FISCAL DECENTRALIZATION AND HEALTHCARE SERVICE DELIVERY IN TURKANA COUNTY, KENYA

A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF LAW, ARTS AND SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN PUBLIC POLICY AND MANAGEMENT OF KENYATTA UNIVERSITY

OCTOBER, 2025

DECLARATION

Candidate's Declaration

This thesis is my original work and has not been presented for a degree in any other University.

Signature ……..…… Date ……..

Name: James Kinjanzi Sirite

C82/CTY/27612/2018

Supervisors:

This thesis has been submitted for consideration with our approval as supervisors of Kenyatta University.

Signature ……..…… Date ……..

Prof. David Minja

Department of Public Policy and Administration

Kenyatta University

Signature…….....….....……. Date ……...…….……

Dr. Jane Gakenia Njoroge

Department of Public Policy and Administration

Kenyatta University

DEDICATION

I dedicate this thesis to my mentor the late Prof. Lokapel Elim. His guidance, motivation and encouragement went beyond mentorship.

ACKNOWLEDGEMENT

I am highly indebted to my supervisors Prof. David Minja and Dr. Jane Njoroge for their relentless guidance throughout my academic journey. Their intellectual input, constructive criticism, advice and insightful comments have immensely helped me in accomplishing this academic research.

I would also want to thank Turkana County Government personnel for giving me invaluable information that I so much needed to complete this study. I would also want to express my sincere gratitude to my friends and colleagues James Saidi, Dalmus Lochodo,Wilson Lokerith and Charles Nguta for their constant encouragement throughout this process.

Much appreciation to the administrative and academic staff at Kenyatta University who made my studies a success.

Finally, thanks to my lovely wife Esther Ngikode for her constant support throughout the whole process.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ASAL	Arid and Semi-Arid areas
COK	Constitution of Kenya
EMMS	Electronic Medication Management System
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HMIS	Health Management Information Systems
HRH	Human Resources for Health
KEMSA	Kenya Medical Supplies Authority
KHO	Kenya Health Observatory framework
LCRH	Lodwar County Referral Hospital
LGs	Local Governments
MEDS	Mission for Essential Drugs and Supplies
NGOs	Non-Governmental Organizations
NHIS	National Health Information System
OAG	Office of the Auditor-General
OECD	Organisation for Economic Co-operation and Development countries

PHC	Primary Healthcare
PPP	Public-Private Partnership
USAID	United States Aid
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Fiscal Decentralization: Refers to delegating revenue-related obligations and some budgetary allocation to lower levels of government. It focuses on the degree to which County entities are granted autonomy in selecting how their revenue will be allocated. This study evaluated fiscal decentralization in terms of revenue decentralization, expenditure decentralization and technical support structures.

Revenue Decentralization: Entails the process of transferring financial resources, primarily in the form of revenue or funds, from the central government to lower levels of government, such as regional or local governments. It involved granting greater fiscal autonomy and decision-making authority to County entities in terms of generating and managing own-source revenue. This study evaluated revenue decentralization using tax autonomy and intergovernmental grants.

Expenditure Decentralization: Refers to the devolution of decision-making authority and control over the allocation and spending of financial resources from the central government to lower levels of government, such as regional or local governments. It involves granting County entities the power to determine how funds are allocated and spent within their jurisdiction. This study evaluated expenditure decentralization using resource allocation processes, plan and programs formulation.

Policy framework: Refers to a structured guide that provides the foundation and principles for creating, implementing and evaluating a set of policies. It involves the power to formulate, adapt and implement policies that align with the specific needs and priorities of a jurisdiction. This study used regulatory, distributive, procedural aspects and equity as indicators for policy framework.

Technical Support Structures: Refers to the systems, mechanisms and resources put in place to provide guidance, expertise and assistance to support the implementation and functioning of decentralized initiatives or programs. This study evaluated support structures in terms of ICT integration and availability of physical infrastructure in Turkana County.

E-Government: Refers to the use of information and communication technologies (ICTs) by government agencies to improve the delivery of information and services to citizens, businesses and other government entities. In the context of this study, E-Government referred to the County government utilization of digital systems to facilitate fiscal and health management.

E-Health: Refers to a cost-effective and secure use of information and communication technologies (ICTs) in support of health, including healthcare services, health surveillance, health literature and health education. This term focused on how technology was used for direct patient care and public health in Turkana County.

Health Technology: Refers to the application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems, developed to solve health problem and improve quality of lives in Turkana County.

Healthcare Service Delivery: Refers to the processes, systems and activities involved in providing medical care and related services to individuals, populations, or communities. It encompasses the coordination, organisation and implementation of healthcare services to ensure timely access, appropriate care and positive patient outcomes. This study evaluated healthcare service delivery in terms of access to healthcare, patient support and affordability in Turkana County, Kenya.

ABSTRACT

Turkana County continues to face significant challenges in healthcare service delivery resulting in high rates of preventable diseases, maternal and infant mortality and limited access to essential healthcare facilities and practitioners. Despite evidence showing improvements in recent years, the healthcare indicators in Turkana County portrayed high disparities compared to national average. This study investigated how fiscal decentralization affected healthcare service delivery in Turkana County, Kenya. The specific objectives were to establish the effects of revenue decentralization, expenditure decentralization and technical support structures on healthcare service delivery in Turkana County. In addition, the study examined the effect of policy framework on the relationship between fiscal decentralization and healthcare service delivery in Turkana County. The study was guided by fiscal decentralization, community empowerment and resource-based view theories. The study adopted interpretivism as its research philosophy. It employed a descriptive survey design and adopted census sampling technique. The population of the study comprised of 271 individuals drawn from County department of finance and economic planning, County department of health and sanitation services, heads of departments in the Sub-County hospitals, Turkana County referral hospital board-lodwar, chairpersons of Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) hospital committees, co-ordinators for community health volunteers (CHVs) and chairpersons of the health centres and dispensaries committees. The study used semi-structured questionnaires and interview guide in data collection. Qualitative data was analysed using content analysis, while quantitative data was analysed using descriptive, inferential and multiple regression modelling. Results indicated that revenue decentralization, expenditure decentralization, technical support structures had significant effects on healthcare service delivery in Turkana County. Additionally, Policy framework moderated the positive relationship between fiscal decentralization and healthcare service delivery. However, health communication system under technical support structures, depicted a negative effect on healthcare accessibility and affordability. As such the study recommends a targeted support on policy framework as it had the potential to accelerate the positive effect of fiscal decentralization on healthcare service delivery in Turkana County.

CHAPTER ONE

1.0 Introduction

This chapter begun with a background to the study, examining the concepts of fiscal decentralization and healthcare service delivery, with a focus on the context of Turkana County. The chapter then proceeded to articulate the statement of the problem, identifying the specific gaps and challenges that the research aimed to address. Following this, the research objectives and hypotheses were stated to guide the research. The chapter also provide the justification and significance of the study, explaining its necessity and potential contributions to policy and academia. Finally, it outlines the scope, delimitations and limitations to define the boundaries and acknowledge the constraints of the research.

1.1 Background to the Study

Healthcare services delivery has taken centre stage in public-sector reforms' process. Although the reasons for decentralization varies from one country to the other, transferring responsibilities and powers to lower levels of government permits a better fit in public policies and citizens' preference. This is important in reducing information gaps, increasing accountability by locally elected policymakers, encouraging community participation, promoting competition among jurisdictions, boosting policy dissemination and innovation of best practices which are all geared towards improving efficiency in service delivery. Between 1970 and 1994, regions around Argentina showed an inverse correlation between revenue decentralization indicators and neonatal death rates. Fiscal decentralization had a higher marginal benefit at lower income levels (Habibi, 2001). In both the United Kingdom

and China, deficiencies in healthcare service provision predominantly stemmed from the absence of optimal practices, subpar service quality and the untapped potential for enhanced efficiency through reallocating expenditures (Zhu & Peyrache, 2017).

Uchimura and Jutting (2007) found a strong link between decreased infant mortality and fiscal decentralization indicators in Chinese counties between 1995 and 2001. Cantarero and Pascual (2008) found a negative correlation between neonatal deaths and fiscal decentralization in Spain. In the Italian context, there was a correlation between increased autonomy in tax allocation and reduced reliance on central government transfers with decreased rates of infant mortality (Cavalieri & Ferrante, 2016). In India, the evaluation of the effects of local decision-making on health system performance was hindered by a dearth of evidence concerning innovations stemming from decentralization. Decentralization in healthcare has been studied in low- and middle-income nations, with few studies focusing on its impact on healthcare. There was insufficient evidence to draw solid conclusions about the association between better health outcomes and more decentralized healthcare systems. However, the benefits of fiscal decentralization varied based on regional wealth, with the greatest positive impact observed in the poorest regions.

In Ethiopia, fiscal decentralization encouraged sub-national governments to take on more responsibilities, but ensured that fiscal autonomy was crucial (Assefa, 2015). In Malawi, revenue decentralization led to improved healthcare services and higher patient satisfaction ratings (Makandawire, 2018). In Uganda, fiscal decentralization enhanced healthcare service delivery (Kalema, Businge, Ssengooba, Kirigia, Mwebesa, Swai and Makawia 2017) emphasizing the need to give local governments fiscal autonomy and decision-making authority to improve service delivery and address population needs in a more

effective way. Kenya's 2010 constitution outlined the objectives of decentralization, which aim at recognizing communities' rights in managing their affairs, protecting minority interests, promoting social and economic development and providing easily accessible services (COK, 2010). Studies have evaluated the impact of fiscal decentralization on population health indices, such as new-born mortality and life expectancy. However, healthcare customers face adverse selection difficulties due to the filtering effect of intermediate actors (physicians), which limits patients' ability to objectively evaluate healthcare institutions' performance (Cavalieri & Ferrante, 2016).

Public sector institutions, particularly public health institutions are adopting business-oriented strategies to improve efficiency and lower costs. However, nine out of ten institutions, including those in the health sector, failed to actualize these strategies, resulting in unsustainable short and long-term development (Gitonga, 2013; Wato, Maina & Muthe, 2019). This study focused on the effect of fiscal decentralization on healthcare service delivery in Turkana County, which is one of the key deliverables that was decentralized from the Kenyan national government.

1.1.1 Fiscal Decentralization

Fiscal decentralization involves assigning financial and revenue-related responsibilities to lower levels of government (Arends, 2017). The level of autonomy given to sub-national entities is crucial for its efficacy (Mejia & Tillin, 2019; Oppong, 2020; Ouali & Bousseta, 2020). It empowers local communities through elected local governments, rather than concentrating decision-making and service delivery authorities in central government,

regional or district offices (Bahl & Bird, 2018). Fiscal decentralization aims at improving government efficiency, increasing citizen participation in decision-making and promoting local economic development. The literature on fiscal decentralization has grown significantly since the early 1990s, with a focus on economic development, local government capacity and public sector reform.

Research suggests that decentralised governments are more efficient and responsive to local needs, leading to improved economic performance. However, there was still debate about the extent to which decentralization led to improved outcomes in terms of poverty reduction, public service delivery and economic growth (Mejia & Tillin, 2019; Oppong, 2020; Ouali & Bousseta, 2020). Financial accountability is a significant aspect of decentralization. In 34-member nations (see appendix VI) of the Organization for Economic Cooperation and Development (OECD), fiscal decentralization increased regional disparities in low-state-quality settings while decreasing regional income disparities in nations with high governance (Kyriacou, Muinelo-Gallo & Roca-Sagalés, 2015). According to Chygryn, Petrushenko, Vysochyna and Vorontsova (2018), transfer of central government responsibilities led to the expansion of fiscal decentralization ideas in Ukraine. Fiscal decentralization had a significant impact on Ukraine's socioeconomic progress. Fiscal decentralization increased citizens' trust in state-owned institutions indicating a positive and significant relationship between fiscal decentralization and government trust. However, there existed a positive association between fiscal decentralization and non-government linked organizations.

From a regional viewpoint, proper regulation and accountability had the potent to bypass institutional setbacks like systemic corruption in Ghana (Agyemang-Duah et al. (2018).

Increased local revenue had a favourable impact on access to public facilities and reduced poverty had a great effect on public service access. However, the influence was more beneficial in improving educational access than in improving health, water and sanitation infrastructure (Sanogo, 2019). South Africa's municipalities, as posited by Mabugu and Amusa (2016), used revenue (committed) and expenditure-based measurements to assess fiscal decentralization. In terms of commitment, revenue-based fiscal decentralization provided incentives that reduced inter-municipality inequity. Fiscal decentralization based on expenditures exacerbates inter-municipality inequities. Olomola and Olatona (2015) while studying impacts of fiscal decentralization on the delivery of public health and education services in Nigeria, assessed fiscal decentralization using income production and autonomy. Health services were assessed using ease of access. Fiscal decentralization had a detrimental effect on health service delivery in Nigeria (Olomola & Olatona, 2015).

Fiscal decentralization was also assessed in Uganda. The assessment looked at the effect of data load in boosting fiscal decentralization distribution in Government supported Primary Schools in the Busoga sub region of Eastern part of Uganda. Six dimensions of fiscal decentralization were assessed. These were revenue, expenditure, local revenue, revenue allocations, unconditional expenditure and conditional expenditure dimensions. Munulo and Kagambirwe (2019) discovered that a proper information load greatly improved fiscal decentralization. Fiscal decentralization was examined in terms of income mobilization, expenditure assignment and intergovernmental fiscal transfers in Mbulachalo's (2019) study on fiscal decentralization and organizational performance of the Local Government in Namutumba District. Fiscal decentralization was measured in terms of tax jurisdiction, expenditure obligations and resource allocation in Kinyata and Siraje's

(2018) study on its effects on Uganda's health segment. Rosette (2018) investigated Fiscal Decentralization and Health Service Delivery in Itojo Sub-County, Ntungamo District, Uganda. It was evaluated in terms citizen participation in designing and budgeting, observing and evaluation of healthcare services.

In Kenya, Nthiga and Otinga (2021) analysed fiscal decentralization in terms of policymaking authority over public finance and tax devolution while analysing fiscal decentralization changes on government expenditure in Nairobi City County. They concluded that fiscal decentralization reforms in Nairobi City County administration had a considerable impact on public expenditure, particularly decision-making authority. Silas (2017) researched on the impact of fiscal decentralization on poverty alleviation, income disparity and human rights. He analysed fiscal decentralization in terms of intergovernmental transfers, County generated income and County spending. In Silas' (2017) study, results indicated that intergovernmental transfers increased poverty incidence, increased overall school enrolment rates but had no effect on income inequality and improved human development at all levels. On own-source revenue, the study showed that increase in own revenue led to poverty level reduction but had no effect on overall school enrolment, income inequality and human development. In expenditure decentralization, it indicated that sharing of County expenditure reduced poverty incidence but had no significant impact on overall school enrolment, human development index and income inequality in Kenya.

Muna (2016) assessed fiscal decentralization in terms of fiscal equalization, economic efficiency, fiscal responsibility, fiscal involvement, fiscal transparency and data sharing. Mbau (2019) conducted study on Kenyan County governments' budgetary decentralization,

allocative efficiency, public governance and performance. Fiscal decentralization was measured in terms of equitable revenue from National Government, amount of County local revenue collection and number of transfers and grants to the County. According to Mbau (2019), there was a favourable and statistically significant association between fiscal decentralization and County government performance in Kenya. Despite the complexity of the present situation in many governments, both theory and practice strongly imply that it is critical to clearly outline expenditure duties in order to increase the level of responsibility and eliminate ineffective overlap, duplication of authority and legal problems (Nazareth, Gurgel & Vieira, 2017; Oppong, 2020). On one hand, decentralized decision-making expanded opportunities for local development engagement. On the other, Decentralization increased policy makers' accountability to local voters and increase transparency, allowing for better customization of assets and services to local requirements than wouldn't have been done by the national government (Bahl & Bird, 2018).

Health technology improves the efficiency with which healthcare is delivered, which leads to the success of healthcare programs and the attainment of long-term goals and expectations in primary health care. Technical support structures influenced the effectiveness and efficiency in carrying out healthcare programs, with the assistance of e-Health strategies and health systems databases in WHO Member States. These e-Health systems improved healthcare access, patient follow-up, health education and timely health information flow. However, the adoption of the technologies in government institutions were limited, particularly in health facilities that were in remote locations (Roodenbeke, Lucas, Rouzaut & Bana, 2011). Furthermore, the establishment of these e-Health systems

was supported by non-governmental groups, such as the Telemedicine International Society, but not the government.

Past studies have underscored the significance of policy frameworks in shaping different aspects of the healthcare sector in Kenya. That is, policy framework has a substantial impact on the availability, distribution and retention of healthcare professionals across different regions. In addition, policy framework helped shape financing mechanisms, resource allocation and financial management practices within the healthcare sector (Di Novi, Piacenza, Robone & Turati, 2019). Further, policy framework advocated for healthcare improvement initiatives, including the establishment of quality standards, accreditation processes and performance monitoring systems (Tsofa, Goodman, Gilson & Molyneux, 2017). Policy frameworks also guided the collection, management and utilisation of health data for informed decision-making (Tsofa et al., 2017). These studies emphasize the need for continuous policy review, alignment with workforce needs, effective implementation of healthcare improvement initiatives and the development of robust health information system policies.

Effective decentralization necessitates corresponding modifications in institutional arrangements for inter-governmental coordination, planning, budgeting, financial reporting and implementation, as evidenced by practice (Mejia & Tillin, 2019; Oppong, 2020). Specific rules such as design of budgetary transfers, provisions for regular inter-governmental meetings and periodic assessments of inter-governmental arrangements may be included in such agreements. In this study, fiscal decentralization in relation to healthcare service delivery in Turkana County was investigated.

1.1.2 Healthcare Service Delivery

Many organizations invest in infrastructure to improve healthcare access, improve healthcare service delivery and save time, as well as patient follow-up, health education and timely health information flow. Many institutions have created infrastructures such as ICT. However, according to Roodenbeke, Lucas, Rouzaut and Bana (2011), the adoption of technologies in these institutions are limited, particularly in the health sector and with populations in remote locations. Roodenbeke et al. (2011) goes on to say that many industrialized countries have created e-Health related technology initiatives and pushed for their adoption through government-led initiatives. The establishment of these e-Health systems is supported by non-governmental groups such as the Telemedicine International Society.

WHO estimates that about 930 million people are at risk of poverty because of healthcare spending that consumes 10% or more of a household's income. By 2030, extending access to basic health care in low- and middle-income nations will have an increased life expectancy to over 60 million people by an average of 3.7 years (WHO, 2021). In order to deliver the best health and well-being for everyone and to ensure that these benefits are distributed fairly, healthcare should take a holistic approach that considers the needs of the entire community, starting with health promotion and disease prevention and continuing through treatment, rehabilitation and palliative care (WHO, 2021).

Health technology improves the efficiency with which healthcare is delivered, which leads to the success of healthcare programs and the attainment of long-term goals and expectations in primary health care. Technical support structures and organizational systems, according to Lovelock, Martin, Gauld and MacRae (2017), influence the

effectiveness and efficiency of health systems and health databases, in which WHO Member States adopted and implemented e-Health strategies in 2005. Healthcare service delivery can be grouped in 3 ways, technical aspects (how proficient professionals are in diagnosing and treating issues), inter-personal component (responsiveness, friendliness and attention of the provider) and amenities (attractiveness and comfort in a health care institution).

Healthcare service delivery measures include, structure (the permanent features of the medical delivery system, such as the quantity, types, qualifications and facilities of the personnel), Process (what is done to and for the patient, for example, medical therapy) and outcomes (changes in a patient's present and future health status as a result of previous medical treatment). Thus, considering the three categories of healthcare service delivery evaluation, this study adopted healthcare service delivery measurements by Burstin, Leatherman and Goldman (2016) to evaluate healthcare service delivery in Turkana County. These evaluation metrics were; access to healthcare (Health insurance, the traditional source of treatment, the appropriateness of services and the structure necessary to offer health care to minorities and low-income individuals), patient support (home healthcare, nursing home, hospitals and outpatient treatment) and care affordability (financial impediments to treatment, health care prices and healthcare service abuse).

1.1.3 Healthcare Service Delivery in Turkana County

Turkana County, which is in the former Rift Valley Province, is Kenya's second largest County. The colonial authority isolated the northern part of Kenya, encompassing what is now Turkana County, during the colonial period and passage into and out of the territory was prohibited. Because of the area's remoteness and harsh living conditions, basic rights like health care and formal education were not available or accessible to the people who lived there. This is because the area was plagued by droughts, internal conflicts and environmental circumstances that are severe (COK, 2010).

The population of Turkana County, as well as adjacent counties like Marsabit, Mandera and Wajir, suffer from tropical diseases such as diarrhoea, TB and malaria, which are usually connected with under-development. The County is predominantly rural, with a clustered population that has limited income and livelihood options, high disease burden and vulnerable to preventable diseases. These socio-economic and geographical barriers coupled with limited healthcare infrastructure, further complicate healthcare services delivery. They are more at risk from climate change than sedentary people since they are nomads (County Government Act, 2012). This is due to their close proximity to and reliance on animals, nomadic migration and scattering and other aspects associated with nomads' unique lifestyle. They confront difficulty in accessing and adherence to medical care and treatment since they are remote from small urban centres.

Residents of Turkana County are facing limited access to medical facilities and experts. To get to a health centre, they have to walk for many kilometres; vehicle transportation not popular due to inadequate roads. As a result, the region's new-born mortality rate was 29 per 1,000 livebirths in 2022, with just 60% of Turkana's children between the ages of 12 to

23 months being fully immunized. Deliveries by a skilled healthcare provider was slightly above average (at 53%), under-5 mortality was 55 fatalities per 1,000 live births, more than the national average of 41 deaths per 1, 000 livebirths (KDHS, 2022), while the doctor-to-population ratio was 1:52,434, far higher than the required one doctor for every 10,000 people (Kenya Health Policy, 2012-2013; World Health Organization, 2017). The County is also prone to gender-based violence, as 42% women aged 15-49 reported physical violence (KDHS, 2022).

1.2 Statement of the problem

Despite the implementation of devolution and the allocation of funds to Turkana County government, there are gaps in healthcare availability and accessibility as it is unclear how the management and utilisation of the resources affected healthcare service delivery. Conceptually, in European Union countries, studies by Slavinskaitė (2017) and Pasichnyi (2019) related fiscal decentralization to economic growth. In Ukraine, Chygryn et al. (2018) related fiscal decentralization to social and economic development. In the OECD countries, Stossberg, Bartolini and Blöchliger (2016), linked fiscal decentralization to income inequality in 20 OECD countries between 1996 to 2011, while Sun and Razzaq (2022) related fiscal decentralization to green innovation for sustainable development in OECD countries. Bianchi, Giorcelli and Martino (2023) explored how fiscal decentralization affected labour markets in Italy. In China, Liu and Li (2019) assessed fiscal decentralization effects to the environment between 1998 to 2015. While Wang, Su, Hua and Umar (2021) related fiscal decentralization to energy efficiency from industrial structures.

In the regional context, Agyemang-Duah et al. (2018), Alene and Worku (2017) and Mwiathi, Wawire and Onono (2018) related fiscal decentralization to poverty in Nigeria, Ethiopia and Kenya respectively. Mose (2022) explored the relationship between fiscal decentralization and economic growth in Kenya. On governance, Mbau, Iraya, Mwangi and Njihia (2019) related fiscal decentralization to performance of County governments in Kenya. In addition, Muna (2016) investigated fiscal decentralization in relation to implementation of Constituency Development Fundin Kenya. However, fiscal decentralization was not directly linked to healthcare service delivery. Further, a moderating variable to the relationship between fiscal decentralization and healthcare service delivery in one conceptual model was not done.

Residents of Turkana County still face healthcare crisis due to limited access to medical facilities and a critical shortage of experts, exacerbated by inadequate roads that force people to walk long distances. This has resulted in poor health outcomes, including high child and newborn mortality rates (55 and 29 per 1,000 live births, respectively), low childhood immunization (only 60%) and a poor doctor-to-population ratio of 1:52,434. Compounding these challenges, the County has a high prevalence of gender-based violence, with 42% of women aged 15-49 reporting physical violence and frequent strikes from healthcare workers.

In a special audit report by the Auditor-General concerning the roll out of COVID 19 vaccine, the report revealed that Turkana County government's budget 2021/2022, did not consider Covid-19 vaccination activities but resorted to diverting routine immunisation budget to cover the rollout exercise (OAG-Special Audit Report, 2022).Turkana County executive were not compliant to legal requirement that advocates for citizen involvement

in budget making and review in 2021/2022 fiscal year (OAG-Citizen Accountability Audit, 2022).These findings from the Auditor-General's special audit report raise concerns about the decision-making processes and financial management practices of the Turkana County government in relation. The issues identified could have implications for the proper allocation of resources, citizen engagement and adherence to legal requirements, given that Turkana County is among the top 3 counties that have consistently been receiving the highest equitable share of revenue from the Exchequer.

Therefore, there exist a conceptual and contextual gaps. To bridge these gaps, this study examined the effects of revenue, expenditure and technical support structures on healthcare service delivery in Turkana County. Further the study investigated the effects of policy framework on the relationship between fiscal decentralization and healthcare service delivery in Turkana County.

1.3 Objectives

The study sought to investigate the effect of fiscal decentralization on healthcare service delivery in Turkana County, Kenya. The specific objectives were the following;

1. To establish the effects of revenue decentralization on healthcare service delivery in Turkana County, Kenya.
2. To examine the effects of expenditure decentralization on healthcare service delivery in Turkana County, Kenya.
3. To establish the effects of technical support structures on the healthcare service delivery in Turkana County, Kenya.

4. To examine the moderating effects of policy framework on the relationship between fiscal decentralization and the healthcare service delivery in Turkana County, Kenya.

1.4 Research Hypothesis

1. **H_{01}:** Revenue decentralization did not affect healthcare service delivery in Turkana County, Kenya.
2. **H_{02}:** Expenditure decentralization did not affect healthcare service delivery in Turkana County, Kenya.
3. **H_{03}:** Technical support structures did not affect healthcare service delivery in Turkana County, Kenya.
4. **H_{04}:** Policy framework have no moderating effect on the relationship between fiscal decentralization and healthcare service delivery in Turkana County, Kenya.

1.5 Justification and Significance of the Study

1.5.1 Justification

In Kenya, there has been and continues to be substantial debate and disagreement over the viability of devolution, as well as its benefits and drawbacks. Devolution supporters say that governments have a better knowledge of its people's problems awareness and can come up with effective answers. On the other hand, it was said that healthcare services in remote areas are expected to fail due to the lack of medical apparatus, untrained and

insufficient medical workers locally. Residents in Turkana County, in particular, have fewer healthcare facilities and practitioners to attend to them and must travel long distances to utilize the few health facilities available. As of 2014, the region's new-born and maternal mortality rates were 60 and 1,500 deaths per and 100,000 live births, respectively. Furthermore, the doctor-to-population ratio was 1:52,434, greatly exceeding the mandated 1: 1,000 (Kenya Health Policy, 2012-2013). The figures raise concerns about Turkana County's health burden.

1.5.2 Significance of the Study

The outcomes on healthcare informs and improve the health system in Turkana County, which is a remote and residents migrate from one place to another. Second, the findings aid stakeholders (in the context of Turkana are the NGOs) to improve the health facilities they govern, as well as a supporting the County government of Turkana to overcome its local challenges. The findings are beneficial to stakeholders in understanding the technical capacity healthcare system components that support healthcare service delivery outcomes. County governments gained the most from the findings of this study by identifying which activities/deliverables are key to realizing quality healthcare.

The findings also persuaded policy makers and other stakeholders to embrace creative techniques, retain health professionals and increase the knowledge and abilities of health program employees in underprivileged communities.

1.6 Scope, Delimitations and Limitations of Study

1.6.1 Scope/Delimitation

This research concentrated on the fiscal decentralization and its effect on healthcare service delivery in Turkana County. Of specific interest was public health entities under the direct control of Turkana County government. The study evaluated healthcare service delivery since the implementation of Devolution in 2013 up to 2022. The target population were; County Department of Finance and Economic Planning (County Executive Committee Member, County Chief Officers and Directors), County Department of Health and Sanitation Services (County Executive Committee Member, County Chief Officers, Directors, Sub-County Hospitals' Heads of Departments), Turkana County Referral Hospital Board-Lodwar, Chairpersons of Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) Hospital Committees, Co-ordinators for Community Health Volunteers (CHVs) and Chairpersons of Health centres and Dispensaries Committees.

1.6.2 Limitation

Turkana County is large in Kenya in terms of land mass and has a sparse population that tend to live in clusters. With the vastness of the study area, time and resource constraints were the limitations. In addition to time and resource limitations, the study did encounter another challenge in the form of refusal from some respondents to participate or respond to the study instruments. These were attributed to various factors, such as participant

disinterest, concerns about privacy, or lack of willingness to engage in the study. To overcome the time and resource constraints due to the vastness of the study area, the study deployed both questionnaires and interviews to save on time and used census survey during the identification of the respondents. In addition, to overcome the limitation on refusal to respond to the study instruments from some respondents, they were assured of confidential and for academic purposes only, it will not be shared with anyone. Further, the study conducted follow-ups when a particular respondent was busy and unavailable during their working hours. Lastly, permits from graduate school and from NACOSTI were availed to the respondents to further them of the legality of the data collection process.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

The chapter cover relevant literature on fiscal decentralization and healthcare service delivery. It also cover empirical literature on key variables in the study, their measurements and how they link to each other. It is divided into 3 section, empirical review; theoretical review and conceptual framework.

2.1 Empirical Review

This section reviewed empirical literature on the key variables covered in this study as well as the empirical literature linking fiscal decentralization and healthcare service delivery.

2.1.1 Healthcare Service Delivery

Access to care, equity and efficiency of service delivery are all factors that influence the health system's quality. Health infrastructure that is diverse aids health professionals, information flow and service delivery. Many organizations invest in infrastructure to improve healthcare access, improve healthcare service delivery and save time, as well as patient follow-up, health education and timely health information flow (Sheikh, Anderson, Albala, Casadei, Franklin, Richards & Mossialos, 2021). According to Lafond and Brown (2003), health performance framework contains procedures, human resource capabilities, inputs, outputs and outcomes that all contribute to quality. Governments and international

non-governmental organizations (NGOs) aid in a stable environment with the goal of strengthening health in developing nations through projects. Zaib and Uzma (2017) asserted that, with the explosion of NGOs providing aid, there was a need to ensure accountability of stakeholder and donor agency resources.

In the Amazon region of Brazil, a study on the use of mobile techniques to allow patients to get health care without having to travel to a health centre proved to be crucial in reducing travel costs. According to Wanjau, Muiruri and Ayodo (2012), non-governmental organizations provided outreach services to reinforce overall service delivery and access to health services to population facing healthcare challenges in order to address the disparity between over-served and under-served health institutions, as in the case of Turkana County. Kimathi (2017) discovered that, just 63% of Kenyans had access to health services within an hour of their residences, indicating that distance is a key issue impacting healthcare availability. Time and expense are two key barriers to gaining access to healthcare services. Most patients spend a full day seeking healthcare services in hard-to-reach places such as semi-arid and arid areas. The costs are invariably significant and devastating for household financial stability (Roodenbeke et al., 2011). Thus, distance and affordability still hindered the access and acquisition of quality healthcare.

Roodenbeke et al. (2015) in their case study on "outreach services as a strategy to increase access to health workers in remote and rural areas" found out that outreach initiatives provided a component of support and trust among patients within the health centre, driving health demand and changing perceptions toward quality of care in various case studies. These views were backed up by Naimoli, Perry, Townsend, Frymus and McCaffery (2015), who claimed that the UN's Sustainable Development Goal – 2030 initiative aimed to

"promote healthy lives and well-being for all at all ages." In addition, the international community now considers healthcare to be a development indicator. According to Naimoli et al. (2015), health interventions in middle-income nations aimed mainly at the vulnerable and under-served people, despite under-resourced health systems, resulting in improved access with equity by 2030. Further, Kimathi (2017) claimed that inadequacies in the number of health personnel in health facilities had an impact on healthcare service provided, necessitating the hiring of a sufficient number of health professionals to achieve better community healthcare. Thus, inadequate health personnel in health facilities imply that there were less support and inclined perception on healthcare service delivery.

According to Naimoli et al. (2015), the availability of hand-held mobile technology had boosted the effectiveness of monitoring systems in providing real-time data for decision-making, increased access to medical services and improved quality and efficiency of healthcare. Micah and Luketero (2017) asserted that there was a need for systems in government and NGOs to conduct critical assessments of its elements, which is key in building framework for increasing project management reliability. MOH-Uganda (2014) also asserted that the Health Management Information System (HMIS) had a number of flaws. There was data discrepancies from data collection at various levels of program administration. Government's inadequate budget to fund HMIS was connected to over reliance on donor project resources, which were generally associated with disjointed attempts. As such, healthcare valuation in terms of costing, input consideration, remained high and by extension unaffordable especially in Arid and Semi-arid areas.

Kimathi (2017) explored the impediments to effective healthcare delivery following Kenya's devolution. The research, which conceptually analyzed the broader Kenyan

devolved health sector, posited that the challenges faced by counties, including human resource deficiencies, capacity gaps, corruption and intergovernmental conflicts, were not merely initial transitional issues but rather symptoms of deep-seated systemic contradictions. The study concluded that these problems had resulted in the stagnation and reversal of health gains, arguing that sustainable reform require the proper institutionalization of the health sector, underpinned by robust good governance and wider constitutional reforms.

From the aforementioned challenges in ASAL areas, Turkana County included, pertinent factors emerged relating to healthcare service delivery. These factors included access to health, patient support and care affordability. As such, this study adopted healthcare service delivery measurements by Burstin, Leatherman and Goldman (2016) to evaluate healthcare service delivery in Turkana County.

2.1.2 Fiscal Decentralization and Healthcare Service Delivery

Fiscal decentralization entails the delegation of some budgetary and revenue-related responsibilities to lower levels of government, giving autonomy to determining how the earnings will be allocated (Van, 2016; Arends, 2017). As such it empowers local communities through the empowerment of elected local governments that goes beyond the concentration of decision-making and service delivery authority in central government regional/district offices (Bahl & Bird, 2018). The degree to which sub-national entities have discretion over how their resources are disbursed is critical to the efficiency of fiscal decentralization (Mejia & Tillin, 2019; Oppong, 2020; Ouali & Bousseta, 2020). Fiscal

decentralization is drawn on a range of sources from both the academic and practitioner perspectives.

Fiscal decentralization relies heavily on financial accountability. Past studies have investigated different aspects of fiscal decentralization and their effects globally, regionally and nationally on the devolved unit. In a study by Slavinskaitė (2017), an investigation was conducted into the effects of fiscal decentralization on economic growth in unitary countries within the European Union during the period from 2005 to 2014. The analytical framework employed a fixed effect panel model. To discern diverse impacts of fiscal decentralization, the countries were categorized into two groups based on their respective levels of economic development. The findings of the research revealed a positive correlation within countries characterised by low economic growth. Conversely, no such relationship was identified among nations with higher levels of economic advancement. This outcome implied that the role of fiscal decentralization in promoting economic growth wasn't universal, rather it was contingent upon the country's economic development stage.

Chygryn et al. (2018) assessed the influence of fiscal decentralization on social and economic development of Ukraine. Panel data regression model examined the hypothesis suggesting a positive correlation between fiscal decentralization and various aspects of social and economic progress in Ukraine. The investigation drew upon data collected from a selection of 12 European countries over the period from 2006 to 2015, including Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Montenegro, Romania, Serbia, Slovenia, Turkey and Ukraine. They were chosen due to their proximity and shared socioeconomic development characteristics. The outcomes of the study revealed notable and statistically significant impacts of fiscal decentralization measures on diverse facets of

a country's socioeconomic advancement, with the exception of the employment-to-population rate. Specifically, an increase in the ratio of consolidated public revenues to GDP had a positive influence resulting to the inflow of foreign direct investments, social contributions and reduction of inflation and unemployment.

Pasichnyi (2019) conducted a study to evaluate the impact of fiscal decentralization on economic growth. Employing a panel data approach, the study examined the relationship between the optimal level of fiscal decentralization and economic development across 27 European nations, both developed and emerging, spanning the period from 1992 to 2017. The analysis particularly focused on European Union member states such as Belarus, Georgia and Ukraine, revealing a prioritisation of expenditure decentralization over income decentralization. Notably, the majority of Central and Eastern European countries exhibited a strengthening of fiscal autonomy since 1992. It was shown that income decentralization was related with lower growth rates, although expenditure decentralization might marginally promote economic growth. The global indicator of decentralization had a relationship with global economic growth, although the strength of this relationship could not be ascertained. The empirical research revealed that population structure and long-term viability played a crucial role in ensuring economic growth. The research offered statements for the development of the fiscal policy's methodological foundations by local authorities. A balanced approach to the creation and planning of tax and public expenditure policies was proposed in the research.

Several countries have tried fiscal decentralization with the specific purpose of increasing public service delivery and reducing poverty. However, its success in attaining these objectives is highly debatable and empirical studies have mostly focused on reducing

poverty via cross-country analysis. Sanogo (2019) examined how and whether devolution of revenue generating tasks to municipalities in Côte d'Ivoire improved public services and helped in poverty reduction. To assess income decentralization, local revenue streams that indicated municipal autonomy in decision-making were studied. Employing data from the Household Living Standard Survey, customised measures were created to gauge access to public services through an adjusted multidimensional poverty index, alongside a headcount poverty index tailored to the local context. Addressing the complexities of time-based variations and the potential influence of local revenue dynamics, the empirical examination adopted a methodological approach involving grouped fixed effects. This was complemented by a two-stage least squares technique, incorporating panel corrected standard errors clustered by department. The outcomes of the study revealed that heightened local revenues corresponded to enhanced accessibility to public services and a reduction in poverty levels. Nonetheless, the research also indicated a discernible asymmetry, suggesting that the influence of income decentralization on public service accessibility surpassed its impact on poverty alleviation. The analysis revealed that the war in Côte d'Ivoire had exacerbated the pre-existing challenges of access to public services without having a statistically significant impact on poverty.

In Nigeria, Agyemang-Duah et al. (2018) conducted a literature review focusing on poverty reduction through fiscal decentralization in Ghana. The literature review confirmed that effective poverty reduction was achievable through fiscal decentralization, particularly when it entailed enhanced financial autonomy for local units, along with budget allocation, prioritization. In South Africa, Amusa and Mabugu (2016) evaluated the contribution of fiscal decentralization to inequality in South Africa. Fiscal decentralization provided an

incentive that decreased inter-municipal inequality but increased inter-municipal disparities.

In a study on Ethiopia, Alene and Worku (2017) investigated decentralization's role in poverty reduction. The research examined the real effects of decentralization on poverty reduction in Ethiopia following the initiation of decentralization in the 2000. Desktop reviews and interviews with a few government officials were employed. The study's findings indicated that substantial transformations had not yet been realised due to an intricate web of factors. These factors encompassed frailties within institutional structures, insufficient empowerment of local governance entities and lack of autonomy from the central government decisions. Furthermore, the study highlighted a lack of notable advancements in poverty reduction, which was ascribed to both the absence of financial independence and a high reliance on central government allocations. The amplification of these challenges was compounded by demographic dynamics such as a concerning escalation in population growth and slow economic expansion. Additional hindrances included an overbearing degree of control and centralisation exhibited by the ruling authority, as well as the dearth of technical and fiscal capabilities within regional and local governments. Ultimately, lack of ingrained practices of accountability and transparency further contributed to the limited impact of decentralization.

In Kenya, a study by Mwiathi, Wawire and Onono (2018) undertook an examination of how fiscal decentralization influenced the reduction of poverty. Their research encompassed an analysis utilising cross-County panel data spanning from 2002 to 2014, alongside data from agencies like, UNDP and World Bank reports. Employing a range of empirical models, the study aimed to assess the impact of intergovernmental transfers and

County expenditure on the poverty landscape in Kenya. The findings revealed that the impact of fiscal decentralization was contingent upon the manner and extent of decentralization, as well as the unique characteristics specific to each County. That is, the impact of intergovernmental transfers on poverty incidence demonstrated an increase in poverty levels below 18.42%. However, once poverty exceeded this threshold, intergovernmental transfers displayed a potential to decrease the poverty headcount. Similarly, the augmentation of own revenue indicated a propensity to diminish poverty rates, with reductions observed at levels below 44.47%. Regarding expenditure decentralization, the portion of County expenditure initially revealed a tendency to raise poverty incidence when below 0.52%. Conversely, surpassing the 0.52% threshold in the County expenditure share seemed to lead to a decline in poverty prevalence. Changwony and Paterson's (2019) study focused on accounting practices, fiscal decentralization and corruption in Kenya. The study used two-stage least squares (2-SLS) regressions models. The study results indicated that both accounting and fiscal decentralization were positively associated with reduction in corruption.

From the aforementioned literature, the effects of fiscal decentralization have been linked to the twinned issues of social and economic development, corruption and poverty. Fiscal decentralization was measured using financial autonomy, budgetary allocation, budget prioritization, responsiveness and accountability in Ghana (Agyemang-Duah et al., 2018). In South Africa, fiscal decentralization was evaluated as revenue based and expenditure based, which provided an incentive that decreased inter-municipal inequality and increased inter-municipal disparities respectively (Amusa & Mabugu, 2016). Local revenue sources

and autonomy in decision making were used to measure revenue decentralization in a study conducted in Côte d'Ivoire (Sanogo, 2019).

Fiscal decentralization in Kenya has been quantified in terms of local income and expenditure, as well as intergovernmental transfers in relation to poverty (Mwiathi, Wawire & Onono, 2018), local expenditure and revenue share in relation to corruption (Changwony & Paterson, 2019) and economic growth (Mwiathi, Wawire & Onono, 2018). The current study proposed a relationship between fiscal decentralization and healthcare service delivery. It evaluated fiscal decentralization in terms of revenue, expenditure decentralization and technical support structures.

2.1.3 Revenue Decentralization and Healthcare Service Delivery

According to Gadenne (2017), revenue decentralization involves public revenue collection and sharing at the local level. Governments rely on tax and other available revenue collection instruments directed at individual citizen's incomes, corporate and business entities. The USAID and other bilateral contributors often urged local administrations to enhance their revenue generation as a component of initiatives aimed at fortifying democratic governance at the local level (Press, 2014). These donor initiatives operated under the assumption that elevated local revenues would directly lead to enhanced local services, subsequently fostering better circumstances in relation to service provision and local economic growth (Bashaasha, Mangheni & Nkonya, 2013).

Ahmed and Lodhi (2016) conducted research on the influence of revenue decentralization on education and health outcomes with empirical evidence from Pakistan. The research

employed both a series and a panel data set including four Pakistani to experimentally examine the influence of revenue decentralization on infant mortality rate, crude death rate and literacy rate. In addition to the Ordinary Least Square approach, the study used the Generalized Method of Moment econometric tool. The study's empirical results suggested that revenue decentralization was beneficial to education and healthcare services. Contrary to the conventional public finance theory, these results indicated that provincial governments may play a considerably greater role than the federal government in enhancing the delivery of education and healthcare.

Panda and Thakur (2016) studied decentralization and health system performance in India, focusing on its influence on healthcare delivery, challenges and implications. Local decision making and its influence on health system performance were evaluated in a segmented fashion. According to its findings, there was less evidence attributing advancements to decentralization. The survey found that there were extremely few evaluations on the topic in India. In the conceptual framework, three tiers of functions (health systems functions, management functions and measurement functions) were suggested to be intimately tied to inputs, processes and outputs.

Kurz et al. (2020) studied revenue decentralization and healthcare service delivery in Germany. The study used a unique dataset containing information on the financial resources of all German health care providers. The study employed a panel data approach to analyze the effects of revenue decentralization on healthcare service delivery over time. The results of the study indicated that revenue decentralization had a positive effect on healthcare service delivery in Germany. Specifically, the study found that decentralization had a significant positive impact on the number of patients seen, the number of treatments

provided and the average length of stay. Additionally, decentralization was associated with higher patient satisfaction levels and better quality of care. The study also found that decentralization had a positive effect on the cost of healthcare. Specifically, decentralization led to higher efficiency in healthcare spending, resulting in lower costs for patients. This finding was consistent with the idea that decentralization can lead to more efficient utilization of resources in healthcare service delivery.

Assefa (2015) conducted an evaluation of the accomplishments and hurdles tied to fiscal decentralization within Ethiopia. The study predominantly adopted a quantitative methodology, employing panel data to analyse revenue distribution between the federal government of Ethiopia and regional state governments. The assessment gauged fiscal decentralization using the revenue ratio (RR) metric. The outcomes indicated that fiscal transfers between governmental tiers constituted a substantial revenue source for regional state governments, underscoring a notable reliance on federal government subsidies. Consequently, Assefa's (2015) study inferred that fiscal decentralization displayed potential in Ethiopia for motivating sub-national administrations to undertake added responsibilities. However, the study cautioned that the attainment of effective fiscal decentralization benefits necessitates careful attention to the fiscal autonomy of sub-national governments.

Makandawire (2018) investigated the influence of revenue decentralization on healthcare service provision within Malawi. Employing a cross-sectional approach, the study drew on secondary data sourced from the Malawi Integrated Household Survey. Through the application of descriptive and inferential statistical methods, the gathered data was subjected to an in-depth analysis. The study's findings revealed a noteworthy and

favourable impact of revenue decentralization on the quality and availability of healthcare services across Malawi. Specifically, it was found out that revenue decentralization was associated with greater access to healthcare services and increased utilization of healthcare services. The findings also showed that revenue decentralization was associated with improved healthcare services, including higher patient satisfaction ratings. The study concluded that revenue decentralization had a positive impact on healthcare service delivery in Malawi.

Mabokova (2020) examined the relationship between revenue decentralization and healthcare in Tanzania, as well as the factors that potentially influence this relationship. The study employed a qualitative approach, drawing on semi-structured interviews and document analysis. The analysis revealed that revenue decentralization had a positive impact on healthcare in Tanzania. Specifically, it was realised that decentralization of revenue allowed for the allocation of resources to local communities, which had a positive effect on the delivery of health services. Moreover, decentralization of revenue allowed for improved management of health services, as well as improved access to health care for rural and underserved areas. Furthermore, the study found out that decentralization of revenue had a positive effect on the financial sustainability of healthcare services, as well as on the accountability of health service providers. Finally, the study revealed that decentralization of revenue had a positive effect on the health outcomes of local communities. In summary, this study revealed that revenue decentralization had a positive effect on healthcare in Tanzania.

Wanjau et al. (2012) investigated the effect of financial resources on the public health sector's ability to deliver health services. According to the findings of the study, insufficient

finances have an impact on the delivery of medical services (79% to a great extent and 16% to the lower extent). However, quality level of health services supplied and minimum quality of health services were reported by 51% and 49% of respondents, respectively. Kenya adopted a decentralised form of government in 2013, with a central government and 47 semi-autonomous County administrations.

Barasa, Manyara, Molyneux and Tsofa (2017) offered initial insights into the effects of devolution within Kenya's health sector, with a specific focus on public County hospitals. Their study centred on the impact of devolution-induced changes in hospital autonomy on operational dynamics. Employing a qualitative case study approach, the research explored the degree of autonomy that hospitals possessed over critical management functions. It analysed how this autonomy, or lack thereof, influenced the operational efficiency of three County hospitals situated along the coastal region of Kenya. The research gathered information by conducting in-depth interviews with County health administrators and hospital administrators from the 21 institutions that comprised the case study. The study used five management domains (strategic management, finance, procurement, human resource and administration) to analyse the autonomy hospitals had and how they impacted hospital operations. The findings of the research revealed that though devolution was meant to increase autonomy in County hospitals' operations, it had significantly decreased the autonomy with regard to the five studied essential tasks due to financial constraints. This resulted in a weakened hospital administration and leadership, less community engagement in hospital matters, degraded quality of services, decreased motivation among hospital personnel, misaligned County and hospital goals, staff insubordination and diminished quality of treatment.

In conclusion, most of the studies suggested that revenue decentralization had a positive effect on quality of education and delivery of healthcare services. Specifically, they found out that revenue decentralization led to increased access to healthcare services, higher patient satisfaction and better healthcare services. Additionally, decentralization has been associated with higher efficiency in healthcare spending and improved financial sustainability. Therefore, decentralization of revenue can be an effective strategy for improving healthcare services and education at the local level. Thus, this study sought to establish the effect of revenue decentralization on healthcare service delivery in Turkana County.

2.1.4 Expenditure Decentralization and Healthcare Service Delivery

Considerable discourse surrounds the impact of expenditure decentralization on the efficacy of public service provision. Huang, Chen and Groot (2017) conducted a study investigating the influence of expenditure decentralization on public healthcare satisfaction among urban inhabitants in China. Their empirical analysis drew from a dataset of 5,222 urban residents residing in 93 counties across China, extracted from the 2005 Chinese General Social Survey (CGSS). Employing linear probability models, the study aimed to ascertain the effect of expenditure decentralization on citizen contentment with public healthcare services. The outcomes of this investigation revealed a statistically significant positive correlation between expenditure decentralization and citizen satisfaction regarding public healthcare quality. Moreover, the research uncovered indications that the impact of expenditure decentralization was influenced by individuals' residency status. A more detailed exploration spotlighted the pivotal role of local economic development in realizing

the potential benefits of a decentralized administrative structure. The study underscored the idea that decision-making at lower tiers of government displayed heightened responsiveness to localized needs. Additionally, it emphasized that while the efficiency gains of decentralization were evident, an equitable distribution of welfare was not achieved.

Letelier-S and Sáez-Lozano (2020) conducted a study on expenditure decentralization using a Panel of countries. The study examined if fiscal decentralization across domains like education, health, housing, social protection, leisure, culture, religion, public order, safety and transportation significantly influenced individual well-being. The empirical investigation utilised a non-linear hierarchical model that integrated data at two levels: individual-level data (level 1) and country-level data (level 2). To conduct the research, 89,584 observations were contrasted from the World Value Survey and European Value Survey, spanning different years. These observations were then compared to the average values derived from data collected by the Government Financial Statistics for 30 countries, as reported by the IMF. The study indicated that although expenditure decentralization in education and housing appeared to have had a detrimental impact on well-being, this effect was favourable for health, culture and leisure. As such, this was regarded as supporting a "selective" decentralization strategy by the researchers.

Rubio (2011) conducted a study on the effect of expenditure decentralization on economic wellbeing. The study tested the hypothesis that increased fiscal decentralization in health services would be followed by enhancements in population health. Using a conventional public finance model in the context of healthcare, this hypothesis was assessed by analysing panel data from the extensively decentralised provinces of Canada spanning from

1979 to 1995. The outcomes of the preliminary empirical analysis outlined in the study suggested that the decentralization of healthcare expenditure in Canada yielded a significant and favourable effect on the effectiveness of public policy interventions aimed at enhancing the overall health of the population during the study timeframe. The study's results indicated that a substantial portion of prior empirical inquiries examining the correlation between expenditure decentralization and health outcomes had predominantly relied on overarching indicators of decentralization within the public sector. The study concluded that the isolated impact of health sector decentralization on health metrics differed from country to country.

Both excessive and inadequate levels of expenditure decentralization diminish the effectiveness of governance and service delivery, thus affecting national sustainable development. Hui, Jin and Martinez-Vazquez (2021) did a study on the optimum amount of fiscal expenditure decentralization and sustainable development. Its primary objective was to examine the theoretical and empirical standpoints in order to find the optimum amount of expenditure decentralization. From a theoretical perspective, the study integrated Barro's (1990) model with the financial allocations of both central and sub-national governments. This integration led to the identification of a bell-shaped association between expenditure decentralization and sustainable development, including the determination of an optimal threshold for expenditure decentralization. To empirically substantiate these findings, the investigation employed the National Sustainable Development Index (NSDI) as a metric for sustainable development. Panel data encompassing 52 countries across the period 1991-2016 were utilised to confirm the presence of a curvilinear relationship between expenditure decentralization and sustainable

development, both in the short and long terms. Employing a two-stage least squares estimation technique with the Geographic Fragmentation Index (GFI) as an instrumental variable, these outcomes portrayed sustained significance and robustness across alternative model specifications. The study also used the Lind-Mehlum approach to estimate the ideal amount of expenditure decentralization.

Dick-Sagoe (2020) examined expenditure decentralization and service provision in developing nations (Ghana, Lesotho and Nigeria) and drew lessons from it. In certain cases, increased local government expenditure led to an expansion in service delivery. However, despite decentralization, the quality of these service providers remained unclear. According to the study, an increase in service supply was beneficial. Nevertheless, it was the quality of these service providers at the local level that may alleviate local poverty. The research advised that the architecture of decentralization be reconsidered to incorporate a model that empowers locals to demand openness and accountability from local government officials. Consequently, effective administrative, fiscal and political decentralization, as well as clear channels for local accountability and transparency, were required for enhanced and transparent service delivery.

In a study by Stadhouders (2019), policy effectiveness was examined, with total payer expenditure serving as the central measure. This research encompassed all OECD member states (refer to appendix I) starting from 1970. Following a thorough evaluation of quality standards, the study incorporated 43 primary research studies and 18 systematic reviews, encapsulating a total of 341 individual studies. Within the spectrum of 41 cost containment policy categories, 21 were not subjected to evaluation. Even among the remaining categories, there persisted several policies that remained unassessed. Its findings revealed

significant variations in the efficacy of cost containment policies across different measures, underscoring the imperative for substantiating these outcomes with empirical evidence. Subsequent assessments of policies need to prioritize an examination of the potency of fee schedules, wage controls, capacity restrictions, preventative measures and streamlining of administrative expenses. Notably, meticulous attention should be directed toward the payer and societal perspectives given that numerous evaluations overlook the potential for providers and patients to shift costs. In summary, the study asserted that predominant evaluations have primarily concentrated on Managed Care Organizations (MCO) competition, payment reforms, cost-sharing strategies and care coordination. Robust and reliable evidence predominantly support the effectiveness of policies like cost sharing, managed care competition, reference pricing, generic substitution and reforms in tort liability in order to curb expenditure growth.

In a study by Assefa (2015), an evaluation was conducted to scrutinize both the accomplishments and hurdles associated with fiscal decentralization in Ethiopia. The core methodology of the study predominantly centred around a quantitative approach, drawing from panel data concerning revenue allocations between the federal government of Ethiopia and the governments of regional states. The study employed the Expenditure Ratio (ER) as a standardised metric for gauging the extent of fiscal decentralization. The outcomes of this examination illuminated a discrepancy between the expenditure and financial autonomy of sub-national governmental bodies during the process of devolution, subsequently leading to the emergence of vertical imbalances. Again, according to Assefa (2015), fiscal decentralization in Ethiopia was promising since it encouraged sub-national governments to take on extra duties. However, in order to reap the benefits of effective

fiscal decentralization, sub-national governments' budgetary autonomy must be strengthened.

The decentralization of national government functions in Kenya, particularly the implementation of healthcare initiatives, was subject to a range of factors that impact the progression of these endeavours. Gitonga and Keiyoro (2017) investigated the determinants that shape the execution of healthcare projects within the framework of a devolved governance system. The study also delved into the impact of community collaborations, the allocation of human resources for healthcare, the financial aspect of human resources deployment, health infrastructure and the assimilation of best practices. The findings from the research revealed that instances of corruption hindered the effective utilisation of health grants, thus negatively affecting the successful implementation of healthcare projects within the decentralised governance units. Additionally, the study highlighted the necessity of introducing performance appraisal and evaluation mechanisms for medical personnel in order to augment the provision of healthcare services.

Overly, the empirical studies discussed above indicated that while there are potential gains from expenditure decentralization, it was important to ensure that it is implemented in an equitable manner. Furthermore, it is important to note that the effects of expenditure decentralization may vary depending on the sector and country, with some sectors benefiting more than others. Moreover, the optimum amount of decentralization needs to be established, as excessive and inadequate levels of decentralization can lead to negative impacts on sustainable development. Again, it is important to ensure that decentralization was accompanied by measures such as transparency and accountability in order to ensure

effective service delivery. As such, the current study examined the effect of expenditure decentralization on healthcare service delivery in Turkana County.

2.1.5 Technical Support Structures and Healthcare Service Delivery

Support structures, according to Lovelock, Martin, Gauld and MacRae (2017), are organizational systems that influence efficiency and effectiveness, such as health communication systems and health databases, where WHO Member States adopted and implemented e-health strategies in 2005. Many healthcare facilities have invested in infrastructure such as ICT to improve health access, improve healthcare service and service turnaround time, as well as patient follow-up, health education and timely flow of health information. According to Roodenbeke et al. (2011), the uses of ICT were limited, particularly in the health sector and with populations in remote areas. The study added that many industrialized countries have created e-health-related technology initiatives and pushed their adoption through government-led initiatives. The establishment of these e-health systems were supported by non-governmental groups such as the Telemedicine International Society.

In a study by Granström, Hansson, Sparring, Brommels and Nyström (2018), strategies and role of support structures towards the enhancement of policy implementation to improve healthcare in Sweden was investigated. Regional support centre staff were sampled and issued with a semi-structured interview. Study results revealed that support structure complemented process support strategies by responding to local initiatives rather than national responsibilities. Kenya's National Health Information System mobilized and

utilized limited resources to produce reliable, timely and high-quality health evidence-based information for health-sector decision-making. Health service registers, weekly, monthly recording and reporting forms and tally sheets were all examples of information system structures that capture data in health facilities.

Maboshe, Okafor and Maboshe (2019) examined support structures' impact on the relationship between fiscal decentralization and healthcare in Nigeria. The authors employed both quantitative and qualitative methods including the use of panel data from the United Nations Development Programme (UNDP) report and the national health accounts. The authors also conducted interviews with key stakeholders and analysed relevant documents. The results of the study revealed that fiscal decentralization was significantly associated with the quality of healthcare in Nigeria. The study found that fiscal decentralization had a significant positive impact on healthcare and that the impact was stronger in states with higher fiscal decentralization. The authors also discovered that the presence of supportive structures, such as the presence of well-defined legal and regulatory framework, the existence of a well-trained health workforce and adequate health financing, were essential for the successful implementation of fiscal decentralization in Nigeria.

Ouma (2018) explored the relationship between fiscal decentralization and healthcare in Kenya. In doing so, the study used qualitative research methods, which involved interviewing a total of 20 participants consisting of 15 healthcare professionals, 3 district officers in charge of healthcare and 2 members of the County Assembly. The study found that local government officials were largely unaware of the significance of fiscal decentralization in improving healthcare quality. Furthermore, healthcare professionals

opined that healthcare service delivery had not improved significantly since the introduction of fiscal decentralization. The findings suggested that, while fiscal decentralization has been implemented in Kenya, it lacked adequate support structures that would enable access to healthcare resources and improve healthcare service delivery.

Kamau (2016) conducted research on the impact of decentralization on healthcare services in Kenya. This study aimed to analyze the impact of fiscal decentralization on healthcare in Kenya. The methodology used was a cross-sectional study of health institutions from the Ministry of Health in Kenya, which included interviewing health practitioners and patients. The study results showed that fiscal decentralization positively affected healthcare services in Kenya. The study revealed that fiscal decentralization had improved the availability of health facilities, the quality of care and the efficiency of health services. Additionally, it discovered that fiscal decentralization had resulted in improved financial management, better coordination of health services and improved access to healthcare. However, there were some negative effects of fiscal decentralization, such as an increase in corruption, inequitable access to health care and increased health disparities.

Overly, the studies indicated that fiscal decentralization was beneficial to healthcare services in Kenya, but more support structures are needed to ensure that the benefits of fiscal decentralization are maximised. Therefore, the current study evaluated support structures in terms of ICT integration and availability of functional building, machinery and infrastructure in Turkana County. Accordingly, the study hypothesised a direct effect of technical support structures on healthcare service delivery in Turkana County.

2.1.6 Policy Framework and Healthcare Service Delivery

There are numerous factors contributing to disparities in health policy framework and healthcare service delivery in Kenya and in developing countries. Several studies have explored global influences, like economic globalisation and entities disseminating market-driven policies to developing regions. For instance, Forster, Kentikelenis, Stubbs and King (2020) delved into the relationship between policy alterations recommended in structural adjustment programs and the discrepancies in health equity among nations, specifically regarding healthcare system accessibility and neonatal mortality. The empirical examination utilised a dataset of policy reforms mandated by the IMF, encompassing a panel of as many as 137 developing nations from 1980 to 2014. Employing regression analysis, the study assessed the correlation between these reforms and the equitable distribution of healthcare. This assessment accounted for the deliberate selection and configuration of IMF initiatives. Its findings revealed that structural adjustment reforms led to a decline in accessibility to health systems and an increase in neonatal mortality rates. Further, it disclosed that these adverse outcomes were primarily driven by labour market reforms. Consequently, it implied that structural adjustment programs posed a threat to the realisation of sustainable development goals within developing economies.

Schakel, Wu and Jeurissen (2018) investigated the correlation between fiscal policies and the extent of public healthcare spending across 32 OECD countries during the time frame spanning 1985 to 2014. The research utilized a dataset that combined healthcare expenditure information from the OECD with fiscal policy data sourced from the International Monetary Fund (IMF) for the same period. Employing a multivariate regression analysis, the study aimed to quantify the relationship between fiscal policies,

encompassing their subcategories and inflation-adjusted public healthcare spending. The analysis considered variables like population, Gross Domestic Product (GDP), debt levels and whether nations received IMF financial assistance during the specific period. To account for variations, fixed effects were incorporated for both the country and the specific year in all regression models. The findings of the study revealed that countries which prioritised health service provision, particularly those with more passive purchasing structures, encountered difficulties in constraining costs through fiscal policies. Notably, the effectiveness of fiscal policies depicted a delayed impact, with the potential for expenditure reduction becoming more evident between the first and the second year of the implementation of fiscal strategies. Furthermore, it was evident that fiscal frameworks integrating multi-year expenditure ceilings displayed an augmented potential for cost management. Ultimately, the research indicated that there was a discernible relationship between the capacity of fiscal policies and the allocation of budgets for healthcare expenditures.

Recent theories on fiscal decentralization supported the notion that sub-national governments are more accountable to their citizens if they finance a greater proportion of their expenditures with taxes collected locally. Although evidence of increased expenditure efficiency was very prevalent, little is known about its effects on inequities in the population. Di Novi, Piacenza, Robone and Turati (2019) used a law designed to increase regional tax autonomy in Italy to produce quasi-experimental data on the effect of fiscal decentralization on regional health inequalities. Their findings, which were supported by a number of robust checks, indicated that fiscal decentralization has no effect on inter-regional inequality but can assist in lowering intra-regional inequalities. However, this final

effect was dependent on the degree of economic development, whereby richer regions seemed more empowered at controlling inequality than poorer ones.

Adebiyi and Adeoye (2018) examined the effects of fiscal policy framework on healthcare in Nigeria. The study used a descriptive survey methodology to collect data from both qualitative and quantitative sources. The results of the study showed that fiscal policy framework had a positive effect on healthcare in Nigeria. Specifically, decentralization led to improved access to healthcare, better infrastructure and more efficient services. Additionally, it was found that fiscal policy framework improved health outcomes, as well as increased public trust in local government. These findings suggested that fiscal policy framework can be an effective tool for improving healthcare in African countries.

In Ghana, Godwin (2010) conducted an evaluation of the efficacy of decentralization policies through a case study conducted in the Central Region of Ghana, specifically in the districts of Komenda–Edina–Eguafo–Abaim (KEEA) and Abura–Asebua-Kwamankese (AAK). Utilizing an interview guide, responses were collected from 56 participants representing various stakeholders engaged in decentralization efforts within the education, health and water sectors across the region. The study targeted individuals directly involved in the execution of decentralization initiatives. The findings revealed that decentralization endeavours in these two districts had proven effective, generating positive transformations in the lives of the local populace. This positive outcome was attributed to the presence of skilled and knowledgeable experts who were assigned to district and local offices to facilitate project implementation within the three sectors. Moreover, the prudent utilization of allocated funds and non-monetary resources was also noted. However, the assessment also identified certain challenges that hindered the complete efficacy of decentralization

policies. These included inadequate resources, both financial and material, at the district level, a scarcity of qualified personnel in rural or underserved areas and delays in the release of funds. Other obstacles encompassed limitations in human resources at the local level, elevated illiteracy rates and lack of remuneration for assembly members leading to reduced commitment in their roles. Furthermore, issues like inefficient coordination among assembly sub-committees, disparities in sharing Pan African Resources (PAF) resulting in division, a shortage of official and residential accommodations deterring personnel acceptance and inadequate accountability mechanisms were also identified as serious challenges.

Kalema et al. (2017) examined the effect of fiscal policy on healthcare in Uganda. The study drew data from the 2012/13 Health Facility Survey and the 2010/11 Uganda Household Survey to analyse the impact of fiscal policy on healthcare quality. The study used multivariate linear regression model to assess the effect of fiscal decentralization on healthcare quality in Uganda. The study indicated that fiscal policies had a positive effect on healthcare in Uganda. It also showed that higher levels of fiscal policy were associated with improved healthcare. Specifically, it found out that higher levels of fiscal policy were associated with an increased number of skilled health workers, availability of essential medicines and healthcare equipment and accessibility to healthcare services. Additionally, it indicated that fiscal policy positively correlated with a decreased number of referrals from healthcare facilities. Finally, it concluded that fiscal policy was associated with improved healthcare in Uganda.

Rutto, Minja and Kosimbei (2022) did a case study in Kenya on intergovernmental fiscal transfers and decentralization initiatives. The case study adopted a descriptive design and

were done in selected counties of Kiambu, Baringo and Vihiga. The analysis of the qualitative data used a combination of deductive and inductive methods, including transcription, summarization, categorization and structure of the summarized data. Descriptive statistics was used to analyse secondary data, which was captured in excel spreadsheet. The study found out that intergovernmental fiscal transfers heavily relied on the transfers contributing to over 85 per cent of SNGs finances. Further, it found that unconditional transfers held a huge implication for devolution and regional economic development. Consequently, the formula-based grant synergized horizontal fiscal gaps and promoted devolution. Since it did not focus on the health sector, it slightly differed conceptually from the objectives of the current study.

Tsofa, Goodman, Gilson and Molyneux (2017) studied implementation of decentralization and its impact on health staff and the management of resources in Kilifi County. The study used a qualitative case study approach. In-person observations were made by participants and non-participants during the period from December 2012 to December 2014. HRH and Electronic Medication Management System (EMMS) tasks were quickly handed to counties before sufficient County-level structures and capability was in place. Personnel salary payments were disrupted and HRH management duties were unclear due to political meddling. Roles and duties of important individuals at the County and national levels were likewise unclear. Strikes and mass resignations followed. Due to EMMS delays, hospitals had long stockouts of essential drugs. When the County finally got pharmaceuticals, health institutions reported improved order fill rates than before devolution. Kenya's decentralized government structure had expanded County-level choice for HRH and EMMS management tasks. To fully realize the promise of expanded autonomy, tailored

interventions were recommended for defining and clarifying roles and responsibilities of diverse actors at all levels of the new system and to strengthen County capacity to administer HRH and EMMS. According to the study, capacity-building should always be at the forefront of health sector decentralization strategies.

The health sector in the developing regions, in general and in Kenya, in particular, has been grappling with persistent challenges, including discordance among policies, technical strategies and financial allotments. Importantly, insufficient community involvement in shaping healthcare priorities has posed an ongoing challenge in planning and budgeting. To tackle these challenges, the concept of decentralization in healthcare emerged, aiming to enhance engagement, accountability and technological effectiveness in resource management through community participation.

Tsofa et al. (2017) delved into the effects of political decentralization within the context of health sector planning, budgeting and financial administration at the County level. Employing a qualitative case study centred on Kilifi County, the study constructed a framework for decentralization and policy analysis theories. Their findings revealed that the advent of devolution amplified opportunities for localised prioritization and community engagement in health sector planning and budgeting, thus fostering equitable resource allocation at the local level. Nevertheless, these prospects remained underutilized due to the haste in devolving responsibilities to counties without the requisite capacity-building at the County level for effectively executing decentralised functions.

Arguably, decentralization in Kenya has been a relief to the health sector. However, there was no clearly specified fiscal policy for guiding operations of the devolved health sector. Consequently, fiscal policy making has been a continuous process at all the forty-seven

counties' levels. There was little existing literature on marginalised regions, especially on the fiscal policies that they need to adopt in ensuring effective implementation of the devolved heath sector mandate. Therefore, despite the compelling theoretical grounds for decentralizing policy making in healthcare, devolution was not without its drawbacks. Jiménez-Rubio and García-Gómez (2017) asserted that decentralization may result in inefficient placement of amenities such as hospitals by local policy makers. Nonetheless, a single healthcare consumer might be able to price inputs more efficiently as a result of localized intervention in healthcare. As such, increasing the policy autonomy of sub-national governments has the potential to improve health outcomes, specifically in terms of reducing infant mortality rates. Therefore, this study sought to establish the indirect effect of policy framework on healthcare service delivery in Turkana County.

2.2 Theoretical Review

This section reviewed the theoretical framework upon which the research was grounded. In particular, the following theories were reviewed: fiscal decentralization, community empowerment and resource-based theories. The anchoring theory was fiscal decentralization theory.

2.2.1 Fiscal decentralization Theory

By distributing resources from the national government to the sub-national governments for development, Oates (1972) came up with the theory of fiscal decentralization. Oates (2006) offered a case for the idea of fiscal decentralization, which posited that sub-national

governments may customise public service outputs to their constituents' needs and conditions rather than a central solution that presume one-size fits all. Devolved governments face significant challenges since the adoption of this concept, as compared to national governments. Because of the challenges, public service must be provided for more efficiently, which necessitates mobilising resources that may be legally implemented via the design of devolved legal frameworks (Tiebout, 1956; Oates, 2006). Healthcare quality may be improved by fiscal decentralization, as long as it is utilised to mobilise local support and resources, as well as to encourage engagement among recipients of these public service development projects (Porcelli, 2009).

This theory informed revenue decentralization by providing insight into how different levels of government can most effectively share responsibility for collecting taxes and allocating revenues. Fiscal decentralization theory also provided guidance on issues such as tax base sharing, transfer payments, intergovernmental grants or other forms of financial assistance between different levels of government (Agyemang-Duah et al., 2018). In this way, it helped to ensure that local governments have adequate authority over taxation and spending while still allowing higher-level governments to maintain overall control over fiscal policy. Fiscal decentralization theory suggested that the level of expenditure decentralization should be determined by the size and complexity of a public sector, with larger and more complex sectors likely to require more centralised decision-making (Martínez-Vázquez, Lago-Peñas & Sacchi, 2017). This means that the number of fiscal resources allocated to local governments should reflect their capacity to deliver services. The theory also emphasized the importance of fiscal incentives for sub-national governments in order to promote efficient service delivery, such as tax sharing between

levels of government or grants based on performance criteria (Arends, 2017). Again, it stresses the need for transparency in financial management systems and processes so that citizens can hold local authorities accountable for their use of resources.

Fiscal decentralization theory provided a framework for understanding the impacts of fiscal policy decentralization on decision-making and the allocation of resources. It suggests that when governments devolve authority to sub-national units, such as provinces or counties, they can benefit from increased efficiency in resource allocation due to competition among entities, allowing them to respond more quickly and effectively to local needs (Agyemang-Duah et al., 2018). Decentralised fiscal policies also allow for greater accountability as citizens are better able to hold their local politicians accountable on how taxes are spent. Additionally, it allows regional disparities in economic growth and development between different regions within a country to be addressed more effectively (Diaz-Serrano & Meix-Llop, 2019). Decentralization of fiscal policy can help improve the effectiveness of public services delivery by enabling governments to tailor spending decisions.

In the context of healthcare, fiscal decentralization provides local officials with greater control over healthcare spending, allowing for more efficient allocation of resources and tailoring of services to local needs (Azfar et al., 2018). Fiscal decentralization enables County governments to tailor their healthcare services to meet the specific needs of their communities and to allocate resources based on local priorities. Fiscal decentralization increases accountability and transparency in healthcare service delivery, as County governments are held responsible for the outcomes of their healthcare systems (Cavalieri & Ferrante, 2016). Additionally, according to Cavalieri and Ferrante (2016), healthcare service delivery in County governments is closely linked to the degree of fiscal

decentralization present in a given jurisdiction. Greater fiscal decentralization can lead to improved healthcare outcomes, including increased access to care, better health outcomes band more efficient and effective service delivery (Arends, 2017). However, according to fiscal decentralization theory, fiscal decentralization must be accompanied by appropriate institutional and governance structures (Rao, Mukherji & Swaminathan, 2021), as well as adequate funding (Arends, 2017), to ensure that County governments are able to effectively manage their healthcare systems and provide high-quality care to their citizens.

Therefore, fiscal decentralization theory helped to inform revenue, expenditure and policy framework variables and their respective indicators with respect to healthcare service delivery, thus becoming the anchoring theory.

2.2.2 Community Empowerment Theory

Community empowerment theory was proposed by Robinson and Elliott in 2000. To encourage change, the theory empowers communities to identify and develop solutions to their problems. The proponents see community development as a means of reducing health disparities. It argues that community development was placed on a high value as a crucial approach to mobilise citizens, institutions and inspire change for health action in order to enhance health policy and practice (Agdal, Midtgård & Meidell, 2019). The strategy aimed to "empower" individuals and community groups by recognizing the value of health expertise and knowledge within the community and putting it to good use for everyone's benefit. (Santa-María, Battel-Kirk, Barry, MBosker, Kasmel& Griffiths, 2009).

"Provision of information" and "access to information," according to Khwaja (2004), are two aspects of community empowerment. It is easier for institutions to make the best choices for their communities when local residents have a voice in the policy-making process and are able to share and gather information about their own interests. Dissemination and accessibility of information are important instruments for improving local circumstances and enhancing the well-being of communities that have gained political and economic autonomy. Samia, Debeljak and Power (2011) presented a five-dimensional measure of community access to data for community-based projects in under-developed countries. The five aspects are as follows: exposure to the content, community access to the source or platform of the information, information content, information assessment and self-reported reaction. If access to the source is the most crucial pre-condition for acquiring information, then access to the other four dimensions is equally vital (Samia et al., 2011). This study supported the notion that community empowerment was the most promising strategy to ensuring quality healthcare by County governments.

The current study's idea stems from a desire to figure out the effective health interventions and community health action required to promote quality healthcare outcomes. This study further argued that, at the heart of the empowerment process, which in our instance refers to the deliberate efforts and actions by Turkana County government aimed at increasing the efficiency of organizational collective assets, is the health support infrastructure. Thus, this theory informed the development of policy framework indicators, whose influence were linked to the direct relationship between fiscal decentralization and healthcare service delivery in Turkana County.

2.2.3 Resource-Based View Theory

The paper "Firm Resources and Sustained Competitive Advantage," authored by Barney in 1991, is generally considered as a seminal contribution in the development of the resource-based view theory (RBV). According to RBV, firms (which for this study implied County government as an institution) are varied due to their disparate resources, which means that institutions with disparate resources may use distinct strategies (Barney, 1991). RBV focuses on management consideration in institution's internal properties in order to identify assets, abilities and competencies capable of providing superior advantages (Radjenović & Krstić, 2017).

The theoretical notion is based on economic rent, with an institution being perceived as a collection of capabilities with mechanisms for making strategic decisions. The theory's perspective provide important insights and explanations about why institutions with well-organized resources and valuable assets are more likely to perform well (Barney, 2007). In addition, the theory uses the firm's internal characteristics to explain its performance. County government, as an entity, is a well-organized, collection of assets, such as resources that allow it to create, produce and function independently.

According to Ferlie, Crilly, Jashapara, Trenholm, Peckham and Currie (2016), RBV can be used to study knowledge management processes in healthcare. Maleki and Shabani (2019) alluded that, in order to improve ecological challenges facing healthcare facilities, RBV leverages on human capital, technological resource and relationships to boost eco-capabilities of hospitals in a jurisdiction. Resources such as well-trained healthcare professionals, modern medical equipment and adequate funding for healthcare services leads to improved healthcare outcomes, including better patient experiences, increased

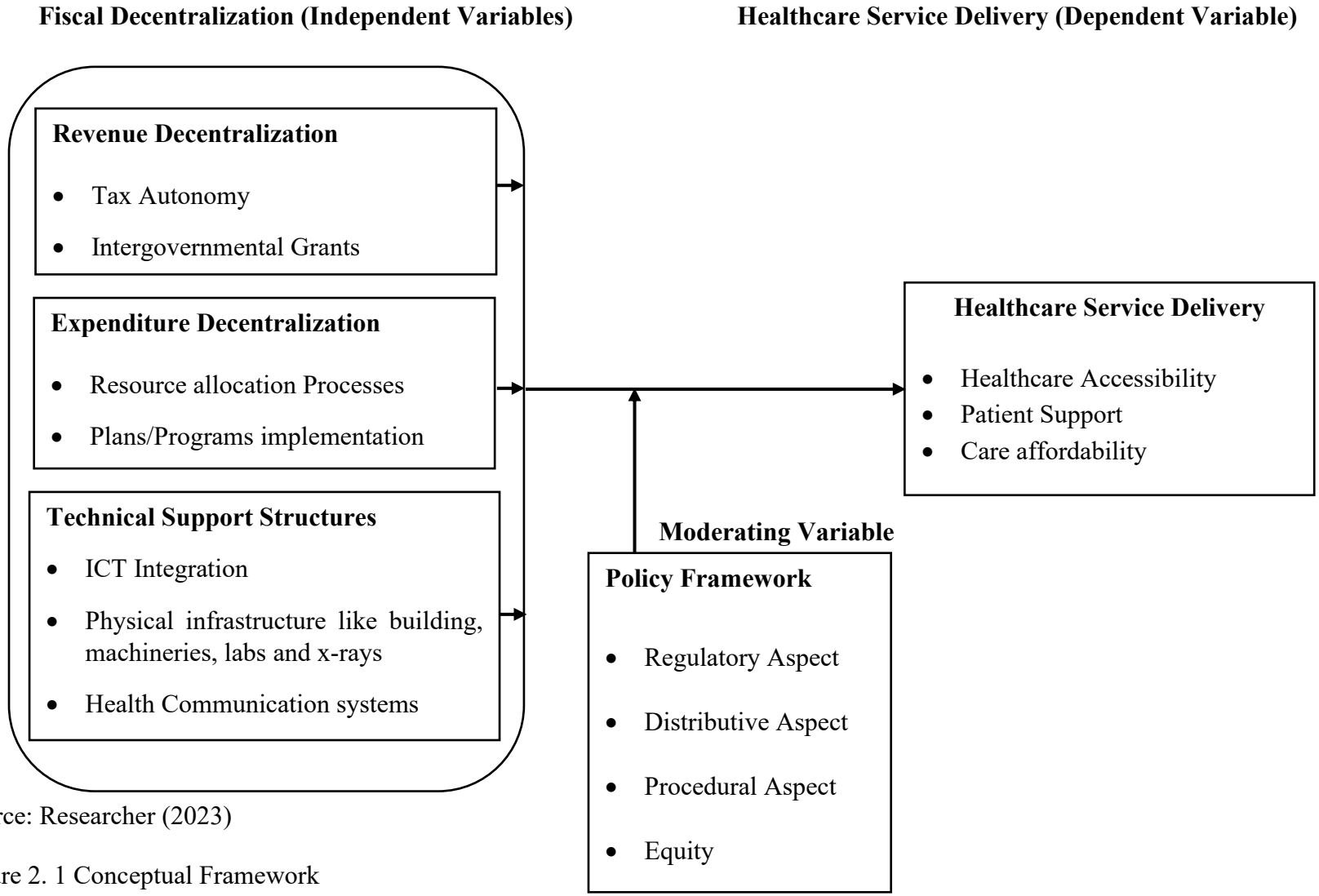
access to care and better health outcomes (Maleki & Shabani, 2019). Additionally, the efficient allocation of resources led to cost savings and improved efficiency in healthcare service delivery.

Healthcare was therefore closely linked to the availability and allocation of resources. Healthcare facilities that are well-resourced are better equipped to provide high-quality care (Fletcher-Brown, Carter, Pereira & Chandwani, 2021), while those that lack resources may struggle to meet patient needs and achieve positive health outcomes (Holdford, 2018). However, it is important to note that simply having access to resources does not guarantee high-quality care (Das, Woskie, Rajbhandari, Abbasi & Jha, 2018). According to Das et al. (2018), effective management, appropriate allocation of resources and a focus on patient-centred care are also critical components of high-quality healthcare service delivery.

Since the research examined healthcare service delivery in Turkana County, this theory aligned and integrated well with this study, which asserted that an organization/firm is a collection of capabilities. The theory explains why well-organized firms, such as a County government as is the case in this study, may deliver superior quality in healthcare. This aligned well with the variable, expenditure decentralization, policy framework and technical support structures on healthcare service delivery and it linked to strategy and health outcome.

2.3 Conceptual Framework

This conceptual framework in Figure 2. 1, proposed that the healthcare service delivery (the dependent variable, measured by accessibility, patient support and care affordability) was directly influenced by Fiscal Decentralization (the independent variable), which include how revenue was raised and how expenditures are allocated. The relationship was further shaped by the presence of technical support structures (measured by ICT integration and physical infrastructure). Additionally, the framework suggested that a policy framework (the moderating variable), encompassing regulatory, distributive and procedural aspects, can strengthen or weaken the main effect of fiscal decentralization on healthcare service delivery.



Source: Researcher (2023)

Figure 2. 1 Conceptual Framework

The independent variables in this study were fiscal decentralization constructs with the moderating variable being policy framework as illustrated Figure 2. 1 above.

2.4 Summary of literature Reviewed and Current Study Focus

Table 2. 1 Summary of literature Reviewed and Current Study Focus

Author/Year	Topic	Findings	Methodology Used	Limitation	Gap	Current Study focus
Panda & Thakur (2016)	Decentralization and health system performance in India	There were extremely few evaluations on the topic in India.	Used survey approach	Context is of India.	Results are not generalizable due to difference in context.	Context was the County government of Turkana
Letelier-S and Sáez-Lozano (2020)	Expenditure decentralization using a Panel of Countries for Empirical Analysis.	Expenditure decentralization in education and housing appeared to have had a detrimental impact on well-being, but the effect was favourable for health, culture and leisure.	Used longitudinal design.	Time series analysis adopted.	The study focused on education and housing presenting a conceptual gap. Methodology is not suitable for the current study.	Fiscal decentralization was evaluated with respect to healthcare service delivery. Study used multiple and stepwise regression analysis.
Barasa et al. (2017)	Early devolution experiences in Kenya's health sector.	Devolution had resulted in a considerable reduction of County hospitals' autonomy. Hospital administration and leadership were weakened, community involvement in hospital issues was diminished, service quality was impaired, hospital workers were demotivated.	Used Qualitative case study approach. The study investigated Health facilities autonomy, community participation and health facilities' staff challenges.	Qualitative data was collected. Implying that the study was purely descriptive.	The study only focused on qualitative data.	This current study collected both qualitative and quantitative data. Fiscal revenue, expenditure and technical support structures in addition to policy framework, were the focus of this study. The focus was both descriptive and inferential analysis.

Masaba et al. (2020)	A systematic review approach on Devolution of healthcare system in Kenya.	Decentralization aided the country's structural development in the health sector. Government resources/funding are insufficient and health institutions are understaffed.	The study focused on structural development and availability of funds. It also used descriptive analysis.	Was limited to descriptive analysis.	Methodology was limited to descriptive analysis	The study also assessed moderator relationship between fiscal decentralization and healthcare service delivery in Turkana County.
Gimoi (2017)	The impact of devolution on Nairobi County's health care systems	Decentralization improved health infrastructure. Most institutions had decent medical equipment and new equipment including x-ray machines, Nebulizers and lab equipment. Low financing for drugs, equipment and facility upkeep.	Used descriptive analysis.	Did not focus on inferential analysis	The locale was in Nairobi which has a unique locale and population plus resources allocated, that is different from Turkana County. The study only focused on health infrastructure.	Besides health infrastructure, the current study explored fiscal autonomy, resource mobilization and technical support structures in Turkana County.
Lorne et al. (2019)	Greater Manchester's devolution of health and social services.	The region's continuous political constructions resulted from the interaction of local, regional and national Actors, organizations and agencies.	Regression analysis was adopted.	The study focused on Political construction outside of Kenya.	Contextual gap was evident	Fiscal revenue, expenditure and technical support structures in addition to policy framework in Turkana County, was the focus of this study.
Granström et al. (2018)	strategies and role of support structures towards the enhancement of policy implementation to improve healthcare in Sweden.	Kenya's National Health Information System mobilises and utilises limited resources to produce reliable, timely and high-quality health evidence-based information for health-	Descriptive and inferential analysis were adopted	Regional support centre staff were sampled for the issuance of a semi-structured interview. Study was done in Sweden.	Contextual gap was evident. Generalizability of the results may not be feasible.	This study was in Kenya, specifically in Turkana County.

		sector decision-making.				
Wanjau et al. (2012)	Impact of financial resources on public health sector's ability to deliver health services in Kenya.	Insufficient finances have an impact on the delivery of medical services.	Used descriptive analysis.	The study investigated fiscal resources on public health using descriptive analysis.	Methodological gap was presented.	The current study investigated fiscal revenue, expenditure and technical support structures in addition to policy framework in Turkana County.
Alene and Worku (2017).	decentralization's role in poverty reduction in Ethiopia	No changes due to inter-linked factors.	Desktop reviews and interviews with few government officials.	The study was limited to desktop review. The study was done outside of Kenya, in Ethiopia.	Contextual and methodological gap evident.	The study investigated fiscal revenue, expenditure and technical support structures in addition to policy framework in Turkana County.
Okafor and Maboshe, (2019)	Support structures, fiscal decentralization and healthcare in Nigeria.	Fiscal decentralization impact on healthcare service delivery in stronger in states with higher fiscal decentralization.	quantitative and qualitative methods panel data	Study was done outside of Kenya in West Africa.	Contextual and conceptual gaps	The current study investigated fiscal revenue, expenditure and technical support structures in addition to policy framework in Turkana County.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The chapter outlined the research philosophy, design, target population, sample size and sampling technique for respondents. Additionally, it delved into data collection, processing and presentation techniques.

3.1 Research Philosophy

Research philosophy serves as the foundational basis for data collection, analysis and application (Cuthbertson, Robb & Blair, 2020). Each form of research has its own set of philosophical assumptions. The research philosophy adopted in this study was interpretivism. Interpretivism is a philosophical and methodological approach to research that focuses on understanding and interpreting human behaviour, experiences and social phenomena within their specific contexts (Alharahsheh & Pius, 2020). It sought to explore the subjective meanings, perspectives and cultural influences that shape actions and interactions.

Interpretivism places a greater emphasis on variables and elements that are unique to specific contexts, setting it apart from the study of physical phenomena. This approach stems from the recognition that studying human beings cannot be approached in the same manner as studying physical phenomena (Alharahsheh & Pius, 2020). Moreover, interpretivism actively considers factors such as culture, prevailing conditions, which

collectively give rise to diverse social realities. Thus, in accommodating the culture among the communities in Turkana County, the study adopted interpretivism research philosophy.

3.2 Research Design

Descriptive research was opted. The descriptive design was appropriate for this research since it enabled the researcher to acquire a diverse set of data and facilitating comparison of the study variables (Castleberry & Nolen, 2018). The descriptive design technique was ideal for finding the correlation between variables.

3.3 Definition of Variables

This section operationalizes the key constructs outlined in the conceptual framework by defining their indicators and measurement scales. These variables form the basis for data collection and analysis in the study. A summary of these variables, their indicators and their measurement is presented in Table 3. 1 below.

Table 3. 1 Summary of Variables

Variables		Indicators	Measurement	
			Variable (category)	Type
Dependent Variable	Healthcare service delivery	• Healthcare Accessibility • Patient Support • Care affordability	Categorical	Ordinal
			Categorical	Ordinal

1st Independent Variable	Revenue Decentralization	• Tax Autonomy • Intergovernmental Grants	Numerical	Continuous
2nd Independent Variable	Expenditure Decentralization	• Resource allocation Processes • Plans/Programs implementation	Categorical	Ordinal
			Numerical	Continuous
3rd Independent Variable	Technical Support Structures	• ICT Integration • Availability of physical infrastructure • Health Communication systems	Categorical	Ordinal
			Numerical	Continuous
Moderating Variable	Policy framework	• Regulatory aspects, • Distributive aspects, • Procedural aspects • Equity indicators	Categorical	Ordinal
			Numerical	Continuous

3.4 Unit of Analysis and Observation

The unit of analysis for this study was healthcare facilities in Turkana County. The unit of observation incorporated Turkana County department of finance and economic planning, department of health and sanitation services, Sub-County Hospitals' heads of departments, Turkana County Referral Hospital board-Lodwar, chairpersons of Sub-Counties Hospital committees, co-ordinators for Community Health Volunteers (CHVs) and chairpersons of Health centres and Dispensaries committees.

3.5 Target Population

The population of the study comprised of 271 individuals, as represented in Table 3. 2. The 271 individuals were drawn from County department of finance and economic planning (County executive committee member, County chief officers and directors), County department of health and sanitation services (county executive committee member, County chief officers, directors, Sub-County Hospitals' heads of departments), Turkana County Referral Hospital board-Lodwar, chairpersons of Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) Hospital committees, co-ordinators for Community Health Volunteers (CHVs) and chairpersons of Health centres and Dispensaries committees.

Table 3. 2 Target Population

Strata	Sub-Strata	Population
County Department of Finance and Economic Planning	County Executive Committee Member (CECM)	1
	County Chief Officers (Finance and Economic Planning)	2
	Director (Accounting Services, Internal Audit, Procurement, Administration, Budget, ICT, E-Government and Monitoring and Evaluation)	8
County Department of Health and Sanitation Services	CECM	1
	County CO (Preventive and Promotive and Medical Services)	2
	Directors in health services.	7
	Sub-County Hospitals' Heads of Departments	52
County Hospital Management Board	Turkana County Referral Hospital Board (Lodwar)	7

Chairpersons for Sub-County Hospital Committees	Turkana North-1, Kibish-1, Turkana West-1, Loima-1, Turkana Central-1, Turkana South-1 and Turkana East-1	7
Co-ordinators	Community Health Volunteers - CHVs (for 92 facilities)	92
Chairpersons for Health Centres and Dispensaries Committees	92 Dispensaries and health facilities	92
Total		271

Source: County Government Act of 2012 and The Turkana County Health Services Administration Act of (2015)

3.6 Sampling Technique and Sample Size

Given that the study aimed at collecting information from the entire population, every individual had an equal opportunity. The study conducted a census since the population was manageable hence the target remained to be 271 respondents.

3.7 Data Collection Instruments

The research used questionnaires and interview schedules. The research tools were semi-structured in nature so as to capture both quantitative and qualitative data. The semi-structured questionnaires and interviews were administered in two ways. The study anticipated that a portion of the respondents, due to the nature of their work which involve a lot of travel, would not be within Turkana County, necessitating that data collection from this group be carried out entirely online. The other portion of respondents, who formed the

majority, were within reach in Turkana County and so a physical drop-and-pick approach for questionnaires and onsite interview was feasible.

The questionnaires were issued to Sub-County Hospitals' heads of departments, chairpersons for Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) Hospital committees, Community Health Volunteers co-ordinators and chairpersons for Health Centres and Dispensaries committees. The Interview schedules were administered to respondents from finance and economic planning. County department of health and sanitation services (County executive committee member, County chief officers and directors) and Turkana County Referral Hospital board (Lodwar) board members.

Electronic questionnaires and interviews were developed in an online format through Google forms and Kobo Collect platforms respectively. The electronic questionnaires, after development in Google forms, were administered via emails to the respondents. The electronic interview schedules, after development in Kobo Collect platform, were administered via Google Meet and Microsoft Teams platforms. The period set for data collection exercise was a maximum of three weeks that allowed for follow ups in case the respondents had not yet completed the whole research tool. After data collection, the physically filled questionnaires and interview schedules were captured in SPSS version 27. The data collected from Google form and Kobo Collect platforms, were first saved in Excel format then later imported, saved and analyzed in SPSS version 27.

3.8 Pilot Study

The pilot study for this research was done in West Pokot County. Its primary objective was to regulate the instrument's validity and reliability in data collection. The pilot size was 10% of the sampled population (Kothari, 2017). The respondents, 27 individuals, in the pilot were drawn from West Pokot County department of finance and economic planning (County executive committee member and chief officers), department of health and sanitation services (County executive committee member and chief officers). The choice on West Pokot was informed by its proximity to Turkana County and its similar social, political and cultural characteristics to Turkana County. Pilot tests aided in identifying unclear or ambiguous statements in the research tools, allowing for improvements to be made prior to the main data collection exercise.

3.9 Reliability and Validity

3.9.1 Reliability

Cronbach's Alpha was computed for reliability. According to Cooper and Schindler (2010), Cronbach's Alpha of 0.50 to 0.8 indicated the reliability. Cronbach's Alpha of 0.9 and above show multicollinearity among predictor variables (Field, 2009; Cooper & Schindler, 2010). Thus, this study evaluated reliability threshold at between Cronbach's Alpha of 0.6 and 0.8.

3.9.2 Validity

Before an instrument is utilized in a research procedure, it is often evaluated for accuracy. Validity determines whether or not an instrument is valid. Validity is accuracy of the data collection tool. The validity of an instrument indicates whether it was capable of measuring what it is designed to measure and how accurate the findings will be (Golafshani, 2003). According to Nardi (2018), validity can be assessed from three perspectives: construct, content and face validity. Construct validity determines if or not the research tool is acceptable for evaluating the objectives being investigated, as well as how well a researcher converts ideas or theories into actual measures (Nardi, 2018; Kiiru, 2015). Content validity refers to how well a measure covers the construct of interest and is determined by expert judgment (Mohajan, 2017).

For face validity, university supervisors assessed and critiqued the information that could be used to improve the study. Donald and Pamela (2001) suggest that Content validity refers to measurement effectively encompasses the intended construct, often reliant on expert evaluation. Content validity, also known as sampling validity, serves to ensure that the scope of measurement in the research domain is expansive. Recognizing that no measurement can feasibly encompass all facets of a phenomenon, this study employed census survey method to include all targeted respondents. This selection process was aligned with the study's aims and objectives. In this research, validity was attained through the expert assessments of research supervisors. These supervisors assessed the relevance of individual items, furnishing insights that enhanced distinct dimensions of the study. The assessments were guided by the content validity index as outlined by Amin (2005).

Construct Validity evaluated the appropriateness of the measurement tool for capturing the phenomenon under investigation (Middleton, 2020; Kiiru, 2015). To uphold construct validity, terms were operationalised and both empirical and theoretical literature were reviewed. The study's variables were operationalised to mirror the theoretical foundations that underlie the conceptual framework, ensuring a comprehensive understanding of the pertinent concept. Moreover, the creation of instrument items drawn from prior research, further enhanced construct validity. Construct validity in this study was effectively facilitated with the involvement of supervisors and other experts familiar with the study variables. Woldekidan (2016) used the same threshold and achieved reliable results.

3.10 Data Analysis and Presentation

Both quantitative and qualitative research techniques were used. These included descriptive and inferential analysis. Frequencies (proportions), a measure of dispersion (standard deviation) were included in the descriptive analysis. The proportion measures were frequency and percentages. The proportions described the characteristics of the respondents, on their level of agreement or disagreement, mean was used to describe the response around which most respondents selected and the standard deviation described the response spread from the mean.

Inferential analysis was done using regression analysis model to test variables relationship. Multiple linear regression analysis was adopted in modelling the study's independent variables (revenue decentralization, expenditure decentralization and technical support structures) to the dependent variable (healthcare service delivery). Prior to modelling, assumptions of classical regression modelling, which were normality, multicollinearity and

homoscedasticity, were tested. The significance of the models developed were anchored on allowing an error of 5%, which was at 95% level of confidence. Tables and figures presented outcomes. Qualitative analysis involved content analysis approaches. In content analysis approach, the responses were grouped following the order of objectives while framework analysis was utilized in informing the process of mapping research tool responses to the respective study construct.

3.11 Empirical Model

The study adopted a multiple linear regression modelling on fiscal decentralization constructs on healthcare service delivery in Turkana County.

a) Relationship between the variables

To determine the individual effect of X_1- Revenue Decentralization (RD), X_2- Expenditure Decentralization (ED) and X_3- technical support structures (TSS) on Y- healthcare service delivery (HSD) in Turkana County which responded to the first three objectives and whether each variable significantly and even linearly affected healthcare service delivery, the model in equation 3.1 was developed. If each of the independent variable's effect would be significant, then it would be an explanatory variable on healthcare service delivery.

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

$$HSD = \beta_{01} + \beta_{11} RD + \beta_{21} ED + \beta_{31} TSS + \varepsilon_1 \text{……...…….. Equation 3. 1}$$

Where:

HSD = Healthcare Service Delivery

β_{01} = Constant term

β_{11}, β_{21} and β_{31} = The coefficients for RD, ED

RD = Revenue Decentralization

ED = Expenditure Decentralization

TSS = Technical Support Structures

ε = Error term

The significance of the variables would imply that they can be modelled to provide a linear association, assuming goodness of fit holds.

b) Moderator variable, independent and dependent variables

To establish the indirect effect of policy framework (PF) as a moderator variable or evaluate whether it would be a predictor variable on the association between fiscal decentralization and healthcare service delivery in Turkana County, which responded to the fourth objective, the following stepwise simple and multiple linear regression were used, as postulated by Baron and Kenny (1986).

Step One

The first step evaluated the relationship between variable (X_1-Fiscal Decentralization, FD) and Y- Healthcare Service Delivery (HSD) in Turkana County.

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

$HSD = \beta_{02} + \beta_{12} FD + \varepsilon_2$ …….. Equation 3. 2

Where;

HSD = Healthcare Service Delivery

FD= Fiscal Decentralization

β_{02}= Constant terms

β_{12}= The coefficient for Fiscal Decentralization

Step Two

In the second step, the moderating variable (PF) was introduced in equation 3.3, then the significance of X_1-fiscal decentralization (FD) and X_2-policy framework (PF) on healthcare service delivery (HSD) in Turkana County was evaluated. The model would be as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

$$HSD = \beta_{03} + \beta_{13} FD + \beta_{23} PF + \varepsilon_3 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{Equation 3. 3}$$

Where;

HSD = Healthcare Service Delivery

FD= Fiscal Decentralization

PF = Policy framework

β_{03}= Constant terms

β_{13}– β_{23}= the coefficients for fiscal decentralization and policy framework.

Step Three

In the third step, the interaction between X_1-fiscal decentralization(FD) and the moderating variable (PF), were introduced in equation 3.4, then the significance of X_1-fiscal decentralization (FD), X_2-policy framework (PF) and the interaction term ($X_1 * X_2$-FD*PF) on healthcare service delivery (HSD) in Turkana County were evaluated.

The model would be as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 * X_2 + \varepsilon$$

$HSD = \beta_{04} + \beta_{14} FD + \beta_{24} PF + \beta_{34} FD * PF + \varepsilon_4$……. Equation 3. 4

Where;

HSD = Healthcare service delivery

FD= Fiscal Decentralization

PF = Policy framework

FD*PF = Interaction term for Fiscal Decentralization and policy framework.

β_{04}= Constant terms

β_{14}– β_{34}= the coefficients for Fiscal Decentralization, policy framework and the Interaction term.

Moderation Decision Criteria

In light of Baron and Kenny (1986) and Mackinnon et al. (2007), the criteria for testing moderation are as presented below.

No Moderation: If the independent variable (FD) has no significant relationship to the response variable (HSD) in step one, the independent variable (FD) and the moderating variable are not significantly related to the dependent variable (HSD) in step two and the independent variable (FD), the moderating variable (PF) and the interaction term (FD*PF) are not significantly related to the dependent variable (HC) then there exists a no moderating effect from PF.

Partial Moderation: If the independent variable (FD) is significantly related to the dependent variable (HSD) in step one, the independent variable (FD) and the moderating variable are significantly related to the dependent variable (HSD) in step two and the independent variable (FD), the moderating variable (PF) and the interaction term (FD*PF) are significantly related to the dependent variable (HSD) then there exists a partial moderating effect from PF.

Complete Moderation: If the independent variable (FD) is significantly related to the dependent variable (HSD) in step one, the independent variable (FD) and the moderating variable are significantly related to the dependent variable (HSD) in step two and the independent variable (FD), the moderating variable (PF), is not significant but the interaction term (FD*PF) is significantly related to the dependent variable (HSD), then there exists a complete moderating effect from PF.

3.12 Diagnostic Tests

This section presented the assumptions of classical Ordinary Least Squares (OLS) Regression that the current study adopted in evaluating direct and indirect relationship among study constructs. The assumptions are that data should follow a normal distribution, linearly related, absence of multicollinearity among independent variables and a constant variance in residual error (Mariano, 1972), for the study to adopt OLS regression.

3.12.1 Normality

Normality measures the nature of distribution of sampled data to the left or right of the mean (George & Mallery, 2018). It assesses whether the values in the dataset are symmetrically distributed around the mean. In a model equation, the error term is a representation of variables which are independently affecting the dependent variables and are not part of the model (Kothari, 2017). The study adopted Shapiro-Wilk test to determine if the error term is non-normal or normal (Yap & Sim, 2011). This test assessed the null hypothesis that the data was normally distributed. It calculated a test statistic based on the sample data and their corresponding expected values. The test compares the observed and expected values and provides a p-value. If the p-value would be greater than the chosen significance level of 0.05, the study would not accept null hypothesis, concluding that the data are normally distributed (Ghasemi & Zadiasi, 2012).

3.12.2 Linearity

Linearity assesses a link in explanatory variables and the response variable in a linear form. It signifies that each incremental unit change in any explanatory variable could lead to a corresponding increase in the response variable. To evaluate linearity, Pearson Correlation Coefficient was computed. This coefficient serves to appraise both the size and direction of variable(s) (Kiiru, 2015; Aygün, Yılmaz, & Gülseçen, 2017). This correlation can either be positive or negative and it discloses the intensity and orientation of the linear association. When the correlation is negative, it denoted an inverse relationship wherein an augmentation in the explanatory variable leads to a decline in the response variable; conversely, a positive correlation signifies a direct relationship (Field, 2009; Njoroge, 2015).

3.12.3 Multicollinearity

This is concerned with linear correlation among the independent variables in addition to the dependent variables (Shrestha, 2020). In testing for collinearity among the independent variables, variation inflation factor (VIF) was used as suggested by Shrestha (2020). Presence of multi-collinearity would be evident if the VIF values ≥ 10 and a tolerance ≤ 0.1 (Hair et al., 2010). An increment in collinearity would mean an increment in the standard error of coefficients which renders the independent variables less reliable (Shrestha, 2020).

3.12.4 Homoscedasticity

Homoscedasticity involves a test aimed at ascertaining whether there is a consistent degree of variance across various ranges of independent variable values for the dependent variable, as indicated by a constant variance in residuals (Hair et al., 2010). To evaluate variance uniformity (the constancy of the error term), the Breusch-Pagan test was deployed to detect the presence of heteroscedasticity, as recommended by Warner (2008) and Njoroge (2015). A p-value exceeding 0.05 would lead to the rejection of the null hypothesis that there is no constant variance and vice versa. Alternatively, if the conditions are not met, robust standard errors would be employed as a remedy. Data analysis was performed using SPSS version 27. To satisfy the homoscedasticity assumption and ensure the regression model's suitability for further analysis, the p-value, in line with Warner (2008), Njoroge (2015) and Kiiru (2015), should exceed 0.05.

3.13 Ethical Consideration and Data Management

Permission to collect data was sought from KU Graduate School and the National Council of Science, Technology and Innovation (NACOSTI). An authorization letter from the County Commissioner was also sought. Other levels of authorisation, including the Governor's office, County director of education and other gate keepers' offices were sought. In addition, prior permission from the relevant Turkana County department to administer the questionnaires and interviews on their employees was processed to facilitate the exercise and build confidence in the respondents. Furthermore, before issuing the questionnaires and administering interviews, written consent was sort. It was clarified that the research was pursuing academic purposes and that the respondents' privacy would be

respected. Collected data was processed in a computer protected file as per the Kenyatta University data protection policy.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Introduction

The research presented the findings and respective discussion. Specifically, the chapter focused on the response rate, which was the percentage of respondents who provided data (responses) or participated in the study out of the total number of respondents, the demographic characteristics (age, level of education and management level) and descriptive analysis, which summarized responses on each of the variables in terms of mean and standard deviation. Further, the chapter presented the inferential analysis results in the form of correlation and multiple linear regression analysis and lastly the research findings' discussions.

4.1 Respondents Demographic

The respondents' demographic characteristics were as presented in Table 4. 1.

Table 4. 1 Respondents' Demographic

		Count	Percent
Gender	Male	190	77.55
	Female (Years)	55	22.45
Age Bracket	21- 30	88	35.92
	31- 40	102	41.63
	41- 50	49	20.00
	51- 60	6	2.45
	56 above	0	0
Level of Education	Certificate	43	17.55
	Diploma	112	45.72
	Degree	74	30.20
	Masters	16	6.53
	PhD	0	0

Management Level	Top-level management	27	11.02
	Middle-level management	128	52.24
	Low-level management	90	36.74

Source: Researcher (2025)

From Table 4. 1, there were many males, represented by 77.55%, while females were only 22.45%. In terms of their age brackets, close to half (41.63%) of the respondents were 31 to 40 years old. 35.92% were 21 to 30 years, while 20% were 41 to 50 years old. Nonetheless, respondents aged 56 years and above were only 2.45%. Notably, on the level of education, almost half (45.72%) had attained Diploma, 30.2% had Bachelors degree and 17.55% were certificate holders. A small, though substantial proportion (6.53%) of the respondents held postgraduate degrees (Masters). None of the targeted respondent had PhD level of education.

In terms of the management level of the respondents, more than half (52.24%) were in the middle management, more than a quarter (36.74%) were in the low-level management, while a small proportion (11.02%) comprised the top-level management. The study further probed the respondents on the number of years they had been in service at their present place of work. The responses on the length of service was as summarized in Figure 4. 1.

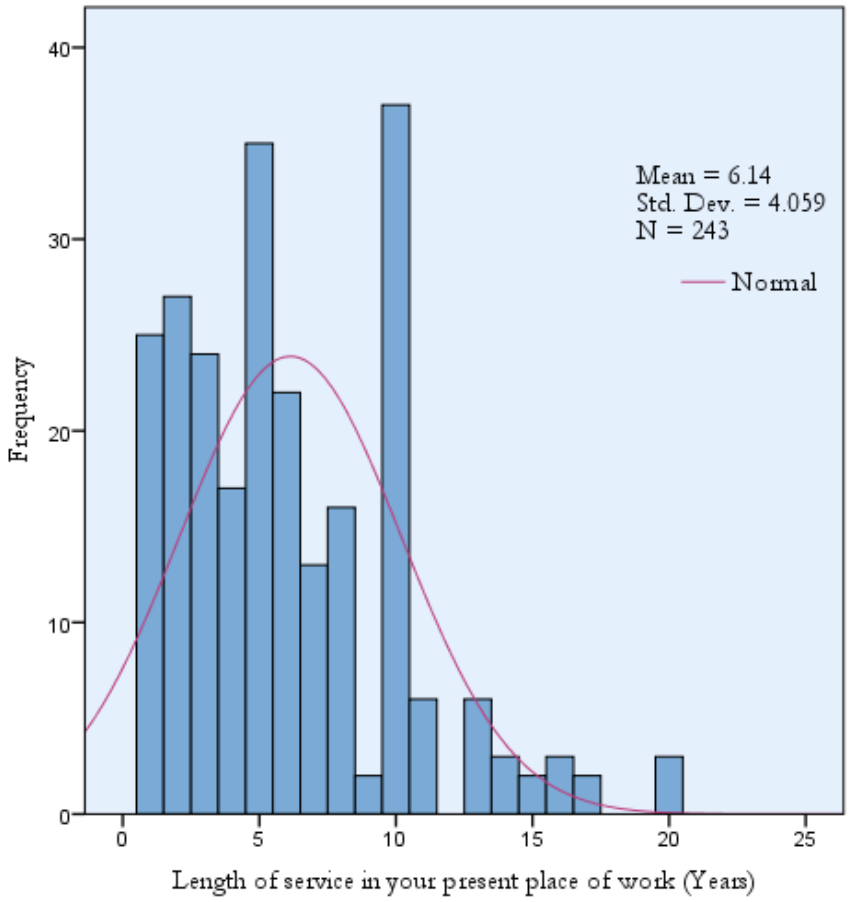


Figure 4. 1 Length of service

On average, as depicted in Figure 4. 1 above, the respondents had worked for the County government of Turkana for six years. This implied that the respondents had been with the County government of Turkana long enough to understand the County's operational dynamics and challenges experienced and so were likely to provide an accurate state of the County in terms of fiscal decentralization and healthcare service delivery. Therefore, the responses provided represented the current state of fiscal decentralization with respect to healthcare service delivery in the County of Turkana.

4.2 Response Rate

This research conducted a census survey targeting 271 respondents that included; County Executive Committee members (CECMs), County Chief Officers (CCOs), County Directors, Sub-County Hospitals' heads of departments, Turkana County Referral Hospital board-Lodwar, chairpersons of Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) hospital committees, co-ordinators for Community Health Volunteers (CHVs) and chairpersons of Health Centres and Dispensaries committees. Table 4. 2 presents the responses during the data collection phase.

Table 4. 2 Response Rate

Research Tool	Questionnaire		Interviews		Cumulative	
Responses	Count	Percent	Count	Percent	Count	Percent
Actual responses	217	80.07	28	10.33	245	90.41
None responsive	26	9.59	0	0.00	26	9.59
Total targeted responses	243	89.66	28	10.33	271	100.00

Source: Researcher (2025)

As presented in Table 4. 2, the study realised a response rate of 90.41% and a none response rate of 9.59%. This implied that 80.07% responded to the research questionnaire, while 10.33% agreed to participate in the interviews conducted. This high response rate of 90.41% was attributable to the consistent follow-ups made during the data collection period, despite the vast distribution of the respondents in Turkana County's clustered

population. The follow-ups resulted to an elongated period for data collection from one month to four months, between November 2023 and February 2024.

4.3 Descriptive and Qualitative Analysis

In examining revenue decentralization, expenditure decentralization, technical support structures, policy framework and healthcare service delivery, the respondents' level of agreement/disagreement on the statements postulated under each of the variables was presented in sections 4.3.1, 4.3.2, 4.3.3, 4.3.4 and 4.3.5.

4.3.1 Revenue Decentralization

This research sought to first obtain the average number of months taken from the time of allocation to receiving the allocated budget on healthcare, an estimated level of tax autonomy and also estimate the improvement in the availability of medical supplies due to revenue decentralization in Turkana County. On average, it would take more than 5 months for the allocated budget on healthcare to be received in Turkana County (Mean=5.11, SD=2.850), with a minimum of less than a month and a maximum of 14 months. Figure 4. 2 and Figure 4. 3 presented the respective pie charts of the responses that were drawn from the respondents.

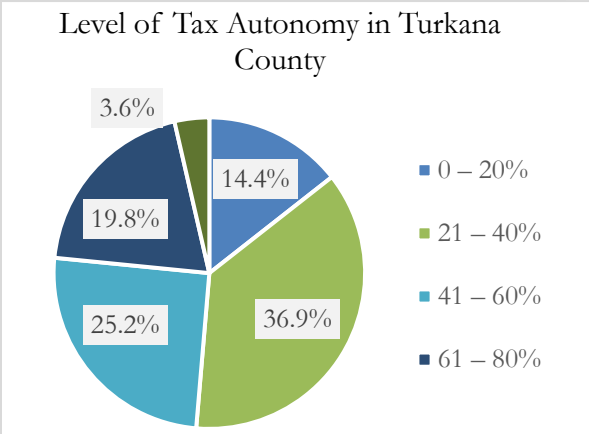


Figure 4. 2 Tax Autonomy

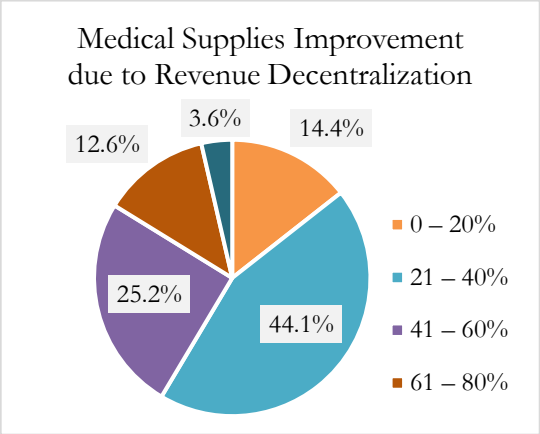


Figure 4. 3 Medical Supplies

From Figure 4. 2, respondents indicated a high level of tax autonomy (36.9%), implying that the county heavily relied on external sources of revenue. Similarly, on the impact of revenue decentralization on medical supplies in Turkana County, the respondents also indicated that the County still heavily depended on external aid, since only 44.1% improvement in the availability of medical supplies in healthcare facilities was due to the County's own source revenue (see Figure 4. 3). Respondents were further asked to estimate the proportion of total County budget that was derived from intergovernmental grants and also indicate how frequent changes in intergovernmental grant allocations affected the availability of healthcare services in Turkana County.

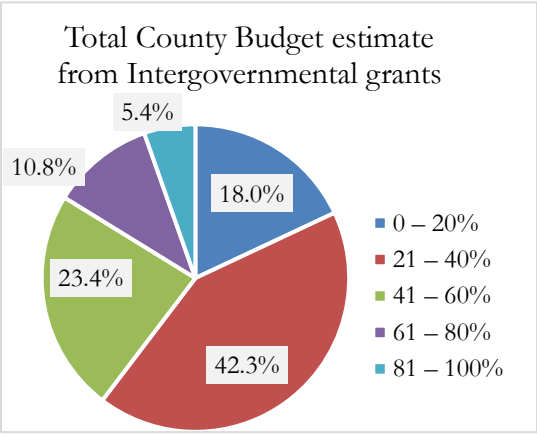


Figure 4. 4 Intergovernmental Grants

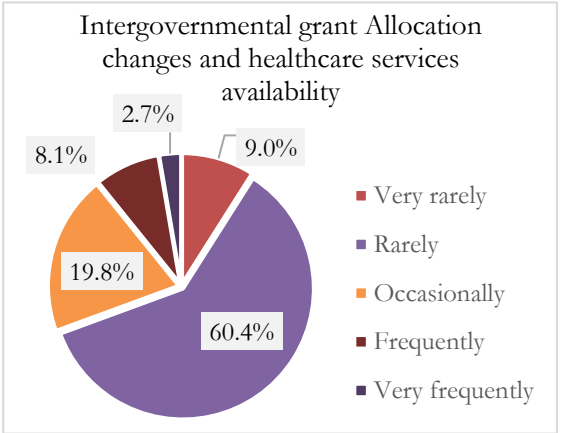


Figure 4. 5 Allocation Challenges

From Figure 4. 4, close to half (42.3%) of the total County budget was drawn from intergovernmental grants. However, despite the near half contribution of intergovernmental grants to the total County budget, 60.4% of the respondents felt that changes in intergovernmental grant allocations rarely did affect the availability of healthcare services in Turkana County (see Figure 4. 5).

The research gathered qualitative data on revenue decentralization. Questions on how revenue decentralization had affected resource funding for healthcare in Turkana County were asked. Based on the responses provided, revenue decentralization had both positive and negative effects on resource funding for healthcare in Turkana County. On the positive side, revenue decentralization improved autonomy and independence, increased access to funding and reduced dependency. On the negative side, revenue decentralization led to concentration of financing, challenges in financial sustainability and inequality in resource allocation.

Specifically, on the positive effects, revenue decentralization had enhanced the autonomy and independence of the healthcare system, allowing for more control over financial management and decision-making processes. Decentralization had ensured easier access to funding for various healthcare departments, leading to enhanced availability of resources to address emerging emergency issues and support service delivery. On reduced dependency, the healthcare system could run more smoothly without relying heavily on funds disbursed from the national government, reducing dependency and increased financial self-sufficiency.

On the negative effects, despite decentralization, there was a perception that the financing of health services was still concentrated within the County finance department, limiting the distribution of funds to rural facilities. The vastness of the County coupled with limitations in revenue collection suggested challenges in fully supporting healthcare services with locally collected revenue. Some respondents felt that rural facilities had been overlooked, indicating disparities in resource allocation and infrastructural development across different regions of the County.

The research probed on the challenges/limitations observed in relation to revenue decentralization and its effects on healthcare service delivery in Turkana County. The challenges facing healthcare service delivery included insufficient resources leading to shortages of supplies, equipment and staff, coupled with financial management challenges like loopholes in cash management and the need for enhanced monitoring. Capacity building struggles and systemic obstacles hindered effective revenue tracking and management, while inadequate funding for health programs resulted in delays and non-implementation of essential services. Inefficient planning and resource allocation processes contributed to misallocation of resources and service delivery challenges such as delays in funding and drug delivery impacted on healthcare access. Concerns over sustainability of emergency services and corruption, coupled with perceived lack of government support, further complicated efforts in effective revenue decentralization and healthcare provision.

The study also conducted descriptive analysis on revenue decentralization using two sub-constructs; tax autonomy and intergovernmental grants. Four statements were used to examine each of the two sub-constructs. The results, based on a 5-point Likert scale (where 1=Strongly Disagree and 5=Strongly Agree), were summarized in Table 4. 3 and interpreted.

Table 4. 3 Revenue Decentralization Descriptive Results

	Responses Likert Scale 1-5										Statistics			
Statements on indicators of revenue decentralization	1		2		3		4		5		Min.	Max	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
Tax Autonomy Statements														
The County government allocated part of the tax revenue on healthcare services	0	0	16	7.4	31	14.3	85	39.2	85	39.2	2	5	4.1	0.9
Tax autonomy empowers the county government to make better health-related financial decisions	3	1.4	9	4.1	30	13.8	130	59.9	45	20.7	1	5	3.9	0.8
The County government provides health revenue projections for every fiscal year	0	0	13	6.0	68	31.3	101	46.5	35	16.1	2	5	3.7	0.8

The County Annual Development Plan present the budget broken down by source (Voteheads)	5	2.3	15	6.9	61	28.1	84	38.7	52	24.0	1	5	3.8	0.9
Average													2.9	2.0
Intergovernmental Grants Statements														
The County government uses the health tax revenue allocated to them by the national government	5	2.3	15	6.9	38	17.5	103	47.5	56	25.8	1	5	3.9	0.9
The County government also benefits from unconditional grants on healthcare from National government and other partners.	0	0	18	8.3	46	21.2	81	37.3	72	33.2	2	5	3.9	0.9
The County government conducts public participation in prioritization of health projects	3	1.4	16	7.4	52	24.0	85	39.2	61	28.1	1	5	3.8	0.9
The County government presents adequate health reports on projects financed by grants	0	0	16	7.4	51	23.5	106	48.8	44	20.3	2	5	3.8	0.8
Average													3.9	0.8
Total Average													3.9	0.8

Source: Researcher (2025)

On Tax autonomy, The study also conducted descriptive analysis on revenue decentralization using two sub-constructs; tax autonomy and intergovernmental grants. Four statements were used to examine each of the two sub-constructs. The results, based on a 5-point Likert scale (where 1=Strongly Disagree and 5=Strongly Agree), were summarized in Table 4. 3 and interpreted.

Table 4. 3 revealed a positive perception regarding the County's use of its tax autonomy for healthcare. The respondents who agreed and those who strongly agreed (cumulating to 78.4%) alluded that the county government allocates part of its tax revenue to health services, with an equal split between agreement (39.2%) and strong agreement (39.2%). This alluded to a consensus on this fundamental action. Furthermore, a combined 80.6% agreed or strongly agreed that tax autonomy empowers the county to make better health-related financial decisions, underscoring the perceived value of fiscal devolution. However, the statement on the county providing health revenue projections received a lower, though still positive, level of agreement (62.6%), suggesting that while tax autonomy is exercised, the forward-planning and transparency aspects could be strengthened.

On intergovernmental grants, perceptions of intergovernmental grants were also predominantly positive. The respondents who agreed and those who strongly agreed (cumulating to 73.3%) alluded that the County utilizes health tax revenue received from the national government effectively. Similarly, 70.5% acknowledged benefits from unconditional grants from the national government and partners, highlighting the critical role of these transfers. The process surrounding grants was also viewed favourably; 67.3% agreed that public participation was conducted in prioritizing health projects and 69.1%

agreed that the County presented reports on grant-funded projects. This suggests that the administration of grants was perceived as relatively transparent and participatory.

Overly, the positive sentiments were confirmed by the mean scores. The total average mean for revenue decentralization was 3.9, which fell between "Neutral" (3) and "Agree" (4) but leant strongly toward agreement. The low standard deviations (0.8 for the total average and across most statements) indicated a high level of consensus among respondents, with little variation in their opinions. As such, the results demonstrated a strong agreement that revenue decentralization, through both local taxes and intergovernmental grants, was being implemented in Turkana County's health sector.

The above findings support Barasa, Manyara, Molyneux and Tsofa (2017) who offered initial insights into the effects of devolution within the Kenyan health sector, with a specific focus on public County hospitals. Their study centred on the impact of devolution-induced changes in hospital autonomy on operational dynamics. Employing a qualitative case study approach, the research explored the degree of autonomy that hospitals possessed over critical management functions. It analysed how this autonomy, or lack thereof, influenced the operational efficiency of three County hospitals situated along the coastal region of Kenya. The findings of the research revealed that devolution had resulted in a significant decrease in the autonomy of County hospitals with regard to the five studied essential tasks. This resulted in a weakened hospital administration and leadership, less community engagement in hospital matters, degraded quality of services, decreased motivation among hospital personnel, misaligned County and hospital goals, staff insubordination and diminished quality of treatment.

4.3.2 Expenditure Decentralization

On expenditure decentralization, the respondents were asked to indicate whether expenditure decentralization had an effect on healthcare resources and healthcare service delivery in Turkana County. In this regard, 77.5% of the respondents affirmed that expenditure decentralization had an effect on healthcare resources and healthcare service delivery in Turkana County.

From the qualitative responses, respondents were requested to describe the expenditure decentralization process in Turkana County in relation to healthcare service delivery. Based on the responses provided, the expenditure decentralization process appeared to have both positive and negative aspects. On the positive aspects, expenditure decentralization had led to improved autonomy for health facilities in managing their budgets, making them more accountable for their expenditures. It had enabled quicker decision-making processes, contributing to smoother service delivery and more efficient resource allocation and the decentralization process had influenced decision-making processes and increased public awareness about healthcare expenditure and budget management.

On the negative aspects, some respondents expressed concerns about the potential for mismanagement of funds if expenditure was decentralized without proper adherence to guidelines and regulations, such as the Public Finance Management Act of 2012. Despite decentralization, budgetary allocations for healthcare remained low, with some respondents indicating that the allocated funds were inadequate to meet the needs of healthcare facilities. Further, there were reports of resource mismanagement and a lack of

funding in rural areas, suggesting disparities in resource distribution and inadequate financial support for healthcare services in rural areas.

The respondents were also required to rate the proportion of the County budget which was allocated to healthcare service delivery, indicating the number of times budget allocation to healthcare services changed within the past year and the frequency of decisions from local healthcare administrators regarding the allocated funds in a typical month. In addition, the respondents were required to give an average number of months taken for a health program to be fully implemented. The results of the inquiry were as presented in Figure 4. 6, Figure 4. 7 and Figure 4. 8.

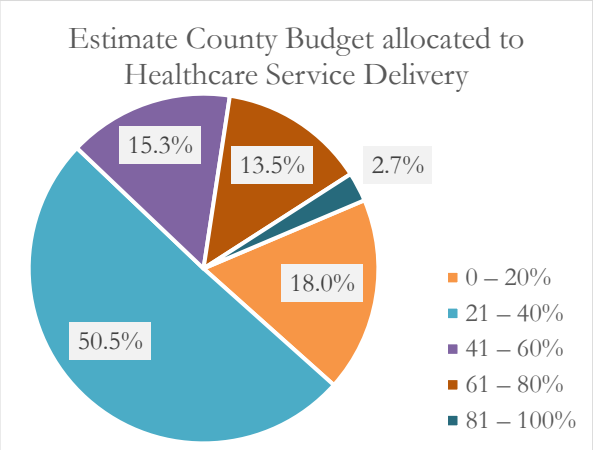


Figure 4. 6 Budget and Health Service

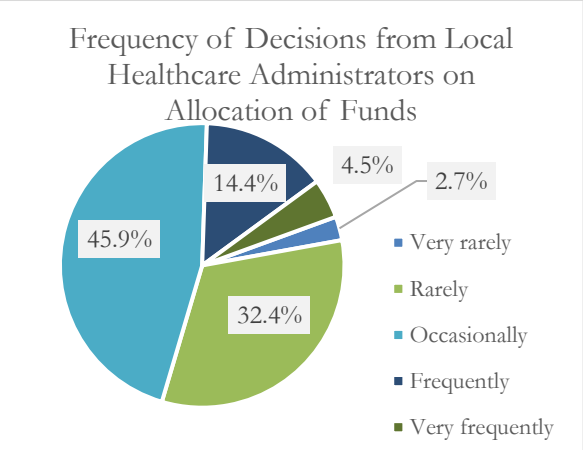


Figure 4. 7 Decision and Allocatio

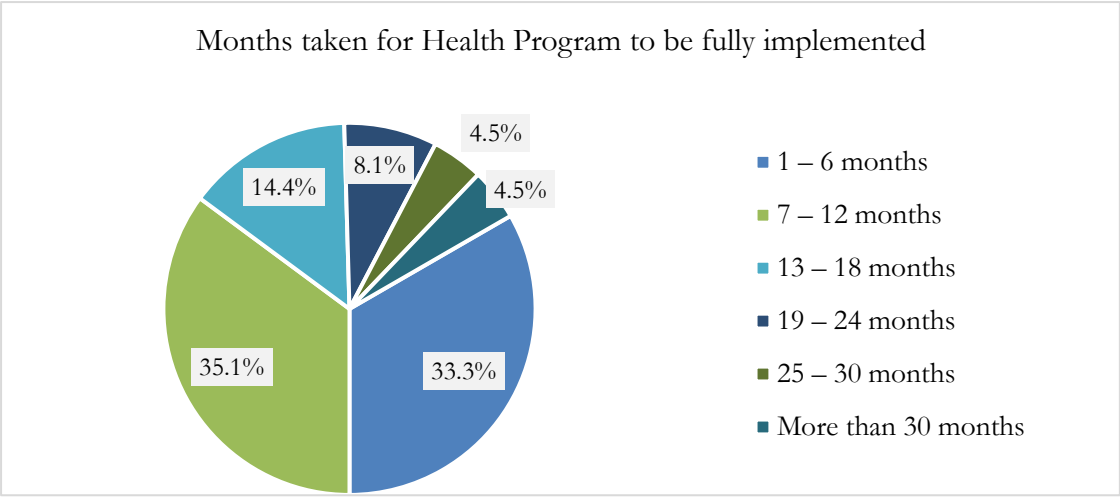


Figure 4. 8 Health Programs Implementation Timeliness

On the proportion of County budget allocated to healthcare services delivery, more than half, 50.5% of the respondents indicated that Turkana County did allocate between 21% to 40% of its budget to healthcare services delivery (see Figure 4. 6). On the average number of times budget allocation to healthcare services changed within the past year, the respondents indicated that the changes occurred more than two times (Mean=2.16, SD=1.631), with the minimum being none and the maximum being six times.

Further, the respondents indicated that local healthcare administrators occasionally (45.9%) to rarely (32.4%) made decisions regarding the allocated funds in a typical month (see Figure 4. 7). Regarding the average number of months taken for a health program to be fully implemented, respondents indicated that the implementation took between the 1st and the 12th month. This meant that 33.3% of the respondents indicated between 1st to the 6th month, while 35.1% indicated between the 7th to the 12th month. However, despite the efforts to finish project implementation on time, the other projects lasted for up to 24 months (8.1%) (see Figure 4. 8).

From the qualitative data, respondents were requested to share their experiences on how expenditure decentralization had affected the availability and allocation of resources for healthcare services delivery in Turkana County. Based on the responses provided, expenditure decentralization had various effects on the availability and allocation of resources for healthcare service delivery in Turkana County. On the positive effects, expenditure decentralization allowed the health department to better understand and control their budget, enabling them to expand vote lines as per their needs and address critical challenges affecting healthcare service delivery. In addition, decentralization facilitated service delivery and contributed to the realization of the devolution spirit of taking services closer to the people, leading to better access to healthcare services for the population. Moreover, expenditure decentralization eased the decision-making process within the health sector, enabling quicker responses to healthcare needs and priorities.

On the negative effects, there were concerns about the potential mismanagement of funds by a few persons within the health sector, which could lead to a lack of funds for emergencies and affect service delivery. There was a call for tighter controls at the County treasury to prevent misuse of funds. Additionally, delays in the disbursement of funds were reported, which could have had a negative impact on healthcare service delivery and the implementation of health programs. Moreover, some respondents noted that essential services were not adequately provided, suggesting that expenditure decentralization could not always align with financial management guidelines and departmental work plans.

The descriptive of expenditure decentralization was done using two sub-constructs: resource allocation processes and plans/programs implementation. Four statements were used to examine each of the two sub-constructs, as presented in Table 4. 4.

Table 4. 4 Expenditure Decentralization Descriptive Results

Statements on indicators for expenditure decentralization	Responses Likert Scale 1-5										Statistics			
	1		2		3		4		5		Min.	Max	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
Resource Allocation Processes														
The County resource allocation process has led to minimal/no wastage of money resources directed to health	5	2.3	28	12.9	31	14.3	110	50.7	43	19.8	1	5	3.7	1.0
The process of resource allocation has reduced the time spent on County projects in healthcare	3	1.4	29	13.4	68	31.3	94	43.3	23	10.6	1	5	3.5.	0.9
The County resource allocation process has led to health projects being completed before set deadlines without compromising on quality	5	2.3	26	12.0	59	27.2	97	44.7	30	13.8	1	5	3.6	0.9

Resource allocation in the County has improved healthcare service efficiency	3	1.4	13	6.0	37	17.1	119	54.8	45	20.7	1	5	3.9	0.8
Average													3.6	0.7
Plans /Programs Implementation														
Healthcare resource mobilisation is based on an assessment of the current County budget.	4	1.8	8	3.7	42	19.4	104	47.9	59	27.2	1	5	3.9	0.9
Healthcare resource allocation is further based on priority; where there is a greater need.	3	1.4	9	4.1	60	27.6	106	48.8	39	18.0	1	5	3.8	0.8
Planning and programs implementation on health service has led to the County achieving health growth goals	3	1.4	0	0	41	18.9	129	59.4	44	20.3	1	5	3.9	0.7
The County has a comprehensive program management strategy that coordinates and operate healthcare projects effectively	3	1.4	2	0.9	47	21.7	105	48.4	60	27.6	1	5	4.0	0.8
Average													3.9	0.4
Total Average													3.8	0.5

Source: Researcher (2025)

From The descriptive of expenditure decentralization was done using two sub-constructs: resource allocation processes and plans/programs implementation. Four statements were used to examine each of the two sub-constructs, as presented in Table 4. 4.

Table 4. 4, on resource allocation processes, perceptions of resource allocation processes were positive, though slightly more moderate than other variables. The respondents who agreed and those who strongly agreed (adding to 70.5%) alluded that the process had improved healthcare service efficiency, reflecting confidence in the overall outcome. Furthermore, a combined 70.5% also agreed that the allocation process led to minimal or no wastage of funds. However, opinions were more cautious regarding timeliness. While 53.9% agreed that resource allocation has reduced project time, a notable 31.3% remained neutral and 14.8% disagreed, indicating that delays may still be a significant concern. Similarly, only 58.5% agreed that projects were completed before deadlines without compromising quality, suggesting that efficiency gains have not fully translated into timely project completion.

On plans/programs implementation, respondents expressed stronger and more consistent agreement regarding the planning and implementation of health programs. The respondents who agreed and those who strongly agreed (adding to 75.1%) indicated that resource mobilization was based on the current budget assessment and 66.8% agreed that allocation was based on priority needs, highlighting a perceived adherence to strategic and needs-based planning. Most notably, 79.7% of respondents agreed that planning and implementation have led the County to achieve its health growth goals, demonstrating a strong belief in the effectiveness of these processes. Finally, 76.0% agreed that a

comprehensive program management strategy was in place, indicating operational coordination for health projects.

In summary, the results revealed a distinction between the two indicators. Plans/programs implementation got a higher average mean (3.9) with a very low standard deviation (0.4), signifying strong agreement and high consensus on the strategic and effective nature of health planning. In contrast, Resource allocation processes had a lower mean (3.6) and a higher standard deviation (0.7), reflecting moderate agreement and less consensus, particularly concerning the efficiency and timeliness of specific allocation actions. The total average mean of 3.8 confirmed an overall positive perception of expenditure decentralization, but the variation in scores pointed to implementation (allocation processes) as an area requiring more attention compared to planning.

Gitonga and Keiyoro (2017) findings were supported by the determinants that shaped the execution of healthcare projects within the framework of a devolved governance system. The study also delved into the impact of community collaborations, the allocation of human resources for healthcare, the financial aspect of human resources deployment, health infrastructure and the assimilation of best practices. The findings from the research revealed that instances of corruption hindered the effective utilisation of health grants, thus negatively affecting the successful implementation of healthcare projects within the decentralised governance units. Additionally, the study highlighted the necessity of introducing performance appraisal and evaluation mechanisms for medical personnel in order to augment the provision of healthcare services

4.3.3 Technical Support Structures

On technical support structures, respondents were requested to indicate the number of years they had interacted with the Health Information System. More than a quarter (25.3%) of the respondents indicated that, they had interacted with the Health Information System for more than 5 years, (30.6%, 18.9% and 14.4%) indicated that they had interacted with the Health Information System for 3 years, 2 years and 1 year respectively. The distribution of the responses regarding the duration of interaction with the Health Information System was presented in Figure 4. 9 below.

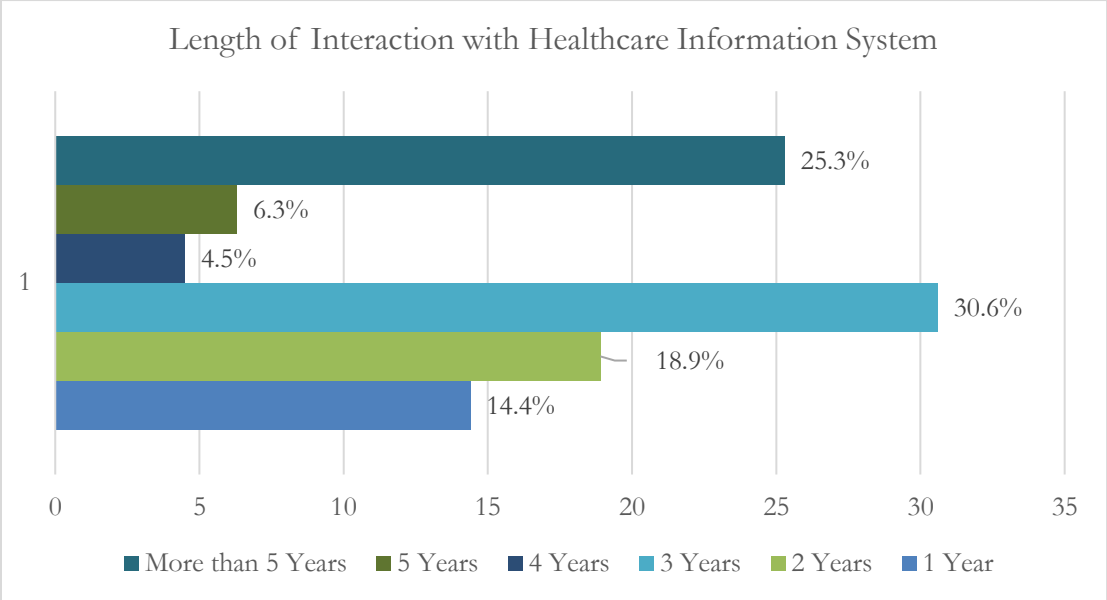


Figure 4. 9 Length of Interaction with Healthcare Information System

From the qualitative data, respondents were required to describe the technical support structures or mechanisms in place which facilitated the effective implementation of fiscal decentralization in Turkana County's healthcare system. Based on the responses provided, several technical support structures and mechanisms were in place to facilitate the effective implementation of fiscal decentralization in Turkana County's healthcare system. These

included, automated record keeping system, integrated financial management system (IFMIS), programme-based financing, internal accountability mechanisms, training and capacity building, collaboration with stakeholders and installation of new system controls.

Efforts to enhance healthcare service delivery in Turkana County encompassed the implementation of several key initiatives. Firstly, an automated recording keeping system that captured patient history, aiding efficient data management and service provision, while Wi-Fi connectivity facilitated digital resources access. Secondly, there was a push towards an Integrated Financial Management System (IFMIS) for transparent expenditure decentralization, supported by training initiatives. Thirdly, ongoing capacity building ensured staff competence in fiscal decentralization processes. Additionally, the County adopted programme-based financing approach to allocate resources effectively, while internal accountability mechanisms and collaborations with stakeholders, including the government and NGOs, reinforce fiscal discipline and support effective budgeting. Lastly, the installation of new system controls and automation streamlined healthcare processes, enhancing service delivery efficiency.

Technical support structures were examined using three sub-constructs; ICT integration, availability of physical infrastructure and health communication systems. Four statements were used to examine each of the three sub-constructs, as presented in Further, descriptive analysis for technical support structures, which was measured through three indicators: ICT integration, availability of physical infrastructure and health communication systems was conducted. The results from the 5-point Likert scale were summarized in Table 4. 5 below.

Table 4. 5. In general, from the three sub-constructs (ICT integration, availability of physical infrastructure and health communication systems), respondents agreed with the current technical support structures in the County of Turkana (Mean=3.859, SD=.748). Further, as depicted in Figure 4. 10, more than half of the respondents (50.5%) indicated that the health personnel in Turkana County engaged in capacity building programs related to healthcare service delivery occasionally, while a very small proportion (3.6%) indicated that the capacity building programs were conducted very frequently.

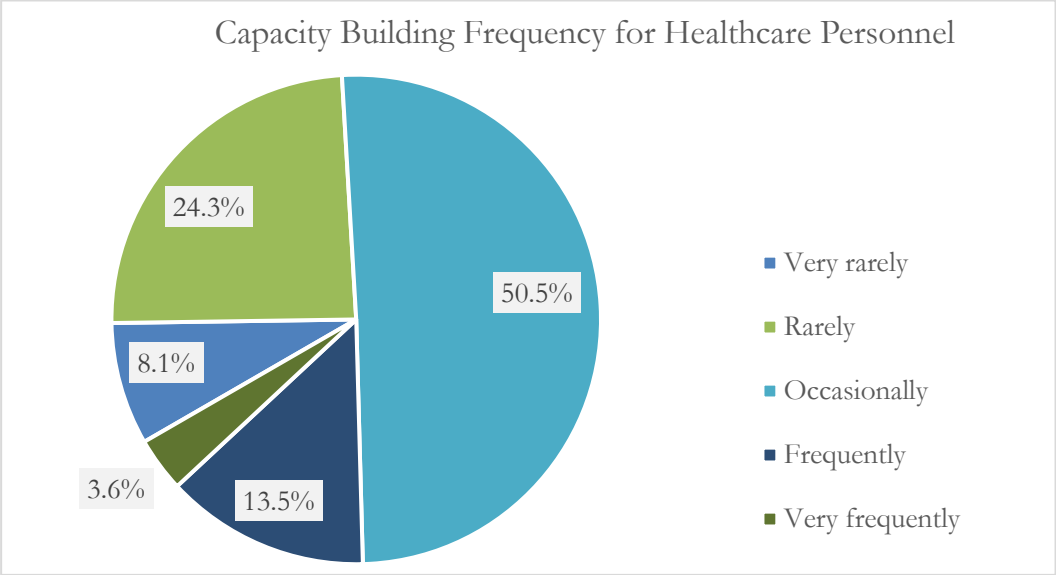


Figure 4. 10 Capacity Building and Healthcare Personnel

On average, the number of capacity building programs per year, the respondents indicated that close to three capacity building programs (Mean=2.96, SD=2.694) were conducted per year. The minimum being none and the maximum being 20 programs per year.

From the qualitative data, respondents were asked to describe how technical support structures had contributed to improving healthcare service delivery. Based on the responses provided, the technical support structures contributed to improving healthcare service delivery in Turkana County by enhancing coordination, capacity building, accessibility and

uninterrupted operations, compliance with legal framework, resource utilization and alignment, timely procurement and support and financial sustainability.

The implementation of technical support structures in healthcare services had yielded multifaceted benefits. Firstly, it had enhanced coordination and efficiency, reducing patient handling time across service delivery sections, streamlining healthcare processes. Secondly, capacity building initiatives ensured well-trained teams and equipped facilities, fostering better service delivery. Thirdly, uninterrupted operations ensured continuous provision of services, maintaining responsiveness to patient needs. Moreover, adherence to legal frameworks promoted regulatory compliance and governance within the healthcare system. Additionally, these structures optimized resource utilization, aligning them with healthcare service needs and facilitated timely procurement and support, ensuring the availability of necessary resources for quality healthcare delivery. Efforts towards financial sustainability, including cost-sharing and revenue collection, bolstered continued service provision and resource availability, while improved accessibility, especially in remote areas, was achieved by reducing the need for long-distance tracking of healthcare services.

Further, descriptive analysis for technical support structures, which was measured through three indicators: ICT integration, availability of physical infrastructure and health communication systems was conducted. The results from the 5-point Likert scale were summarized in Table 4. 5 below.

Table 4. 5 Technical Support Structures Descriptive Results

	Responses Likert Scale 1-5										Statistics			
Statements on the indicators for technical support structures	1		2		3		4		5		Min	Max	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
ICT Integration														
The County government has in almost all health facility an Integrated Health management and Information System (HMIS)	8	3.7	32	14.7	11	5.1	109	50.2	57	26.3	1	5	3.8	1.1
The County government is yet to fully automate healthcare records and processes	3	1.4	19	8.8	29	13.4	126	58.1	40	18.4	1	5	3.8	0.9
The County has a team of IT experts for training of medical staff on adoption of the system	8	3.7	15	6.9	60	27.6	95	43.8	39	18.0	1	5	3.7	1.0

So far, the County has success adopted and utilized HMIS	3	1.5	21	9.7	51	23.5	112	51.6	30	13.8	1	5	3.7	0.9
Average													3.7	0.8
Availability of physical Infrastructures														
The County government has at its disposal a functional Mobile Vaccination Clinic(s)	3	1.4	27	12.4	40	18.4	106	48.8	41	18.9	1	5	3.7	1.0
The County government has continuously strived to increase medical facilities in the County	1	0.5	6	2.8	33	15.2	120	55.3	57	26.3	1	5	4.0	0.8
The health projects initiated by the County government since 2013 are completed or near completion	0	0	20	9.2	47	21.7	101	46.5	49	22.6	2	5	3.8	0.9
The County government has revived medical facilities that were neglected and abandoned	0	0	18	8.3	40	18.4	110	50.7	49	22.6	2	5	3.9	0.9
Average													3.9	0.8

Infrastructure Health communication systems														
The County government has a framework on how coordination between medical facilities are done, especially in terms of handling referral patients	0	0	9	4.1	38	17.5	119	54.8	51	23.5	2	5	4.0	0.8
NGOs within the County compliments the County government in handling emergency evacuation processes for patients	0	0	16	7.4	37	17.1	100	46.1	64	29.5	2	5	4.0	0.9
The County government has greatly benefited from the National government in the equipment of healthcare coordination system (especially in the Referral facility)	0	0	9	4.1	29	13.4	118	54.4	61	28.1	2	5	4.1	0.8
The County assembly also has promoted the adoption of healthcare communication systems by approving budget for the installations	1	0.5	9	4.1	44	20.3	126	58.1	37	17.1	1	5	3.9	0.8
Average													4.0	0.7
Total Average													3.9	0.7

Source: Researcher (2025)

From Further, descriptive analysis for technical support structures, which was measured through three indicators: ICT integration, availability of physical infrastructure and health communication systems was conducted. The results from the 5-point Likert scale were summarized in Table 4. 5 below.

Table 4. 5 on ICT Integration, perceptions of ICT integration were positive but alluded to some area for development. The respondents who agreed and those who strongly agreed (cumulating to 76.5%) indicated that an Integrated Health Management Information System (HMIS) was present in almost all health facilities. However, this positive view was tempered by the response to a key challenge; 76.5% also agreed that the County was yet to fully automate healthcare records and processes. This suggested that while the foundational hardware and systems are in place, their full potential for digitizing workflows remains unrealized. Support for this infrastructure was acknowledged, with 61.8% agreeing that there is a team of IT experts for staff training and 65.4% agreeing that the County has successfully adopted and utilized HMIS so far.

On availability of physical infrastructure, respondents expressed strong agreement regarding the County's efforts in physical infrastructure. The respondents who agreed and those who strongly agreed (adding to 81.6%) alluded that the government had continuously strived to increase medical facilities, indicating a clear political and administrative commitment. This was supported by the perception of progress: 69.1% agreed that health projects initiated since 2013 were completed or near completion and 73.3% agreed that neglected facilities had been revived. The availability of specific assets like Mobile Vaccination Clinics received a slightly lower but still strong agreement (67.7%), pointing to good but potentially uneven distribution of mobile resources.

On health communication systems, this indicator received the most positive feedback. A very high percentage of respondents (78.3%) agreed that a framework existed for coordinating facilities and handling patient referrals. Collaboration appeared strong, as 75.6% agreed that NGOs complemented the County in emergency patient evacuations. Support from higher levels of government was also recognized, with 82.5% agreeing that the County has benefited from the national government in equipping its healthcare coordination system. Furthermore, 75.2% agreed that the County assembly promoted these systems by approving relevant budgets, highlighting cross-governmental support.

In summary, the total average of 3.9 and a standard deviation of 0.7 indicated a strong, consensus-driven positive perception of technical support structures in Turkana County. The scores revealed a hierarchy of effectiveness: Health Communication Systems were perceived as the most robust (Mean=4.0), followed by physical infrastructure (Mean=3.9). ICT Integration, while still viewed positively (Mean=3.7), was identified as the area requiring further investment, specifically in moving from system presence to full automation and process integration. The high levels of agreement across all indicators suggested that the County's investments in technical structures were visible and appreciated by stakeholders.

These findings backed up those of Kamau (2016) who researched on the impact of decentralization on healthcare services in Kenya. His study results showed that fiscal decentralization positively affected healthcare services in Kenya. Further, it revealed that fiscal decentralization had improved the availability of health facilities, the quality of care and the efficiency of health services. Additionally, the study discovered that fiscal decentralization had resulted in improved financial management, better coordination of

health services and improved access to healthcare. However, there were also some negative effects of fiscal decentralization, such as an increase in corruption, inequitable access to health care and increased health disparities. Overly, the study concluded that fiscal decentralization was beneficial to healthcare services in Kenya, but more support structures were needed to ensure that the benefits of fiscal decentralization were maximised.

4.3.4 Policy Framework

Qualitative data obtained from the interviews provided a description of the decentralization of policies framework in relation to healthcare service delivery. The decentralization of healthcare policies in Turkana County resulted in several positive outcomes. Firstly, it improved the turnaround time for policy development and implementation, suggesting a more efficient process for addressing healthcare needs. Secondly, comprehensive policies covering various aspects of healthcare delivery indicated a robust framework guiding healthcare practices. Thirdly, decentralization facilitated enhanced data collection and reporting, contributing to informed decision-making and better healthcare outcomes. Fourthly, policies were effectively disseminated throughout the healthcare system, ensuring stakeholders adhered to established guidelines. However, challenges such as financial support constraints and implementation gaps persisted, emphasizing the need for continued efforts to address these challenges and optimize on the impact of decentralized policies on healthcare delivery.

Policy framework was examined using four sub-constructs; regulatory aspect, distributive aspect, procedural aspect and equity. The research inquired whether policy framework had

an effect on fiscal decentralization and healthcare service delivery in Turkana County. Majority of the responses (65.8%) agreed that indeed, policy framework has had an effect on fiscal decentralization and healthcare service delivery in Turkana County. Four statements were used to examine each of the four sub-constructs, as presented in Table 4. 6.

Furthermore, the respondents were asked to indicate the frequency of challenges encountered which were related to regulatory compliance during the implementation of healthcare service delivery initiatives in Turkana County. In addition, they were asked to indicate the frequency of disparities observance in healthcare resource allocation between urban and rural areas within Turkana County. Figure 4. 11 and Figure 4. 12 presented the findings.

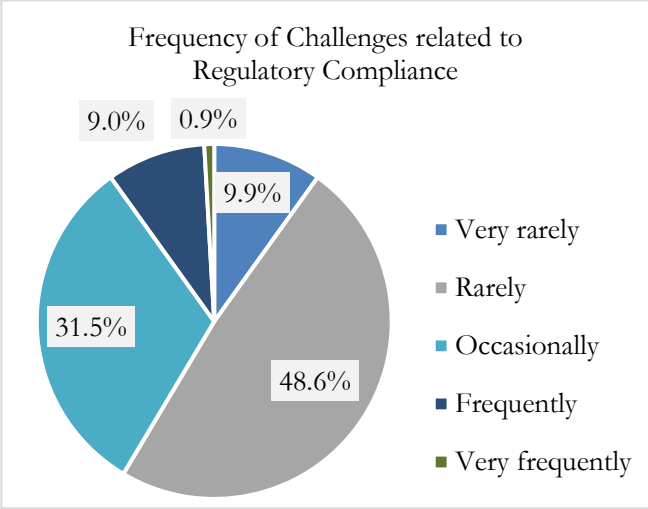


Figure 4. 11 Frequency of Regulatory Compliance Challenges

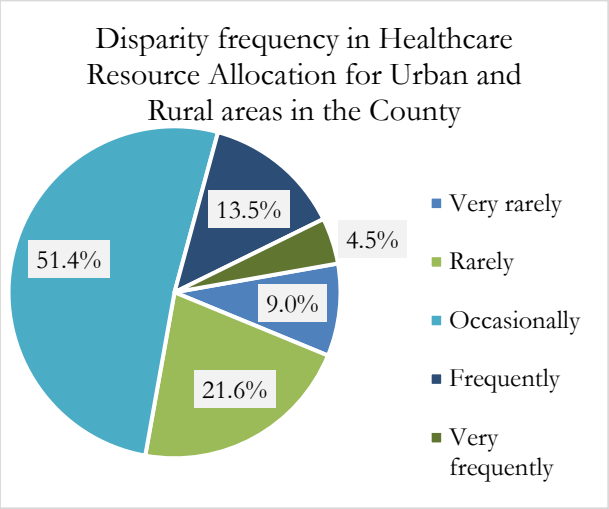


Figure 4. 12 Discrepancy frequency in Resource Allocation

On the frequency of challenges encountered relating to regulatory compliance during the implementation of healthcare service delivery initiatives in Turkana County, 48.6% of the

respondents indicated rarely, 31.5% indicated occasionally, 9.9% and 9% of the respondents indicated very rarely and frequently, respectively (see Figure 4. 11). On the frequency of disparities observance in healthcare resource allocation between urban and rural areas within Turkana County, 51.4% indicated occasionally, 21.6% indicated rarely, while 13.5% indicated frequently (see Figure 4. 12).

The respondents were the asked to rate the level of equity in the distribution of healthcare resources and services among different communities within Turkana County. They were also asked to share their opinion on fairness regarding healthcare services accessibility and benefits to the vulnerable population (low-income individuals and marginalized groups) in Turkana County. The results of their responses were as summarised in Figure 4. 13 and Figure 4. 14.

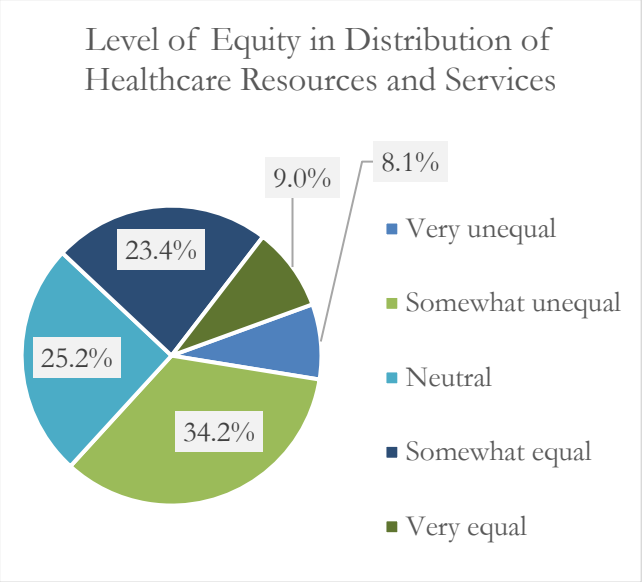


Figure 4. 13 Equity and healthcare Resource

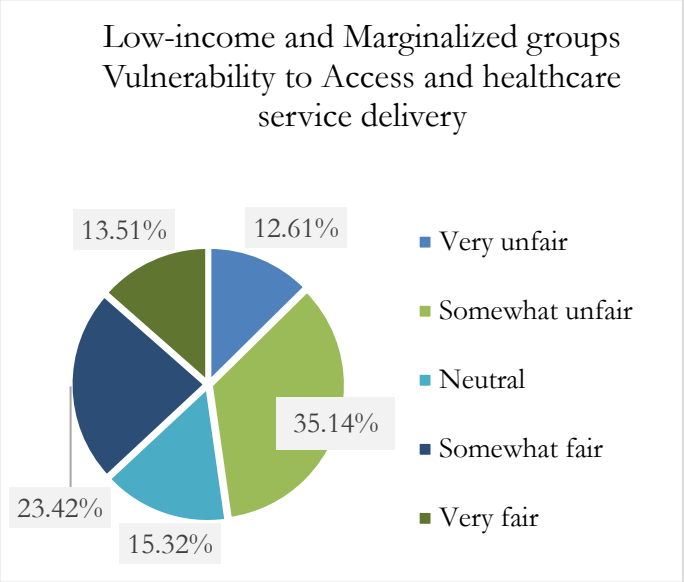


Figure 4. 14 Access to Healthcare for Low-Income and Marginalised Groups

On the level of equity in the distribution of healthcare resources and services among different communities within Turkana County, 34.2% of the respondents indicated that the

level of equity was somewhat unequal, 25.2% were unsure whether level of equity was equal or unequal, while 23.4% indicated that the level of equity was somewhat equal (see Figure 4. 13). On fairness regarding healthcare services accessibility and benefits to the vulnerable population, 35.1% of the respondents felt that healthcare services accessibility and benefits to the vulnerable population was somewhat unfair, although 23.4% seemed to feel that healthcare services accessibility and benefits to the vulnerable population were somewhat fair. Nonetheless, a significant proportion of the respondents, 13.6% and 12.6% seemed to feel that the healthcare services accessibility and benefits to the vulnerable population was very fair and very unfair, respectively (see Figure 4. 14).

On qualitative data, respondents were asked to give their views on how policy framework has affected the decision-making processes and priorities in healthcare service delivery within Turkana County. Based on the responses provided, policy framework had various effects on decision-making processes and priorities in healthcare service delivery within Turkana County. Firstly, it expedited decision-making processes, allowing timely responses to emerging healthcare issues. Secondly, it fostered a conducive environment for healthcare providers, enhancing their effectiveness and a sense of freedom in healthcare service delivery. Thirdly, it prioritized key healthcare areas, ensuring effective resource allocation and attention to pressing needs. Fourthly, it aligned staff priorities with strategic healthcare objectives. However, challenges persisted in addressing recurrent health challenges and dependency on external financial support, indicating the need for further policy interventions. Nevertheless, the framework reduced bureaucratic barriers, promoted leadership and innovation and enhanced public participation, ultimately aligning healthcare priorities with community needs and fostering continuous improvement in service delivery.

Descriptive analyses on policy framework, measured through four indicators: regulatory, distributive and procedural aspects, as well as equity, were also performed. The results from the 5-point Likert scale were summarized in Table 4. 6 and interpreted.

Table 4. 6 Policy Framework Descriptive Analysis

Statements on the indicators for policy framework	Responses Likert Scale 1-5										Statistics			
	1		2		3		4		5		Min	Max	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
Regulatory Aspect														
The policies related to fiscal decentralization in Turkana County are well-defined and clear.	0	0	16	7.4	32	14.7	121	55.8	48	22.1	2	5	3.9	0.8
The regulatory framework adequately supports healthcare service delivery in Turkana County.	0	0	9	4.1	49	22.6	135	62.2	24	11.1	2	5	3.8	0.7
There is the use of Community Score Cards (CSCs) to rate service delivery performance of health centres	1	0.5	9	4.1	74	34.1	111	51.2	22	10.1	1	5	3.7	0.7
The County government has regulatory requirements and constraints (licenses and permits or documentation) which facilitate timely completion of projects like building construction.	1	0.5	17	7.8	53	24.4	96	44.2	50	23.0	1	5	3.8	0.9
Average													3.8	0.6

Distributive Aspect														
The distribution of funds through fiscal decentralization contributes to improving healthcare service accessibility in Turkana County	0	0	16	7.4	23	10.6	140	64.5	38	17.5	2	5	3.9	0.8
The distribution of resources through fiscal decentralization adequately supports the provision of essential medical equipment and supplies to healthcare facilities in Turkana County.	3	1.4	22	10.1	52	24.0	95	43.8	45	20.7	1	5	3.7	0.9
The current distribution of financial resources through fiscal decentralization considers the population size and healthcare needs of different regions within Turkana County.	1	0.5	9	4.1	50	23.0	111	51.2	46	21.2	1	5	3.9	0.8
The funds allocated through fiscal decentralization are appropriately utilized for the development and maintenance of healthcare infrastructure in Turkana County.	1	0.5	50	23.0	33	15.2	98	45.2	35	16.1	1	5	3.5	1.0
Average													3.8	0.7

Procedural Aspect														
Decentralization has enhanced responsiveness and accountability to the public.	3	1.4	12	5.5	37	17.1	119	54.8	46	21.2	1	5	3.9	0.8
There is public engagement through the County Budget Economic Forums.	3	1.4	12	5.5	52	24.0	120	55.3	30	13.8	1	5	3.7	0.8
The procedures involved in the fiscal decentralization process in Turkana County are transparent.	2	0.9	23	10.6	52	24.0	100	46.1	40	18.4	1	5	3.7	0.9
The decision-making processes related to fiscal decentralization consider the views and opinions of healthcare service providers in Turkana County.	1	0.5	17	7.8	47	21.7	108	49.8	44	20.3	1	4	3.8	0.9
Average													3.8	0.8
Equity														
The allocation of financial resources through fiscal decentralization ensures fair access to healthcare services for all residents of Turkana County.	1	0.5	10	4.6	47	21.7	120	55.3	39	18.0	1	5	3.9	0.8
The current policy framework adequately addresses the healthcare needs of	3	1.4	16	7.4	61	28.1	101	46.5	36	16.6	1	5	3.7	0.9

disadvantaged groups within Turkana County.														
The current fiscal decentralization policies distribute resources based on the healthcare needs of different regions within Turkana County.	1	0.5	15	6.9	38	17.5	124	57.1	39	18.0	1	5	3.8	0.8
There exist a joint social accountability initiative involving both County government and civil society organizations for projects' sustainability.	5	2.3	14	6.5	47	21.7	114	52.5	37	17.1	1	5	3.8	0.9
Average													3.8	0.8
Total Average													3.8	0.7

Source: Researcher (2025)

From Table 4. 6 and on regulatory aspect, respondents perceived the regulatory foundation for fiscal decentralization positively. The respondents who agreed and those who strongly agreed (cumulating to 77.9%) alluded that the relevant policies were well-defined and clear. An even higher percentage (73.3%) felt the regulatory framework adequately supported healthcare delivery. The use of Community Score Cards (CSCs) to rate performance received agreement from 61.3% of respondents, though 34.1% of the respondents were neutral, suggesting this tool might not be universally recognized or implemented. Overly, the regulatory environment was viewed as clear and supportive.

On the distributive aspect, perceptions of how resources were distributed were generally favourable but revealed a specific concern. A majority (82.0%) agreed that the distribution of funds improved healthcare accessibility and 72.4% agreed that resource distribution considered population size and needs. However, opinion was more divided on the utilization of funds; while 61.3% agreed that allocated funds were appropriately used for infrastructure, a notable 23% disagreed. This alluded that transparency or effectiveness in the final use of funds for infrastructure development was a potential area of contention, despite general agreement on the distribution principles.

On the procedural aspect, there was strong agreement that fiscal decentralization had fostered inclusive and transparent processes. Majority (76.0%) of respondents agreed that decentralization had enhanced public responsiveness and accountability. Public engagement through County Budget Economic Forums was acknowledged by 69.1% and 70.1% agreed that healthcare providers' views were considered in decision-making. While 64.5% agreed that the procedures were transparent, the 24.0% neutral response suggested that transparency could be further improved to build broader consensus.

Furthermore, on equity, the policy framework was perceived to promote fairness. A majority (73.3%) agreed that the allocation of resources ensured fair access to healthcare for all residents. Similarly, 75.1% agreed that resources were distributed based on the needs of different regions. The framework's attention to disadvantaged groups received agreement from 63.1% of respondents. In addition, 69.6% acknowledged the existence of joint social accountability initiatives with civil society, pointing to efforts aimed at ensuring project sustainability and equitable outcomes.

In summary, policy framework variable demonstrated a consistently positive perception across all its dimensions, with a total average mean of 3.8 and a low standard deviation of 0.7. This alluded to a strong consensus that the policy environment in Turkana County was somewhat robust. The distributive aspect showed the most internal variation, specifically regarding the final utilization of funds for infrastructure, highlighting a gap between the perception of fair distribution and the observed effectiveness of spending. Overly, the results suggests that the policy framework was a well-regarded and a factor in the fiscal decentralization process.

These findings relate with Rutto, Minja and Kosimbei (2022) who did a case study in Kenya on intergovernmental fiscal transfers and decentralization initiatives. The study found out that intergovernmental fiscal transfers heavily relied on the transfers contributing over 85 per cent of SNGs finances. Further the study found that, unconditional transfers held a huge implication for devolution and regional economic development. As such, the formula-based grant synergized horizontal fiscal gaps and promoted devolution. However, this study by Rutto, Minja and Kosimbei (2022) differed conceptually to the current study, as it did not focus on the health sector.

4.3.5 Healthcare Service Delivery

The respondents were requested to describe the level of accessibility to healthcare facilities within Turkana County for individuals seeking medical treatment and rate of affordability to healthcare services for residents of Turkana County. Figure 4. 15 and Figure 4. 16 presents the results.

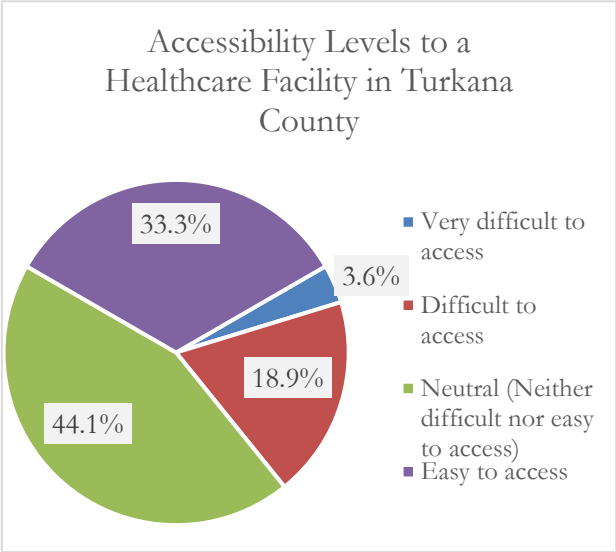


Figure 4. 15 Healthcare Facilities' Accessibility

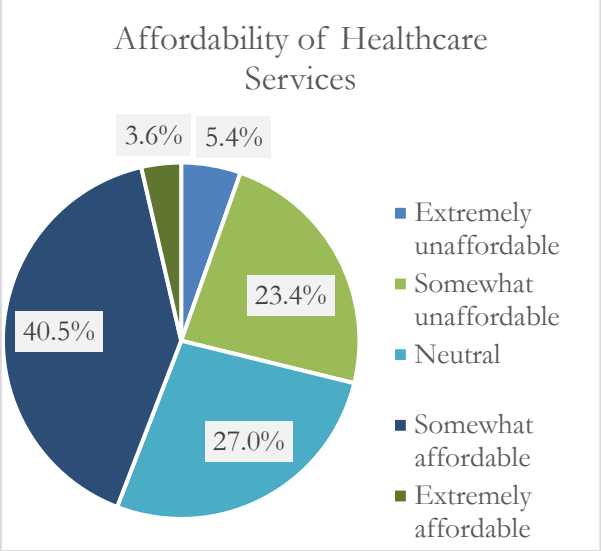


Figure 4. 16 Healthcare Services Affordability

On the level of accessibility to healthcare facilities within Turkana County for individuals seeking medical treatment, 44.1% of the respondents indicated neutrality (were neither on difficult to access nor easy to access), 33.3% indicated that healthcare facilities accessibility was easy, while 18.9% and 3.6% indicated that healthcare facilities were difficult to very difficult access respectively (see Figure 4. 15). On average, residents had to travel more than 14kms (Mean=14.37kms, SD=19.506) to reach the nearest healthcare facility, with the nearest being 1km and the farthest healthcare facility being 120kms. Moreover, on the affordability rate of healthcare services for residents of Turkana County, as depicted in Figure 4. 16, 40.5% of the respondents indicated that healthcare services

were somewhat affordable, but 27% and 23.4% of the respondents' indicated neutrality and somewhat unaffordable respectively.

From qualitative data, respondents were asked the key factors that contributed to achieving high-quality healthcare in Turkana County. Based on the responses provided, several key factors that contributed to achieving high-quality healthcare in Turkana County were mentioned. First, the availability of resources. This included scaled medical personnel, physical structures (health facilities), availability of funds for emergencies and a secure environment, ensuring that the necessary resources were in place to support healthcare delivery effectively. Secondly, access to health facilities and medications. Availability of good health facilities, required drugs and trained personnel was essential for ensuring that patients have access to quality healthcare services when needed.

Thirdly, on effective management and accountability, proper management and accountability of funds were crucial factors for ensuring that resources were utilized efficiently and transparently, contributing to the sustainability of healthcare services. The fourth one was implementation of policies and guidelines. Effective implementation of policies and guidelines, along with intersectoral partnerships and coordination, ensured that healthcare services were delivered in accordance with established standards and best practices. The fifth one was leadership, innovation and funding. Strong leadership and innovation, coupled with adequate funding for healthcare, were too essential for driving improvements and addressing the evolving healthcare needs of the population. Lastly, policy framework and decentralization. Having a policy framework in place, along with decentralization of funds, ensured that resources were allocated appropriately and that healthcare services were responsive to local needs and priorities.

Qualitative responses were also collected on how the availability and access to healthcare infrastructure, medical equipment and healthcare professionals in Turkana County influenced the overall healthcare services provided to the local population. Based on the responses provided, the availability of healthcare infrastructure, medical equipment and trained professionals led to a notable improvement in healthcare services. This included providing a holistic approach to addressing health challenges and creating a conducive environment for healthcare service delivery. It increased access to quality services. Accessible infrastructure and medical equipment enabled patients to receive services promptly and efficiently. This timely access to quality healthcare services contributed to saving more lives and reducing mortality rates within the local population.

Access to healthcare infrastructure, equipment and professionals helped reduce the cost of healthcare and increased life expectancy by providing timely and effective medical interventions. Further, well-designed infrastructure, equipped with the right medical equipment and staffed by trained professionals, led to the provision of quality healthcare services. This ensured that patients received the appropriate care and treatment they needed. In addition, the presence of healthcare infrastructure and professionals ensured easy provision of services to the local population and efficient and effective response to their healthcare needs.

The study examined healthcare service delivery using three sub-constructs; healthcare accessibility, patient support and care affordability. Four statements were used to examine each of the three sub-constructs, as presented in Table 4. 7.

Table 4. 7 Healthcare Service Delivery Descriptive Results

Statements on the indicators for health service delivery	Responses Likert Scale 1-5										Statistics			
	1		2		3		4		5		Min	Max	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
Healthcare Accessibility														
The County has a functional healthcare centre (dispensary or Hospital) in every sub-County.	1	0.5	2	0.9	2	0.9	95	43.8	117	53.9	1	5	4.5	0.6
There are enough medical personnel in every healthcare centre in Turkana County.	12	5.5	47	21.7	32	14.7	107	49.3	19	8.8	1	5	3.3	1.1
The County government ensures that there are adequate drugs in each of the healthcare centre.	8	3.7	29	13.4	54	24.9	100	46.1	26	12.0	1	5	3.5	1.0
The County has a rapid response system in cases that require emergency	3	1.4	24	11.1	43	19.8	109	50.2	38	17.5	1	5	3.7	0.9
Average													3.8	0.8

Patient Support														
The County government has a functional safety and health management system.	5	2.3	6	2.8	47	21.7	113	52.1	46	21.2	1	5	3.9	0.9
The County government has an already developed cost-sharing plan in existing policies.	3	1.4	17	7.8	45	20.7	111	51.2	41	18.9	1	5	3.8	0.9
The County healthcare personnel have an accountability framework that is effective towards patient care	3	1.4	14	6.5	41	18.9	121	55.8	38	17.5	1	5	3.8	0.8
The County healthcare has a communication/knowledge sharing mechanism that meets patients' needs and goals.	1	0.5	6	2.8	50	23.0	117	53.9	43	19.8	1	5	3.9	0.8
Average													3.8	0.8
Care Affordability														
The residents/persons seeking healthcare are able to get basic	3	1.4	28	12.9	39	18.0	107	49.3	40	18.4	1	5	3.7	1.0

healthcare without financial constraints.														
The patients are able to access subsidized healthcare especially through NHIF	5	2.3	17	7.8	54	24.9	100	46.1	41	18.9	1	5	3.7	0.9
The County government has at least one functional mobile clinic.	8	3.7	19	8.8	39	18.0	82	37.8	69	31.8	1	5	3.9	1.1
The County government occasionally hold free medical check-up	5	2.3	14	6.5	47	21.7	102	47.0	49	22.6	1	5	3.8	0.9
Average													3.8	0.9
Total Average													3.8	0.8

Source: Researcher (2025)

On healthcare accessibility, the perceptions of accessibility revealed a contrast between infrastructure and human/resources capacity, as presented in Table 4. 7 above. A high proportion of the respondents who agreed and those who strongly agreed (cumulating to 97.7%) indicated that there was a functional healthcare centre in every sub-County, reflected in a very high mean score of 4.5. This alluded to a major success in the physical distribution of facilities. However, this positive view was tempered by the critical shortage of medical personnel, with only 58.1% agreeing there were enough staff, while 27.2% disagreed. Opinions on the adequacy of drugs and the existence of a rapid response system were more moderate, with 58.1% and 67.7% agreement respectively, pointing to an opportunity for improvement in these operational areas.

On patient support, respondents expressed strong and consistent agreement regarding the systems for patient support. The respondents who agreed and those who strongly agreed (adding to 73.3%) alluded that a functional safety and health management system was in place. Similarly, 70.1% acknowledged the existence of a cost-sharing plan and 73.3% agreed that there was an accountability framework for patient care. Furthermore, a combined 73.7% agreed that a communication mechanism existed to meet patients' needs. The high agreement across all statements suggests that the administrative and policy frameworks for supporting patients were well-established and recognized.

On care affordability, perceptions of affordability were positive, indicating that financial barriers were being mitigated. A combined 67.7% of respondents agreed that residents can access basic healthcare without financial constraints and 65.0% agreed that patients can access subsidized care through NHIF. Initiatives to reach underserved populations were also noted, with 69.6% agreeing on the availability of at least one functional mobile clinic

and 69.6% acknowledging that the County occasionally held free medical check-ups. These efforts appeared to contribute positively to the overall affordability of services.

In summary, the total average mean of 3.8 with a standard deviation of 0.8 suggested an overall positive perception of healthcare service delivery in Turkana County. The results revealed that the system was strong in its structural and policy foundations, as evidenced by near-universal agreement on the availability of physical facilities and strong agreement on patient support systems. The primary challenge lied in the operational capacity, most notably the shortage of medical personnel, which was the weak point across all indicators. While affordability measures were viewed positively, the core constraint on service delivery appeared to be human resources rather than infrastructure or policy.

The above findings concurred with Wanjau, Muiruri and Ayodo (2012) who studied how non-governmental organizations provided outreach services to reinforce overall service delivery and access to health services to population facing healthcare challenges in order to address the disparity between over-served and under-served health institutions, as in the case of Turkana County. Also, Kimathi (2017) discovered that, just 63% of Kenyans had access to health services within an hour of their residences, indicating that distance was a key issue impacting healthcare availability. Time and expense were two key barriers to gaining access to healthcare services. Most patients spent a full day seeking healthcare services in hard-to-reach places such as semi-arid and arid areas.

4.4 Diagnostic Tests

The study additionally assessed the data to determine its suitability for multiple linear regression with the assumptions underlying the Ordinary Least Squares (OLS) estimation technique for regression modelling. The tests performed were assessments for Normality, Multicollinearity and Homoscedasticity, as explained upon in the sections that follow.

4.4.1 Normality Test

Shapiro-Wilk W test assessed the normality of the distribution of the study variables. In Table 4.8, each variable (healthcare service delivery, revenue decentralization, expenditure decentralization, technical support structures and policy framework) was tested for normality based on 217 observations. The W statistic indicated the test statistic, with values closer to 1 suggesting normality. The z statistic and associated probability (Prob>z) provided further information into the normality of the distribution, with p-values greater than 0.05 generally indicating that the null hypothesis of normality could not be rejected.

The Shapiro-Wilk W test results were as presented in Table 4. 8.

Table 4. 8 Shapiro-Wilk W test

Variable	Observation	W	V	Z	Prob>z
Healthcare Service Delivery	217	0.894	16.979	6.543	0.5341
Revenue Decentralization	217	0.905	15.216	6.289	0.3122
Expenditure Decentralization	217	0.811	30.320	7.882	0.0670
Technical Support Structures	217	0.882	18.867	6.786	0.3397
Policy Framework	217	0.914	13.731	6.052	0.1966

Source: Researcher (2025)

From Table 4. 8, healthcare service delivery, revenue decentralization and technical support structures showed W values relatively close to 1, suggesting a tendency towards normality. However, their associated p-values (0.0670, 0.3122 and 0.3397, respectively) were greater than the significance level of 0.05, indicating that normality could be assumed with a high level of confidence. Expenditure Decentralization and Policy Framework also exhibited W values close to 1, suggesting a normal distribution and their p-values (0.5341 and 0.1966, respectively) reinforced the evidence for normal distribution. Therefore, all the four variables exhibited a normal distribution, hence the normality assumption was met.

4.4.2 Linearity

The assumption of linearity was assessed for fiscal decentralization variables concerning the healthcare service delivery of Turkana County, using Pearson's linear- by-linear correlation as shown.

Table 4. 9 Linearity Test for Fiscal decentralization and healthcare service delivery

Variables	Healthcare service delivery		Conclusion
Revenue Decentralization	Pearson linear-by-linear correlation	1.160	Linear
	Sig.(2-tailed)	0.005	
Expenditure Decentralization	Pearson linear-by-linear correlation	1.027	Linear
	Sig.(2-tailed)	0.016	
Technical support Systems	Pearson linear-by-linear correlation	0.624	Linear
	Sig.(2-tailed)	0.019	
Policy Framework	Pearson linear-by-linear correlation	1.033	Linear
	Sig.(2-tailed)	0.362	
	Sig.(2-tailed)	0.464	

Source: Researcher (2025)

From the results in Table 4. 9 healthcare service delivery was significantly and positively related to revenue decentralization (p value=0.005), expenditure decentralization (p value=0.016), technical support systems (p value=0.019) and policy framework (p_value=0.646). The positive correlation for each variable in relation to healthcare service delivery implied that, for an increase in any of the four variable there existed simultaneous increase in the healthcare service delivery,

In the same manner, for a decrease of any of the variable, there was an associated, simultaneous decrease in healthcare service delivery. This linearity significance which was evident between the dependent and independent variables provided a basis for modelling a linear association.

4.4.3 Multicollinearity Test

Multicollinearity test assessed the extent of collinearity among the independent variables in a regression analysis. Multicollinearity occurs when independent variables in a regression model are highly correlated with each other, which can cause challenges of stability and interpretability of the regression coefficients. Table 4. 10 presents multicollinearity results.

Table 4. 10 Multicollinearity Test

Variable	VIF	1/VIF
Technical Support Structures	7.94	0.1259
Policy Framework	5.61	0.1783
Expenditure Decentralization	8.49	0.1177
Revenue Decentralization	4.60	0.2173
Mean VIF	6.66	

Source: Researcher (2025)

The Variance Inflation Factor (VIF) measured the degree of multicollinearity for each variable. Generally, a VIF value above 10 is considered high, indicating significant multicollinearity. The reciprocal of VIF (1/VIF) which was also provided and values closer to zero suggest higher multicollinearity.

From Table 4. 10 results, technical support structures, expenditure decentralization and revenue decentralization exhibit VIF values above 7, indicating a low to moderate level of multicollinearity. Technical support structures had a VIF value of 7.94, expenditure decentralization had a VIF value of 8.49 and revenue decentralization had a VIF value of 4.60. Policy framework also showed a relatively low VIF value of 5.61. The mean VIF across all variables was 6.66, further indicating the absence of multicollinearity in the regression model.

Overly, these results suggested that multicollinearity might not be a concern in the regression analysis and potentially not affecting the reliability of the estimated coefficients.

4.4.4 Homoscedasticity Test

Homoscedasticity test using the Breusch-Pagan / Cook – Weisberg test assessed whether the variance of the residuals (errors) in a regression model was consistent across all levels of the independent variables. The null hypothesis (H_0) stated that there was constant variance, meaning homoscedasticity. Table 4. 11 presented the results of the Breusch-Pagan / Cook – Weisberg test.

Table 4. 11 Homoscedasticity

Breusch-Pagan / Cook – Weisberg test for heteroscedasticity	
H_0:	Constant variance
Variables:	Fitted values of healthcare service delivery
Chi2 (1)	50.30
Prob > Chi2	0.1732

Source: Researcher (2025)

In the table above, the Chi-square statistic (Chi2) measured the discrepancy between the observed and expected values under the assumption of constant variance. The associated probability (Prob > Chi2) indicated the likelihood of obtaining the observed Chi-square value if the null hypothesis were true.

From the results, the Chi-square value of 50.30 with a probability of 0.1732 suggested that there was no significant evidence to reject the null hypothesis of constant variance at a significance level of 0.05. Therefore, based on this test, there was no indication of heteroscedasticity in the fitted values of healthcare service delivery.

Overly, the results implied that the variance of the residuals in the regression model remained consistent across different levels of the independent variables, supporting the assumption of homoscedasticity.

4.5 Inferential Analysis of Overall Model

In responding to the study's main objective, the research modelled a multiple linear regression, as previously outlined in section 3.11, to examine the effects of fiscal decentralization on healthcare service delivery. The cumulative effect of revenue decentralization, expenditure decentralization and technical support structures on healthcare service delivery was assessed in light of the first three research hypotheses outlined in section 1.4. Multiple regression models were estimated and a discussion of the results also presented.

4.5.1 Multiple Linear Regression Modelling

Multiple regression model analysed the cumulative effects of revenue decentralization, expenditure decentralization and technical support systems on health services delivery in Turkana County, Kenya. Three subsequent outputs were generated that include the summary of the overall model, ANOVA results of the overall model and Coefficients for

the overall model tables. Table 4. 12 presented the overall model summary statistics (Correlation represented by R, coefficient of determination represented by R Square and standard error of the estimate).

Table 4. 12 Summary of the Overall model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846[a]	.795	.794	.25990
a. Predictors: (Constant), Technical support structures, Revenue decentralization, Expenditure decentralization				

Source: Researcher (2025)

From the summary of the overall model table above, R-squared value was 0.795 (see Table 4. 12) indicating that 79.5% of the changes in healthcare service delivery could be explained by revenue decentralization, expenditure decentralization and technical support structures. The remaining 10.5% was influenced by other variables outside of the studied variables. As such, this model was fit for further inferential statistics.

The results of Analysis of Variance (ANOVA) aimed to assess the regression model's goodness of fit. Table 4. 13 displays the overall model's goodness of fit statistics ($F_{statistics}$ and associated probability value) results.

Table 4. 13 ANOVA Results of the Overall Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.156	3	41.052	607.742	.000[b]
	Residual	14.388	213	.068		
	Total	137.543	216			
a. Dependent Variable: Healthcare service delivery						
b. Predictors: (Constant), Technical support structures, Revenue decentralization, Expenditure decentralization						

Source: Researcher (2025)

The regression model fitted the data since the multiple linear regression model was statistically significant (F_{stat}=607.742, p_{value}=.000). The probability value (p_{value}) was 0.000

and it was lower than the adopted threshold of 0.05. indicating that revenue decentralization, expenditure decentralization and technical support structures influenced healthcare service delivery in Turkana County, Kenya.

The relationship between revenue decentralization, expenditure decentralization and technical support structures on healthcare service delivery was analysed to observe how they co-existed and the ways in which they affected the dependent variable.

Table 4. 14 Coefficients for Overall Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.466	.137		-3.393	.001
	Revenue Decentralization (RD)	.266	.046	.259	5.843	.000
	Expenditure Decentralization (ED)	.213	.094	.146	2.275	.024
	Technical support structures (TSS)	.626	.056	.587	11.141	.000
a. Dependent Variable: Healthcare service delivery						

Source: Researcher (2025)

From Table 4. 14, the regression analysis pointed out that when the three dimensions under study were not at play (the null model), healthcare service delivery would be declining/deteriorate at the rate of 46.65%. Nonetheless, when the three dimensions were at play (revenue decentralization, expenditure decentralization and technical support structures), the effect of each dimension was as represented in the multiple linear regression equation below.

$$HSD = -0.466 + 0.266\,RD + 0.213ED + 0.626TSS \quad \text{..... Equation 4. 1}$$

Where:

HSD = Healthcare Service Deliver

RD = Revenue Decentralization

ED = Expenditure Decentralization

TSS = Technical Support Structures

PF=Policy Framework

4.5.2 Hypothesis Testing

The research modelled a multiple linear regression, as previously outlined in section 3.10, to examine the effects of fiscal decentralisation on healthcare service delivery. The cumulative effect of revenue decentralization, expenditure decentralization and technical support structures on healthcare service delivery was assessed in light of the first three research hypotheses.

1. **H_{01}:** Revenue decentralization did not affect healthcare service delivery in Turkana County, Kenya.
2. **H_{02}:** Expenditure decentralization did not affect healthcare service delivery in Turkana County, Kenya.
3. **H_{03}:** Technical support structures did not affect healthcare service delivery in Turkana County, Kenya.

4.5.2.1 Revenue Decentralization and Healthcare service delivery in Turkana County, Kenya

The researcher aimed at establishing the effect of revenue decentralization on healthcare service delivery in Turkana County, Kenya. The null hypothesis was;

H_{01}: Revenue decentralization did not affect healthcare service delivery in Turkana County, Kenya.

From Table 4. 14 and equation 4.1, revenue decentralization positively affected healthcare service delivery (β=.266). This positive effect was statistically significant (p_{value}=0.000). As such, the null hypothesis that revenue decentralization did not affect healthcare service delivery in Turkana County was rejected. The rejection implied that, for a 1% increase in revenue decentralization, there would be an associated 26.6% improvement in the healthcare service delivery in Turkana County, keeping expenditure decentralization and technical support structures constant. It was therefore proven that revenue decentralization influenced healthcare service delivery in Turkana County, Kenya.

In line with this study, Ahmed and Lodhi (2016) concurred that revenue decentralization improved the delivery and quality of education and healthcare services in Pakistan. In addition, Kurz et al. (2020) was also in agreement that revenue decentralization had a positive effect on healthcare service delivery in Germany, notably increasing care affordability and patient satisfaction levels. This finding was also strongly supported by Sanogo (2019) and Mabokova (2020), who found that increased local revenues enhanced accessibility to healthcare services in Côte d'Ivoire and Tanzania respectively.

Mabokova (2020) further emphasized that decentralization of revenue allowed for improved management of health services, as well as improved access to health care for

rural and underserved areas. Contrastingly, revenue decentralization in Malawi improved the quality, accessibility and utilization of healthcare services (Makandawire, 2018). Mwiathi, Wawire and Onono (2018) concurred that intergovernmental transfers had the potential to reduce poverty levels that were above 18.42%. In addition, Barasa, Manyara, Molyneux and Tsofa (2017) found that devolution had resulted in a significant decrease in the autonomy of County hospitals in Kenya. This resulted in a weakened hospital administration and leadership, less community engagement in hospital matters, degraded quality of services, decreased motivation among hospital personnel, misaligned County and hospital goals, staff insubordination and diminished quality of treatment.

4.5.2.2 Expenditure Decentralization and Healthcare Service Delivery in Turkana County, Kenya

The study examined the effect of expenditure decentralization on healthcare service delivery in Turkana County, Kenya. The null Hypothesis was;

H_{02}: Expenditure decentralization did not affect healthcare service delivery in Turkana County, Kenya.

From Table 4. 14 and equation 4.1, expenditure decentralization was positively affecting healthcare service delivery (β=.213). This positive effect was statistically significant (p_{value}=0.024). As such, the null hypothesis that expenditure decentralization did not affect healthcare service delivery in Turkana County was rejected. The rejection implied that, for a 1% increase in expenditure decentralization, there would be an associated 21.3% improvement in the healthcare service delivery in Turkana County, keeping revenue

decentralization and technical support structures constant. It was therefore proven that expenditure decentralization influenced healthcare service delivery in Turkana County, Kenya.

Huang, Chen and Groot (2017) research supported this study that expenditure decentralization positively correlated with citizen's satisfaction regarding public healthcare quality. Similarly, Letelier-S and Sáez-Lozano (2020) argued that although expenditure decentralization in education and housing appeared to have had a detrimental impact on well-being, this effect was favourable for health, culture and leisure.

The above findings were anchored in Gitonga and Keiyoro (2017) study which investigated the determinants that shape the execution of healthcare projects within the framework of a devolved governance system. It also delved into the impact of community collaborations, the allocation of human resources for healthcare, the financial aspect of human resources deployment, health infrastructure and the assimilation of best practices. The findings from the research revealed that instances of corruption hindered the effective utilisation of health grants, thus negatively affecting the successful implementation of healthcare projects within the decentralised governance units. Additionally, the study highlighted the necessity of introducing performance appraisal and evaluation mechanisms for medical personnel in order to augment effective provision of devolved healthcare services.

4.5.2.3 Technical Support Structures and Healthcare service delivery in Turkana County, Kenya

The aim was to establish the effect of technical support structures on the healthcare service delivery in Turkana County, Kenya. The Null Hypothesis;

H_{03}: Technical support structures did not affect healthcare service delivery in Turkana County, Kenya.

From Table 4. 14 and equation 4.1, technical support structures was positively affecting healthcare service delivery ($\beta = .626$). This positive effect was statistically significant (p_{value}=0.000). As such, the null hypothesis that technical support structures did not affect healthcare service delivery in Turkana County was rejected. The rejection implied that, for a 1% increase in technical support structures, there would be an associated 62.6% improvement in the healthcare service delivery in Turkana County, keeping revenue decentralization and expenditure decentralization constant. It was therefore proven that technical support structures influenced healthcare service delivery in Turkana County, Kenya

The study's findings were supported by Maboshe, Okafor and Maboshe (2019) who also concluded that supportive structures (for example, presence of well-defined legal and regulatory framework, the existence of a well-trained health workforce and adequate health financing) were very crucial in the delivery o healthcare in Nigeria. Granström, Hansson, Sparring, Brommels and Nyström (2018) alluded that technical support structures' role was to complement process support strategies by responding to local initiatives rather than national responsibilities.

Additionally, the above findings supported Tsofa, Goodman, Gilson and Molyneux (2017) study on implementation of decentralization and its impact on health staff and the management of resources in Kilifi County. HRH and Electronic Medication Management System (EMMS) tasks were quickly handed to counties before sufficient County-level structures and capability was in place. Personnel salary payments were disrupted and HRH management duties were unclear due to political meddling. Roles and duties of important individuals at the County and national levels were likewise unclear. Strikes and mass resignations followed. Due to EMMS delays, hospitals had long stockouts of essential drugs. When the County finally got pharmaceuticals, health institutions reported improved order fill rates than before devolution. Kenya's decentralized government structure had expanded County-level choice for HRH and EMMS management tasks. To fully realize the promise of expanded autonomy, tailored interventions were required to explain roles and responsibilities of diverse actors at all levels of the new system and to strengthen County capacity to administer HRH and EMMS. According to the study, capacity should always be at the forefront of health sector decentralization strategies.

4.5.2.4 Moderating Effect of Policy Structures on Independent and Dependent Variable

In the fourth objective, the study conducted a three-step regression analysis suggested by Baron and Kenny (1986), as outlined in section 3.11, to evaluate whether policy framework was a moderator on the relationship between fiscal decentralization and healthcare service delivery in Turkana County. This evaluation was guided by the fourth hypothesis that

policy framework did not affect the relationship between fiscal decentralization and healthcare service delivery in Turkana County.

Step One

In the first step, fiscal decentralization was regressed against healthcare service delivery, as presented in Table 4. 15 below.

Table 4. 15 Fiscal Decentralization and Healthcare Service Delivery

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.840[a]	.783	.783	.27324
a. Predictors: (Constant), Fiscal Decentralization				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	121.492	1	121.492	1627.269	.000[b]
	Residual	16.052	215	.075		
	Total	137.543	216			
a. Dependent Variable: Healthcare service delivery						
b. Predictors: (Constant), Fiscal Decentralization						

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.609	.111		-5.505	.000
	Fiscal Decentralization	1.145	.028	.940	40.339	.000
a. Dependent Variable: Healthcare service delivery						

Source: Researcher (2025)

$HSD = -.609 + 1.145FD$ …….…… Equation 4. 2

In step one, as depicted in Table 4. 15, the regression model was significant (F_{stat}=1627.269, $p_{value} = .000$). That showed fiscal decentralization had a positive and significant effect on healthcare service delivery in Turkana County ($\beta = 1.145$, $p_{value} =$

.000). Thus, moderation evaluation proceeded to step two, where policy framework was added on the side of the regressors in step one.

Step Two

In step two, policy framework was introduced to the model in step one. The results of the regression model in step two were as presented in Table 4. 16.

Table 4. 16 Fiscal decentralization, Policy Framework and Healthcare Service Delivery

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978[a]	.956	.955	.16901
a. Predictors: (Constant), Policy framework, Fiscal Decentralization				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.430	2	65.715	2300.554	.000[b]
	Residual	6.113	214	.029		
	Total	137.543	216			
a. Dependent Variable: Healthcare service delivery						
b. Predictors: (Constant), Policy framework, Fiscal Decentralization						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.494	.069		-7.187	.000
	Fiscal Decentralization (FD)	.261	.051	.214	5.158	.000
	Policy framework (PF)	.867	.046	.774	18.653	.000
a. Dependent Variable: Healthcare service delivery						

Source: Researcher (2025)

$HSD = -.494 + .261FD + .867PF$ …… Equation 4. 3

In step two, the significance of the model was also evaluated. As depicted in Table 4. 16, the regression model was significant (F_{stat}=2300.554, $p_{value} = .000$), showing that fiscal

decentralization and policy framework were positively and significantly influencing healthcare service delivery in Turkana County ($\beta = .261, .867;\ p_{value} = .000, .000$). Thus, the significance of the model in step two, permitted the moderation evaluation to proceed to the third step. In the third step, the interaction term was developed from fiscal decentralization and policy framework, which was then added to the regressors in the model in step two.

Step Three

In this last step, the interaction term (Fiscal decentralization*Policy framework) was introduced to step two, as depicted in Table 4. 17 below.

Table 4. 17 Fiscal decentralization, Policy Framework, Interaction Term and Healthcare Service Delivery

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.878[a]	.857	.856	.16747
a. Predictors: (Constant), Interaction term_ Fiscal Decentralization*Policy Framework, Fiscal Decentralization, Policy framework				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.570	3	43.857	1563.794	.000[b]
	Residual	5.974	213	.028		
	Total	137.543	216			
a. Dependent Variable: Healthcare service delivery						
b. Predictors: (Constant), Interaction term_ Fiscal Decentralization*Policy Framework, Fiscal Decentralization, Policy framework						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.106	.278		.382	.703
	Fiscal Decentralization	.125	.079	.103	1.592	.113

	Policy framework	.618	.121	.552	5.112	.000
	Interaction term_ Fiscal Decentralization*Policy Framework	.058	.026	.330	2.229	.027
a. Dependent Variable: Healthcare service delivery						

Source: Researcher (2025)

$HSD = .106 + .284FD + .618PF + .058FD * PF$…… Equation 4. 4

In step three, the significance of the model was also evaluated. As presented in Table 4. 17, the regression model was significant (F_{stat}=1563.794, $p_{value} = .000$). Fiscal decentralization, policy framework and the interaction term were positively affecting healthcare service delivery in Turkana County ($\beta = .284, .618, .058$). However, from the model, policy framework and the interaction term's effects were significant ($p_{value} = .000, .027$).

In the fourth objective, the focus was to examine whether policy framework had a moderating effect on the relationship between fiscal decentralization and the healthcare service delivery in Turkana County, Kenya. The null Hypothesis was that policy framework did not have a moderating effect on the relationship between fiscal decentralization and healthcare service delivery in Turkana County, Kenya.

From the stepwise regression in Table 4. 15, Table 4. 16 and Table 4. 17, Since the interaction term became significant after being introduced to the model in step two, there was sufficient evidence to confirm that policy framework was a moderator on the relationship between fiscal decentralization and healthcare service delivery in Turkana County. On the question of whether the moderation effect was complete or partial, both policy framework and the interaction term's effects were significant ($\beta =$

$.618, .058$; $p_{value} = .000, .027$), implying that the moderation effect was of a partial nature.

Similarly, Di Novi, Piacenza, Robone and Turati (2019) found that in the presence of policy checks, fiscal decentralization had no effect on inter-regional inequality but could assist lower intra-regional inequalities. Nonetheless, the final effects of policy checks, were reliant on the degrees of economic development of the regions in question. In addition, these findings related with Rutto, Minja and Kosimbei (2022) who did a case study in Kenya on intergovernmental fiscal transfers and decentralization initiatives. The study found out that intergovernmental fiscal transfers heavily relied on the transfers contributing over 85 per cent of SNGs finances. Further the study found that unconditional transfers held a huge implication for devolution and regional economic development. As such, the formula-based grant synergized horizontal fiscal gaps and promoted devolution. The study by Rutto, Minja and Kosimbei (2022) differed conceptually to the current study, as it did not focus on the health sector.

Conversely, Schakel, Wu and Jeurissen (2018) found a direct effect of fiscal policies on the allocation of budgets for healthcare expenditures in 32 OECD countries, although the direct effect was contingent on time (posed a delayed impact). In Uganda and Nigeria, Kalema et al. (2017) and Adebiyi and Adeoye (2018), found that fiscal policy had a positive effect on healthcare meaning, higher levels of fiscal policy were associated with an increase in the number of skilled health workers, the availability of essential medicines, the availability of healthcare equipment/services and reduced number of referrals from healthcare facilities. As such, this current research presented that policy framework, apart

from the evident direct effect on healthcare service delivery from parts studies, had a moderating (indirect) effect on healthcare service delivery.

Overly, past studies also confirmed the significant effect of fiscal decentralization on poverty, social and economic development and corruption. Slavinskaitė (2017) and Pasichnyi (2019) in their studies on effects of fiscal decentralization on economic growth, also found out that fiscal decentralization did affect economic growth positively. In addition, Alene and Worku (2017) and Agyemang-Duah et al. (2018) confirmed that fiscal decentralization had the potent to effectively reduce poverty. Changwony and Paterson's (2019) found that fiscal decentralization was positively associated to reducing corruption. Nonetheless, this study contended that, as much as fiscal decentralization had a direct effect on healthcare service delivery, policy framework could be introduced as a moderator on the direct effects relationship.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarised the study findings, provided the conclusions derived from the findings and sets forth the recommendations for practice and policy development trajectory.

5.1 Summary of Findings

The research endeavoured to examine the effects of fiscal decentralization on healthcare service delivery in Turkana County. Specifically, the study examined the effects of revenue, expenditure and technical support structures on healthcare service delivery in Turkana County. Further, the study investigated the effects of policy framework on the relationship between fiscal decentralization and healthcare service delivery in Turkana County. The focus was on public health entities under the direct control of Turkana County government.

The target population comprised of County department of finance and economic, County department of health and sanitation services, Turkana County referral hospital board-Lodwar, Chairpersons of Sub-Counties' Hospital committees, co-ordinators for Community Health Volunteers (CHVs) and chairpersons of Health centres and dispensaries committees. The study was guided by three theories, namely; fiscal decentralization, community empowerment and resource-based theories. The research

adopted the philosophy of interpretivism, as it placed a greater emphasis on variables and elements that are unique to specific contexts. Descriptive research design was utilized. Census survey was adopted during the data collection phase.

Both the quantitative and qualitative data were collected and analyzed through descriptive and inferential analysis. ANOVA results were used to test the four developed null hypotheses. Before conducting the modelling process, the assumptions of classical regression modelling, including normality, multicollinearity and homoscedasticity, were assessed. The research adhered to the required ethical standards throughout its execution.

The study variables were further conceptualized by indicators, which were used to generate aggregate scores for the main variables. To begin with, revenue decentralization was measured using the two indicators of tax autonomy and intergovernmental grants. In addition, to measure expenditure decentralization, the two indicators of resource allocation processes and plans/programs implementation were used. Further, technical support structures was measured using the three indicators of ICT integration, availability of physical infrastructure and health communication system. Then, policy framework was measured using four indicators: namely, regulatory aspects, distributive aspects, procedural aspects and equity. Lastly, healthcare service delivery was measured using the three indicators of healthcare accessibility, patient support and care affordability.

From the descriptive analysis, the current revenue decentralization practices were moderately agreed upon in relation to healthcare service delivery in Turkana County. Specifically, the data revealed that there existed tax autonomy and utilisation of intergovernmental grants in the County of Turkana. On expenditure decentralization, the

data indicated that expenditure decentralization had an effect on healthcare resources and healthcare service delivery. Specifically, the data moderately agreed on the current resource allocation processes and plans/programs implementation in the county of Turkana. Further, the descriptive results indicated that there existed a functional ICT integration process and physical infrastructure in the county of Turkana. In addition, data acknowledged the existence and use of health communication systems in the County and also indicated that the current technical support structures were functional.

On policy framework, the data appreciated the current regulatory, distributive, procedural and equity aspects of policy frameworks. Nonetheless, discrepancies existed in healthcare resource allocation between urban and rural areas within Turkana County and that healthcare services accessibility and benefits to the vulnerable population was somewhat unfair. Lastly on healthcare service delivery, the data indicated that healthcare was accessible to a limited extent (approximately 14 kms), patient support was seen and that healthcare was somewhat affordable.

The first objective was to establish the effects of revenue decentralisation on healthcare service delivery. A null hypothesis was postulated that revenue decentralization did not affect healthcare service delivery in Turkana County. This null hypothesis that revenue decentralization did not affect healthcare service delivery in Turkana County was rejected. Thus, there was evidence to support that revenue decentralization did have a positive effect on healthcare service delivery in Turkana County.

From the second objective, the study examined the effects of expenditure decentralization on healthcare service delivery in Turkana County. A null hypothesis was postulated that

expenditure decentralization did not affect healthcare service delivery in Turkana County. This null hypothesis that expenditure decentralization did not affect healthcare service delivery in Turkana County was also rejected. As such, the assertion that expenditure decentralization had an effect on healthcare service delivery in Turkana County was confirmed.

In the third objective, the study sought to establish the effects of technical support structures on healthcare service delivery in Turkana County. A null hypothesis that technical support structures did not affect healthcare service delivery in Turkana County was postulated. This null hypothesis that technical support structures did not affect healthcare service delivery in Turkana County was rejected. Thus, technical support structures had a significant positive effect on healthcare service delivery in Turkana County.

Lastly, on the fourth objective, the research sought to examine the effects of policy framework on the relationship between fiscal decentralization and the healthcare service delivery in Turkana County. A null hypothesis that policy framework had no moderating effect on the relationship between fiscal decentralization and healthcare service delivery in Turkana County was tested. Study findings indicated that the null hypothesis be rejected. As such, policy framework partially moderated the relationship between fiscal decentralization and healthcare service delivery in Turkana County.

5.2 Conclusion

From the aforementioned summary in section 5.1, this research makes the following conclusion on the effect of fiscal decentralization on healthcare service delivery in Turkana County. From the first objective, it can be concluded that revenue decentralization had a significant positive effect on healthcare service delivery in Turkana County. Regarding the second objective, it was confirmed that expenditure decentralization had a significant effect on healthcare service delivery in Turkana County.

Onto the third objective, it was evident that technical support structures significantly affected healthcare service delivery in Turkana County. Finally, concerning the fourth objective, it can be concluded that policy framework partially moderated the relationship between fiscal decentralization and healthcare service delivery in Turkana County. This suggests that while fiscal decentralization has a direct effect on healthcare service delivery, the presence of a policy framework can affect and shape this relationship. In this case, policy framework had the potential to accelerate the positive effect of fiscal decentralization on healthcare service delivery in Turkana County.

5.3 Contribution of the Study

The variables in the study add to the empirical literature on healthcare service delivery attributes. Subsequently, readers will benefit by getting awareness on how fiscal decentralization affects healthcare service delivery in Turkana County.

5.3.1 Contribution to Policy

Policymakers should consider the findings of this study when designing and implementing fiscal decentralization policies in healthcare. Specifically, attention should be paid to the role of intergovernmental grants in enhancing healthcare service delivery and measures should be taken to optimize the impact of tax autonomy on healthcare accessibility while mitigating negative effects on patient support.

There is a need for policy interventions to address the challenges identified with the health communication system. Strategies to improve communication infrastructure and processes should be prioritized to enhance overall healthcare service delivery.

5.3.2 Contribution to Practice

Healthcare practitioners and administrators in Turkana County should leverage the positive effects of technical support structures, particularly the integration of ICT and the availability of physical infrastructure, to enhance healthcare accessibility, patient support and care affordability.

Practical initiatives should be implemented to improve resource allocation processes and plans/programs implementation under expenditure decentralization. This could involve capacity building for healthcare administrators and the establishment of monitoring mechanisms to ensure efficient resource utilization and program implementation. In addition, a complete turnaround on the current health communication system will be necessary in order to mitigate its negative effect on healthcare accessibility and affordability. Consequently, the study suggests a need for improvement/overhaul in the

current health communication system to positively influence healthcare service delivery in Turkana County.

5.3.3 Contribution to Knowledge

The findings of the study align quite well with the theories of Fiscal decentralization, Community Empowerment and Resource-Based theories. Firstly, on Fiscal decentralization theory, the study expounds the understanding of how devolving fiscal authority to lower levels of government, such as Counties in Kenya, impacts positively on healthcare service delivery. It sheds light on the specific mechanisms through which revenue and expenditure decentralization affects healthcare accessibility, patient support and care affordability, thereby enriching the discourse on the role of fiscal decentralization in health sector in terms of governance and resource allocation.

Secondly, through the lens of community empowerment theory, the study highlights the importance of community involvement and participation in decision-making processes related to healthcare service delivery. It underscores the potential of empowered communities to drive demand-driven healthcare interventions and initiatives, ultimately fostering more responsive and accountable health systems. Lastly, drawing on resource-based theories, the study explored how the availability and allocation of resources, both financial and technical, contributed to the overall wellbeing of healthcare delivery in Turkana County. By examining the interplay between resource availability, technical support structures and healthcare outcomes, the study offered a perspective into the resource dynamics shaping healthcare service delivery in resource-constrained settings,

thus advancing the understanding of resource-based perspectives in health systems research.

5.4 Recommendations

Based on the conclusions drawn from the research on the effect of fiscal decentralization on healthcare service delivery in Turkana County, several recommendations have been derived. Firstly, to enhance the positive impact of revenue decentralization, it would be crucial to optimize tax autonomy mechanisms to ensure they do not adversely affect patient support. Policymakers should consider balancing the tax structure to mitigate any negative effects on patient support while maintaining the gains in healthcare accessibility. Additionally, intergovernmental grants have shown to be beneficial across all healthcare indicators, so increasing or maintaining these transfers could further bolster healthcare service delivery. Efforts should be made to ensure grants are efficiently utilized and equitably distributed to maximize their positive impact on healthcare services.

In terms of expenditure decentralization, resource allocation processes should be fine-tuned to sustain their positive effects on healthcare accessibility, patient support and care affordability. Strategies should be developed to address the specific needs of healthcare accessibility, which did not benefit from plans/programs implementation. Enhancing technical support structures such as ICT and physical infrastructure would be crucial in enhancing and maintaining positive influence on healthcare service delivery. Lastly, the policy framework must be strengthened to better moderate and enhance the relationship

between fiscal decentralization and healthcare service delivery, ensuring that policies are aligned to support and amplify the benefits of decentralization in the healthcare sector.

5.5 Future Study Focus

For future studies, several key areas of focus are recommended to further enhance understanding and inform policy and practice in healthcare service delivery in Turkana County. Firstly, investigating the long-term effects and sustainability of fiscal decentralization policies on healthcare outcomes. Secondly, conducting comparative studies across different counties or regions in Kenya could offer comparative insights into the role of fiscal decentralization and policy frameworks in healthcare service delivery, contributing to broader policy discussions and decision-making processes.

REFERENCES

Adebiyi, S.M., & Adeoye, O. (2018). Effects of fiscal policy decentralization on the quality of healthcare in Nigeria. *International Journal of Health Policy and Management*, 7(10), 733-742. doi:10.15171/ijhpm.2018.56

Agdal, R., Midtgård, I. H., & Meidell, V. (2019). Can asset-based community development with children and youth enhance the level of participation in health promotion projects? A qualitative meta-synthesis. *International Journal of Environmental Research and Public Health*, 16(19), 3778.

Agyemang-Duah, W., Kafui Gbedoho, E., Peprah, P., Arthur, F., Kweku Sobeng, A., Okyere, J., & Mengba Dokbila, J. (2018). Reducing poverty through fiscal decentralization in Ghana and beyond: *A review. Cogent Economics & Finance*, 6(1), 1476035.

Ahmed, M., & Lodhi, A. S. (2016). Impact of fiscal decentralizations on education and healthcare outcomes: Empirical evidence from Pakistan. *Journal of Applied and Emerging Sciences*, 4(2), p122-134.

Alene, A., & Worku, D. (2017). Does decentralization have a role in poverty reduction? The Ethiopian experience. *Journal of African Studies and Development*, 9(1), 1-6.

Arends, H. (2017). More with less? Fiscal Decentralization, Public Health spending and Health Sector Performance. *Swiss Political Science Review,* 23(2), 144-174.

Asfaw, A., Frohberg, K., James, K. S., & Jütting, J. (2007). Fiscal decentralization and infant mortality: empirical evidence from rural India. *The Journal of Developing Areas*, 17-35.

Assefa, D. (2015). Fiscal Decentralization in Ethiopia: Achievements and Challenges. Public Policy and Administration Research, 5(8), 27-40.

Azfar, O., Kahkonen, S., Lanyi, A., Meagher, P., & Rutherford, D. (2018).decentralization, governance and public services: The impact of institutional arrangements. In Devolution and development (pp. 45-88). Routledge.

Bahl, R., & Bird, R. M. (2018). Fiscal decentralization and local finance in developing countries. *Edward Elgar Publishing.*

Barasa, E. W., Manyara, A. M., Molyneux, S., & Tsofa, B. (2017). Recentralisation within decentralization: County hospital autonomy under devolution in Kenya. PloS one, 12(8), e0182440.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.

Barney, J. B. (2007). Gaining and Sustaining Competitive Advantage. (3rd Edition).

Bashaasha, B., Najjingo Mangheni, M., & Nkonya, E. (2013).decentralization and rural service delivery in Uganda.

Bianchi, N., Giorcelli, M., & Martino, E. M. (2023). The Effects of Fiscal Decentralization on Publicly Provided Services and Labour Markets. *The Economic Journal*, *133*(653), 1738-1772. https://doi.org/10.1093/ej/uead022

Bird, R., & Vaillancourt, F. (2008). Fiscal decentralization in developing countries. Cambridge University Press.

Cantarero, D., & Pascual, M. (2008). Analysing the impact of fiscal decentralization on health outcomes: empirical evidence from Spain. *Applied Economics Letters*, *15*(2), 109-111.

Cavalieri, M., & Ferrante, L. (2016). Does fiscaldecentralization improve health outcomes? Evidence from infant mortality in Italy. *Social Science & Medicine*, 164, 74-88.

Changwony, F. K., & Paterson, A. S. (2019). Accounting practice, fiscal decentralization and corruption. *The British Accounting Review*, 51(5), 100834.

Chygryn, O., Petrushenko, Y., Vysochyna, A., & Vorontsova, A. (2018). Assessment of fiscal decentralization influence on social and economic development. *Montenegrin Journal of Economics,* 14(4), 69-84.

Cooper, D., & Schindler, P. (2010). Business Research Methods New York: McGraw.

Das, J., Woskie, L., Rajbhandari, R., Abbasi, K., & Jha, A. (2018). Rethinking assumptions about delivery of healthcare: implications for universal health coverage. Bmj, 361.

Di Novi, C., Piacenza, M., Robone, S., & Turati, G. (2019). Does fiscal decentralization affect regional disparities in health? Quasi-experimental evidence from Italy. *Regional Science and Urban Economics,* 78, 103465.

Diaz-Serrano, L., & Meix-Llop, E. (2019).decentralization and the quality of public services: Cross-country evidence from educational data. Environment and Planning C: Politics and Space, 37(7), 1296-1316.

Dick-Sagoe, C. (2020). Decentralization for improving the provision of public services in developing countries: A critical review. *Cogent Economics & Finance*, *8*(1), 1804036.

Epuu, K. (2010). Determinants of maternal morbidity and mortality Turkana District Kenya.

Farooqi, S. A. (2013). Assessment of decentralized service delivery arrangements and institutional performance: The case of Pakistan Local Government Reforms.

Ferlie, E., Crilly, T., Jashapara, A., Trenholm, S., Peckham, A., & Currie, G. (2016). Strategic management in the healthcare sector: the debate about the resource-based view flourishes in response to recent commentaries. *International journal of health policy and management*, 5(2), 145.

Fletcher-Brown, J., Carter, D., Pereira, V., & Chandwani, R. (2021). Mobile technology to give a resource-based knowledge management advantage to community health nurses in an emerging economies context. *Journal of Knowledge Management,* 25(3), 525-544.

Forster, T., Kentikelenis, A. E., Stubbs, T. H., & King, L. P. (2020). Globalization and health equity: The impact of structural adjustment programs on developing countries. *Social Science & Medicine*, 267, 112496.

Gadenne, L. (2017). Tax me, but spend wisely? Sources of public finance and government accountability. *American Economic Journal: Applied Economics*, 274-314.

Gitonga, Z., & Keiyoro, P. (2017). Factors influencing the implementation of healthcare projects: The case of Meru County, Kenya. *International academic journal of information sciences and project management*, 5(1), 259-280.

Godwin, R. K. E. (2010). The effectiveness of decentralization policy in Ghana: A case study of Komenda-Edina-Eguafo-Abrim (KEEA) and Abura C. "Asebu-Kwamankese (AAK) districts in Ghana. *African Journal of Political Science and International Relations*, 4(1), 013-028.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, *8*(4), 597-607.

Granström, E., Hansson, J., Sparring, V., Brommels, M., & Nyström, M. E. (2018). Enhancing policy implementation to improve healthcare practices: The role and strategies of hybrid national-local support structures. *The International Journal of Health Planning and Management*, 33(4), e1262-e1278.

Habibi Nadir (2001). The devolution effects on socioeconomic and fiscal indicators in Argentina. Economic Progression Center Yale University.

Holdford, D. A. (2018). Resource-based theory of competitive advantage-a framework for pharmacy practice innovation research. Pharmacy Practice (Granada), 16(3).

Huang, J., Chen, L., Li, J., & Groot, W. (2017). Expendituredecentralization and citizen satisfaction with healthcare: evidence from Urban China. Social Indicators Research, *133*, 333-344.

Jabareen, Y. (2009). Building a Conceptual Framework: Philosophy, Definitions, and Procedure. 49–62.

Kalema, Y., Businge, J., Ssengooba, F., Kirigia, J., Mwebesa, B., Swai, N. and Makawia, S. (2017). Fiscal policy decentralization and the quality of healthcare in Uganda. Health Policy and Planning, 32(4), pp.541-550.

Keats, E. C., Ngugi, A., Macharia, W., Akseer, N., Khaemba, E. N., Bhatti, Z., ... & Bhutta, Z. A. (2017). Progress and priorities for reproductive, maternal, newborn, and child health in Kenya: a countdown to 2015 country case study. The Lancet Global Health, 5(8), e782-e795.

Khwaja, A. I. (2004). Is increasing community participation always a good thing*? Journal of the European Economic Association*, 2(2–3), 427–436.

Kimathi, L. (2017). Challenges of the devolved health sector in Kenya: Teething problems or systemic contradictions? Africa Development, Council for the Development of Social Science Research in Africa, 2017

Kuai, P., Yang, S., Tao, A., & Khan, Z. D. (2019). Environmental effects of Chinese-style fiscal decentralization and the sustainability implications. *Journal of Cleaner Production*, 239, 118089.

Kyriacou, A. P., Muinelo-Gallo, L., & Roca-Sagalés, O. (2015). Fiscaldecentralization and regional disparities: The importance of good governance. Papers in Regional Science, *94*(1), 89-107.

Lafond, A., & Brown, L. (2003). A Guide to Monitoring and Evaluation of Capacity-Building Interventions in the Health Sector in Developing Countries. 7.

Letelier-S, L. E., & Sáez-Lozano, J. L. (2020). Expenditure Decentralization: Does It Make Us Happier? An Empirical Analysis Using a Panel of Countries. Sustainability, *12*(18), 7236.

Liu, L., & Li, L. (2019). Effects of fiscal decentralization on the environment: new evidence from China. *Environmental Science and Pollution Research*, *26*(36), 36878-36886.

Lovelock, K., Martin, G., Gauld, R., & MacRae, J. (2017). Better, Sooner, More Convenient? The reality of pursuing greater integration between primary and secondary healthcare providers in New Zealand. SAGE Open Medicine, Volume 5: 1

Mabokova, E. (2020). Revenue Decentralization and the Quality of Healthcare in Tanzania. African Development Review, 32(2), 357-373.

Maboshe, M., Okafor, C., & Maboshe, N. (2019). Support Structures on the Relationship between Fiscal Decentralization and Quality of Healthcare in Nigeria. *Journal of Public Administration and Governance*, 9(4), 13-27.

Maleki Minbashrazgah, M., & Shabani, A. (2019). Eco-capability role in healthcare facility's performance: Natural-resource-based view and dynamic capabilities paradigm. *Management of Environmental Quality: An International Journal,* 30(1), 137-156.

Manda, J.K. and Agyemang, E. (2015). Fiscal Decentralization and Quality of Healthcare in Ghana. *International Journal of Health Services*, 45(2), pp. 241-257.

Martinez-Vazquez, J., & Timofeev, A. (2010). Decentralization measures revisited. Public Finance and Management, 10(1), 13-47.

Martínez-Vázquez, J., Lago-Peñas, S., & Sacchi, A. (2017). The impact of fiscaldecentralization: A survey. *Journal of Economic Surveys,* 31(4), 1095-1129.

Mbau, E. P., Iraya, C., Mwangi, M., & Njihia, J. (2019). An Assessment of the Effect of Fiscal Decentralization on Performance of County Governments in Kenya. European Scientific Journal, 15(25), 109-115.

Mejia Acosta, A., & Tillin, L. (2019). Negotiating universalism in India and Latin America: Fiscal decentralization, subnational politics and social outcomes. Regional & Federal Studies, 29(2), 115-134.

Micah, N. J., & Luketero, S. W. (2017). Monitoring and Evaluation Systems and Performance of Non-Governmental Based Maternal Health Projects in Bungoma South Sub-County, Kenya. 13(23), 11–38.

Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, *17*(4), 59-82.

MOH-Uganda. (2014). Monitoring & Evaluation Plan for Health Sector Strategic &. Promoting People's Health to Enhance Socio-Economic Development.

Mose, N. G. (2022). Fiscal decentralization and economic growth: The Kenyan experience. Journal of Somali Studies, 9(2), 59.

Mwiathi, P. S., Wawire, N. H., & Onono, P. A. (2018). Effects of Fiscal Decentralization on Poverty Reduction in Kenya.

Naimoli, J. F., Perry, H. B., Townsend, J. W., Frymus, D. E., & McCaffery, J. A. (2015). Strategic partnering to improve community health worker programming and performance: Features of a community-health system integrated approach. Human Resources for Health, 3

Naimoli, J. F., Perry, H. B., Townsend, J. W., Frymus, D. E., & McCaffery, J. A. (2015). Strategic partnering to improve community health worker programming and performance: features of a community-health system integrated approach. Human resources for health, 13(1), 1-13.

Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.

Nyambura, M. I. (2017). Access to healthcare among marginalized Kenyan communities: A Case study of the People of Turkana County, Republic of Kenya (Doctoral dissertation, Strathmore University).

Oates, W.E. (1972). Fiscal Federalism. Chapter Five. New York: Harcourt-Brace.

Oppong, F. (2020). Fiscal Decentralization and Autonomy of Subnational Entities in Ghana (Doctoral dissertation, University of Pretoria).

Ouali, m. A., & Bousseta, M. (2020). Local financial Autonomy in France, Italy and Morocco, A Comparative Study. Revue de Recherches en Economie et en Management Africain, 8(8).

Ouma, G. (2018). Exploring the Relationship between Fiscal Decentralization and the Quality of Healthcare in Kenya. *International Journal of Health Policy and Management*, 7(10), 707-717.

Panda, B., & Thakur, H. P. (2016). Decentralization and health system performance–a focused review of dimensions, difficulties, and derivatives in India. BMC health services research, 16(6), 1-14

Pasichnyi, M., Kaneva, T., Ruban, M., & Nepytaliuk, A. (2019). The impact of fiscal decentralization on economic development. Investment Management and Financial Innovations, 16(3).

Porcelli, F. (2009). Fiscal Decentralization and efficiency of government. A brief literature review. Department of Economics, University of Warwick, pp.1-12

Press, R. T. I. (2014). Fostering blueprints for local government development: The local governance development framework.

Radjenović, T., & Krstić, B. (2017). Intellectual capital as the source of competitive advantage: the resource-based view. Facta Universitatis, Series: Economics and Organization, 127-137.

Rao, M., Mukherji, A., & Swaminathan, H. (2021). Trends in rural fiscal decentralization in India's Karnataka state: A focus on public health. *Commonwealth Journal of Local Governance*, (25), 56-78.

Robalino, D. A., Picazo, O., & Voetberg, A. (2001). Does fiscal decentralization improve health outcomes? Evidence from a cross-country analysis. Evidence from a Cross-Country Analysis (March 2001).

Robinson, K. L., & Elliott, S. J. (2000). The practice of community development approaches in heart health promotion. *Health Education and Research Theory & Practice,* 15(2), 219–231.

Roodenbeke, E. De, Lucas, S., Rouzaut, A., & Bana, F. (2011). Outreach services as a strategy to increase access to health workers in remote and rural areas; Increasing access to health workers in rural and remote areas. World Health Organization, Contribution- mobilizing hospital workers through outreach services.

Roodenbeke, E. De, Lucas, S., Rouzaut, A., & Bana, F. (2015). Outreach services as a strategy to increase access to health workers in remote and rural areas; Increasing access to health workers in rural and remote areas. World Health Organization, Contribution- mobilizing hospital workers through outreach services.

Rubio, D. J. (2011). The impact of decentralization of health services on health outcomes: evidence from Canada. Applied Economics, 43(26), 3907–3917.

Samia, K., Debeljak, K., & Power, D. G. (2011). Citizen access to information: Emerging trends from the developing world. Inter Media, 39(1), 18–23.

Santa-María Morales, A., Battel-Kirk, B., Barry, M. M., Bosker, L., Kasmel, A., & Griffiths, J. (2009). Perspectives on health promotion competencies and accreditation in Europe. *Global health promotion*, *16*(2), 21-31.

Schakel, H. C., Wu, E. H., & Jeurissen, P. (2018). Fiscal rules, powerful levers for controlling the health budget? Evidence from 32 OECD countries. BMC Public Health, 18(1), 1-17.

Sheikh, A., Anderson, M., Albala, S., Casadei, B., Franklin, B. D., Richards, M., … & Mossialos, E. (2021). Health information technology and digital innovation for

national learning health and care systems. The Lancet Digital Health, 3(6), e383-e396.

Slavinskaitė, N. (2017). Fiscal decentralization and economic growth in selected European countries. *Journal of business economics and management*, 18(4), 745-757.

Sow, M., & Razafimahefa, M. I. F. (2017). Fiscaldecentralization and fiscal policy performance. *International Monetary Fund.*

Stadhouders, N., Kruse, F., Tanke, M., Koolman, X., & Jeurissen, P. (2019). Effective healthcare cost-containment policies: A systematic review. Health Policy, 123(1), 71-79.

Stossberg, S., D. Bartolini and H. Blöchliger (2016). "Fiscal decentralization and income inequality: Empirical evidence from OECD countries", *OECD Economics Department Working Papers*, No. 1331, OECD Publishing, Paris. https://doi.org/10.1787/5jlpq7tm05r6-en.

Sumah, A. M., Baatiema, L., & Abimbola, S. (2016). The impacts of decentralization on health- related equity: A systematic review of the evidence. Health Policy, 120(10), 1183-1192.

Sun, Y., & Razzaq, A. (2022). Composite fiscal decentralization and green innovation: Imperative strategy for institutional reforms and sustainable development in OECD countries. *Sustainable Development*, *30*(5), 944-957.

Syed-Ikhsan, S. O. S., & Rowland, F. (2004). Knowledge management in a public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. *Journal of knowledge management*.

Tiebout, C.M. (1956). A pure theory of local expenditures. *The Journal of Political Economy*, 64(5), pp.416–424

Tsofa, B., Goodman, C., Gilson, L., & Molyneux, S. (2017). Devolution and its effects on health workforce and commodities management–early implementation experiences in Kilifi County, Kenya. *International journal for equity in health*, *16*(1), 1-13.

Uchimura, H., & Jütting, J. (2007). Fiscal Decentralization, Chinese Style: Good for Health Outcomes?

Van Rompuy, P. (2016). Sub-national tax autonomy and deficits: Empirical results for 27 OECD countries. Regional studies, 50(7), 1248-1259.

Veiga, L. G., & Kurian, M. (2015). Intergovernmental fiscal relations: Questions of accountability and autonomy. In: Kurian M., Ardakanian R. (eds). Governing the Nexus. Springer, Cham. https://doi.org/10.1007/978-3-319-05747-7_4

Wang, K. H., Liu, L., Adebayo, T. S., Lobonț, O. R., & Claudia, M. N. (2021). Fiscal decentralization, political stability and resources curse hypothesis: A case of fiscal decentralized economies. Resources Policy, 72, 102071.

Wang, Q. S., Su, C. W., Hua, Y. F., & Umar, M. (2021). Can fiscal decentralization regulate the impact of industrial structure on energy efficiency? *Economic research-Ekonomskaistraživanja*, *34*(1),1727-1751. https://doi.org/10.1080/1331677X.2020.1845969

Wanjau, K. N., Muiruri, B. W., & Ayodo, E. (2012). Factors Affecting Provision of Service Quality in the Public Health Sector: A Case of Kenyatta National Hospital; *International Journal of Academic Research in Business and Social Sciences,* 2(13), 114–125.

Wooditch, A., Johnson, N. J., Solymosi, R., Medina Ariza, J., & Langton, S. (2021). Ordinary least squares regression. In A Beginner's Guide to Statistics for Criminology and Criminal Justice Using R (pp. 245-268). Cham: Springer International Publishing.

World Health Organization. (2017). World health statistics 2017:monitoring health for the SDGs. Sustainable Development Goals, 7.

Zaib Un Nisaa, Uzma Javedb, H. A. (2017). Impact of Project Performance Measurement System on Project Success: A Study Based on NGO Sector of Pakistan. *International Journal of Sciences.*

Zhu, M., & Peyrache, A. (2017). The quality and efficiency of public service delivery in the UK and China. Regional Studies, 51(2), 285-296.

Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and practice in language studies*, *3*(2), 254.

APPENDICES

Appendix I: Consent Letter

Dear Respondent,

RE: Consent for Questionnaire Participation

Thank you for considering participating in our study. Your responses will be anonymous, confidential and will be used for research purposes only. While there are no direct benefits to you, your participation will help improve the conceptual understanding of fiscal decentralization and healthcare service delivery in Turkana County. Participation is entirely voluntary and you have the right to withdraw at any time without providing a reason. By proceeding with the questionnaire, you indicate your voluntary agreement to participate in this research and acknowledge your right to withdraw at any time.

Thank you for your consideration and agreement to participate.

Sign _____Date_____

Yours sincerely,

James Kinjanzi Sirite

Appendix II: Ethical Approvals – Kenyatta University Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: kubps@yahoo.com
dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Internal Memo

FROM: Dean, Graduate School

DATE: 15th September, 2023

TO: James Kinjanzi Sirite
C/o Department of Public Policy & Administration
KENYATTA UNIVERSITY

REF: C82/CTY/27612/2018

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that the Graduate School Board at its meeting 13th September, 2023 approved your Ph.D. Research Proposal entitled "Fiscal Decentralization and Healthcare Service Delivery in Turkana County, Kenya".

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision Tracking and Progress Report Forms. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.
By copy of this letter, the Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D. studies.

Thank you.

KENYATTA UNIVERSITY OFFICE OF EXECUTIVE DEAN 11 SEP 2023 GRADUATE SCHOOL P.O. NAIROBI

JACKSON LUVUSI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Department of Public Policy and Administration
Registrar (Academic) Att; Mr. Richard Chweya

Supervisors:

1. Prof. David Minja
   C/o Dept. of Public Policy & Administration
   Kenyatta University
2. Dr. Jane Njoroge
   C/o Dept. of Public Policy & Administration
   Kenyatta University

Appendix III: Ethical Approvals – NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **276748**

Date of Issue: **26/September/2023**

RESEARCH LICENSE

This is to Certify that Mr.. JAMES KINJANZI SIRITE of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Turkana on the topic: FISCAL DECENTRALIZATION AND HEALTHCARE SERVICE DELIVERY IN TURKANA COUNTY, KENYA for the period ending : 26/September/2024.

License No: **NACOSTI/P/23/29805**

276748

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.

See overleaf for conditions

Appendix IV: Ethical Approvals – Turkana County Commissioner

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

Telegraphic address "DISTRICTER" LODWAR
Telephone: LODWAR
Telex:
Fax:

COUNTY COMMISSIONER
TURKANA COUNTY
P.O BOX 1-30500
LODWAR.

REF: TC.CONF. ED.12/VOL.1V (125)

29th September, 2023

ALL DEPUTY COUNTY COMMISSIONERS
TURKANA COUNTY

RE: RESEARCH AUTHORIZATION: MR. JAMES KINJANZI SIRITE
LICENCE NO: NACOSTI/P/23/29805

The above mentioned is a student of Kenyatta University, he has been authorized to carry out research on **"Fiscal Decentralization and Healthcare Service Delivery in Turkana County, Kenya"**. The research period ends on **26th September, 2024.**

Any assistance accorded to him will be appreciated.

COUNTY COMMISSIONER TURKANA COUNTY

PATRICK IJARIKA
FOR: COUNTY COMMISSIONER
TURKANA COUNTY

Copy to:
The Director of Education
TURKANA COUNTY

The Governor
TURKANA COUNTY

MR. JAMES KINJANZI SIRITE

Appendix V: Ethical Approvals – Turkana County Education Office

MINISTRY OF EDUCATION

Telegram 'ELIMU' Lodwar
Telephone'Lodwar'054 21076
Fax/No: 054 21076

TURKANA COUNTY EDUCATION OFFICE,
P.O. BOX 16- 30500,
LODWAR.
DATE: 29TH SEPTEMBER 2023

MOE/TUR/CDE/CIR/17/VN.III/16

TO

ALL SUBCOUNTY DIRECTORS OF EDUCATION

TURKANA COUNTY

RE: RESEARCH AUTHORIZATION – MR. JAMES KINJANZI SIRITE LICENCE NO. NACOSTI/P/23/29805

The above mentioned person is a student of Kenyatta University. He has been authorized to carry out research on **"Fiscal Decentralization and Health care service delivery in Turkana County, Kenya"**. The research ends on 26th September 2024.

Please accord him any assistance he requests when he visits to your sub-county.

Thanks

PP HENRY AKOLO LUBANGA
COUNTY DIRECTOR OF EDUCATION
TURKANA COUNTY

COUNTY DIRECTOR OF EDUCATION
TURKANA COUNTY
P. O. Box 16 - 30500,
LODWAR

CC

1. THE COUNTY COMMISSIONER
   TURKANA COUNTY
2. THE GOVERNOR
   TURKANA COUNTY
3. DIRECTOR GENERAL NACOSTI
4. MR. JAMES KINJANZI SIRITE

Appendix VI: Ethical Approvals – Turkana County Government

COUNTY GOVERNMENT OF TURKANA

OFFICE OF THE GOVERNOR

Telegraphic address
County Governor,
E-mail: countysecretary@turkana.go.ke
Fax .....
REF: TCG/CS/RSC/VOL.1 (21)

The County Secretary
Turkana County Government
P.O. Box 11-30500
Lodwar
2nd October, 2023

All Sub-County Administrator
Turkana County

RE: **RESEARCH LICENSE NO. NACOSTI/P/23/29805**
MR. JAMES KINYANZI SIRITE

The above mentioned person is a student from Kenyatta University and has been granted authority by the National Commission for Science, Technology and Innovation to conduct research in Turkana County on the topic: **Fiscal Decentralization and Healthcare Service Delivery in Turkana County.** The research periods ends on **26th September, 2024.**

Please accord him the necessary assistance and ensure that the researcher share a copy of his findings with us for our future reference.

COUNTY SECRETARY
TURKANA COUNTY GOVERNMENT
02 OCT 2023
P. O. Box 11 - 30500,
LODWAR.

HON. JOSEPH NYANG'A
FOR: COUNTY SECRETARY/ HEAD OF COUNTY PUBLIC SERVICE

Copy to:

CECM – Public Service, Administration and Disaster Management
CECM – Health Services and Sanitation

Appendix VII: Questionnaire

For Sub-County Hospitals' Heads of departments, Community Health Volunteers Co-ordinators and Chairpersons for Health Centres and Dispensaries Committees.

A. Personal Information

In this section, please indicate by a tick [✓] in the spaces alongside each of the questions below. In cases where additional information is required, kindly provide an elaborate explanation.

1. Kindly indicate your gender Male [ ] Female [ ] Others [ ]
2. What is your age bracket (Tick one)

   21- 30 years [ ] 31- 40 years [ ] 41- 50 years [ ]

   51- 60 years [ ] 56 years and above [ ]
3. Indicate the highest level of education

   Certificate [ ] Diploma [ ] Degree [ ]

   Masters [ ] PhD [ ]
4. Indicate the length of service in your present place of work. …… years.
5. Indicate your level of management within the organisation *(Tick one)*

   Top-level management (oversee all operations and design policies) [ ]

   Middle-level management (execute plans and policies) [ ]

Low-level management (direct task execution and deliverables) [ ]

B. Revenue Decentralization

6. In the following table, please indicate by a tick [✓], your level of agreement with the statements related to revenue decentralization on healthcare service delivery. Use the Likert scale: 5=*SA= Strongly Agree 4=A=Agree, 3=N=Neutral, 2=D=Disagree 1=SD= Strongly Disagree*

Statement		**SA**	**A**	**N**	**D**	**SD**
Tax Autonomy						
B1	The County government allocated part of the tax revenue on healthcare services					
B2	Tax autonomy empowers the County government to make better health-related financial decisions					
B3	The County government provides health revenue projections for every fiscal year					
B4	The County Annual Development Plan present the budget broken down by source (Vote heads)					
Intergovernmental Grants						
B5	The County government uses the health tax revenue allocated to them by the national government					
B6	The County government also benefits from unconditional grants on healthcare from National government and other partners.					
B7	The County government conducts public participation in prioritisation of health projects					
B8	The County government presents adequate health reports on projects financed by grants					

7. On average, how many months are taken from the time of allocation to receiving the allocated budget on healthcare in Turkana County _____.

8. Quantify in terms of percentage the level of tax autonomy that you believe Turkana County currently possesses.

0 – 20% [ ] 21 – 40% [ ] 41 – 60% [ ]

61 – 80% [ ] 81 – 100% [ ]

9. From your observation, indicate the percentage improvement in the availability of medical supplies in healthcare facilities within Turkana County due to revenue decentralization in the past year.

0 – 20% [ ] 21 – 40% [ ] 41 – 60% [ ]

61 – 80% [ ] 81 – 100% [ ]

10. What proportion (percentage) of the total County budget do you estimate comes from intergovernmental grants?

0 – 20% [ ] 21 – 40% [ ] 41 – 60% [ ]

61 – 80% [ ] 81 – 100% [ ]

11. How frequently do changes in intergovernmental grant allocations affect the availability of healthcare services in Turkana County?

Very Rarely [ ] Rarely [ ] Occasionally [ ]

Frequently [ ] Very Frequently [ ]

12. Please provide your views and any relevant information on possible ways to strengthen the engagement of a wide range of public and private institutions, to improve healthcare service delivery.

……

……

……

……

13. Please provide your views and any relevant information concerning options and approaches for providing additional health resources.

……

……

……

……

C. Expenditure Decentralization

14. Has expenditure decentralization had an effect on allocation of healthcare resources and healthcare service delivery in Turkana County?

Yes [ ] No [ ]

Please expound on your response.

……

……

……

……

15.In the following table, please indicate by a tick [✓], your level of agreement with the statements related to expenditure decentralization on healthcare service delivery. Use the Likert scale: *SA= Strongly Agree A=Agree, N=Neutral, D=Disagree SD= Strongly Disagree*

Statement		**SA**	**A**	**N**	**D**	**SD**
Resource Allocation Processes						
C1	The County resource allocation process has led to minimal/no wastage of money resources directed to health					
C2	The process of resource allocation has reduced the time spent on County projects in healthcare					
C3	The County resource allocation process has led to health projects being completed before set deadlines without compromising on quality					
C4	Resource allocation in the County has improved healthcare service efficiency					
Plans /Programs implementation						
C5	Healthcare resource mobilisation is based on an assessment of the current County budget.					
C6	Healthcare resource allocation is further based on priority; where there is a greater need.					
C7	Planning and programs implementation on health service has led to the County achieving health growth goals					
C8	The County has a comprehensive program management strategy that coordinates and operate healthcare projects effectively					

16. What percentage of the County budget do you estimate is allocated to healthcare services delivery in Turkana County?

0 – 20% [ ] 21 – 40% [ ] 41 – 60% [ ]

61 – 80% [ ] 81 – 100% [ ]

17. How many times has the allocation of the County budget to healthcare services in Turkana County changed within the past year? ……

18. How frequently do local healthcare administrators make decisions regarding the allocation of funds for healthcare services in Turkana County in a typical month?

Very Rarely [ ] Rarely [ ] Occasionally [ ]

Frequently [ ] Very Frequently [ ]

19. On average, indicate the number of months it takes for health program to be fully implemented.

1 – 6 months [ ] 7 – 12 months [ ] 13 – 18months [ ]

19 – 24months [ ] 25 – 30 months [] More than 30 months [ ]

20. What are the challenges, difficulties and obstacles that the County government encounters in relation to expenditure decentralization?

……

……

……

……

21. What are the possible measures to improve the effectiveness of expenditure decentralization for the County government on healthcare service delivery?

……

……

……

……

D. Technical Support Structures

22. How long have you interacted with the healthcare Information Systems?

1 Year [ ] 2 Years [ ] 3 Years [ ]

4 Years [ ] 5 Years [ ] More than 5 Years [ ]

23. Have you interacted with electronic patient record (EPR) system?

YES [ ] NO [ ]

Narrate your experience.

……

……

……

……

24. In the following table, please indicate by a tick [✓], your level of agreement with the statements related to technical support structures on healthcare service delivery. Use the Likert scale: *SA= Strongly Agree A=Agree, N=Neutral, D=Disagree SD= Strongly Disagree*

Statement		**SA**	**A**	**N**	**D**	**SD**
ICT Integration						
E1	The County government has in almost all health facility an Integrated Health management and Information System (HMIS)					
E2	The County government is yet to fully automate healthcare records and processes					
E3	The County has a team of IT experts for training of medical staff on adoption of the system					
E4	So far the County has success adopted and utilized HMIS					
Availability of physical Infrastructure						
E5	The County government has at its disposal a functional Mobile Vaccination Clinic(s)					
E6	The County government has continuously strived to increase medical facilities in the County					
E7	The health projects initiated by the County government since 2013 are completed or near completion					
E8	The county government has revived medical facilities that were neglected and abandoned					
Health communication systems						
E9	The County government has a framework on how coordination between medical facilities are done, especially in terms of handling referral patients					

E10	NGOs within the County compliments the County government in handling emergency evacuation processes for patients					
E11	The County government has greatly benefited from the National government in the equipment of healthcare coordination system (especially in the Referral facility)					
E12	The County assembly also has promoted the adoption of Healthcare communication systems by approving budget for the installations					

25. How frequently do healthcare personnel in Turkana County receive capacity building programs related to healthcare service delivery?

Very Rarely [ ] Rarely [ ] Occasionally [ ]

Frequently [ ] Very Frequently [ ]

Please provide the number of programs per year ……..

E. Policy framework

26. Has policy framework had an effect on fiscal decentralization and healthcare service delivery in Turkana County?

Yes [ ] No [ ]

Please expound on your response.

……

……

……

……

27. In the following table, please indicate by a tick [✓], your level of agreement with the statements related to policy framework on healthcare service delivery. Use the Likert scale:

SA= Strongly Agree A=Agree, N=Neutral, D=Disagree SD= Strongly Disagree

Statement		**SA**	**A**	**N**	**D**	**SD**
Regulatory Aspect						
D1	The policies related to fiscal decentralization in Turkana County are well-defined and clear.					
D2	The regulatory framework adequately supports healthcare service delivery in Turkana County.					
D3	There is the use of Community Score Cards (CSCs) to rate service delivery performance of health centres					
D4	The County government has regulatory requirements and constraints (licenses and permits or documentation) which facilitate timely completion of projects like building construction.					
Distributive Aspect						
D5	The distribution of funds through fiscal decentralization contributes to improving healthcare service accessibility in Turkana County					
D6	The distribution of resources through fiscal decentralization adequately supports the provision of essential medical equipment and supplies to healthcare facilities in Turkana County.					
D7	The current distribution of financial resources through fiscal decentralization considers the population size and healthcare needs of different regions within Turkana County.					
D8	The funds allocated through fiscal decentralization are appropriately utilized					

	for the development and maintenance of healthcare infrastructure in Turkana County.					
Procedural Aspect						
D9	Decentralization has enhanced responsiveness and accountability to the public.					
D10	There is public engagement through the County Budget Economic Forums.					
D11	The procedures involved in the fiscal decentralization process in Turkana County are transparent.					
D12	The decision-making processes related to fiscal decentralization consider the views and opinions of healthcare service providers in Turkana County.					
Equity						
D13	The allocation of financial resources through fiscal decentralization ensures fair access to healthcare services for all residents of Turkana County.					
D14	The current policy framework adequately addresses the healthcare needs of disadvantaged groups within Turkana County.					
D15	The current fiscal decentralization policies distribute resources based on the healthcare needs of different regions within Turkana County.					
D16	There exist a joint social accountability initiative involving both County government and civil society organizations for projects' sustainability.					

28. How frequent do you encounter challenges related to regulatory compliance when implementing healthcare service delivery initiatives within Turkana County?

Very Rarely [ ] Rarely [ ] Occasionally [ ]

Frequently [ ] Very Frequently [ ]

29. How frequently do you observe disparities in healthcare resource allocation between urban and rural areas within Turkana County?

Very Rarely [ ] Rarely [ ] Occasionally [ ]

Frequently [ ] Very Frequently [ ]

30. Explain how the Annual Development Plan engages the public towards decisions on healthcare service delivery?

……

……

……

……

31. How would you rate the level of equity in the distribution of healthcare resources and services among different communities within Turkana County?

Very Unequal [ ] Somewhat Unequal [ ] Neutral [ ]

Somewhat Equal [ ] Very Equal [ ]

32. In your opinion, how fair are vulnerable populations, such as low-income individuals or marginalized groups, able to access and benefit from healthcare services in Turkana County?

Very Unfair [ ] Somewhat Unfair [ ] Neutral [ ]

Somewhat Fair[ ] Very Fair [ ]

F. Healthcare Service Delivery

33. In the following table, please indicate by a tick [✓], your level of agreement with the statements related to healthcare service delivery. Use the Likert scale: *SA= Strongly Agree A=Agree, N=Neutral, D=Disagree SD= Strongly Disagree*

Statement		**SA**	**A**	**N**	**D**	**SD**
Healthcare Accessibility						
F1	The County has a functional healthcare centre (dispensary or Hospital) in every sub-County.					
F2	There are enough medical personnel in every healthcare centre in Turkana County.					
F3	The County government ensures that there are adequate drugs in each of the healthcare centre.					
F4	The County has a rapid response system in cases that require emergency					
Patient Support						
F5	The County government has a functional safety and health management system.					
F6	The County government has an already developed cost-sharing plan in existing policies.					
F7	The County healthcare personnel have an accountability framework that is effective towards patient care					
F8	The County healthcare has a communication/knowledge sharing mechanism that meets patients' needs and goals.					
Care Affordability						
F9	The residents/persons seeking healthcare are able to get basic healthcare without financial constraints.					

F10	The patients are able to access subsidized healthcare especially through NHIF					
F11	The County government has at least one functional mobile clinic.					
F12	The County government occasionally hold free medical check-up					

34. How would you describe the level of accessibility to healthcare facilities within Turkana County for individuals seeking medical treatment?

Very Difficult to Access [ ]

Difficult to Access [ ]

Neutral / Neither Difficult nor Easy to Access [ ]

Easy to Access [ ]

Very Easy to Access [ ]

35. How far, on average, do residents in Turkana County have to travel to reach the nearest healthcare facility? Please provide the approximate distance in kilometers. ……

36. How would you rate the affordability of healthcare services for the residents of Turkana County?

Extremely Unaffordable [ ] Somewhat Unaffordable [ ]

Neutral [ ] Somewhat Affordable [ ]

Extremely Affordable [ ]

END

Appendix VIII: Interview Schedule

For County Department of Finance and Economic Planning (County Executive Committee Member, County Chief Officers and Directors), County Department of Health and Sanitation Services (County Executive Committee Member, County Chief Officers and Directors), Turkana County Referral Hospital board (Lodwar) board members and chairpersons for Sub-Counties (Turkana North, Kibish, Turkana West, Loima, Turkana Central, Turkana South and Turkana East) Hospital committees.

A. Personal Information

1. Kindly indicate your gender

   Male [ ] Female [ ] Others [ ]

2. Indicate the length of service in your present place of work ……...

3. Indicate your age (Tick one)

   21-30 years [ ] 31- 40 years [ ] 41 – 50 years [ ]

   51 – 60 years [ ] 56 and above [ ]

4. What is your highest level of education?

   Certificate [ ] Diploma [ ] Degree [ ]

   Masters [ ] PhD [ ]

5. Indicate your level of management within the organization *(Tick one)*

Top-level management (oversee all operations)	[ ]
Middle-level management (execute plans and policies)	[ ]
Low-level management (direct task execution and deliverables)	[ ]

6. What is your role and responsibilities within the healthcare system in Turkana County?

……

……

……

……

7. Could you briefly describe the state of the current healthcare system in Turkana County?

……

……

……

……

B. Revenue Decentralization

8. In your opinion, how has revenue decentralization affected resource funding for healthcare in Turkana County?

……

……

……

……

9. What challenges or limitations have you observed in relation to revenue decentralization and its effects on healthcare service deliveryin Turkana County?

……

……

……

……

C. Expenditure Decentralization

10. How would you describe the expenditure decentralization process in Turkana County in relation to healthcare service delivery?

……

……

……

……

11. In your experience, how has expenditure decentralization affected the availability and allocation of resources for healthcare services delivery in Turkana County?

……

……

……

……

D. Technical Support Structures

12. What technical support structures or mechanisms are in place to facilitate the effective implementation of fiscal decentralization in Turkana County's healthcare system?

……

……

……

……

13. How do these technical support structures contribute to improving healthcare service delivery?

……

……

……

……

E. Policy framework

14. How would you describe the decentralization of policies framework related to healthcare service delivery in Turkana County?

……

……

……

……

15. In your view, how has policy framework affected the decision-making processes and priorities in healthcare service deliverywithin Turkana County?

……

……

……

……

F. Healthcare Service Delivery

16.In your opinion, what are the key factors that contribute to achieving high-quality healthcare in Turkana County?

……

……

……

……

17. How does the availability and access to healthcare infrastructure, medical equipment and healthcare professionals in Turkana County influence the overall healthcare services provided to the local population?

……

……

……

……

END

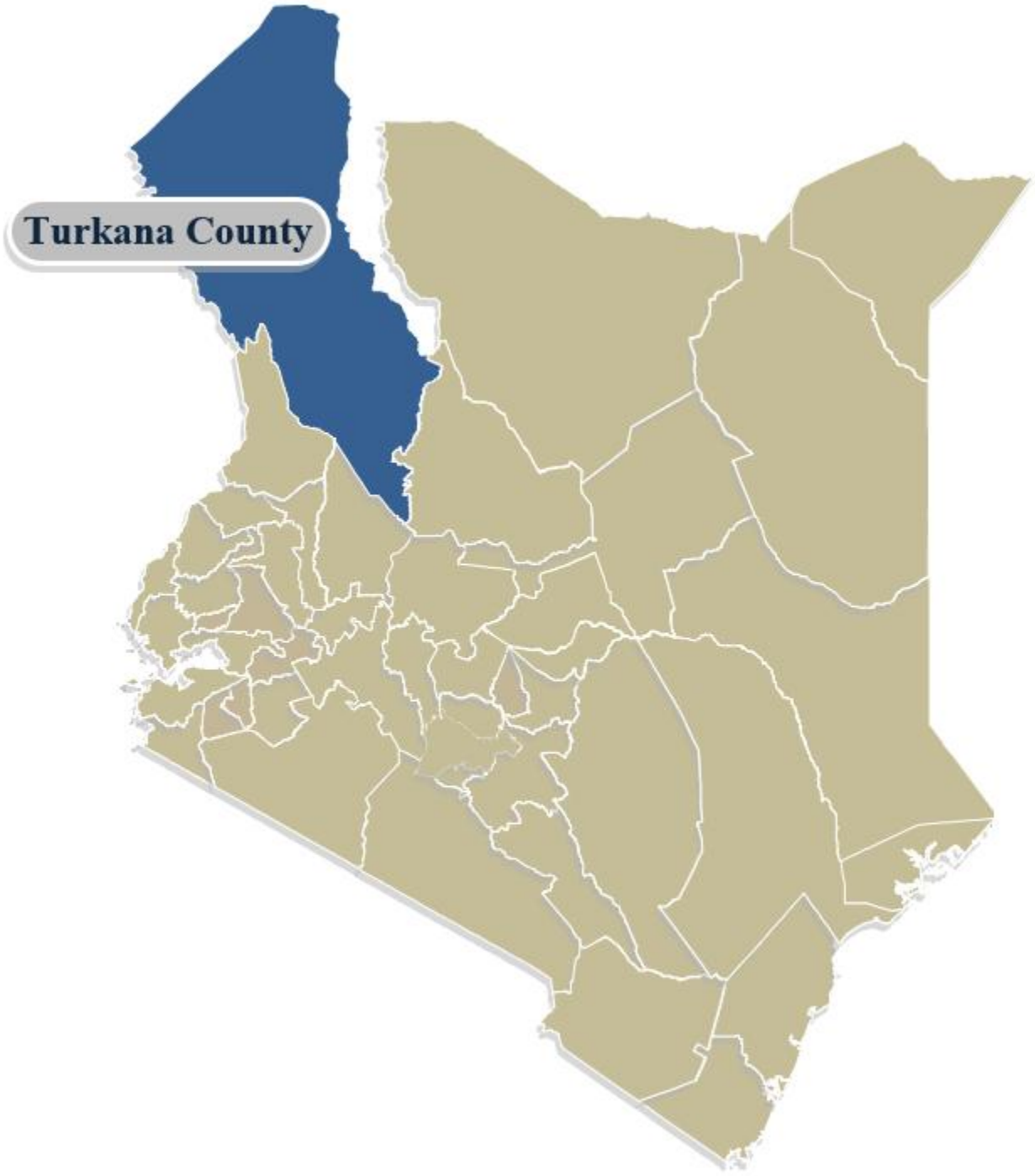
Appendix IX: Workplan

	Nov/Dec 2021	**Jan/Dec 2022**	**Jan/April 2023**	**May/July 2023**	**Aug 2023**	**Sept/Dec 2023**	**Jan/Dec 2024**	**Jan/Oct 2025**
Topic development								
Literature review Proposal development								
Departmental Presentation								
Proposal Presentation								
Proposal corrections								
Data collection								
Data processing and analysis								
Report writing								
Thesis Presentation and examination								
Thesis corrections								
Final Thesis Submission								

Appendix X: Budget

ITEM	TOTAL (KSHS)
Preparation of research proposal:	
Literature review	7,000
Printing of draft proposal.	3,000
Printing of final proposal.	2,500
Photocopying final proposal.	3,000
Internet services	10,000
Travelling expenses.	120,000
Data collection:	
Printing of data collection instruments	12,000
Researcher's travelling expenses.	100,000
Preparation of the thesis:	
Photocopying of thesis defense.	3,000
Final thesis loose binding.	5,000
Printing of corrected final thesis.	3,000
Final thesis hard binding.	2,000
Field assistants	60,000
Proof reading & editing	10,000
Data analysis	40,000
Typing and printing tools:	
1 laptop	40,000
Flash disk = 2@1000	2,000
3 blank Compact Disks	300
MISCELLANEOUS.	50,000
TOTAL	472,800

Appendix XI: Map of Turkana



Appendix XII: List of OECD Countries

	Country	Year of Accession
1	Australia	1971
2	Austria	1961
3	Belgium	1961
4	Canada	1961
5	Chile	2010
6	Czech Republic	1995
7	Denmark	1961
8	Estonia	2010
9	Finland	1969
10	France	1961
11	Germany	1961
12	Greece	1961
13	Hungary	1996
14	Iceland	1961
15	Ireland	1961
16	Israel	2010
17	Italy	1962
18	Japan	1964
19	Latvia	2016
20	Lithuania	2018
21	Luxembourg	1961
22	Mexico	1994
23	Netherlands	1961
24	New Zealand	1973

25	Norway	1961
26	Poland	1996
27	Portugal	1961
28	Slovakia	2000
29	Slovenia	2010
30	South Korea	1996
31	Spain	1961
32	Sweden	1961
33	Switzerland	1961
34	Turkey	1961
35	United Kingdom	1961
36	United States	1961