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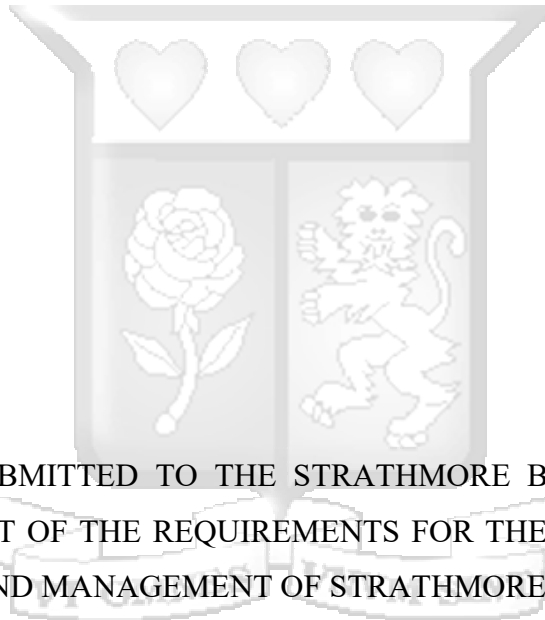
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**EXAMINING THE EFFECT OF BUDGET DEVIATIONS ON PROVISION OF
HEALTH SERVICES IN KILIFI COUNTY**

DANIEL WANJOHI NDIRANGU

MPPM 124028



A DISSERTATION SUBMITTED TO THE STRATHMORE BUSINESS SCHOOL IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER
OF PUBLIC POLICY AND MANAGEMENT OF STRATHMORE UNIVERSITY

DECLARATION



This thesis is my original work and has not been previously submitted and approved for the reward of a degree by this or any other university. To the best of my knowledge and belief, the thesis contains no material previously published or written by any other person except where due reference is made in the project itself.

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DANIEL WANJOHI NDIRANGU

MPPM 124028

Sign: 

Date: June 22, 2026.

Approval

This research thesis has been submitted with my approval as the university supervisor.

DR. THOMAS KIBUA, PhD.

SENIOR LECTURER, STRATHMORE BUSINESS SCHOOL

Sign: 

Date: June 22, 2026.

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The study would not have been possible were it not for the dedication and unremitting time of my supervisor, Dr. Thomas Kibua, a renowned expert in development economics, governance, and public finance management, and the Director in charge of Academic Programmes in the Institute of Public Policy and Governance. His patience and guidance have been indispensable in shaping this work.

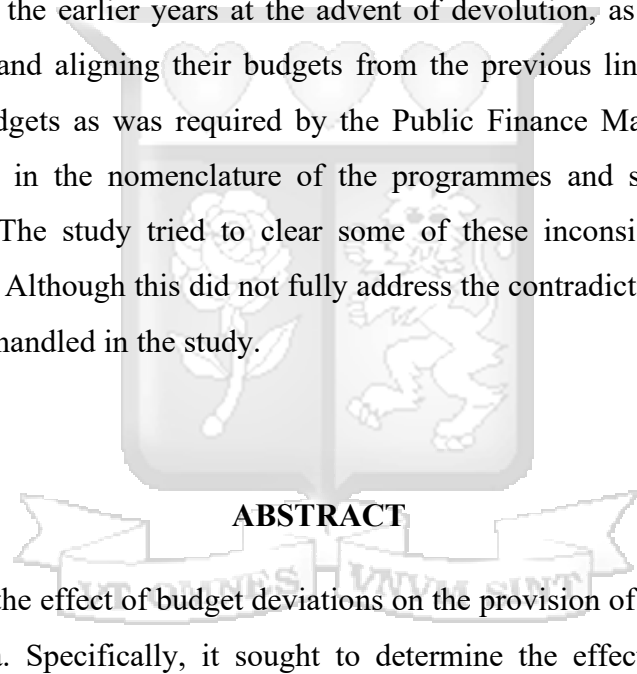
I deeply appreciate my research assistants, who devoted countless hours to the collection of primary data led by Tobias Mwarabu, a governance practitioner and a Budget Facilitator in Kilifi County, and his colleagues, Violet Mangi and Lucas Lenjo. My gratitude also goes to the community and the leadership of the county government of Kilifi for approving this study and participating in it.

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Public Finance. His unwavering support and encouragement throughout this journey were invaluable in bringing the study to completion.

I am greatly indebted to my wife, Mary, who has been a steady pillar of encouragement and support throughout the course of this study. She reminded me, time and again, of the importance of seeing this work through to the end, often with more discipline than I managed on my own. Her gentle persistence ensured that I had no excuse but to finish what I had started. For this, and much more, I remain profoundly grateful.

It has been a gargantuan task trying to collect expenditure budget data, especially at the programme level. A great deal of reorganization has been done in programmes and sub-programmes over the years. Such changes are to be expected, especially because the scope of the study also covers the earlier years at the advent of devolution, as counties struggled in setting up structures and aligning their budgets from the previous line-item budgets to the programme-based budgets as was required by the Public Finance Management Act, 2012. Some inconsistencies in the nomenclature of the programmes and sub-programmes were therefore inevitable. The study tried to clear some of these inconsistencies through Key Informant Interviews. Although this did not fully address the contradictions, it explained how the variations will be handled in the study.



ABSTRACT

This study examined the effect of budget deviations on the provision of healthcare services in Kilifi County, Kenya. Specifically, it sought to determine the effect of recurrent budget deviations on immunization coverage, examine the effect of County Own Source Revenue (OSR) budget deviations on outpatient department (OPD) utilization rate, and analyze the effect of capital budget deviations on the level of completion of health sector capital projects. Corresponding null hypotheses were tested at the 5% level of significance. The study was anchored on Fiscal Decentralization Theory, the Resource-Based View (RBV), and Budgetary Theory. It was conducted in Kilifi County, Kenya, using data covering the period from FY 2013/14 to FY 2022/23. A mixed-methods approach, combining quantitative and qualitative techniques, was adopted. Quantitative data were obtained from the Office of the Controller of Budget reports, Kilifi County budget documents, and the Ministry of Health, Kenya. Qualitative data were collected through Key Informant Interviews (KIIs) and Focus Group

Discussions (FGDs). Quantitative data was analyzed using descriptive and inferential statistics, specifically multiple linear regression, while qualitative data were analyzed using thematic and content analyses. The findings revealed persistent underperformance in OSR, high volatility in recurrent budget execution, and systematic under-execution of capital budgets. Regression results indicated that recurrent budget deviations have a negative and statistically significant effect on immunization coverage, while OSR deviations significantly affect both immunization coverage and OPD utilization. Capital budget deviations were found to significantly influence OPD utilization and the level of completion of capital projects, but not immunization coverage. Qualitative findings corroborated these results, highlighting challenges such as delayed fund disbursement, procurement inefficiencies, and weak project planning. The study concludes that budget execution efficiency is a key determinant of healthcare service delivery in Kilifi County. It recommends strengthening revenue mobilization, improving budget credibility and execution, enhancing procurement and project management systems, and strengthening performance-based budgeting to improve health outcomes at the subnational level.

Keywords: Budget deviations; Healthcare service delivery; Immunization coverage; Outpatient department utilization; Capital project completion; County Own Source Revenue; Budget execution efficiency Kilifi County.

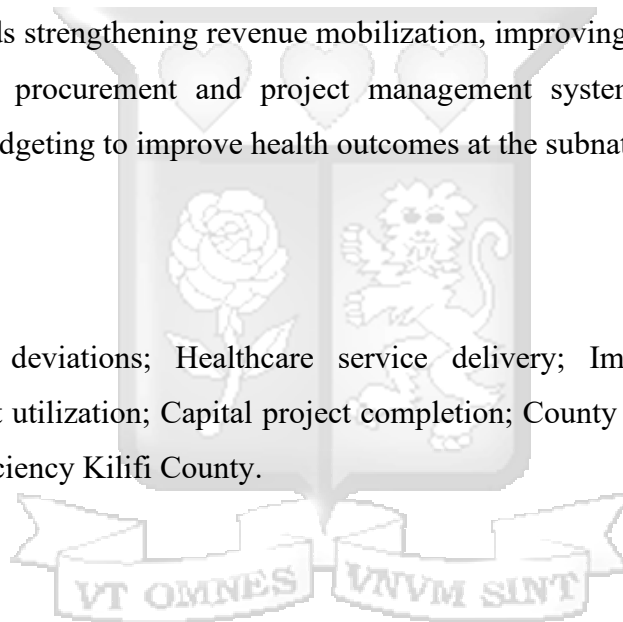


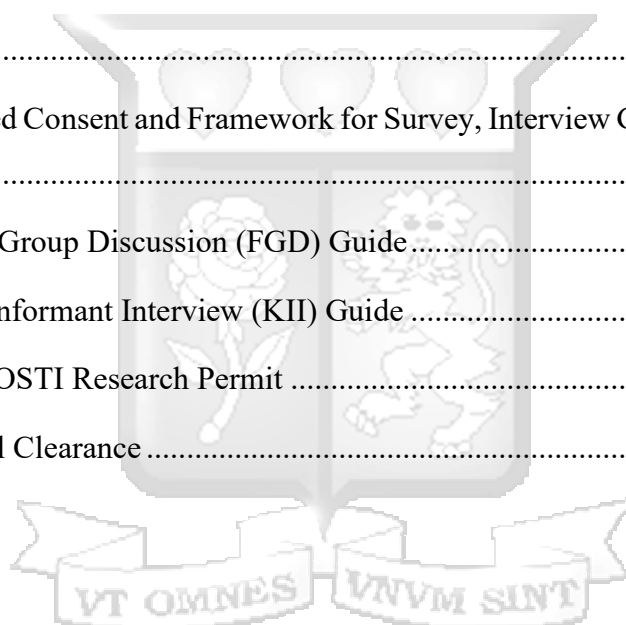
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LIST OF ABBREVIATIONS AND ACRONYMS

ABIRR	Annual Budget Implementation Review Report
ADP	Annual Development Plans
ANOVA	Analysis of Variance
APHA	American Public Health Association
CFSP	County Fiscal Strategy Papers
CHMT	County Health Management Team
CHW	Community Health Workers
CIDP	County Integrated Development Plans
DHIS	District Health Information System
GDP	Gross Domestic Product
KHHEUS	Kenya Household Health Expenditure and Utilization Survey
KII	Key Informant Interviews
NASEM	National Academies of Sciences, Engineering, and Medicine
OCOB	Office of the Controller of Budget
UHC	Universal Health Coverage
WHO	World Health Organization

DEFINITION OF TERMS

Budget deviation		Refers to the difference between the approved government budget and the reported actual expenditure at the end of a government financial year. It was measured through a comparative analysis between the allocated and approved budget against actual expenditure for each financial year, between 2013/14 and 2023/24.
Capital budget deviation	budget	Capital budget is an allocation made to cover acquisition of long-term assets such as cost of building new health facilities, purchasing medical equipment, and renovation of existing facilities. This variable was measured by comparing the approved capital budget for the health sector against actual expenditure in each financial year.
Recurrent budget deviation	budget	The difference between the approved allocation to the health sector and the actual reported expenditure in each financial year. It was measured by determining the proportionate change between the actual expenditure and the allocated and approved budget to the Kilifi County Division of Medical Services and Division for public health for each financial year.
County own source of revenue deviation		County Own Source Revenue (OSR) deviations refer to the variance between projected locally generated revenues and actual collections within a fiscal year. It was measured by determining the proportionate change between the actual revenue collected from county own sources, and the approved target at the beginning of the financial year for each financial year.
Provision of health services		The outputs generated from health system inputs such as human resources, medical supplies, infrastructure, and financing. It was measured using indicators in outpatient department (OPD) utilisation rate, immunization coverage, and level of completion of capital projects in the health sector.

CHAPTER ONE

INTRODUCTION

This chapter introduces the key concepts of the study and explains their interrelationships. It is organised into the following sections: the background to the study, the statement of the problem, study objectives, research questions, the scope of the study, and the significance of the study.

1.1 Background of the Study

1.1.1 Provision of Health Care Services

According to World Health Organization (2018), provision of health care services refers to the availability, accessibility, quality, and sustainability of essential health interventions delivered through county health systems. It encompasses preventive, promotive, curative, and rehabilitative services, including immunization coverage, skilled birth attendance, outpatient utilization, availability of essential medicines and adequate infrastructure. Globally, health service provision has improved modestly over the past five years, but with persistent inequities. The World Health Organization (WHO, 2023) estimates that over 50% of the global population still lacks access to essential health services, with service coverage index improvements slowing from 67 (2018) to about 68 (2022). High-income countries maintain near-universal access, while low- and middle-income countries (LMICs) lag significantly due to financing and system inefficiencies.

In Sub-Saharan Africa, service provision remains constrained. Between 2018 and 2023, the UHC Service Coverage Index improved marginally from approximately 44 to 46, reflecting slow progress (WHO, 2023). Key indicators such as immunization coverage have stagnated, with DTP3 coverage declining from 76% (2019) to 72% (2022) due to financing and system disruptions (UNICEF, 2023). Health workforce shortages and supply chain inefficiencies remain binding constraints.

In Kenya, health service provision improved following devolution but remains uneven across counties. Nationally, skilled birth attendance increased from 62% (2018) to about 70% (2023), while immunization coverage averages 80–85%, though with disparities (Ministry of Health,

2023). However, persistent gaps in financing efficiency and budget execution continue to affect service delivery outcomes.

In Kilifi County, health service provision remains below national averages. Immunization coverage has fluctuated between 70% and 75% (2018–2023), below the WHO-recommended 90% threshold. The under-five mortality rate remains high at approximately 110–130 per 1,000 live births, compared to the national average of about 52 per 1,000 (KDHS, 2022; Kilifi CIDP, 2023). These outcomes indicate systemic inefficiencies beyond resource allocation.

In this study, the operationalisation of provision of health care services was informed by the Donabedian Structure–Process–Outcome model and the WHO Health Systems Framework, which conceptualize provision of health services as a multidimensional construct encompassing infrastructure, service delivery processes, and utilization. Completion of capital projects represented the structural dimension, reflecting the availability and expansion of health infrastructure necessary for service delivery. Immunization coverage represented the preventive service delivery dimension, indicating the extent to which essential public health services reached the target population while OPD utilization rates represented service utilization dimension, reflecting accessibility and actual use of health services by the population (Donabedian, 1988; World Health Organization, 2007, 2010)

1.1.2 County Own Source Revenue Deviations

County Own Source Revenue (OSR) deviations refer to the variance between projected locally generated revenues and actual collections within a fiscal year. In this study, it reflects fiscal unpredictability at the county level, which affects budget credibility and service delivery capacity. Globally, subnational governments increasingly rely on OSR to finance public services. However, revenue forecasting errors remain significant. OECD countries report average revenue deviations of 5–10%, while developing countries experience deviations exceeding 20–30% due to weak tax systems and economic volatility (OECD, 2022).

In Sub-Saharan Africa, OSR performance is highly unstable. Between 2019 and 2023, many countries recorded revenue shortfalls averaging 15–40%, driven by informal economies and weak administrative capacity (AfDB, 2023). These deviations constrain predictable financing for essential services, including health.

In Kenya, counties rely heavily on equitable share transfers, with OSR contributing less than 20% of total revenue on average (Controller of Budget, 2023). Over the past five years, most

counties have consistently underperformed relative to OSR targets, with deviations ranging between 10% and 35% annually.

Kilifi County demonstrates similar patterns. Between 2018/19 and 2022/23, OSR collections averaged 60–75% of target, indicating persistent shortfalls (OCOB Reports, 2019–2023). These deviations reduce fiscal space for health financing, particularly for non-salary expenditures such as drugs and outreach services.

1.1.3 Recurrent Budget Deviations

Recurrent budget deviations refer to the difference between planned and actual expenditure on recurrent items, including salaries, drugs, utilities, and operational costs. In this study, it captures short-term expenditure inefficiencies that directly affect service delivery continuity Mwigeka (2025). Globally, recurrent expenditure accounts for 60–80% of total health spending, and deviations in this category have immediate service implications (World Bank, 2022). Over the past five years, many LMICs have experienced recurrent underspending due to procurement delays and cash flow constraints, particularly during and after COVID-19.

In Sub-Saharan Africa, recurrent budget execution rates average 70–85%, indicating frequent underspending (WHO AFRO, 2022). This has resulted in stock-outs of essential medicines and workforce payment delays, directly affecting service delivery. In Kenya, recurrent budgets dominate county health spending, accounting for over 70% of health expenditure (Ministry of Health, 2023). However, execution inefficiencies persist, with absorption rates ranging between 75% and 90% across counties over the past five years. Kilifi County has experienced recurrent budget deviations, particularly underspending on operations and maintenance. OCOB reports (2019–2023) show recurrent absorption averaging 80–85%, with frequent delays in procurement of medical supplies. These deviations have contributed to periodic drug shortages and service interruptions.

1.1.4 Capital Budget Deviations

Capital budget deviations refer to the variance between planned and actual expenditure on long-term investments, such as construction of health facilities, equipment acquisition, and infrastructure development (Aminu-Ibrahim, Ogbete and Iwuanyanwu, 2025). In this study, it represents long-term system capacity constraints affecting service availability. Globally, capital investment in health remains inadequate. Between 2018 and 2023, capital spending accounted for less than 10% of total health expenditure in most LMICs (WHO, 2023). Execution rates are also low, with delays in infrastructure projects common.

In Africa, capital budget absorption rates are particularly weak, averaging 50–70%, largely due to procurement bottlenecks and project management challenges (AfDB, 2023). This has contributed to persistent infrastructure gaps, including low hospital bed density and inadequate diagnostic capacity. In Kenya, county governments are responsible for health infrastructure development. However, capital budget absorption has remained inconsistent, averaging 60–75% over the past five years (Controller of Budget, 2023). This has slowed expansion of health facilities and modernization of equipment. Kilifi County faces significant infrastructure deficits. The number of health facilities remains insufficient relative to population growth, with facility-to-population ratios below national standards. Capital budget absorption has fluctuated between 55% and 70% (2018–2023), leading to stalled or incomplete projects (Kilifi CIDP, 2023).

1.1.5 Kilifi County

Kilifi County is located along Kenya’s coast with a population of over 1.5 million and is characterized by high poverty levels, low per capita income, and significant health inequalities (KNBS, 2019; 2023). Over the past five years, the county has steadily increased its health sector budget from about KSh 1.8 billion in 2018/19 to over KSh 2.1 billion in 2023/24 (OCOB, 2019–2023). However, these increased allocations have not translated into proportional improvements in health outcomes. This is largely attributed to persistent budget deviations across key fiscal components. County Own Source Revenue has consistently underperformed at about 60–75% of targets, recurrent budgets have experienced moderate underspending affecting essential service inputs, and capital budgets have recorded low absorption rates, leading to stalled or incomplete infrastructure projects. Consequently, key provision of health care services indicators in the county remain below national averages. Immunization coverage has fluctuated between 70% and 75% (2018–2023), below the WHO-recommended 90% threshold. The under-five mortality rate remains high at approximately 110–130 per 1,000 live births, compared to the national average of about 52 per 1,000 (KDHS, 2022; Kilifi CIDP, 2023). These outcomes indicate systemic inefficiencies beyond resource allocation.

While global and regional studies have primarily focused on overall health financing levels, and Kenyan studies have emphasized budget allocations and absorption rates, there is limited empirical evidence on how different categories of budget deviations interact to influence health service delivery at the county level. This study addresses this gap by examining the combined

effects of Own Source Revenue, recurrent, and capital budget deviations on the provision of health care services in Kilifi County. By adopting a disaggregated approach, the study provides deeper insights into how public financial management practices affect service delivery outcomes, thereby contributing to both policy formulation and academic discourse on strengthening health systems in decentralized and resource-constrained settings.

1.2 Statement of the Problem

The overall problem addressed by this study is that despite nearly doubling the health budget in Kilifi County since the introduction of devolution in 2013, health service delivery outcomes remain persistently below national and global benchmarks. Immunization coverage averaged 63% between 2013 and 2023, falling short of the World Health Organization and Ministry of Health target of at least 90%, while under-five mortality remains high at 110–130 per 1,000 live births, more than double the national average. The persistence of incomplete and stalled health projects further constrains service delivery (Ministry of Health, 2023; WHO,2023).

Evidence from the Office of the Controller of Budget indicates recurring budget deviations in Kilifi County, with Own Source Revenue averaging 60% of targets, recurrent expenditure absorption at 85%, and capital budget execution at approximately 70% (KHIS2, Office of Controller of Budget, 2024). These deviations undermine budget credibility, disrupt the timely financing of health services, and weaken public financial management processes. The consequences are most severe for vulnerable populations, including children, women, and low-income households, who rely heavily on public health services. While existing literature has examined overall health financing levels and budget absorption, there is limited empirical evidence on how specific budget deviations affect health service delivery at the county level.

If this gap is not addressed, policy responses will continue to focus on increasing budget allocations without resolving underlying execution inefficiencies. The potential effects include worsening health outcomes, inefficient use of scarce public resources, and erosion of public trust in the devolved health system. It may also slow Kenya's progress toward national and global commitments, including Universal Health Coverage, the Lusaka Agenda, the African Union Agenda 2063, and the Sustainable Development Goals. This study therefore examines the effect of budget deviations on health service delivery in Kilifi County, with the aim of generating evidence to strengthen budget credibility and improve health system performance.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective for this study was to determine the relationship between budget deviations and the provision of health services in Kilifi County.

1.3.2 Specific Objectives

Specific objectives for this study are to;

- i. Determine the effect of County Own Source Revenue (OSR) deviations on access to outpatient health services in Kilifi County.
- ii. Assess the effect of recurrent budget deviations on provision of immunization services in Kilifi County.
- iii. Evaluate the relationship between development budget deviations and the level of completeness of capital projects in Kilifi County.

1.4 Research Questions

The study sought to answer the following research questions:

- i. How do County Own Source Revenue (OSR) deviations influence access to outpatient health services in Kilifi County?
- ii. To what extent do recurrent budget deviations determine the level of provision of immunization services in Kilifi County?
- iii. To what extent does development budget deviations affect the level of completeness of capital projects in Kilifi County?

1.5 Scope of the Study

The methodological scope of this study focused on examining the effect of budget deviations on the provision of health services in Kilifi County over the period 2013–2024. This timeframe captured the post-devolution era following the implementation of the Constitution of Kenya 2010, thereby enabling an assessment of fiscal performance within a decentralized health system.

Geographically, the study was confined to Kilifi County, which was purposively selected based on its relatively low per capita expenditure on health services and its classification among the poorest counties in Kenya, as reported in the Kenya Inequality Survey 2013. This socioeconomic context implied a high reliance of the population on publicly financed health

services, making the county an appropriate case for analyzing how budget deviations influenced service delivery outcomes.

1.6 Significance of the Study

This study is significant from policy, theoretical, and academic perspectives as it provides evidence on how budget deviations influence provision of health services within Kenya's devolved health system. This study is important to policymakers at both the national and county levels, including the National Treasury, the Ministry of Health, County Treasuries, County Departments of Health, and County Assemblies. The findings provide empirical evidence on how budget deviations affect health service provision and the efficiency of health systems. This evidence enables policymakers to strengthen budget planning, improve budget execution, enhance financial accountability, and prioritize expenditure in areas that directly improve service delivery. The findings also support the development and refinement of policies, regulations, and budget oversight mechanisms that minimize budget deviations and promote equitable, efficient, and sustainable health service provision. Ultimately, citizens and health service users benefit through improved access to reliable and quality healthcare services.

The study is important to scholars and researchers in public financial management, public administration, and health systems because it advances existing theoretical understanding of the relationship between budget execution and health service provision within devolved governance systems. The study contributes empirical evidence to public finance and health systems theories by demonstrating how budget deviations influence the capacity of county governments to deliver health services. It also strengthens understanding of the interrelationships among fiscal discipline, financial accountability, and health system performance in developing countries operating under decentralized governance structures.

This study is important to academicians, researchers, postgraduate students, and development partners interested in decentralization, public finance, and health systems management. The findings enrich the existing body of literature on budget management and health service provision by addressing knowledge gaps within Kenya's devolved context. The study also serves as a reference point for future research on related issues, including fiscal discipline, budget execution efficiency, health outcomes, and the effects of financial constraints on preventive and curative health programs. By providing context-specific evidence, the study establishes a foundation for comparative studies across counties and other decentralized health systems.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of literature relevant to the study. It begins with a discussion of the theoretical literature, which anchors the study on three key theories that provide a foundation for understanding how financial management practices, resource allocation, and budgeting approaches influence healthcare service delivery. The chapter then explores the empirical literature as per the study objectives. The review highlights both global and regional perspectives, identifying key findings and gaps in existing research. Furthermore, the chapter presents the conceptual framework, illustrating the study's key variables and their interrelationships.

2.2 Theoretical Literature

This study was anchored on Fiscal Decentralization Theory, Resource-Based View Theory, and Incremental Budgeting Theory because no single theory adequately explained the multidimensional relationship between budget deviations and health service provision within Kenya's devolved health system. The study examined three distinct dimensions of budget deviations, namely County Own Source Revenue deviations, recurrent budget deviations, and development budget deviations, each of which influenced different aspects of health service provision. Consequently, the use of multiple theories provided a comprehensive theoretical foundation for explaining how financial resources are generated, allocated, and utilized to support health service delivery.

Fiscal Decentralization Theory provided the basis for understanding how County Own Source Revenue deviations influenced access to outpatient health services within a devolved governance system. Resource-Based View Theory explained how recurrent budget deviations affected the availability of critical resources necessary for the provision of immunization services. Incremental Budgeting Theory explained how development budget deviations influenced the implementation and completion of health sector capital projects. Collectively, the three theories complemented one another by explaining the financing, resource allocation, and budget

2.2.1 Fiscal Decentralization Theory

Richard Musgrave is credited with the original conception of Fiscal Decentralization Theory, which states that, by devolving fiscal functions to the lower-level government, it is possible to achieve a more efficient and responsive service delivery with government, since these sub-nationals are in a better place to understand the needs of the communities (Musgrave, 1959). This theory further posits that when governments devolve fiscal authority, local governments should be able to allocate their own resources based on community health needs, thus improving accessibility (Smoke, 2015). The findings revealed persistent underperformance in OSR, high volatility in recurrent budget execution, and systematic under-execution of capital budgets. Regression results indicated that recurrent budget deviations have a negative and statistically significant effect on immunization coverage, while OSR deviations significantly affect both immunization coverage and OPD utilization. Capital budget deviations were found to significantly influence OPD utilization and the level of completion of capital projects, but not immunization coverage

Critics argue that fiscal decentralization may exacerbate inequality if local governments lack the capacity or financial autonomy to manage devolved services effectively (Rodden, 2004). Further, studies suggest that without strong accountability mechanisms, decentralization can lead to fiscal mismanagement and inefficiencies at the local level (Prud'homme, 1995).

2.2.2 Resource-Based View (RBV) Theory

According to the Resource-Based View (RBV) Theory, which was initially developed by Edith Penrose in *The Theory of the Growth of the Firm* (1959) and further developed by Barney (1991), the success of firms is based on their capabilities to gain and execute control over valuable, rare and impossible imitable resources. The RBV suggests that internal resources can be effectively utilised in organisations enabling them to achieve a sustainable competitive advantage (Barney, 1991). Other theories are the Dynamic Capabilities Theory, which supplements the RBV by focusing on how an organization aligns itself to such changing environments using the adaptation and reconfiguration of its resources (Teece et al., 1997). Similarly, Knowledge-Based Theory expands on RBV by considering knowledge as a critical resource within organizations (Grant, 1996).

RBV was used to explain the second objective, which assessed the effect of recurrent budget deviations on the provision of immunisation services. The theory argues that organisational performance depended on the availability, allocation, and effective utilisation of strategic

resources. In the health sector, recurrent budgets finances critical operational resources such as vaccines, healthcare personnel, outreach programmes, cold-chain systems, and other consumables necessary for immunisation services. The findings showed that deviations in recurrent budgets disrupted the availability of these resources and adversely affected the provision and coverage of immunisation services.

Critics argue that RBV assumes stability and control over resources, which may not hold in public health settings where budgets are subject to political and economic fluctuations (Priem & Butler, 2001). Furthermore, RBV has been criticized for its lack of focus on external factors, such as government policy, which can significantly impact resource allocation in health systems (Barney, 2001). The findings partially supports these criticisms by demonstrating that budget deviations disrupted resource control in Kilifi's health sector.

2.2.3 Incremental Budgeting Theory

The concept of Incremental Budgeting was first discussed by Wildavsky (1964), who observed that organizations base current budget allocations largely on previous budgets, with only marginal adjustments over time. The theory posits that incremental changes promote predictability, stability, and continuity in resource allocation, which are essential for sustaining public services. Related approaches include Zero-Based Budgeting, which requires every budget item to be justified from the beginning of each budget cycle (Pyhrr, 1970), and Performance-Based Budgeting, which links budget allocations to performance outcomes to strengthen accountability (Caiden, 2010).

Incremental Budgeting Theory is relevant to this study because health service provision depends on predictable and continuous financing. The theory assumed that stable budget allocations enable governments to adequately plan for personnel, medical supplies, vaccines, operational costs, and infrastructure development necessary for delivering health services (Moynihan, 2006). Consequently, budget deviations disrupt this stability and may adversely affect multiple dimensions of health service provision.

The findings showed that budget deviations reduce the availability of vaccines, outreach activities, and cold-chain logistics required for immunization programs, thereby lowering immunization coverage. Budget deviations were also found to disrupt the procurement of medicines, payment of healthcare workers, and availability of operational resources necessary for outpatient services, consequently affecting OPD utilization rates. In addition, budget deviations were found to affect the completion of health infrastructure projects, limiting the

capacity of health facilities to effectively provide services. The findings contribute to ongoing discussions regarding the applicability of incremental budgeting in dynamic sectors such as public health, where changing disease patterns, population growth, and evolving healthcare demands require greater budget flexibility (Wang, 2000).

Nevertheless, the theory has been criticized for perpetuating inefficiencies by relying excessively on previous budgets without adequately accounting for current needs, inflationary pressures, or changes in healthcare demand (Rubin, 1997). In dynamic environments such as public health, rigid incremental adjustments are insufficient to respond to emerging health priorities (Behn, 2003).

2.3 Empirical Literature Review

2.3.1 County Own Source Revenue (OSR) Deviations and Access to Outpatient Health Services

Globally, recent literature emphasized the importance of revenue sources and fiscal stability in shaping service delivery outcomes. Pitcher, Zhang, Gurzenda, Pink, and Reiter (2024) examined the role of non-operating revenue (NOR) in hospital financing and found that such revenues contributed to financial stability by offsetting operational losses and improving profit margins. The study further observed that government-owned hospitals relied more heavily on these alternative revenue streams, suggesting that diversified revenue bases enhanced institutional resilience.

Gadenne, Nandi, and Yang (2021) argued that locally generated revenues enhanced public service provision more effectively than intergovernmental transfers, suggesting that fiscal autonomy strengthened responsiveness. However, while the study emphasized the importance of OSR, they treated these revenues as realized aggregates, implicitly assuming stability. This assumption was implicitly challenged by Cashin, Bloom, Sparkes, and Barroy (2020), who introduced the concept of budget credibility, arguing that deviations between planned and actual revenues disrupted service delivery. Cashin et al. (2020) thus shifted the conversation from “how much revenue exists” to “how predictable that revenue is,” implicitly suggesting that instability could undermine frontline services such as outpatient care. Building on this, Piatti-Funfkirchen and Schneider (2021) demonstrated that weak budget execution reduced health system efficiency. They reinforced Cashin et al.’s (2020) argument on credibility but focused more on expenditure-side inefficiencies, leaving a conceptual gap regarding revenue-side deviations, particularly OSR.

Similarly, Brollo, Nannicini, Perotti, and Tabellini (2020) linked fiscal autonomy to improved public goods provision. Yet, Brollo et al. (2020) remained anchored in aggregate fiscal measures, leaving unanswered the question raised implicitly by Cashin et al. (2020): what happens when revenues deviate from plans? Taken together, these studies collectively suggested that while OSR mattered, the literature had not sufficiently interrogated the consequences of deviations in OSR, particularly on specific service delivery outcomes such as access to outpatient care. This gap became especially important in decentralized systems where revenue volatility was common, yet empirically underexplored. Barroy, Sparkes, Dossou, and Kutzin (2022) argued that budget execution challenges including revenue shortfalls constrained service delivery across African health systems. In doing so, they echoed Cashin et al. (2020) by emphasizing predictability, but their analysis remained largely system-level and did not isolate OSR.

In Nigeria, Omodero and Alpheaus (2020) demonstrated that internally generated revenue significantly influenced service delivery which was aligned with Gadenne et al. (2021) in emphasizing the importance of local revenue, yet like earlier global studies, they did not examine deviations between planned and actual revenue, thereby overlooking fiscal instability. A more nuanced perspective emerged from Ssewankambo, Kiwanuka, and Ekirapa (2021), who observed that unpredictable local revenues disrupted access to outpatient services in Uganda. Ssewankambo, Kiwanuka, and Ekirapa (2021) came closer to bridging the gap identified by Cashin et al. (2020) by linking revenue instability to service access, yet they stopped short of quantifying deviations or modeling them econometrically. Similarly, Kapologwe, Kiwara, and Kalolo (2022) found that financial unpredictability affected service readiness in Tanzania. However, they focused on facility readiness rather than access outcomes, leaving unresolved the specific pathways through which fiscal instability affected outpatient utilization.

Mutua and Gitagia (2025) demonstrated that revenue diversification and digitization significantly enhanced own-source revenue (OSR) performance in Machakos County. Similarly, Akhonya, Baraza, and Oganda (2024) found that OSR effectiveness explained a significant proportion (40.2%) of financial sustainability in county governments, with digital systems, tax compliance, and administrative efficiency emerging as key drivers. The study reinforced the argument that strong revenue systems underpin fiscal sustainability. While these studies emphasized revenue growth and performance, they implicitly assumed that improved revenue systems translated into better service delivery outcomes. They did not interrogate the

possibility that actual revenues may deviate from budgeted expectations, nor did they examine how such deviations could disrupt service provision. The literature remained focused on revenue enhancement rather than budgeted revenue deviations, leaving unanswered questions about the implications of OSR deviations for service delivery, which the current study sought to answer.

Nyaoko, Njaramba, and Korir (2026) analysed fiscal decentralization and revenue independence using a Tobit model and found that fiscal decentralization improved efficiency only beyond a threshold of Ksh. 512.8 billion. Below this threshold, increased funding reduced efficiency, while above it, efficiency improved significantly. The study also found that revenue independence negatively affected efficiency, challenging the assumption that increasing OSR automatically leads to improved outcomes. This finding introduced an important tension within the literature. While earlier studies emphasized the benefits of revenue growth, Nyaoko et al. (2026) suggested that the relationship between OSR and performance was not linear. However, their analysis focused on technical efficiency and did not extend to service delivery outcomes such as access to outpatient care, nor did it consider deviations between planned and actual revenue.

A complementary perspective was provided by Achuti (2025), who found a strong positive relationship between budgeting practices and financial sustainability in Kisii County ($R^2 = 0.566$). Achuti (2025) highlighted the importance of budgeting processes, resource allocation, and financial management strategies, reinforcing the role of sound fiscal practices. However, while this study addressed budgeting effectiveness, it did not examine revenue deviations or their downstream effects on service delivery. Further, Kamau, Matanda, and Memba (2025) established a statistically significant positive relationship between own-source revenue and service delivery efficiency across Kenya's 47 counties. Kamau et al. (2025) thus reinforced the importance of OSR in enhancing service delivery. However, like earlier studies, their analysis relied on aggregate revenue measures, without examining variations or deviations from budgeted revenue, and did not disaggregate service delivery into specific outcomes such as outpatient access.

Across global, regional, and local literature, a consistent pattern emerged. Scholars widely agreed that own-source revenue, revenue diversification, and budgeting practices were critical for financial sustainability and service delivery. However, they focused on revenue levels, growth, and efficiency, they implicitly assumed that revenue performance translated smoothly

into service delivery outcomes. What remained insufficiently explored was the dynamic nature of revenue realization, particularly the possibility that actual OSR may deviate from budgeted expectations, thereby disrupting planned service delivery. Even where studies acknowledged inefficiencies or instability, they did not explicitly conceptualize or measure OSR deviations, nor did they link such deviations to specific health service outcomes.

It was within this gap that the current study was situated. By examining the effect of County Own Source Revenue deviations on access to outpatient health services in Kilifi County, the study moved beyond aggregate fiscal indicators to interrogate how deviations between planned and actual revenue influence frontline health service delivery. In doing so, it provided a more nuanced understanding of the link between public financial management and health system performance at the subnational level.

2.3.2 Recurrent Budget Deviations and Provision of Immunization Services

Globally, Cashin, Sparkes, Bloom, and Barroy (2020) emphasized that deviations in recurrent budgets disrupted essential services such as immunization. This position was reinforced by Piatti-Fünfkirchen and Schneider (2021), who linked poor budget execution to inefficiencies in frontline services. However, as Kutzin, Yip, and Cashin (2022) noted, sustained immunization outcomes depended on reliable recurrent financing, yet their work remained largely conceptual, without empirically modeling deviations. This argument was further supported by Piatti-Fünfkirchen and Schneider (2021), who demonstrated that poor budget execution reduced health system efficiency and sustained immunization coverage depended on reliable recurrent financing and linked financing reliability to immunization outcomes, yet did not empirically test recurrent budget deviations as a variable. Barik and Thorat (2015) found that public facilities in India fail to provide adequate human resources and diagnostic equipment, pushing patients to equally poor private hospitals which costs more and thereby increases out-of-pocket expenditure. It recommends improving health facilities for a positive impact on patient's utilization of the services. It underscores the need to increase health insurance coverage for increased access to health services and lower out-of-pocket expenditure.

Regional studies, including in Tanzania, Kapologwe, Kiwara, and Kalolo (2022) found that operational funding gaps affected service readiness, including immunization. Similarly, Ssewankambo, Kiwanuka, and Ekirapa (2021) linked funding unpredictability to service access, reinforcing the argument that instability mattered. The findings showed that operational funding gaps affected immunization readiness, while Ssewankambo, Kiwanuka, and Ekirapa

(2021) linked funding unpredictability to service access. Yet, as these authors emphasized instability without quantifying recurrent budget deviations, the precise relationship remained empirically underdeveloped. However, like earlier studies, they did not quantify deviations.

In Kenya, studies mirrored these patterns. Tsofa et al. (2021) linked financing gaps to service delivery challenges, while Waithaka, Tsofa, Barasa, and Molyneux (2020) emphasized funding unpredictability. However, they focused on unpredictability, they did not explicitly conceptualize it as recurrent budget deviations, nor did they isolate immunization service provision as a dependent variable. Further studies by Tsofa, Molyneux, and Barasa (2021) argued that financial management challenges significantly affected service delivery, particularly in primary healthcare. They emphasized governance and accountability, implicitly aligning with the budget credibility concerns raised by Cashin et al. (2020). However, they observed that funding variability disrupted service delivery, yet their focus remained largely on intergovernmental transfers, leaving recurrent spending underexplored. This gap was reinforced by Barasa, Namakula, Owino, and Kairu (2021), who analyzed efficiency in county health systems but concentrated on expenditure-side inefficiencies thus complementing Piatti-Fünfkirchen and Schneider (2021) but did not extend the analysis to recurrent deviations.

From a public financial management perspective, Kemei (2022) examined the relationship between budget absorption and revenue collection, finding that recurrent expenditure positively influenced revenue collection, while development expenditure had a negative effect. Kemei (2022) highlighted the interaction between expenditure and revenue dynamics but remained focused on budget execution and revenue collection, rather than revenue deviations and service delivery outcomes.

2.3.3 Capital Budget deviations and level of completion of health facilities

Bhatia & Singh. (2021) analysis on the 2021/22 health sector's allocation in India's Budget shows that despite a 137 percent increase in the health budget have no meaningful impact on public health infrastructure given previous underinvestment trends in the health sector, and less favourable health outcomes comparatively to other countries in the region. The analysis shows that the underinvestment in the health sector has resulted in a significant shortage for community health centres and primary health centres with a bed population ratio of 0.7 per 1000 population. This shortage inadvertently forces citizens to seek services in the poorly regulated private facilities that provide health care at a very high cost resulting in high out-of-

pocket spending. The paper recommends increasing government spending on health to 2.5 percent of GDP to strengthen public sector health services.

Accordingly, Gambo et al. (2021) examined the factors that affect budget implementation for successful establishment of primary healthcare facilities in Nigeria. The study used the survey method to gather data from stakeholders in the health sector and found that factors such as inadequate funding, lack of political will, and poor coordination among stakeholders were key obstacles to the successful implementation of primary health care building projects. In addition, it found that effective communication and stakeholder engagement were key to overcoming these challenges and ensuring successful project delivery.

African countries in 2001, ratified the Abuja Declaration in 2001, to allocate at least 15 percent of the annual expenditure to health to ensure sustainable and equitable health development. WHO (2016) analysis revealed fluctuations in budget expenditure against allocations in African countries that reflects limited capacity in forecasting revenue and expenditure targets. The study showed that 10-30 percent of annual health budgets are not spent. These gaps in absorption reflect losses in financial resources as well as opportunity costs. It recommended deployment of multiyear budgeting tools and coordination between the finance departments with the health officials in the budget cycle to determine allocations for more credible budgets aligned with sector priorities. The study also emphasized the importance of aligning allocation with expenditure priorities to maximize opportunities for full budget implementation. Health policy making, planning, and budgeting in most countries as the study shows happens independent of each other resulting in misalignment between health sector priorities and funds allocated to the health sector.

The relationship between the overall health sector budgets and the budgets allocated to healthcare facilities within a given region has received more attention in recent years. More research is needed to examine the impact of budget changes in the health sector on health infrastructure.

2.4 Summary of Literature and Research Gaps

Table 2.1: Summary of empirical and literature research gaps

Study Objective	Key Authors/Studies	Main Findings	Research Identified Gap	How the Current Study
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				Addressed the Gap
Determine the effect of County Own Source Revenue (OSR) deviations on access to outpatient health services in Kilifi County	Gadenne et al. (2021); Cashin et al. (2020); Piatti-Fünfkirchen and Schneider (2021); Omodero and Alpheaus (2020); Ssewankambo et al. (2021); Kapologwe et al. (2022); Mutua and Gitagia (2025); Kamau et al. (2025); Nyaoko et al. (2026)	The studies established that local revenue generation, fiscal autonomy, budget credibility, and financial predictability influenced public service delivery and health system performance. Revenue diversification and strong revenue systems improved financial sustainability.	Most studies focused on realized revenues, revenue growth, efficiency, or fiscal autonomy and implicitly assumed revenue stability. Few studies explicitly examined deviations between planned and actual OSR, and none linked such deviations to outpatient health service access in the Kenyan county context.	The study examined the effect of County Own Source Revenue deviations on access to outpatient health services in Kilifi County by focusing on the gap between planned and actual revenue and its implications for frontline health service delivery.
Assess the effect of recurrent budget deviations on the provision of immunization services in Kilifi County	Cashin et al. (2020); Piatti-Fünfkirchen and Schneider (2021); Kutzin et al. (2022); Kapologwe et al. (2022); Ssewankambo et al. (2021); Tsofa et al. (2021);	The studies showed that funding unpredictability, weak budget execution, and financial management challenges negatively affected health service	Existing studies concentrated on funding unpredictability, expenditure efficiency, and governance challenges without explicitly conceptualizing and measuring recurrent	The study explicitly examined recurrent budget deviations and assessed their effect on immunization service

	Waithaka et al. (2020); Barasa et al. (2021); Kemei (2022)	readiness and primary healthcare services. Reliable recurrent financing was essential for sustaining immunization programs.	budget deviations. Furthermore, immunization service provision was rarely isolated as a specific outcome variable.	provision in Kilifi County.
Evaluate the relationship between development budget deviations and the level of completeness of capital projects in Kilifi County	Bhatia and Singh (2021); Gambo et al. (2021); WHO (2016)	The studies found that inadequate funding, poor budget implementation, weak coordination, and underinvestment constrained the completion of health infrastructure projects and weakened health systems.	Existing studies focused on health sector underinvestment, budget absorption, and implementation challenges without directly examining development budget deviations and their effect on the completion of health sector capital projects at the county level.	The study evaluated the relationship between development budget deviations and the level of completeness of capital projects in Kilifi County.

2.5 Conceptual Framework

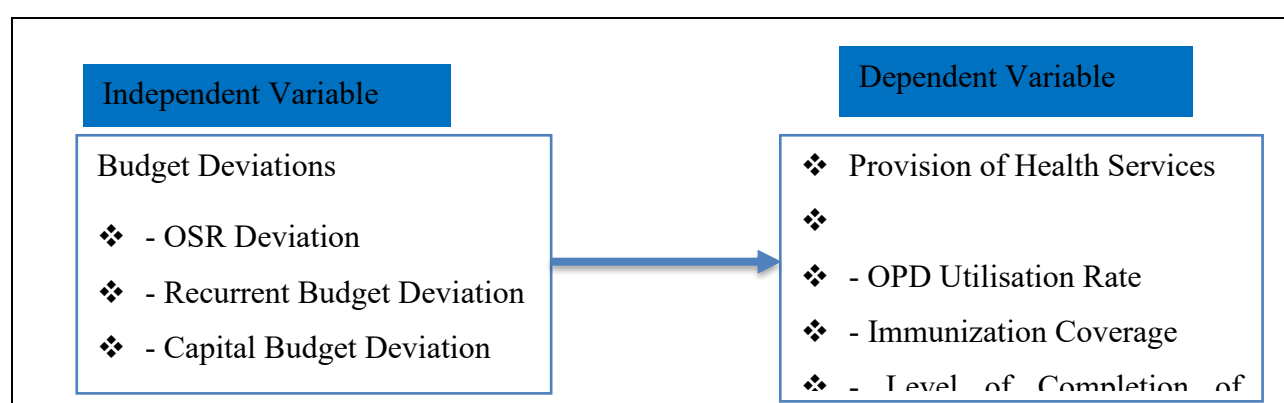


Figure 2. 1: Conceptual Framework

2.6 Operationalization of Study Variables

The study examined the effects of budget deviations on health service provision in Kilifi County. Budget deviation was the independent variable, while health service provision was the dependent variable. Budget deviation referred to the difference between approved budget estimates and actual revenues realised or expenditures incurred during a financial year. It measured the extent to which planned financial resources were implemented as intended and was expressed as a percentage deviation between approved and actual values. The study operationalised budget deviation into three dimensions: County Own Source Revenue (OSR) deviation, recurrent budget deviation, and development (capital) budget deviation.

Health service provision referred to the immediate outputs generated from health system inputs such as financing, infrastructure, human resources, and medical supplies. Guided by the Donabedian Structure–Process–Outcome model and the WHO Health Systems Framework, health service provision was operationalised using three complementary indicators, namely OPD utilisation rate, immunisation coverage, and the level of completion of health sector capital projects. These indicators represented curative service utilisation, preventive service delivery, and health system capacity, respectively.

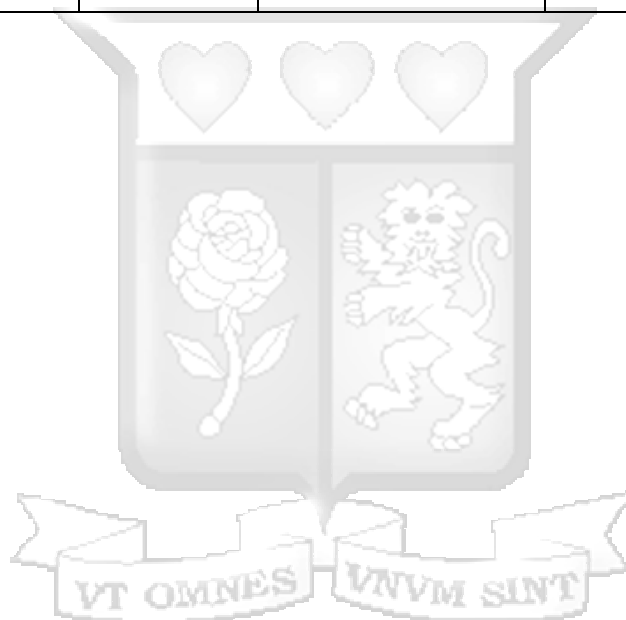
Table 1.2 Summary operationalization of study variables

Variable	Operational Definition	Indicator	Measurement/Formula	Data Source	Reference
Independent Variable:	Difference between approved	Budget deviation (%)	$[(\text{Approved Budget} - \text{Actual Revenue/Expenditure}) / \text{Approved Budget}] \times 100$	County Budget Review and	Controller of Budget (2024);

Budget Deviations	budget estimates and actual revenue realized or expenditure incurred within a financial year		e) $\div$ Approved Budget] $\times$ 100	Outlook Papers (CBROP), County Budget Implementation Reports (CBIRR), County Fiscal Strategy Papers (CFSP), County Annual Financial Statements	National Treasury and Economic Planning (2024)
County Own Source Revenue (OSR) deviation	Difference between projected and actual locally generated revenue within a financial year	OSR deviation (%)	$[(\text{Target OSR} - \text{Actual OSR}) \div \text{Target OSR}] \times 100$	County Treasury reports, County Annual Financial Statements, CBIRR	Controller of Budget (2024)
Recurrent budget deviation	Difference between approved and actual recurrent expenditure	Recurrent budget deviation (%)	$[(\text{Approved Recurrent Budget} - \text{Actual Recurrent Expenditure}) \div \text{Approved Recurrent Budget}] \times 100$	County Budget Implementation Reports, County	Controller of Budget (2024)

				Financial Statements	
Development (Capital) budget deviation	Difference between approved and actual development expenditure	Development budget deviation (%)	$\frac{[(\text{Approved Development Budget} - \text{Actual Development Expenditure}) \div \text{Approved Development Budget}] \times 100}{}$	County Budget Implementation Reports, Annual Development Plans	Controller of Budget (2024)
Dependent Variable: Health Service Provision	Immediate outputs generated from health system inputs and resources used in delivering health services	Health service provision	Measured using OPD utilization, immunization coverage and completion of capital projects	KHIS, County Health Reports, Annual Development Plans	Donabedian (1988); World Health Organization (2007, 2010)
OPD utilization rate	Average number of outpatient visits per person per year	OPD utilization rate	$\frac{\text{Total OPD visits}}{\text{Catchment population}}$	Kenya Health Information System (KHIS), County Health Sector Reports	World Health Organization (2010)
Immunization coverage	Proportion of eligible children who received all	Full immunization coverage (%)	$\frac{(\text{Number of fully immunized children} \div \text{Target population}) \times 100}{}$	KHIS, County Health Reports	World Health Organization (2010)

	recommended vaccines				
Level of completion of capital projects	Extent to which planned health infrastructure projects were completed	Project completion level	Value (KSh million) of completed, ongoing and stalled projects	County Annual Development Plans, County Budget Implementation Reports	World Health Organization (2007)



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is organized as follows: research philosophy, research design, population, sampling techniques, methods of data collection, methods of data analysis and ethical considerations.

3.2 Research Philosophy

The study adopted a pragmatist research philosophy. Pragmatism was appropriate because the study employed a mixed methods approach that integrated quantitative and qualitative data to comprehensively examine the effects of budget deviations on health service provision in Kilifi County. Pragmatism recognizes that no single methodological tradition is sufficient for understanding complex social phenomena and therefore allows researchers to combine objective measurements with participants' experiences and contextual interpretations (Creswell & Plano Clark, 2018; Morgan, 2014).

The quantitative component examined the effects of County Own Source Revenue (OSR), recurrent budget deviations, and development budget deviations on health service provision using secondary data covering FY2013/14 to FY2023/24. The qualitative component utilized Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) to provide contextual explanations for the observed quantitative patterns. The integration of both approaches enabled methodological triangulation and enhanced the comprehensiveness and validity of the findings (Creswell & Creswell, 2018).

3.3 Research Design

The study adopted explanatory correlational research design. The explanatory-correlational design was appropriate because the study sought to determine the effects of budget deviations on health service provision using regression analysis and hypothesis testing while simultaneously obtaining qualitative explanations from relevant stakeholders.

Correlational research designs are appropriate where studies seek to establish the magnitude and direction of relationships among variables without manipulating them (Creswell & Creswell, 2018). Furthermore, explanatory studies are suitable when the objective is to explain

why relationships exist among variables and to provide evidence that informs policy and practice (Saunders et al., 2019).

The quantitative strand established statistical relationships between budget deviations and health service indicators, whereas the qualitative strand explored contextual factors explaining the observed relationships. The findings from both strands were subsequently integrated during interpretation to enhance understanding of the phenomenon under investigation (Creswell & Plano Clark, 2018).

3.4 Population of the Study

Population refers to the entire group of individuals, institutions, or units that possess characteristics relevant to a study and from which researchers obtain data and draw conclusions (Creswell & Creswell, 2018). The target population for this study comprised institutions and stakeholders involved in health financing, budgeting, and health service provision in Kilifi County. Participants were drawn from four categories of institutions.

3.5 Target Population

The target population was 8 institutions categorized into County Government, National Government, and non-governmental institutions as shown in table 3.1.

Table 3.1: Institutional Population of the Study

Category	Institutions	Number
County Government institutions	• County Department for Finance • Economic Planning • County Department of Health	2
National Government institutions	• National Treasury and Economic Planning • Office of Controller of Budget • Ministry of Health	3
Non-Governmental institutions	• Local CSO, CBOs and CHP networks involved in health and budget advocacy	3
Total		8

3.6 Sampling

Purposive sampling was used to select 8 and 10 participants for KIIs and FGD respectively. Purposive sampling was adopted for the qualitative component of the study because participants were selected from the target institutional population in Table 3.2. based on their knowledge, expertise, and experience in health budgeting and service provision as shown in

Table 3.2: Key Informant Interview (KII) and Focus Group Discussion (FGD) participants

Participant Category	Specific Roles / Representation	Focus of Insights
Key Informant Interviews (KIIs)	• Head of Public Investment and Management • County Principal Economist • Nursing Officer-in-Charge • Clinician • Chairperson of the civil society network	Budgeting, Financing, Administrative, economic, service delivery and community leadership perspectives
Focus Group Discussions (FGDs)	• Community Health Promoters (CHPs) • Healthcare givers • Farmers • Market traders	Lived experiences regarding healthcare availability, access, quality, and daily constraints.

Quantitative data to analyze budget deviations and provision of health services in Kilifi County were collected quarterly across the first ten years of devolution (FY 2013/14 to FY 2022/23). This yielded a total of 40 observations per variable, providing a sufficient sample size for multiple linear regression analysis. Data for independent variables were extracted from the Office of the Controller of Budget (OCOB) County Budget Implementation Review Reports

(CBIRR), while for dependent variables were extracted from the Ministry of Health's Kenya Health Information System (KHIS2). To ensure data integrity, these datasets were triangulated with additional financial and health service data from the National Treasury and Kilifi County government records.

3.7 Methods of Data Collection

Primary data were collected through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs). KIIs were conducted among county officials, health managers, clinicians, and civil society representatives to obtain expert perspectives on budget execution and health service provision. FGDs were conducted among community members to capture lived experiences regarding access to healthcare services and the effects of budget deviations.

Secondary data were extracted from the OCOB quarterly Budget and implementation reports and KHIS using document analysis method and data extraction sheet from official documents covering FY2013/14 to FY2023/24 giving a total of forty observations. The Additional data was obtained from County Fiscal Strategy Papers, Annual Development Plans, County Annual Financial Statements, County Integrated Development Plans, Programme-Based Budgets and Ministry of Health reports.

3.8: Unit of Analysis

The unit of analysis was the quarterly county financial year and provision of health service observation. Indicators for each variable were observed quarterly over ten financial years, generating a total of forty observations used in the quantitative analysis.

3.9 Methods of Data Analysis

3.9.1 Quantitative Data Analysis

Descriptive Statistics including means, percentages, frequencies, range and standard deviations, were used to describe trends and distributions in budget deviations and health service delivery while multiple linear regression analysis was conducted using the empirical models Y_1 , Y_2 and Y_3 to assess the effect of all independent variables on each dependent variable:

Regression Model: $Y_1 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$

Where:

- ❖ Y_1 = Immunization Coverage
- ❖ β_0 = Constant (intercept)
- ❖ $\beta_1 \beta_2 \beta_3$ = Regression coefficients
- ❖ X_1 = Own Source Revenue Deviations
- ❖ X_2 = Recurrent Budget Deviations
- ❖ X_3 = Capital Budget Deviations
- ❖ ε = Error term

Regression Model: $Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where:

- ❖ Y_2 = Outpatient Health Services Utilization Rate
- ❖ β_0 = Constant (intercept)
- ❖ $\beta_1 \beta_2 \beta_3$ = Regression coefficients
- ❖ X_1 = Own Source Revenue Deviations
- ❖ X_2 = Recurrent Budget Deviations
- ❖ X_3 = Capital Budget Deviations
- ❖ ε = Error term

Regression Model: $Y_3 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where:

- ❖ Y_3 = Level of Completion of Capital Projects
- ❖ β_0 = Constant (intercept)
- ❖ $\beta_1 \beta_2 \beta_3$ = Regression coefficients
- ❖ X_1 = Own Source Revenue Deviations
- ❖ X_2 = Recurrent Budget Deviations
- ❖ X_3 = Capital Budget Deviations
- ❖ ε = Error term

3.9.2 Qualitative Data Analysis

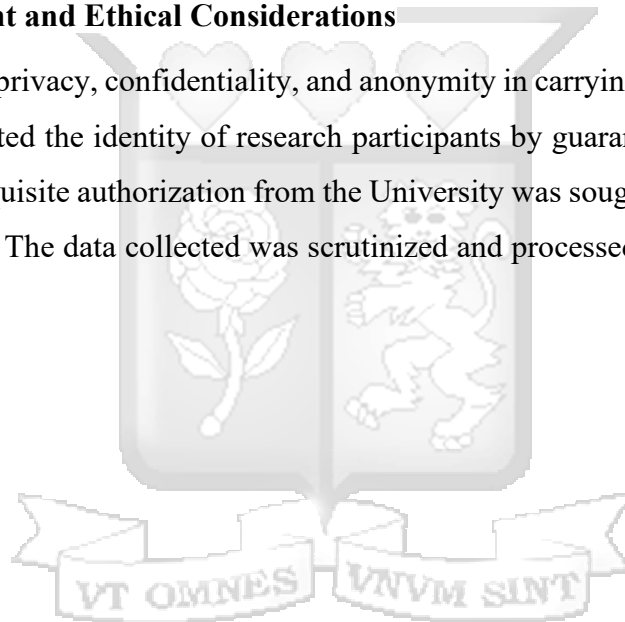
Qualitative data were analysed using Thematic Analysis, following the six-phase procedure outlined by Braun, Clarke and Hayfield (2022): familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and

producing the report. Transcripts from KIIs' FGDs were coded. Codes were then clustered into higher-order themes capturing patterns such as budget allocation efficiency, funding shortages, procurement delays, revenue unpredictability and service accessibility. To enhance analytical rigor, audit trails and member checking were applied. In addition, content analysis was used to quantify the frequency of recurring ideas, while framework analysis helped align emergent themes with the study variables, enabling systematic comparison across respondents and county departments.

The qualitative results were used to supplement the quantitative results and offer more information related to the effects that the budget deflection has on the daily functions of the health departments as well as on the delivery of healthcare services in Kilifi County.

3.7 Data Management and Ethical Considerations

The study guaranteed privacy, confidentiality, and anonymity in carrying out the research. The researcher also protected the identity of research participants by guaranteeing anonymity and confidentiality. Prerequisite authorization from the University was sought for ethical clearance as well as NACOSTI. The data collected was scrutinized and processed to ensure proper data management.



CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the analysis of data collected as outlined in chapter three. The findings are organized and presented in line with the research objectives/questions and hypotheses.

4.2 Demographic Profile of Respondents and Key Analytical Focus

The study collected primary data from both Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) to obtain complementary qualitative insights. FGDs captured community-level experiences, while KIIs provided institutional and technical perspectives on budget deviations and provision of health services in Kilifi County. The combined respondent profile is presented Table 4.1.

Table 4.2 Demographic profile of respondents (FGDs and KIIs)

ID	Role / Designation	Institution / Role	Key Analytical Focus
FGD-01	Caregiver (peri-urban)	Community	Long travel distances and frequent stock-outs leading to out-of-pocket expenditure for medicines
FGD-02	Farmer (rural)	Community	Irregular service days and referrals due to absence of drugs at facility level
FGD-03	Community Health Promoter	Community	Missed outreach activities; clients turned away due to lack of commodities
FGD-04	Casual laborer	Community	Income instability affecting ability to access private chemists during public facility stock-outs

FGD-05	Market trader	Community	Distance and transport costs exacerbated by frequent lack of essential supplies in public facilities
KII-FIN-01	Head, Public Investment Management	Department of Finance/Treasury	Budget deviation dynamics, supplementary budgets, and public investment management bottlenecks affecting execution
KII-ECO-01	County Principal Economist	Treasury/Planning	Cash-flow timing, CRF balances, approval delays, and pending bills influencing project implementation cycles
KII-NUR-01	Nursing Officer-in-Charge	Kizingo Health Center	Absence of facility-level allocations; recurrent stock-outs of commodities; reliance on conditional grants
KII-CLN-01	Clinician	DOH Kiwandani Dispensary	Salary delays, recurrent stock-outs, and stalled laboratory services limiting service delivery scope
KII-CSO-01	CSO Leader (CEO/Chair)	CSOs Network	Preventive vs curative imbalance, weak transparency systems, and limited community monitoring/social accountability

Source: Author, (2025)

The FGD participants represented diverse community groups including Community Health Promoters (CHPs), healthcare givers, peasant farmers, casual laborers and market traders. Their perspectives primarily reflected lived experiences of healthcare availability, access, quality and constraints. The KII respondents were drawn from technical and leadership roles within the county health and finance economic planning departments as well as civil society organizations/think tanks. Their insights focused on budget allocation, execution, deviation dynamics, pending bills, service delivery and cash flow constraints.

4.2 Provision of healthcare services in Kilifi County

The study assessed the provision of healthcare services using three indicators, namely: OPD utilisation rate (%), proportion of fully immunised children (%), and the level of completion of capital projects in the Health Department per quarter (complete, ongoing, stalled) in KSh. million over a period of 10 years (FY 2013/14 – FY 2022/23). The findings are presented in

Table 2.2 provision of health services

Financial Year	OPD Utilisation Rate (%)	Fully Immunised (%)	Level of completion of Capital Projects in Health (KSh Million)		
			Completed	Ongoing	Stalled
2013/2014	1.67	61.96	76.34	104.62	0
2014/2015	1.6	78.1	179.83	245.02	5.08
2015/2016	1.74	77.03	357.84	583.52	6.34
2016/2017	1.68	67.86	73.51	914.34	2.83
2017/2018	1.87	76.73	3.43	41.2	0
2018/2019	1.08	52.34	65.21	354.65	7
2019/2020	1.52	31.18	247.64	448.99	0.5
2020/2021	1.53	54.95	206.36	542.71	12.01
2021/2022	1.65	61.96	165.09	601.8	24.03
2022/2023	1.75	66.52	103.18	867.05	12.01
Descriptive Analysis					
Mean	1.61	62.86	147.64	470.99	6.98
Std. Dev	0.23	14.68	109.78	282.35	7.47
Minimum	1.08	31.18	3.43	41.2	0
Maximum	1.87	78.1	357.84	914.34	24.03

Range	0.79	46.92	354.41	873.14	24.03
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Source of data: KHIS2, OCOB, and the County Departments of Health, Finance, and Economic Planning.

The OPD utilisation rate remains relatively stable throughout the study period, with a mean of 1.61 and a low Standard Deviation (SD) of 0.23, indicating minimal dispersion and consistent utilisation patterns. A notable decline of 42.25% observed in FY 2018–2019, followed by gradual recovery through FY 2020/21 - FY 2022/23. This can be explained by the temporary disruptions in healthcare demand during COVID-19 period. The OPD utilisation rate remains below pre-COVID period.

Immunization coverage exhibits a markedly different pattern, with a mean of 62.86% and a high SD of 14.68. This indicates substantial variability, with a decline of 40.77% observed in FY 2019–2020, the COVID-19 period and a partial recovery thereafter. This shows significant constraints in provision of preventive health service delivery in the county.

The level of completion of capital projects in the health department demonstrates high variability. The mean value of ongoing projects is KSh 470.99 million which is over three times that of completed projects (KSh 147.64 million), and an SD of 282.35, indicating persistent accumulation of unfinished health projects thus constraining provision of healthcare services due to limited infrastructure. Stalled projects, although lower in magnitude with a mean of KSh 6.98 million, show occasional spikes, notably in FY 2022/23, which signals inefficiencies in project execution. Years characterised by higher levels of completed projects (e.g., FY 2015/16 and FY 2019/20) coincide with relatively better health outcomes, particularly in immunisation coverage, whereas periods dominated by high ongoing or stalled project values do not show corresponding improvements in service indicators pointing to a positive relationship between the effectiveness of capital project completion and healthcare service delivery outcomes.

4.3 Budget Deviations affecting the Provision of Healthcare Services in Kilifi County

Budget deviations, including County Own Source Revenue (OSR) deviations and recurrent budget deviations, were analysed to assess their effect on the provision of healthcare services in Kilifi County. The results are presented in Table 4.3.

Table 4.3: Budget deviations affecting the provision of health services

IV (Deviations %)	FY										Mean	Std. Dev	Min	Max	Range
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022					
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023					
OSR Deviation	-32	-55	-25	-24	-21	-42	-44	-61	-65	-45	-41.4	15.4 1	-65	-21	44
Recurrent Budget Deviations	48	-96	-1	-11	1	-50	5	0	-9	24	-8.9	43.3 8	-96	48	144
Capital Budget Deviations	-14	-16	-5	-29	-8	-9	-8	-15	-19	-10	-13.3	6.92	-29	-5	24

Source of data: OCOB, the County Departments of Health, Finance, and Economic Planning.

Table 4.3 shows that OSR deviations have a mean of -41.4% and SD of 15.41, indicating persistent underperformance in revenue collection relative to targets. This observation points to potential structural gaps in revenue forecasting and mobilisation.

Recurrent budget deviations reveal a relatively smaller mean at -8.9%, a high standard deviation of 43.38% and wide range of 144 percentage points indicate substantial volatility. This suggests that recurrent expenditure management is highly unpredictable, with periods of both significant overspending and underspending. Such variability reflects weak budget execution controls and inconsistent cash flow management.

Capital budget deviations are consistently negative, with a mean of -13.30% and a relatively low standard deviation of 6.92%. This indicates systematic under-execution of development budgets with limited variability. The narrow range further confirms that capital budget underperformance is persistent rather than episodic, suggesting structural inefficiencies in project implementation.

4.4 Diagnostic Tests

Before conducting the analysis, it was methodologically necessary to conduct diagnostic tests to verify that the underlying assumptions of the linear regression model are reasonably satisfied

as per the James et al (2021) recommendations. These pre- estimation diagnostics included: Normality, Linearity, Multicollinearity and Heteroskedasticity

4.4.1 Normality Test

This checks if the errors (residuals) follow a normal (bell-shaped) pattern. If residuals are not normally distributed, p-values and significance tests may be unreliable. Normality of the study variables was assessed using skewness and kurtosis. The values fell within the acceptable range of -1 to +1, indicating that the data was approximately normally distributed as recommended by Li, et al. (2024).

4.4.2 Linearity Test

Assesses whether there is a linear relationship between the independent variables and the dependent variable. Regression assumes that changes in predictors lead to proportional changes in the outcome. Partial regression plots was used to test for linearity between the study variables. The results revealed a moderate linear relationship between independent and dependent variables which confirms that the assumption of linearity is reasonably satisfied, justifying the use of linear regression analysis. Pearson correlation coefficients were computed only to assess the strength and direction of associations among variables.

4.4.3 Multicollinearity and Heteroskedasticity Tests

Variation inflation factor was used to test for multicollinearity and Breush Pagan was used to test for heteroskedasticity, the results indicated that all VIF values were below the threshold of 2, suggesting the absence of multicollinearity among the independent variables as recommended by Hair et al., (2010).

4.5 Regression Analysis

This section presents the results of the regression analysis.

4.5.1 Relationship between recurrent budget deviations and immunization coverage in Kilifi County

Table 4.4 Effects of budget deviation on immunization services

SUMMARY								
OUTPUT								

Regression Statistics								
Multiple R	0.819							
R Square	0.619							
Adjusted R Square	0.530							
Standard Error	5.445							
Observations	40.000							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	615.521	205.17	6.919	0.001			
Residual	36	1067.47	29.652					
Total	39	1683						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	6.312	2.167	2.485	0.006	0.989	9.778	0.989	9.778
OSR Deviation (%)	-0.599	0.156	-4.223	0.001	-0.977	-0.343	-0.977	-0.343
Recurrent Deviation (%)	-0.109	0.063	-1.971	0.009	-0.251	0.004	-0.251	0.004
Capital Deviation (%)	-0.102	0.071	-1.769	0.151	-0.270	0.018	-0.270	0.018

Source (Survey Data, 2025)

Table 4.4 shows that the adjusted R-squared is 0.530, indicating that approximately 53% of the variation in immunization coverage is explained by the three independent variables included in the model and about 47% of the variation is attributable to other factors not included in the model, such as socio-economic conditions, health-seeking behaviour, external health interventions among others. The overall model is statistically significant, as indicated by an F-statistic of 6.919 ($p = 0.001 < 0.05$). This implies that the independent variables are jointly significant in explaining variations in immunization coverage, and therefore the model is appropriate for analysing the influence of budget deviations on healthcare service delivery.

The regression results further reveal that recurrent budget deviations exhibit a negative and statistically significant relationship with immunization coverage ($\beta = -0.11$, $p = 0.009$). This suggests that under-execution of recurrent budgets, typically allocated to wages, medical supplies, and operational costs reduces the capacity of health facilities to deliver routine immunization services.

County OSR deviations have a negative and statistically significant effect on immunization coverage ($\beta = -0.60$, $p = 0.001$). This indicates that a one-unit shortfall in OSR target is associated with a 0.60 unit decrease in immunization coverage, holding other factors constant.

Capital budget deviations have a negative but statistically insignificant effect on immunization coverage ($\beta = -0.10$, $p = 0.15 > 0.05$). The negative coefficient implies that under-execution of capital investments such as construction of health facilities or procurement of equipment adversely affects service delivery. However, the lack of statistical significance indicates that this effect is not strong in the short term.

Table 4.4 shows that the coefficient for recurrent budget deviations was -0.11, with a corresponding p-value of 0.009. Since the p-value is less than 0.05, the null hypothesis is rejected at the 5% level of significance. This implies that recurrent budget deviations have a statistically significant effect on immunization coverage in Kilifi County.

Since the coefficient is negative and significant, it can be inferred that under-execution of recurrent budgets leads to a decline in immunization coverage. This suggests that inadequate funding for recurrent expenditures such as wages, medical supplies, and operational costs reduces the capacity of health facilities to deliver routine immunization services. Consequently,

this may result in service interruptions, reduced outreach activities, and lower immunization uptake.

4.5.2 Relationship between OSR deviations and utilization of outpatient services in Kilifi County

Table 4.5: Effects of OSR deviations on access to outpatient services

SUMMARY								
OUTPUT								
Regression Statistics								
Multiple R	0.785							
R Square	0.624							
Adjusted R Square	0.512							
Standard Error	0.126							
Observations	40.000							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	0.267	0.089	4.160	0.012			
Residual	36	0.572	0.016					
Total	39	0.839						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.543	0.051	4.708	0.000	0.138	0.346	0.138	0.346
OSR Deviation (%)	-0.301	0.004	-2.134	0.016	-0.019	0.000	-0.019	0.000
Recurrent Deviation (%)	-0.071	0.003	0.615	0.374	-0.004	0.007	-0.004	0.007

Capital Deviation (%)	-0.082	0.011	-2.210	0.038	-0.046	-	0.002	-0.046	-0.002
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Source (Survey Data, 2025)

Table 4.5 shows that the model has an adjusted R-squared of 0.512, indicating that approximately 51.2% of the variation in OPD utilisation rate is explained by the three independent variables included in the model, while the remaining 48.8% is attributed to other factors not captured in the model. The overall model is statistically significant, as indicated by $F = 4.16$, $p = 0.012 < 0.05$, suggesting that the independent variables are jointly significant in explaining variations in OPD utilisation rate. This implies that the model is appropriate for analysing the influence of budget deviations on outpatient healthcare service utilisation.

The regression coefficients show that County OSR deviation has a negative and statistically significant effect on OPD utilisation rate ($\beta = -0.30$, $p = 0.016$). This implies that a one-unit shortfall in OSR target is associated with a 0.30 unit decrease in OPD utilisation, holding other factors constant. Capital budget deviation has a negative and statistically significant relationship with OPD utilisation rate ($\beta = -0.08$, $p = 0.038$), indicating that under-execution of capital budgets leads to a decline in outpatient service utilisation. Recurrent budget deviation has a negative but statistically insignificant effect on OPD utilisation rate ($\beta = -0.07$, $p = 0.374 > 0.05$), suggesting that variations in recurrent budget execution do not have a strong or immediate influence on outpatient service utilisation.

Table 4.5 shows that the coefficient for County OSR deviations was -0.30, with a corresponding p-value of 0.016. Since the p-value is less than 0.05, the null hypothesis is rejected at the 5% level of significance. This implies that OSR deviations have a statistically significant effect on OPD utilisation rate in Kilifi County. Given that the coefficient is negative and significant, it indicates that shortfalls in OSR are associated with a decline in outpatient service utilisation.

4.5.3 Relationship between development budget deviations and the level of completeness of capital projects in Kilifi County.

Table 4.6: Effects of capital budget deviation on the level of completeness of capital projects in health sector

SUMMARY								
OUTPUT								

Regression Statistics								
Multiple R	0.874							
R Square	0.701							
Adjusted R Square	0.582							
Standard Error	4.153							
Observations	40.000							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	304.364	101.455	3.894	0.017			
Residual	36	620.785	17.244					
Total	39	925.150						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.245	1.690	1.448	0.015	-0.980	5.875	-0.980	5.875
OSR Deviation (%)	-0.194	0.146	-2.424	0.020	-0.234	-0.058	-0.652	-0.058
Recurrent Deviation (%)	-0.026	0.090	-2.368	0.023	-0.677	-0.031	-0.395	-0.031

Capital Deviation (%)	-0.237	0.357	- 0.39 8	0.69 3	-0.002	0.583	-0.867	0.583
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Source (Survey data, 2025)

Table 4.6 shows that the adjusted R-squared is 0.582, meaning that the independent variables jointly explain approximately 58.2% of the variation in the level of completion of capital projects in the health sector, while the remaining 41.8% is explained by other variables not included in the model. Therefore, the model can reliably be used to test the influence of County OSR deviations, recurrent budget deviations, and capital budget deviations on the level of completion of capital projects. The F-statistic is 3.894 with a p-value of 0.017 (< 0.05), which implies that the independent variables are jointly statistically significant in explaining variations in the level of completion of capital projects. Hence, budget deviations are significant in explaining variations in capital project implementation in the health sector.

The regression results indicate that Capital budget deviation has a negative and statistically significant coefficient ($\beta = -0.237$, $p = 0.002 < 0.05$). This implies that a one-unit shortfall in the execution of the approved capital budget results in a 0.237 unit decrease in the level of completion of capital projects, holding other factors constant.

County OSR deviation has a negative but statistically insignificant coefficient ($\beta = -0.194$, $p = 0.234 > 0.05$), suggesting that although shortfalls in OSR targets are associated with a decline in the level of completion of capital projects, the effect is not statistically significant. Similarly, recurrent budget deviation has a negative and statistically insignificant coefficient ($\beta = -0.026$, $p = 0.677 > 0.05$), indicating that variations in recurrent budget execution do not have a significant effect on the completion of capital projects.

Table 4.6 shows that the coefficient for capital budget deviations was -0.237, with a corresponding p-value of 0.002. Since the p-value is less than 0.05, the null hypothesis is rejected at the 5% level of significance. This implies that capital budget deviations have a statistically significant effect on the level of completion of capital projects in Kilifi County. The negative and significant coefficient indicates that under-execution of capital budgets leads to a decline in the completion of health projects. This suggests that delays in fund disbursement, procurement inefficiencies, and weak project implementation directly contribute to stalled or incomplete projects. Since capital budgets finance infrastructure development, including

construction and equipping of health facilities, their underperformance significantly undermines project completion.

4.7.1 Effect of County Own Source Revenue (OSR) Deviations on Access to Outpatient Health Services

Thematic analysis of KIIs and FGDs revealed three major themes explaining the relationship between OSR deviations and access to outpatient health services: commodity stock-outs and service interruptions, mid-year budget reallocations, and increased out-of-pocket expenditure by patients.

Commodity stock-outs and service interruptions. Health facility managers and frontline healthcare workers consistently reported that fluctuations in locally generated revenue affected the availability of essential commodities and supplies required for outpatient service delivery. Respondents indicated that unpredictable funding flows often resulted in delayed procurement and recurrent stock-outs, thereby limiting the capacity of health facilities to provide timely services. A nursing officer explained that "There is no specific allocation; it keeps changing and we face stock-outs of almost everything" (KII–Nursing, Kizingo). Similarly, a clinician observed "Our budget allocation for commodities keeps changing; when supplies don't come, turnout drops" (KII–Clinician, Kiwandani). These findings suggest that deviations in OSR undermine the predictability of resource availability, which in turn constrains the ability of health facilities to provide consistent outpatient services.

Mid-year budget reallocations and reduced service availability. Participants further highlighted frequent in-year budget adjustments and reallocation of resources as a major challenge affecting service delivery. Community members noted that funds initially allocated for health services were often redirected to other priorities without adequate stakeholder feedback or consultation. One focus group participant stated that "Funds are reallocated mid-year without feedback; what was promised does not arrive" (FGD Participant). A civil society representative similarly noted that "When money is moved in-year, it is prevention that usually gives way to other pressures" (KII–CSO). These perceptions indicate that weak budget credibility and frequent reprioritization of resources negatively affect the continuity of outpatient services.

Increased out-of-pocket expenditure and delayed care seeking. Respondents reported that when health facilities experience shortages of medicines and supplies, patients are compelled either to purchase commodities privately or postpone seeking treatment. This situation was

perceived to reduce effective access to outpatient healthcare services, particularly among vulnerable populations. A clinician explained that "We receive only a fraction of what we ordered; clients end up buying medicines out-of-pocket" (KII–Clinician, Kiwandani). Community members echoed similar concerns that "What was promised does not arrive, and families either buy privately or wait" (FGD Participant).

The qualitative evidence therefore demonstrates that OSR deviations affect outpatient service utilization through disruptions in commodity availability, reduced service readiness, and increased financial barriers to healthcare access. These findings corroborate the quantitative results which showed that budget execution challenges adversely influence access to outpatient health services.

4.7.2 Effect of Recurrent Budget Deviations on Provision of Immunization Services

The qualitative findings revealed four interrelated themes regarding the effect of recurrent budget deviations on immunization services: unpredictable funding and vaccine stock-outs, disruptions to outreach activities, vulnerability of preventive programmes during fiscal pressure, and delayed manifestation of budgetary effects on immunization outcomes.

Unpredictable funding and vaccine stock-outs. Respondents consistently linked recurrent budget deviations to shortages of vaccines, medical supplies, and operational resources necessary for immunization programmes. Healthcare workers reported that changing budget allocations affected routine service delivery and compromised the availability of immunization commodities. A nursing officer noted: "There is no specific allocation; it keeps changing, and we face stock-outs of almost everything" (KII–Nursing, Kizingo). The recurring shortages were perceived to undermine routine immunization activities and reduce service reliability.

Disruptions to outreach activities. Frontline health workers emphasized that recurrent budget deviations frequently disrupted outreach services, which are critical for reaching remote and underserved populations. According to respondents, delayed disbursements and inadequate operational funding often resulted in postponed or cancelled outreach programmes. A clinician explained: "When supplies don't come, outreach is postponed and turnout drops immunization is among the first to feel the squeeze" (KII–Clinician, Kiwandani). Participants noted that interruptions in outreach activities directly reduced vaccination uptake among children in hard-to-reach areas.

Vulnerability of preventive health programmes during fiscal pressure. Another recurring theme was the perception that preventive health programmes are often the first to experience

budget cuts when fiscal pressures arise. Respondents indicated that immunization activities tend to receive lower priority compared to curative services during periods of resource constraints. A civil society representative observed: "When money is moved in-year, it is prevention that usually gives way to other pressures" (KII–CSO). This finding suggests that recurrent budget deviations disproportionately affect preventive interventions, thereby threatening progress in immunization coverage.

Delayed effects of budget deviations on immunization outcomes. County finance and planning officials highlighted administrative and operational delays that often separate budget execution challenges from observable service outcomes. Respondents described procurement lead times, delayed approvals, cash-flow constraints, and supplementary budgeting processes as factors that postpone the impact of budget deviations on immunization performance. A finance official stated: "Allocations are often made before projects are ready; when implementation stalls, we regularize through supplementary budgets" (KII–Finance/PIM). Community participants similarly reported that shortages and delayed service provision often result in missed child wellness visits: "What was promised does not arrive, and families either buy privately or wait" (FGD Participant).

4.7.3 Relationship Between Development Budget Deviations and Completeness of Capital Projects

Thematic analysis identified four major themes explaining the relationship between development budget deviations and capital project completion: weak project readiness, approval and cash-flow bottlenecks, reliance on supplementary budgets, and negative effects of stalled projects on service delivery.

Weak project readiness and planning challenges. County finance and planning officials consistently attributed development budget deviations to inadequate project preparation before budget allocation. Respondents noted that projects are frequently included in budgets before feasibility studies, technical designs, and implementation arrangements are fully completed. A finance official remarked: "Allocations are often made before projects are ready; when implementation stalls, we regularize through supplementary budgets" (KII–Finance/PIM).

These findings suggest that deficiencies in project preparation contribute significantly to under-execution of development budgets and delayed project completion.

Approval and cash-flow bottlenecks. Respondents further identified lengthy approval procedures and delayed release of funds as major constraints to project implementation. County

officials reported that bureaucratic processes often slow project execution even when funds have already been allocated. A county economist explained: "Balances can sit at the CRF even as approvals lag; contractors wait, projects slow, and the year closes before full execution" (KII–Economist). The findings indicate that development budget deviations are not solely caused by inadequate funding but also by inefficiencies within project approval and financial management processes.

Reliance on supplementary budgets and reprioritization. The qualitative evidence revealed frequent use of supplementary budgets to address implementation delays and changing priorities during the financial year. Respondents perceived this practice as contributing to uncertainty in project implementation and reducing the likelihood of achieving planned project outputs. County finance officials reported that stalled projects often trigger reallocations and budget revisions aimed at accommodating emerging priorities rather than completing ongoing investments. Such adjustments were perceived to contribute to lower levels of project completeness.

Impact of stalled projects on health service delivery. Frontline healthcare workers linked incomplete infrastructure projects directly to reduced health system functionality and service capacity. Respondents reported that delayed construction and rehabilitation projects affected the availability and quality of healthcare services. One clinician stated: "The lab project did not move due to budget cuts; diagnostics were affected" (KII–Clinician, Kiwandani). Similarly, another respondent noted: "Projects did not move and diagnostics were affected" (KII–Clinician). These accounts suggest that development budget deviations have consequences beyond infrastructure completion alone, extending to the effectiveness and quality of health service delivery.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of findings, conclusions, and recommendations as per the research objectives and hypotheses. The study examined the effect of budget deviations: County Own Source Revenue (OSR), recurrent, and capital budget deviations on the provision of healthcare services in Kilifi County over the period FY 2013/14 to FY 2022/23. Healthcare service delivery was operationalized into three dependent variables: outpatient department (OPD) utilization rate, immunization coverage, and the level of completion of capital projects.

5.2 Discussion of Findings

5.2.1 Provision of Health Care Services in Kilifi County

The provision of healthcare services in Kilifi County is characterized by mixed performance across key indicators, reflecting systematic vulnerabilities in translating public resources into sustainable service delivery outcomes. The outpatient department (OPD) utilization rate remained relatively stable throughout the study period, indicating consistent structural interaction between the population and the primary health system. However, a sharp decline observed during the mid-study period, followed by a gradual recovery, suggests that the local health system lacks sufficient institutional resilience to buffer against external macroeconomic or operational shocks. Although utilization stabilized in the subsequent years, it failed to return fully to baseline levels.

In contrast, immunization coverage exhibited profound volatility and a pronounced, severe decline during the study period, followed by only partial recovery. This pattern points to a critical instability in the funding and delivery of preventive healthcare services. This high variability suggests that preventive programs are uniquely sensitive to fluctuations in funding, logistical bottlenecks, and coordination failures within the county executive.

The analysis of capital project implementation underscores deep systemic inefficiencies. The significantly higher mean volume of ongoing projects compared to completed projects, coupled with exceptionally high variability, exposes a persistent accumulation of unfinished infrastructure. While fiscal resources are formally committed to capital development during

annual planning cycles, they are not being effectively translated into operational, functional health facilities. Occasional spikes in stalled projects signal severe execution deficits. Crucially, historical periods characterized by higher levels of completed projects correspond directly with periods of improved health outcomes, particularly in immunization coverage. This pattern establishes a positive strategic relationship between infrastructure completion and functional service delivery.

5.2.1.1 Theoretical and Empirical Integration

These structural patterns directly challenge the core assumptions of **Fiscal Decentralization Theory**. Proponents of fiscal decentralization argue that devolving financial autonomy to subnational governments enhances responsiveness, allocative efficiency, and public service delivery by bringing decision-making closer to local needs (Musgrave, 1959). However, in Kilifi County, the theoretical benefits of decentralization are severely undermined by weak budget execution and institutional resource volatility. Devolving spending power without establishing operational stability and robust cash-flow mechanisms create localized failure rather than the promised efficiency.

This gap between planning and execution is best understood through **Incremental Budgeting Theory**. Public budgeting in this context operates responsively and reactively rather than strategically (Wildavsky, 1964). Instead of adhering to stable long-term development plans, the county relies heavily on mid-year reallocations and supplementary budgets to correct planning inaccuracies and handle cash-flow shortages. These constant adjustments process introduces unpredictability, throwing off routine operations and cutting off the consistent funding required to maintain immunization chains and finish capital infrastructure.

From a resource management standpoint, these dynamics are explained by the **Resource-Based View (RBV)**. According to RBV, sustained organizational performance depends on the strategic deployment, bundling, and stability of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). In a public health context, these resources include physical infrastructure, clinical equipment, medical supplies, and stable operational funds. When budget deviations disrupt the acquisition and maintenance of these resources, the county's institutional capacity collapses. As a result, it fails to deliver dependable, high-quality healthcare services.

Empirically, these findings align with Piatti-Fünfkirchen and Schneider (2021) and Barroy et al. (2022), who argued that weak budget execution directly reduces health system efficiency

by breaking the link between allocation and service output. The extreme volatility in immunization coverage mirrors the findings of Tsofa et al. (2021) and Waithaka et al. (2020), who demonstrated that unpredictability in subnational funding flows compromises frontline service delivery and disrupts essential health programs. Furthermore, the persistent delays in capital project completion corroborate the assertions of Gambo et al. (2021), who identified poor project planning, weak coordination, and systemic execution bottlenecks as primary barriers to infrastructure development within developing health systems.

5.2.2 Recurrent Budget Deviations and Immunization Coverage

The study found that recurrent budget deviations exert a negative and statistically significant impact on immunization coverage. This indicates that variations between authorized recurrent allocations and actual expenditures undermine preventive health interventions. Because immunization programs rely heavily on continuous logistical support, cold chain maintenance, outreach transportation, and personnel allowances, any unexpected reduction or delay in recurrent financing quickly disrupts the vaccine delivery pipeline.

5.2.2 .1 Theoretical and Empirical Integration

The findings can be interpreted through the Resource-Based View (RBV), which posits that organizational performance depends on the availability and effective deployment of valuable resources (Barney, 1991). Within the healthcare sector, recurrent expenditures finance critical resources such as vaccines, medical supplies, transport systems, and human resources that directly influence service delivery outcomes. The findings suggest that when these resources become constrained due to budget execution challenges, the capacity of health facilities to deliver immunization services declines. Thus, the study reinforces the RBV argument that organizational outcomes are largely determined by the adequacy, availability, and management of strategic resources.

The findings support Priem and Butler's (2001) criticism that public-sector organizations often operate under conditions where resource availability is unstable and influenced by external budgetary processes. Unlike private organizations that may exercise greater control over resource allocation, public health programmes are frequently exposed to political, fiscal, and administrative constraints that affect resource availability. The observed relationship between recurrent budget deviations and immunization outcomes illustrates how resource instability can undermine service delivery even when programmes are formally prioritized.

The findings are consistent with existing literature linking budget execution to health sector performance. Studies by Chege et al. (2020), Waithaka et al. (2020), and Tsofa et al. (2021) found that delays in fund disbursement and weak budget execution negatively affect frontline health services by creating shortages of essential commodities and disrupting service delivery schedules. Similarly, Barroy et al. (2022) observed that budget execution challenges often undermine the effectiveness of health financing reforms in low- and middle-income countries. Furthermore, this dynamic exposes the limitations of **Incremental Budgeting Theory**. While incrementalism assumes that recurrent expenditures remain protected and stable due to their repetitive nature (Wildavsky, 1964), the findings show that unexpected in-year reallocations frequently raid recurrent health lines to cover deficits elsewhere. This directly breaks the operational predictability required to maintain preventive health frameworks.

The findings also challenge **Fiscal Decentralization Theory** by showing that local prioritizing often fails to protect vital preventive services. Devolved governance is meant to align resource allocation with community needs, but when subnational actors face fiscal stress, they often sacrifice long-term preventive programs for immediate, politically visible needs.

Empirically, these findings confirm the conclusions of Barik and Thorat (2015) and Novignon and Olakojo (2012), who linked stable financing to healthcare access and utilization, demonstrating that reduced funding lowers institutional service readiness. The findings also validate Chege et al. (2020) regarding the high opportunity cost of poor budget execution in devolved units. When recurrent execution fails, the operational capacity of frontline facilities drops, showing a direct connection between budget deviations and lower immunization rates. Waithaka et al. (2020), and Tsofa et al. (2021) found that delays in fund disbursement and weak budget execution negatively affect frontline health services by creating shortages of essential commodities and disrupting service delivery schedules. Similarly, Barroy et al. (2022) observed that budget execution challenges often undermine the effectiveness of health financing reforms in low- and middle-income countries.

5.2.3 County OSR Budget Deviations and Outpatient Department Service Utilization

The study revealed that County Own Source Revenue (OSR) deviations and capital budget deviations have a negative and statistically significant effect on Outpatient Department (OPD) utilization. Conversely, recurrent budget deviations were found to have an insignificant effect on OPD service utilization. The significant, negative impact of OSR deviations stems from the design of county health financing in Kenya. A large portion of county OSR is generated directly

within the health sector through the Facility Improvement Fund (FIF). When the county suffers overall OSR shortfalls, the cash flows back to individual health facilities are delayed or withheld. This shortfall instantly paralyzes routine operations, causing stock-outs of essential pharmaceuticals and basic medical commodities.

The significant effect of capital budget deviations further demonstrates that infrastructure gaps directly lower service utilization. Incomplete facilities, broken utility connections, and lack of space create long wait times and reduce facility capacity. This discourages patients from seeking care. Conversely, the insignificant effect of recurrent deviations suggests that counties prioritize essential, legally binding recurrent expenditures such as staff salaries during minor fiscal crises. This prioritization helps cushion day-to-day OPD clinical services from immediate collapse, showing that different types of health services respond differently to budgetary shocks.

5.2.3.1 Theoretical and Empirical Integration

The findings provide important insights into the application of Fiscal Decentralization Theory. The theory argues that devolved governments are better positioned to respond to local needs because they possess superior information about local preferences and priorities (Musgrave, 1959; Oates, 1972). However, the findings suggest that the anticipated benefits of fiscal decentralization can only be realized when local governments possess adequate and predictable revenue streams. In the case of Kilifi County, revenue shortfalls appear to weaken the county's ability to translate devolved authority into effective service delivery. These dynamics contradict the ideal allocative efficiency promised by Fiscal Decentralization Theory (Musgrave, 1959). The findings therefore support critiques of fiscal decentralization advanced by Prud'homme (1995) and Rodden (2004), who argue that decentralization may fail when local governments are assigned expenditure responsibilities without sufficient fiscal capacity. When a devolved unit cannot meet its revenue targets, its operational autonomy disappears, making it impossible to provide dependable public goods.

From the perspective of the Resource-Based View (RBV), OSR shortfalls deny facilities the flexible financial resources needed to buy essential, everyday tools (Barney, 1991). Without these resources, medical staff cannot deliver quality care. This triggers a negative feedback loop: resource scarcity drives down service quality, which causes patients to lose trust and reduces outpatient turnout. This situation also exposes the flaws of Incremental Budgeting Theory in dynamic public sectors. Incrementalism assumes that revenue streams are

predictable enough to justify making minor changes to past budgets (Wildavsky, 1964). However, the high volatility of OSR in Kilifi County shows that when the revenue baseline collapses, incremental budgeting cannot protect essential health services. This forces arbitrary, harmful cuts to facility funding.

Empirically, these findings align with Chuma and Maina (2012), who noted that when public revenue fails and commodity stocks drop, the financial burden shifts to patients through out-of-pocket spending, pricing out vulnerable populations. The results also match Barik and Thorat (2015) and Novignon and Olakojo (2012) regarding the direct link between revenue shortfalls and lower service readiness. Finally, the infrastructure constraints identified match Okech (2017), who demonstrated that capital delays and incomplete facilities discourage patients from using public healthcare systems.

The present study extends this literature by demonstrating that the consequences of revenue shortfalls are not limited to overall health financing levels but also include disruptions arising from deviations between planned and actual revenues. This distinction is important because it highlights budget credibility as a critical determinant of service accessibility within devolved health systems.

From a policy perspective, the findings imply that strengthening local revenue forecasting, collection efficiency, and revenue stabilization mechanisms is essential for improving healthcare access. Without predictable revenue flows, counties may continue experiencing interruptions in service delivery despite having formal expenditure allocations in place.

5.2.4 Capital Budget Deviations and Level of Project Completion

The study found that capital budget deviations have a negative and statistically significant effect on the level of capital project completion. In contrast, OSR and recurrent budget deviations exerted statistically insignificant negative effects on project completion. This confirms that capital infrastructure development is uniquely vulnerable to deviations within its own allocated budget lines. This vulnerability is driven by weak project readiness, prolonged approval procurement bottlenecks, and severe cash-flow frictions.

Allocations are frequently made during the annual planning process before design approvals or environmental assessments are finalized. When implementation stalls due to these administrative delays, the county government uses supplementary budgets to shift funds away from delayed projects. This creates a cycle where funds are repeatedly reallocated, leaving infrastructure projects permanently unfinished.

5.2.4.1 Theoretical and Empirical Integration

The findings can be explained using Incremental Budgeting Theory, which argues that budgeting decisions are typically based on adjustments to previous allocations rather than comprehensive reassessment of current priorities (Lindblom, 1959; Wildavsky, 1964). While incremental budgeting promotes stability and predictability, the findings suggest that frequent deviations, reallocations, and supplementary budgets disrupt this stability and weaken implementation effectiveness. The observed relationship therefore supports critiques of incremental budgeting which argue that the approach may be inadequate in dynamic sectors characterized by changing needs and implementation uncertainties.

The findings also contradict Fiscal Decentralization Theory, which assumes that subnational governments can plan, execute, and monitor capital investments better than central authorities (Musgrave, 1959). The high rate of stalled projects in Kilifi County shows that decentralization without solid project management capacity and reliable cash flows leads to waste rather than local development.

Furthermore, viewed through the **Resource-Based View (RBV)**, incomplete buildings represent trapped, unproductive capital that fails to create institutional value (Barney, 1991). A half-built clinic or uninstalled diagnostic lab cannot be bundled with clinical staff to provide care. This leaves the county with degraded operational capacity and a reduced ability to deliver healthcare services.

Empirically, these findings confirm the World Health Organization (WHO, 2016) analysis that a significant portion of health capital budgets in developing nations goes unspent or misaligned due to weak forecasting and cash-flow management. The results also extend current literature by isolating capital budget execution as the primary driver of infrastructure completion. This shows that infrastructure gaps are rarely caused by a simple lack of funds; instead, they stem from administrative delays, rigid procurement systems, and cash-flow bottlenecks, as documented by Gambo et al. (2021).

The findings further suggest that development budget deviations are not solely a consequence of resource shortages but also reflect weaknesses in project planning, approval processes, procurement systems, and public investment management. This interpretation aligns with public investment management literature which emphasizes that effective project completion depends not only on the availability of financial resources but also on institutional capacity to plan, appraise, implement, and monitor projects effectively.

5.3 Conclusions

This study was set out to evaluate the observation that health service delivery outcomes in Kilifi County have remained persistently below national and global benchmarks despite a substantial increase in health budget allocations following devolution in 2013. By analyzing a decade of fiscal data alongside service delivery indicators, the findings bring the discussion back to this core problem, demonstrating that the constraint is not primarily the level of funding, but in how predictably and effectively those resources are mobilized, allocated, and executed.

The findings demonstrate that budget deviations disrupt service delivery through distinct and measurable channels. From the multiple regression analysis, recurrent budget deviations exhibit a negative and statistically significant relationship with immunization coverage, confirming that volatility in operational expenditure directly undermines preventive services. Similarly, County OSR deviations show a negative and statistically significant effect on immunization coverage, underscoring the centrality of locally generated revenue in sustaining routine service delivery, particularly where FIF finance day-to-day operations.

For service utilization, the results reveal a differentiated pattern. County OSR deviations have a negative and statistically significant effect on OPD utilization rates, indicating that revenue shortfalls constrain access to basic health services. Capital budget deviations also show a negative and statistically significant relationship with OPD utilization, highlighting the importance of completed infrastructure and functional facilities in enabling service uptake. In contrast, recurrent budget deviations, while negative, are statistically insignificant in explaining OPD utilization, suggesting that demand for outpatient services is less sensitive to short-term expenditure fluctuations than to structural and access-related factors.

On the capital side, the broader pattern of under-execution remains critical. Capital budget deviations are consistently negative and statistically significant in key models, reinforcing the conclusion that delayed or incomplete investments constrain long-term system capacity. However, the results also showed that in some specifications, capital budget deviations have a negative but statistically insignificant effect on immunization coverage, indicating that preventive services are more immediately affected by operational financing constraints than by infrastructure gaps.

The study also identifies areas where statistical significance is not established, which is equally instructive. Recurrent budget deviations, while directionally negative, are statistically

insignificant in influencing OPD utilization, and County OSR deviations are statistically insignificant in some capital-related models. These results suggest that while the overall direction of impact aligns with theoretical expectations, the strength of influence varies by service type and outcome indicator. This reinforces the need to distinguish between short-term service delivery functions and long-term system capacity when assessing the effects of budget execution.

Synthesizing these findings, a clear pattern emerges: preventive services are highly sensitive to predictable operational financing, service utilization depends on both revenue flows and physical infrastructure, and long-term health system performance is anchored in effective capital investment. Persistent budget under-execution, revenue shortfalls, procurement inefficiencies, weak planning, delayed disbursements, and frequent reallocations collectively weaken the translation of budget allocations into tangible health outcomes.

In conclusion, the key determinants of provision of healthcare services in Kilifi County are recurrent budget deviations and County OSR deviations for preventive services (immunization), and County OSR deviations together with capital budget deviations for service utilization (OPD), as these exhibit statistically significant relationships with health outcomes. Determinants that were not statistically significant such as recurrent budget deviations in relation to OPD utilization and capital budget deviations in relation to immunization—nonetheless reflect underlying inefficiencies, but with weaker empirical influence on specific service indicators.

Health service delivery outcomes in Kilifi County have remained persistently below national and global benchmarks owing to recurrent budget volatility, shortfalls in County Own Source Revenue, persistent under-execution of capital budgets, and systemic inefficiencies in planning, procurement, and budget implementation, which collectively disrupt both service provision and access.

By demonstrating how statistically significant budget deviations differentially affect preventive services, service utilization, and system capacity, this study provides a more precise understanding of why increased budget allocations have not translated into improved health outcomes, thereby shifting the policy focus from resource expansion to budget credibility and execution efficiency.

5.4 Recommendations

Based on the findings and conclusions, this study proposes the following recommendations to strengthen budget credibility and improve the provision of health services in Kilifi County.

The County Treasury and the Department of Health should jointly reform revenue mobilization and forecasting practices to reduce persistent deviations in County Own Source Revenue. The study established that OSR deviations had a negative and statistically significant effect on outpatient department utilization and immunization coverage. This implies that shortfalls in locally generated revenue constrain the availability of operational resources required for health service delivery. To address this, the County Treasury should adopt more realistic, evidence-based revenue forecasting methods that are informed by historical collection trends, seasonality, actual revenue bases, and macroeconomic conditions. Revenue targets should not be based on overly ambitious projections that are unlikely to be realized during implementation. In addition, the Department of Health should strengthen the management and reporting of health-related revenue streams, including Facility Improvement Funds, to ensure that resources collected at the facility level are transparently recorded, retained where legally permissible, and applied to priority service delivery needs.

The county should strengthen the multi-year capital planning and budgeting during the formulation of the County Integrated Development Plans (CIDP) to address the systematic under-execution of development budgets. The study found that capital budget deviations have a negative and statistically significant effect on the level of completion of health sector capital projects. This suggests that annual budgeting alone is inadequate for infrastructure projects whose planning, procurement, construction, equipping, and commissioning cycles often extend beyond one financial year. Kilifi County should therefore prepare a rolling five-year health infrastructure investment plan, consistent with the CIDP, that clearly identifies priority projects, estimated total costs, annual financing requirements, implementation timelines, and expected service delivery outputs. Such a framework would reduce the tendency to fragment resources across many projects and would instead promote phased, realistic, and fully costed implementation.

Capital budgeting should be linked more explicitly to project life-cycle management. Before funds are allocated, each proposed health infrastructure project should have completed a feasibility assessment, land ownership verification, architectural and engineering designs, bills of quantities, environmental and social safeguards where applicable, procurement plans, and

recurrent cost implications. This would help ensure that projects included in the budget are technically ready for implementation. The county should also avoid initiating new health infrastructure projects before completing ongoing priority projects, unless there is a compelling emergency or strategic justification. This would help reduce the accumulation of incomplete, ongoing, and stalled projects, which the study identified as a major constraint to the expansion of functional health service capacity.

Kilifi County should establish a Project Readiness and Implementation Committee involving the County Treasury, Department of Health, Department of Public Works, procurement officers, engineers, planners, and representatives from monitoring and evaluation units. The purpose of this committee should be to review all proposed health sector capital projects before they are included in the annual budget. The committee should confirm whether the project is aligned with the County Integrated Development Plan, Annual Development Plan, health sector priorities, and available fiscal space. It should also assess whether the project has the necessary technical documentation, implementation schedule, procurement plan, and cash-flow plan to minimize the budgeting of projects that cannot realistically be implemented within the financial year.

The Project Readiness and Implementation Committee should also monitor implementation progress after budget approval. It should prepare quarterly reports on the status of health infrastructure projects, showing projects completed, ongoing, delayed, stalled, and at risk of cost escalation. These reports should be shared with the County Executive Committee, County Assembly health and finance committees, and the public through accessible reporting platforms. This would strengthen accountability and reduce the risk of projects being repeatedly rolled over without clear explanation. It would also help link capital expenditure more directly to improvements in health service availability, such as new facilities, renovated wards, functional maternity units, laboratories, theatres, and equipment.

Recurrent expenditure monitoring should prioritize essential service inputs. The county should ensure timely financing for vaccine logistics, cold-chain maintenance, essential medical supplies, and facility operations. Since immunization and primary healthcare services depend heavily on predictable operational financing, these items should be protected from arbitrary reallocations during the financial year. The Department of Health should also establish minimum operational funding thresholds for primary healthcare facilities to ensure continuity of basic services even when cash flow is constrained.

Kilifi County should strengthen controls over supplementary budgets and in-year reallocations. The study's findings suggest that budget deviations weaken the translation of planned allocations into service delivery outcomes. Supplementary budgets should therefore be used only where there is a clear legal, fiscal, or service delivery justification. Reallocations away from preventive health, primary healthcare, and essential facility operations should be minimized. Where reallocations are unavoidable, the county should clearly disclose the rationale, affected programmes, expected service delivery implications, and mitigation measures. This would enhance transparency and reduce the risk that health sector priorities are displaced by less urgent expenditures during implementation.

5.5 Contribution to Knowledge

This study contributes by demonstrating the differential impacts of budget deviations across service areas. It also highlights the critical role of OSR and facility-level financing. In addition, it provides triangulated evidence linking financial management to service outcomes and extends theoretical applications of Fiscal Decentralization and RBV in public health contexts.

5.6 Limitations of the Study

The study faced limitations that should be acknowledged when interpreting the findings.

The quantitative analysis was based on secondary data covering one county, Kilifi, which constrains the generalizability of results to other contexts in Kenya. While Kilifi provides a valuable case study, variations in governance structures, resource flows, and health sector priorities across counties mean that the findings may not fully capture national patterns.

In addition, the quantitative analysis also relied on county-level expenditure and outcome data, which may be subject to reporting inconsistencies, aggregation biases, or gaps in administrative records. Although estimation and triangulation methods were applied to address missing values, such adjustments may not fully reflect actual resource flows or service delivery dynamics on the ground. In addition, the relatively short quarterly series (2014/15–2023/24) limits the power of time-series methods to capture long-run trends.

Qualitative insights were also drawn from a limited number of interviews and one focus group discussion. While these provided rich perspectives from county officials, facility managers, frontline providers, and community members, they cannot represent all possible experiences within Kilifi's diverse health system. Respondents may also have expressed views shaped by

personal experiences, institutional positions, or expectations, which could introduce subjective biases.

5.7 Areas for Further Research

Further research could be explored to build on this study in several important directions. While this study focused on outpatient service utilization, immunization coverage, and capital project completion, subsequent studies could examine whether budget deviations affect the quality of healthcare services and health outcomes. Such studies could move beyond output indicators to assess outcome-based measures to establish whether budget credibility affects the quality, continuity, and effectiveness of services delivered to citizens. These outcome indicators include maternal mortality, treatment success rates, patient safety indicators, referral completion rates, stock-out frequency, waiting times, and patient satisfaction.

Further research could look into the political economy of in-year budget reallocations in county health systems. These studies could examine the factors that influence mid-year reallocations away from preventive and primary healthcare programmes. This is especially important where supplementary budgets are used to redirect resources toward priorities that may not meet the constitutional threshold of emergencies or unforeseen expenditure under Article 223 of the Constitution of Kenya. A political economy study could explore the role of different stakeholders in shaping reallocations. Such research would help determine whether deviations are driven primarily by genuine implementation constraints, weak planning, political bargaining, patronage incentives, or discretionary reprioritization.

Future studies could also examine the role of intergovernmental fiscal transfers in county budget performance and health service delivery. Although the County Allocation of Revenue Act provides a schedule for quarterly disbursement of the equitable share to counties, actual transfers are often delayed or released unpredictably. Further research could assess how delays, partial disbursements, or deviations from the approved disbursement schedule affect county cash flow management, procurement cycles, payment of suppliers, implementation of development projects, availability of health commodities, and delivery of frontline services. Such studies could also compare counties with different levels of dependence on national transfers to establish whether highly transfer-dependent counties experience greater service delivery disruptions when disbursements are delayed.

In addition, given that this study was limited to Kilifi County and focused on the health sector, future research could undertake comparative county-level and sectoral studies. A cross-county

could assess whether the relationship between budget deviations and service delivery differs across counties with varying levels of fiscal capacity, own-source revenue performance, poverty, administrative capability, and political leadership. Comparative studies could include coastal counties, arid and semi-arid counties, or counties with similar socioeconomic profiles to Kilifi. In addition, sectoral comparisons could reveal whether some sectors are more vulnerable to budget deviations than others. Such comparative analysis would improve the external validity of the findings and help determine whether the patterns observed in Kilifi are unique or reflect broader weaknesses in Kenya's devolved public financial management system.

It is also important for future studies to investigate how counties respond to cash shortfalls, delayed transfers, and revenue underperformance during budget execution. The studies can examine whether counties resort to pending bills, supplier credit, overdraft facilities, commercial loans, or informal reprioritization to manage financing gaps. This line of inquiry is important because such coping mechanisms may create hidden fiscal costs, including interest charges, inflated procurement prices, and pending bills. A study of this nature could also assess how short-term financing responses affect long-term fiscal discipline and service delivery.

Another area worth exploring is the relationship between budget deviations and pending bills in the health sector. Persistent under-execution of development budgets and delayed payments to suppliers may contribute to the accumulation of unpaid obligations, which in turn may crowd out future health spending. Future studies could examine whether pending bills reduce fiscal space for essential services, increase the cost of procurement, or discourage suppliers from providing services to county governments. This would provide a deeper understanding of how past budget execution failures continue to affect current and future service delivery.

Public finance practitioners could examine the effectiveness of programme-based budgeting and performance-based budgeting in improving budget credibility in county health departments. Since county budgets are intended to link resources to outputs and outcomes, further research could assess whether programme-level allocations are actually aligned with service delivery priorities, and whether reported expenditures can be reliably linked to measurable health outputs.

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APPENDICES

Appendix I: Informed Consent and Framework for Survey, Interview Guide and Focus Group Discussions (FGDs)

Date of Interview _____

Venue of Interview _____

Name of the Organization _____

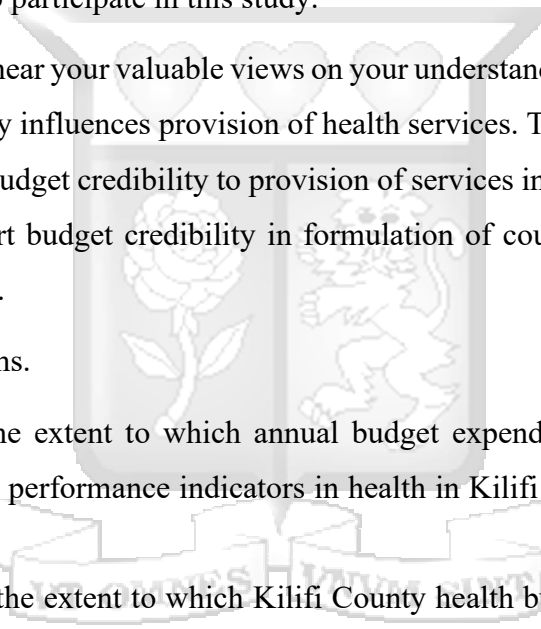
Position within the organization _____

Dear Respondent,

Thank you for agreeing to participate in this study.

We are very interested to hear your valuable views on your understanding on how health budget deviations in Kilifi County influences provision of health services. The purpose of the study is to identify the impact of budget credibility to provision of services in Kilifi County to generate useful evidence to support budget credibility in formulation of county budgets and plans in Kilifi County and beyond.

Specifically, the study aims.

- 
- i) To examine the extent to which annual budget expenditure in the health sector influences key performance indicators in health in Kilifi County between 2013-14 and 2022-23.
 - ii) To determine the extent to which Kilifi County health budgets, policies and plans reflects actual service delivery at the point of execution/implementation of health projects and programmes.
 - iii) To examine the extent to which public participation affects implementation of projects and programmes in the health sector in Kilifi County.
 - iv) To assess the determinants of budget deviations in the health sector in Kilifi County.

Kindly note the following:

- a) The researcher would like to record the interview to capture the thoughts, opinions, and ideas we hear from the interview.

- b) Your answers will be confidential and will be used for this study only. Your name will not be attached to the interview and the recordings will be destroyed as soon as they are transcribed.
- c) You may refuse to answer any question or withdraw from the study at anytime
- d) If you have any questions now or after, you can always contact us.

It is estimated that giving your responses will take 30 to 45 minutes.

Please sign to show you agree to participate in this interview.

Interviewee's Signature _____



Appendix II: Focus Group Discussion (FGD) Guide

Target

Participants:

Community Health Workers (CHWs), Health Facility Users, Civil Society Representatives, and Local Community Members.

FGD Theme: Exploring community perceptions and experiences regarding budget deviations and health service provision in Kilifi County.

Section A: Introduction

1. Welcoming participants and introducing the purpose of the study.
2. Assure confidentiality and voluntary participation in the study as outlined in the consent form .
3. Obtain verbal consent and estimated duration of the interview (60–90 minutes).

Section B: Perceptions

1. How would you describe access to healthcare services in your area?
2. What are some of the major challenges experienced when seeking health services?
3. Are there services that used to be available but are now inconsistent or no longer provided?

Section C: Views on Budgeting and Service Delivery

4. Are you aware of how health services are planned and funded in Kilifi County?
5. Have you heard of situations where planned health services or infrastructure were not implemented as expected? Can you give examples?
6. In your experience, are community needs considered during health planning and budgeting?

Section D: Impact of Budget Deviations

7. Do you feel the county spends what it allocates on health services? Why or why not?
8. Have you experienced delayed, reduced, or cancelled health programs (e.g., immunization, maternal care)?
9. How have these changes affected your community's health outcomes?

Section E: Recommendations

10. What should the county government do to improve the budgeting process and service delivery?

11. What role can the community play in ensuring accountability in health service provision?



Appendix III: Key Informant Interview (KII) Guide

Target key Informants: Health Facility In-charges, County Treasury Officials, CHMT members, County Engineers, CSO Representatives, County Secretary, and Budget Officers.

Objective:

To explore expert-level perspectives on budget credibility, service provision, and systemic factors contributing to health budget deviations in Kilifi County.

Section A: Institutional Context

1. What role does your institution/department play in health service delivery or budgeting in Kilifi?
2. Could you briefly describe your involvement in health budget planning and execution?

Section B: Budget Deviations and Trends

3. How frequently do budget deviations occur in the health sector, and what is their magnitude?
4. What are the main reasons for deviations between planned and actual expenditures?
5. Are there some programs or economic classification categories that are more affected than others?

Section C: Program-Level Impact

6. What has been the effect of budget deviations on the delivery of preventive health services (e.g., immunization, maternal care)?
7. How have these deviations affected per capita spending trends or specific health outcomes?
8. Can you share examples where service delivery was delayed, compromised, or re-prioritized?

Section D: Infrastructure and Capital Budgeting

9. To what extent have capital budget deviations affected the completion of health infrastructure projects?
10. How do you track and report on facility-level completion or resource gaps?

Section E: Accountability, Participation, and Solutions

11. What accountability mechanisms exist to address deviations?
12. How effective is public participation in the planning and budgeting cycle?
13. What recommendations would you propose to improve budget credibility and service provision alignment?



Appendix IV: NACOSTI Research Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
RefNo: 266599	Date of Issue: 23/July/2025
RESEARCH LICENSE	
	
This is to Certify that Mr. Daniel Wanjohi Ndirangu of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kilifi on the topic: Examining the effect of budget deviation on provision of health services in Kilifi County for the period ending : 23/July/2026.	
License No: NACOSTI/P/25/4177411	
Applicant Identification Number 266599	Ag. 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 V: Ethical Clearance



17th July 2025

Mr Ndirangu Daniel,
ndirangu.daniel@strathmore.edu

Dear Mr Ndirangu,

RE: Examining the Effect of Budget Deviations on Provision of Health Services in Kilifi County

This is to inform you that SU-ISERC has reviewed and approved your above SU-masters proposal. Your application reference number is SU-ISERC2974/25. The approval period is from 17th July 2025 to 16th July 2026.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Ambrose Rachier".

Mr Ambrose Rachier,
Chairperson; SU-ISERC