection on behavioural economics from an emerging market. *Palgrave Communications*, *4* (1), 1-10.

Wang, X. G., Guo, H. B., & Zhao, X. X. (2011). Enterprise Synergy Innovate Mechanism Based on Dynamic Core Competence. In *Advanced Materials Research* (Vol. 225, pp. 61-64). Trans Tech Publications Ltd.

Wanjala, C. M. (2013). *The relationship between pension fund assets and economic growth in Kenya* (Doctoral dissertation, University of Nairobi).

Watkins, D. A., Jamison, D. T., Mills, T., Atun, T., Danforth, K., Glassman, A., & Alwan, A. (2018). Universal health coverage and essential packages of care.

World Bank Group. (2016). *World development report 2016: Digital dividends*. World Bank Publications.

Yamin, A. E., & Maleche, A. (2017). Realizing Universal Health Coverage in East Africa: the relevance of human rights. *BMC international health and human rights*, *17* (1), 1-10.

Zamo-Akono, C., Ndjokou, M. M., & Song-Ntamack, S. (2013). Institutions and hospital efficiency in Cameroon: A data envelopment analysis. *Journal of African Development*, *15* (1), 45-71.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization science*, *13*(3), 339-351.

# APPENDICES

## Appendix I:

## Letter of Authorization

Date 5.4.2022

DIRECTOR OF MEDICAL SERVICES

Nyeri county Government

P.O. Box 112-10100

Nyeri - Kenya

Dear Sir/Madam,

**RE: RESEARCH DATA ON MODERATING ROLE OF FINANCE IN DETERMINING AND PROVISION OF UNIVERSAL HEALTH CARE IN KENYA:**

I am a student pursuing Doctor of Philosophy degree in Business Administration and Management (Finance Option) at Kenya Methodist University. I hereby kindly request permission to undertake a research data collection at your health facility on the above topic which is partial fulfilment for the conferment of PhD degree at KEMU. The research topic is stated above and do kindly request for your assistance in making the said research exercise a success. The respondents will be the hospital executive officers in charge of the facility. The information collected will be treated with utmost confidentiality and shall be used for the purposes of research only. The output of the research will add value to the healthcare facilities in Kenya in terms of appreciating the value of new universal health care system that will leads to improvement of health care services in the country.

J K Rimberia .CPA (K)

## Appendix II:

## Letter of consent

To: To whom concerned

**Dear Sir/Madam,**

**<u>RE: COLLECTION OF RESEARCH DATA AT YOU'RE HEALTHCARE FACILITY.</u>**

My name is John Kobia Rimberia currently pursuing Doctor of Philosophy degree in Business Administration and Management (Finance Option) at Kenya Methodist University. I am carrying out a research on Health care titled the Moderating effect of finance in determining and provision of universal healthcare in Kenya: The research will be carried out around Nyeri County health facilities. You have been identified as one of the collaborators and respondents in this study, I am kindly requesting for your assistance towards making this study successful by responding to the attached questionnaire. I assure you that your responses will be treated with confidentiality and will be used solely for the purpose of this study.

Thank you in advance for your time and response. We shall appreciate if you fill the questionnaire today or within the next 7 days to enable early finalization of the study.

Yours faithfully,

John Rimberia CPA (K)

## Appendix III:

## Questionnaire for Health Facility Executive Officers.

The questionnaire has been designed to collect data on health care in Kenya entitled the Moderating effect of finance in determining and provision of Universal Health Care.

**SECTION A: (BIO-DATA) BACKGROUND INFORMATION**

**Name of the health facility ……**

1. What is your gender? Male ☐ Female ☐ Any other specify ☐
2. Your current position within the facility if you are not the CEO
3. Please indicate your length of service and work experience in this health facility in terms of years by ticking in the boxes below.

   Less than 1 yr ☐

   1-3 yrs. ☐

   3-6 yrs. ☐

   6-9 yrs ☐

   More than 10 yrs ☐

4 What is your highest level of education?

   Primary school level ☐

   Secondary school level ☐

   Undergraduate ☐

   Graduate ☐

   Post graduate ☐

Any other specify………………………………………………………………………………

5. Who are your institutional financiers in this health care facility? (Please tick all that apply)

   Government ☐

   Insurance claims (NHIF) and others ☐

Non-governmental organizations ☐

Charges from patients ☐

Donors and sponsorships ☐

Any other specify…………

**SECTION B:**

**AVAILABILITY OF DRUGS IN HOSPITAL PHARMACY.**

This section has statements regarding availability of drugs in health facility pharmacy. Kindly respond with the information that agrees with your opinion by ticking the appropriate box below.

1-strongly agree (SA), 2-agree (A), 3-not sure (NS), 4 disagree (D), 5- strongly disagree (SD)

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | There are sufficient stock of drugs in all health care facilities within the County hospitals and a central store is set up for quick supply when demand arises. | | | | | |
| 2. | Drugs are offered at subsidized rates in the hospital pharmacies, where majority of patients are able to pay for the service or use NHIF cards/ personal medical cover insurance where possible. | | | | | |
| 3. | The facilities offer all the prescribed medicine at affordable rates, nobody is turned away or referred to buy drugs outside the facility pharmacy and all services requested are offered under one stop shop. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4. | The hospital has adopted digitalized healthcare platforms that improves medical drugs dispensation efficiency in the County health centres. | | | | | |
| 5. | There are adequate mechanisms for faster procurement and delivery of medical drugs to health care facilities within the county. | | | | | |
| 6. | Restocking of drugs which are out of stock is done timely and promptly before stock out levels limits are reached. | | | | | |
| 7. | In most cases prescribed drugs are available and patients do not have to go to private chemists in the township open business. | | | | | |
| 8. | The hospital always have adequate stock of various drugs which are commonly requested by patients in the locality. | | | | | |
| 9. | The frequency at which patients are referred to private chemists outside the facility to buy medicine is significantly minimal. | | | | | |
| 10. | Customers rarely complain about services and medical drugs offered through our facilities pharmacy outlets in the County. | | | | | |
| 11. | There is frequent inventory checks to discard expired drugs from the shelves in the facility pharmacies of the County. | | | | | |
| 12. | Management always institutes internal audits to check on compliance regulation as per the MOH which are followed | | | | | |

|  | throughout all health facilities within the county managed centres. |  |  |  |  |  |
|---|---|---|---|---|---|---|

Any other please specify…………

**SECTION C:**

**ATTENTION TO HUMAN RESOURCE IN THE HEALTH CARE FACILITIES.**

This section has statements regarding human resource capital within the county health care facility. Kindly respond with the statement that match your opinion, please tick as appropriate in the boxes below.

1-strongly agree (SA), 2-agree (A), 3-not sure (NS), 4- disagree (D), 5- strongly disagree

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | Jobs and individual responsibilities are well understood by members of staff and are reviewed regularly by the facility management frequently with changes and challenges coming in being resolved amicably and timely. | | | | | |
| 2. | The county government always hire staff with adequate skills and experience regarding health care management and related professional training, where remuneration is at market rate. | | | | | |
| 3. | There are significant incentives from members of staff to warrant them expound energy in order to perform better and that they are well motivated to the required standards as they serve the public. | | | | | |
| 4. | The facility management has an established performance evaluation and appraisal scheme that is carried out on regular basis and the results known by those being evaluated timely. | | | | | |
| 5. | There are rewards and encouragements from employees with | | | | | |

| | creativity and innovation competencies among the members of staff on job accomplishments. | | | | | |
|---|---|---|---|---|---|---|
| 6. | Patients always give a positive feedback on efficiency regarding our healthcare services offered throughout the county. | | | | | |
| 7. | Replacement of critical staff in the facilities is always given top priority by the management annual planning. | | | | | |
| 8. | Our medical staff are compensated in all the tasks they offer within our health institutions including on call allowances. | | | | | |
| 9. | The annual turnover rate of our members of technical and medical staff as remained minimal compared to before UHC. | | | | | |
| 10 | There are properly organised refresher trainings and in house courses to members of staff on regular basis to equip on skills. | | | | | |
| 11. | Our health facilities have maintained adequate number of doctors, nurses and other technical staff. | | | | | |
| 12. | Members of staff are well protected against hazardous diseases and dangerous chemicals that may harm them. | | | | | |
| 13. | Supervisors interact well with members of staff and make corrections where necessary. | | | | | |
| 14. | Employees work as a team and there is friendly relationship across the departments inter twining. | | | | | |

Any other please specify……

**SECTION D;**

**ATTENTION TO HOSPITAL EQUIPMENTS**

This section has statements regarding Hospital equipments within the county health care facility. Kindly respond with the statement that match your opinion. Please tick as appropriate in the boxes

1-strongly agree (SA), 2-agree (A), 3-not sure (NS), 4 -disagree (D), 5- strongly disagree (SD)

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | There are sufficient budgets set aside by County government for replacing old and unserviceable medical equipments and machines in all healthcare facilities within the County. | | | | | |
| 2. | The facility management has instituted contracts for regular calibrating and servicing of medical equipments within the hospital by the manufacturers or other experts contracted. | | | | | |
| 3. | The equipments installed at the facilities are the latest models in the market and results obtained from such machines are significantly highly reliable for laboratory diagnostic purposes. | | | | | |
| 4. | Patients and the community utilizing the facility are satisfied with diagnostic results originating from the facility equipments installed. | | | | | |
| 5. | Personnel using the machines are highly trained, such that | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | instances of mishandling and breakdowns are minimal. | | | | | |
| 6. | Servicing of equipments is done on timely basis and the management always make sure they are in working condition. | | | | | |
| 7. | The county government has set aside finance in the budget to procure specialised equipments to grow and expand the facilities further. | | | | | |
| 8. | Our hospital management ensures protective equipments (PPE) are available to members of staff when they require them at work place. | | | | | |
| 9. | The ICT department has sufficient budgets to buy the latest technology software and computing devices at the facility that produces accurate and adequate reliable information. | | | | | |
| 10. | Our health institution maintain adequate number of the necessary equipments in accordance to the designated level by the ministry of health assessment report. | | | | | |
| 11. | There exists within the healthcare facility ERP system that ensures efficiency service delivery in our centre. | | | | | |
| 12. | There is a technical team that does peer review to ascertain MOH compliance in our health institution. | | | | | |

Any other please

Specify………………………………………………………………………………

**SECTION E:**

**ATTENTION TO FACILITY INFRASTRUCTURES**

This section has statements regarding Hospital Infrastructures. Kindly respond with the information that match your opinion. Please tick as appropriate in the boxes.

1-strongly agree (SA), 2-agree (A), 3-not sure (NS), 4- disagree (D), 5- strongly disagree (SD).

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | The hospital has adequate, spacious and modern infrastructures that allow members of medical staff perform their tasks smoothly and comfortable with minimal complains regarding space and infrastructure. | | | | | |
| 2. | There is a vote head for infrastructure development in the county government budget so as to ensure sufficient new buildings match the demand of the population increase. | | | | | |
| 3. | Repairs and maintenance are given priority by hospital management so as to keep buildings modern and usable throughout the years. | | | | | |
| 4. | Infrastructures are spacious enough to allow all types of diagnostic machines to be fitted in without difficulty and can be removed when need arises e.g. during repair or when new ones are coming in for installation and fixing. | | | | | |
| 5. | There is significant enough space created for expansion in the | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | long term plans as more health services are sought by citizens. This entails both for healthcare attention and staff houses. | | | | | |
| 6. | In our healthcare facility the board of management are always conscious regarding expansion of infrastructure beyond the existing ones in the facility for future development in the years to come. | | | | | |
| 7. | Our vision and mission envisage the hospital that is able to serve the communities in all healthcare problems they face, where space and shelter is key issue of consideration. | | | | | |
| 8 | In provision of UHC adequate infrastructure is required and the management has instituted significant mechanism on that. | | | | | |
| 9. | Buildings are always inspected by technical team from the department of public work services for safety compliance. | | | | | |
| 10. | Peer review is always carried out by experts from other counties for the purposes of comparison and improvements. | | | | | |
| 11. | Entrance to buildings have special non staircase paths for people with disability using the buildings for safety. | | | | | |

In your opinion, what are the interventions that can be employed by the government to enhance the implementation of universal health care in Kenya?

Any other specify……………………………………………………………………

**SECTION F:**

**Provision of Universal Health Care within the last five {5} years**

This section has statements regarding the health care services provided within your hospital facilities for the last five years. Kindly respond with the statement that matches your opinion. Please tick as appropriate in the boxes using a tick (√) or cross mark (x)

1-strongly agree (SA), 2-agree (A), 3-not sure (NS), 4- disagree (D), 5- strongly disagree (SD)

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | Our hospital has experienced financial sustainability within the last five years as a result of free universal medical cover financing provided by the government towards enhancement of health care services. | | | | | |
| 2. | Patients have been provided with maximum healthcare services due to universal health care protection system provided by county government. | | | | | |
| 3. | Health care services have been available throughout the years for the last five years courtesy of UHC system. | | | | | |
| 4. | Good healthcare services in our hospital have been sustained for the past five years as a result of universal health care support given to us by the National Government. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5. | Our pharmacy stock of medicine has tremendously posted positive improvements such that very few patients have to go to private chemists in town for the last five years. | | | | | |
| 6. | Over the last five years hospital infrastructure has expanded significantly to accommodate all the departments desired when attending patient’s needs. | | | | | |
| 7. | In the last five years members of the medical staff remuneration package is within market rate hence their morale to work is reflected at work place and job performance improvement in comparison to the past. | | | | | |
| 8. | In a span of five years congestion in hospital wards has remained minimal due to space creation and faster discharge of patients who are already been cured. | | | | | |
| 9. | Strikes and go slow due to non- timely remittance of staff dues and salaries have been decreasing every year for the last five years since introduction of UHC. | | | | | |
| 10. | Over the last five years our hospital has witnessed decreasing number of complaints from patient in the surrounding and within the facility regarding services. | | | | | |
| 11. | There is a public suggestion box strategically fixed at the entrance for management to open, read complains raised by patients in a way of getting solutions on any negative issues arising possible solutions. | | | | | |

In your opinion, what do county governments need to do to improve services given currently by our health care institutions?

Your suggestion …………………………………………...

**SECTION G:**

**Availability of Finance for Universal Health Care.**

This section has statements regarding government strategic resource allocations. Kindly respond with the information that match your opinion. Please tick as appropriate in the boxes. 1-strongly agree (SA), 2- agree (A), 3-not sure (NS), 4- disagree (D), 5- strongly disagree (SD)

| No | Statement | SA | A | NS | D | SD |
|---|---|---|---|---|---|---|
| 1. | The government allocate enough resources toward inputs and services that generate better results at lower cost of medication in our public health facility. | | | | | |
| 2. | There has been development of a policy that is effective and efficient in managing the allocation of the facility resources prudently as per the financial budget | | | | | |
| 3. | The government allocates sufficient financial resources in order to upgrade the relevant professional skills to enhance high-quality health care services at the facility. | | | | | |
| 4. | The county government allocates 30% of the county budget for health care services both recurrent and development. | | | | | |
| 5 | There are organized NHIF scheme that caters for patients | | | | | |

|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
|  | medical bills fully both for the bed and other services enjoyed at the facility |  |  |  |  |  |
| 6. | The budget allocation given by the county government is adequate to cater for hospital current and future expenditures. |  |  |  |  |  |
| 7. | NHIF claims are prepared and remitted early enough, timely and within the quarters as expected in the County arrangements. |  |  |  |  |  |
| 8. | Hospital management has improvised ways and means of resolving the shortfall experienced in the national government finance reductions through cost cutting. |  |  |  |  |  |

In your opinion, what other alternatives can be used to source finance required to give better health care to patients in the county?

Any other please specify……………………………………………………………...............

## Appendix VI:

## List of Heath Facilities Nyeri County

**Level 6 Hospital**

**-- Othaya referral hospital**

**Level 5 hospital**

- Nyeri county referral hospital

**Level 4 hospital**

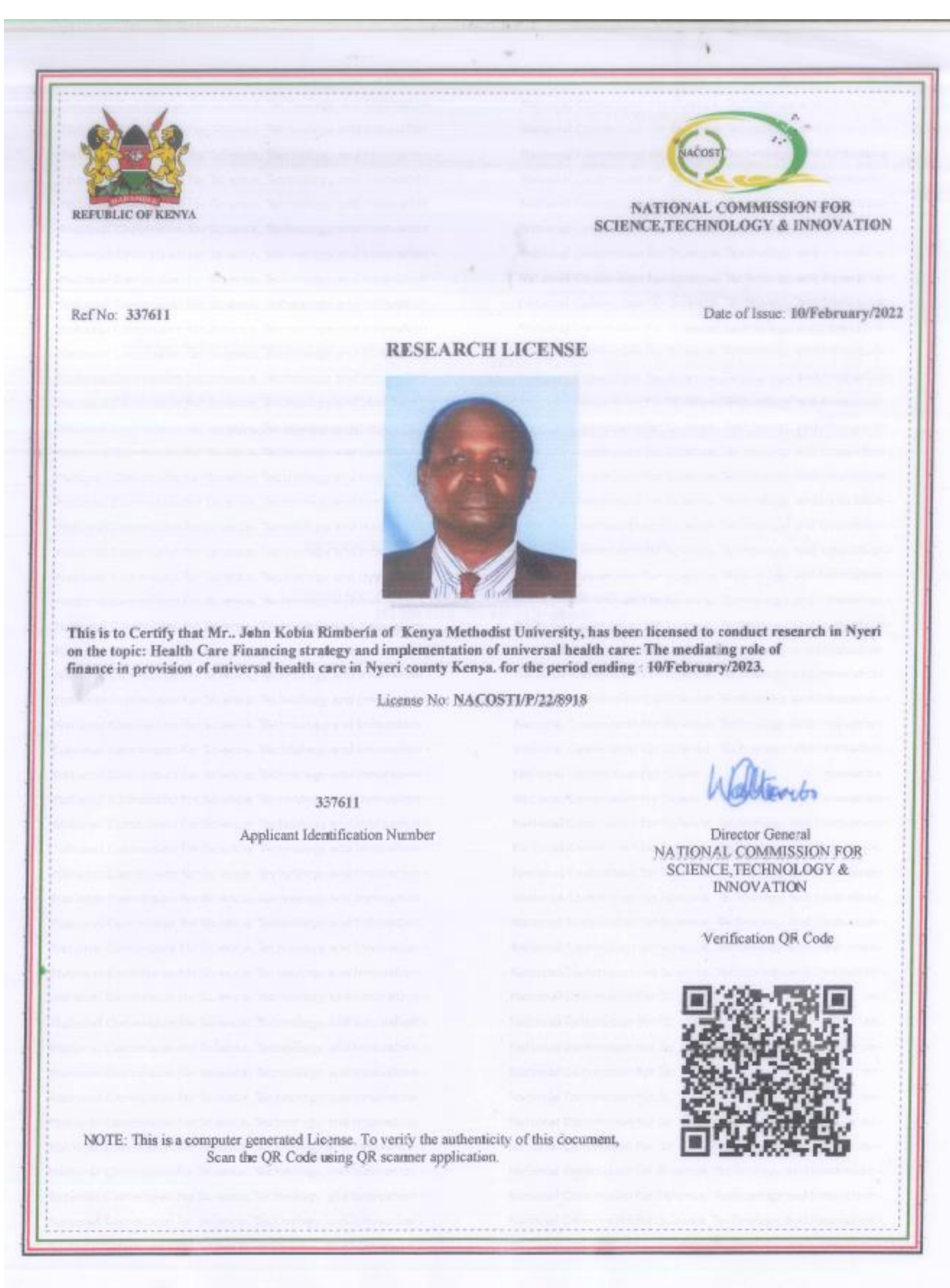
- Mount Kenya hospital
- Mukurweini hospital
- Karatina hospital
- kyeni

**Other Health Facilities within Nyeri County**

- Gitathine health facility
- Muthuaini health facility
- Kihatha health facility
- Kamakwa health facility
- Munungaini health facility
- Ruringo health facility
- Thuguma health facility
- Chorongi health facility
- Karia health facility
- Riamukurwe health facility
- Githiru health facility
- Gatitu health facility
- Muruguru health facility

- Marua health facility
- Kihinyo health facility
- Mathari health facility
- Gachika health facility
- Kirichu health facility
- Kiganjo health facility
- Kirerema health facility
- Gaikundo health facility
- Karindi health facility
- Gikoe health facility
- Thuti health facility
- Kaiyaba health facility
- Ngandu health facility
- Rititi health facility
- Mbogoini health facility
- Giaituu health facility
- Thiu health facility
- Kiria health facility
- Kirima health facility
- Kahiga health facility
- Kiamariga health facility
- Ruturu health facility
- Kabiruini health facility
- Sagana health facility
- Iruri health facility
- Nduduine health facility
- Gitugi health facility
- Gatura health facility
- Muyu health facility
- Ihwagi health facility
- Gituriri health facility
- Peterchira health facility

**Appendix VII: NACOSTI Research Permit**


REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 337611

Date of Issue: 10/February/2022

RESEARCH LICENSE

This is to Certify that Mr.. John Kobia Rimberia of Kenya Methodist University, has been licensed to conduct research in Nyeri on the topic: Health Care Financing strategy and implementation of universal health care: The mediating role of finance in provision of universal health care in Nyeri county Kenya. for the period ending : 10/February/2023.

License No: NACOSTI/P/22/8918

337611

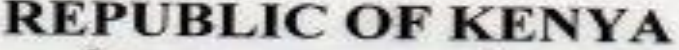
Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

**Appendix VIII: INSTITUTIONAL AUTHORISATION**



**REPUBLIC OF KENYA**

**COUNTY GOVERNMENT OF NYERI**
**DEPARTMENT OF HEALTH SERVICES**
**OFFICE OF THE DIRECTOR**

Email: nyericountyhealth@yahoo.com

COUNTY COMMISSIONER'S HQ
BLOCK 'A'
P.O. Box 110 - 10100

**REF: CGN/HEALTH/HRM/5/VOL.II** **Date: 6th June 2022**

**TO WHOM IT MAY CONCERN**

**RE: RESEARCH AUTHORIZATION**

The bearer of this letter, **John Kobia Rimberia** is a PHD student at Kenya Methodist University pursuing a PHD degree in Business Administration and Management.

He is hence introduced to carry out a research on **"The mediation role of adequate financing and provision of Universal Health Care in Kenya".**

Kindly accord him the necessary assistance.

The researcher **must** deposit a copy of the final report with the department following completion of the study.

Dr. Oscar Agoro
For: County Director for Health
**NYERI**

**DIRECTOR, CLINICAL AND NURSING SERVICES**

**KENYATTA NATIONAL HOSPITAL OTHAYA**

**P.O BOX 541- 10106**

**6th June 2022**

**RE: RESEARCH AUTHORIZATION**

This is to request your permission to collect research data at your health facility as per the attached letter from the County Government of Nyeri REF: CGN/HEALTH/HRM/5/VOL. II. The research topic is **The mediation role of finance in provision of Universal Health Care**

Please accord me the necessary support.

Yours faithfully,

John Kobia Rimberia – 0716 441173