INFLUENCE OF HEALTHCARE REFORMS ON QUALITY OF HEALTHCARE IN SAMBURU COUNTY, KENYA

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DECLARATION

I declare that this work has not been previously submitted and approved for the award 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 another person except where due reference is made in the thesis itself.

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ABSTRACT

Delivering consistent, high-quality healthcare that eliminates socioeconomic and geographic disparities is crucial for a reformed healthcare system. This study explored the influence of healthcare reforms on the quality of healthcare in Samburu County, Kenya, employing an exploratory sequential mixed-method design. Initial qualitative findings guided subsequent quantitative analysis across five reform dimensions: health equity, insurance expansion, financing, technology integration, and incentive programs. A stratified random sampling technique was applied in drawing 219 respondents, and self-administered structured questionnaires were employed to collect primary data from public healthcare workers. An interview guide was applied in key informant survey interaction. Using NVivo version 10 and SPSS version 26, the data was analysed. The thematic analysis led to the derivation of five themes. The study found that health financing reforms had the strongest positive impact on healthcare quality, attributed to improved infrastructure and enhanced health-seeking behaviors. Technology integration reforms, especially health information exchange and digital records, also significantly improved service delivery. Health equity reforms positively influenced care access, affordability, and community participation. However, health insurance expansion showed a significant but negative impact on healthcare quality. Incentive programs demonstrated no significant effect, with findings indicating low awareness and uptake among providers and patients. The study supports the theoretical frameworks of Health Systems, Health Equity, and Policy Implementation theories, affirming the integral role of reforms in improving healthcare quality. It concludes that targeted, context-specific reforms can enhance healthcare delivery in marginalized regions.

DEDICATION

This thesis is dedicated to my loving family members, who have always encouraged, supported and motivated me to complete my master's degree.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
CDSS	Combined Decision Support System
CHW	Community Health Worker
CSS	Civil Servants Scheme
COVID-19	Coronavirus Disease of 2019
FDC	Free Delivery Care
GDP	Gross Domestic Product
HISP	Health Insurance Subsidy for the Poor
HIMS	Health Information Management Systems
HIV	Human Immunodeficiency Virus
NDHS	Nepal Demographic and Health Surveys
NHIF	National Health Insurance Fund
NGOs	Non-Governmental Organizations
PBI	Performance Based Incentives
PHC	Primary Healthcare
RCT	Randomized Controlled Trial
RDD	Regression Discontinuity Design
SDGs	Sustainable Development Goals
SHI	Social Health Insurance
SPSS	Statistical Packages for Social Scientists
TBB	Thula Baba Box
TBA	Traditional Birth Attendants
WHO	World Health Organization
UHC	Universal Health Coverage

DEFINITION OF TERMS

Health Equity Reforms	Deliberate and systematic changes, policies, interventions, or initiatives aimed at reducing disparities, inequalities, and barriers that prevent certain populations or individuals from accessing healthcare services on an equal basis. These reforms are designed to create fair and just opportunities for everyone to attain their highest level of health by addressing social, economic, geographical, cultural, and structural determinants that lead to inequities in healthcare access (Tang et al., 2018).
Health Insurance Expansion	Initiatives or policies aimed at increasing the number of individuals or groups covered by health insurance, thereby extending healthcare services to a broader population. This expansion can take various forms, such as implementing government-sponsored health insurance programs, subsidizing insurance premiums for low-income individuals, mandating employer-provided health coverage, or facilitating the creation of insurance exchanges to offer more affordable insurance options (Buchmueller et al., 2015).
Health Financing Reforms	A core health system function that can enable progress toward universal health coverage by improving service coverage and financial protection. Financing sources can include central government funds; internally generated funds from subnational units, including health facilities; funding from development partners and donors; and insurance schemes (WHO, 2022).

Technology Integration Reforms	The strategic implementation and incorporation of technology-driven solutions and innovations within healthcare systems to enhance and improve the accessibility, delivery, efficiency, and quality of healthcare services (Jhurree, 2015).
Initiation of Incentive Programs	the implementation of strategies or schemes designed to encourage individuals or communities to utilize healthcare services by offering rewards, benefits, or incentives. These programs aim to promote and improve healthcare services by providing additional motivation or rewards for specific health-related behaviours, such as seeking preventive care, adhering to treatment plans, attending health education sessions, or participating in health screenings (Abraham et al., 2015).
Quality of Healthcare	the ability of individuals or communities to obtain timely, appropriate, and effective healthcare services that meet their healthcare needs and are consistent with current medical knowledge, best practices, and standards (Cerezo et al., 2023).

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Despite the global push for Universal Health Coverage (UHC) by 2030, significant challenges hinder progress. Health service improvements, once on the rise, plateaued after 2015, leaving around 4.5 billion people without adequate coverage by 2021 (Piedra-Peña & Prior, 2023). Financial obstacles exacerbate the issue, with two billion individuals facing financial strain due to healthcare costs, and one billion grappling with catastrophic out-of-pocket expenses. The Coronavirus Disease of 2019 (COVID-19) pandemic further complicated matters, disrupting essential services in many countries. To combat these challenges and establish a fairer healthcare system, the World Health Organization (WHO) advocates for a shift toward Primary Healthcare (PHC) (Denis, Usher & Préval, 2023). This approach, capable of delivering 90% of essential UHC interventions, could save 60 million lives and potentially increase the global life expectancy by 3.7 years by 2030. Implementing accessible primary healthcare is crucial for overcoming barriers to universal health coverage and ensuring quality healthcare for all, regardless of their socio-economic background or location (Pujolar *et al.,* 2022).

Globally, healthcare reforms have significantly enhanced quality healthcare access through diverse strategies (Shi & Singh, 2022). Firstly, nations have extended healthcare infrastructure, constructing well-equipped hospitals and clinics in underserved areas. Secondly, technological advancements like telemedicine and electronic health records have revolutionized healthcare delivery, enabling remote consultations and empowering individuals to manage their health actively (McGorry *et al.,* 2022). Additionally, addressing financial barriers, initiatives such as health insurance schemes have reduced out-of-pocket expenses, encouraging timely medical

care and leading to improved health outcomes. Lastly, reforms underscore the importance of primary healthcare and preventive measures, with investments in community health centres and health worker training promoting disease prevention and early detection, reducing the overall disease burden and demonstrating the wide-reaching impact of healthcare reforms on global public health (Kauhanen *et al.,* 2023).

Africa's healthcare systems grapple with multifaceted challenges, including diverse diseases, epidemics, and climate-related threats. Rural areas face significant hurdles due to geographical barriers, limiting healthcare accessibility (Khatri & Assefa, 2022). Financial constraints further exacerbate the situation, often forcing people to forgo essential treatments. Reforms aim to enhance health security and achieve Universal Health Coverage (UHC) by strengthening infrastructure and ensuring affordability. Despite efforts, achieving equitable healthcare access remains a challenge, necessitating sustained investment, effective policy implementation, and international collaboration to bolster resilience.

Addressing Africa's healthcare disparities requires vital reforms across various sectors. Healthcare financing is a pivotal concern; many nations allocate limited Gross Domestic Product (GDP) percentages to healthcare, resulting in inadequate services. Increasing public healthcare expenditure and optimizing existing resources are crucial (Ayanore *et al.,* 2019). Additionally, the shortage of trained healthcare professionals and inadequate infrastructure impedes effective care delivery. Investments in education, training, and essential equipment for healthcare workers are essential steps forward. Moreover, reforms should focus on improving access to medicines and vaccines, combating corruption, promoting public health education, and addressing social determinants like poverty and sanitation (Ridde *et al.,* 2018). While these

reforms pose long-term challenges, they are indispensable for the continent's well-being, enhancing public health and driving economic growth.

The healthcare reforms implemented in Rwanda and Ethiopia mark significant strides in overcoming the challenges faced by African countries in providing quality healthcare to their citizens (May & Rotenberg, 2020). Rwanda's universal health insurance scheme stands out, making healthcare more affordable and accessible through a combination of government subsidies, payroll taxes, and household contributions (Chemouni, 2018). Covering a wide range of services, including preventive, inpatient, outpatient care, and prescription drugs, it has substantially improved healthcare access for millions.

In Kenya, the pursuit of universal health coverage (UHC) has been at the forefront of the nation's healthcare reforms. UHC, a global endeavour, seeks to ensure that individuals can access necessary healthcare without facing financial hardship, even during crises like the COVID-19 pandemic (Kisali, 2021). Kenya's commitment to this goal has been evident through initiatives such as free maternity programs and subsidized immunizations, specifically designed to enhance essential services for mothers and children (Barasa et al, 2018). These programs encompassed free prenatal, delivery, and postnatal care, alongside vaccinations against various diseases. Consequently, child malnutrition rates decreased, and immunization rates against preventable diseases significantly rose.

In Samburu County, located in northern Kenya, transformative healthcare reforms have transcended national boundaries, positively impacting historically underserved communities. Key to these reforms has been a substantial investment in healthcare infrastructure, including the construction and renovation of facilities, especially in

rural and marginalized areas (Rao & Mafumbo, 2022). The establishment of modern healthcare facilities, equipped with advanced technologies and staffed by trained professionals, has significantly improved accessibility and simultaneously addressed staffing shortages by attracting skilled healthcare workers to the region.

Furthermore, the reforms in Samburu County have extended healthcare services through preventive measures such as immunization campaigns and health education programs, resulting in a notable reduction in disease prevalence (Ministry of Health, Kenya, 2023). Maternal and child health services have been strengthened to ensure proper prenatal care and safe deliveries, while empowering local healthcare workers has enhanced the overall quality of care. Financial barriers have been mitigated through health insurance schemes and community-based financing initiatives, making healthcare more affordable. The adoption of Health Information Management Systems (HIMS) represents a technological leap forward, improving the accuracy and efficiency of healthcare services, promoting collaborative care, and empowering data-driven decision-making for the residents' well-being. While substantial progress has been made, ongoing challenges necessitate sustained infrastructure development, healthcare service expansion, and culturally sensitive community engagement efforts. Through these persistent initiatives, Samburu County's healthcare reforms pave the way for a healthier, informed, and empowered community, marking a significant stride toward a brighter, healthier future.

1.1.1 Healthcare Reforms

Healthcare reforms refer to deliberate and systematic changes, policies, interventions, or initiatives aimed at reducing disparities, inequalities, and barriers that prevent certain populations or individuals from accessing healthcare services on an equal

basis (World Health Organization, 2010). These reforms are designed to create fair and just opportunities for everyone to attain their highest level of health by addressing social, economic, geographical, cultural, and structural determinants that lead to inequities in healthcare access (Tang et al., 2018). While Kenya has experienced numerous health care reforms since independence as detailed in Table 1.1, Carrin et al. (2007) noted that significant preparatory work has recently been done on a new Social Health Insurance (SHI) Law that, if accepted, would lead to universal health coverage in Kenya. In view of the health care reforms, the current study will concentrate on; health equity reforms, insurance expansion, financing reforms, technology integration, and incentive programs on the quality of healthcare.

Table 1.1: Key Health Financing Reforms in Kenya Over the Last Two Decades

Presidential Administration	Year	Reform
President Mwai Kibaki	2004	"10/20" policy abolished user fees at dispensaries and health centers; registration fees were set at KES 10 at dispensaries/Level 2 facilities and KES 20 at health centers/Level 3 facilities
	2004	Unsuccessful bid to introduce a National Social Health Insurance Fund
	2010	Replaced user fees at Levels 2 and 3 PHC facilities (foregone with the 10/20 policy) through the Health Sector Services Fund
	2010	New Constitution devolved several health functions from the national level to newly formed county government health services (including management of county health facilities and pharmacies, ambulance services, and PHC promotion)
	2012	NHIF introduced a Comprehensive Medical Insurance Scheme for Civil Servants and Disciplined Services (and their dependents)
First term of President Uhuru Kenyatta	2013	Most counties enacted a requirement to transfer all county revenues, including from health facilities, to a county revenue fund
	2013	All health service user fees and registration fees abolished
	2013	MOH launched the free maternity policy, providing free delivery services at health centers and dispensaries; conditional grants are transferred to counties to cover the services
	2014	Funded by the World Bank, NHIF piloted a health insurance subsidy targeting indigent households
	2015	MOH launched the managed equipment scheme to increase access to diagnostic, imaging, and radiology services at county level
	2015	NHIF expanded the "SupaCover" benefit package to include outpatient benefits for members and dependents at their preferred outpatient facilities
	2016	MOH transferred the free maternity policy to NHIF. The program, dubbed "Linda Mama," expanded the package of benefits for women during the antenatal and postnatal period and newborns up to 28 days old. It covered services offered by participating private providers. Payments to providers were made via output-based payment. However, many counties consolidated the funds at the county treasury and did not fully disburse them to health facilities for services rendered.
Second term of President Uhuru Kenyatta	2017	The president launched the Big 4 Agenda, which included achieving UHC by 2022
	2018	MOH launched a one-year UHC pilot in four counties. Supply-side grants were provided to the four county governments to finance: medicines from Kenya Medical Supplies Agency; recruitment of additional health workers; and supervision of county health services. User fees were discontinued at all public health facilities in the four counties during the pilot period.
	2019	The Health Financing Reforms Expert Panel issued its report on transforming and repositioning the NHIF as a strategic purchaser of health services for the attainment of UHC by 2022
	2020	The Health Benefits Package Advisory Panel defined criteria for inclusion of services in the benefit package and the UHC Essential Benefits Package
	2020	MOH launched a new UHC scheme design with health insurance subsidies providing coverage through NHIF for one million poor households
	2022	The national government signed Inter-Governmental Agreements with county governments to facilitate the identification of indigent households for coverage; foster opportunities for cost-share of the health insurance subsidy; and facilitate implementation of the health insurance subsidy program.

Source: Ministry of Health, Kenya (2023)

1.1.2 Quality of Healthcare

Quality of health care is defined as the ability of individuals or communities to obtain timely, appropriate, and effective healthcare services that meet their healthcare needs and are consistent with current medical knowledge, best practices, and standards (Cerezo et al., 2023). Quality of healthcare is further defined by the Committee on Quality of Health Care in America (2001) as the degree to which healthcare services increase the likelihood of desired health outcomes and are consistent with current professional knowledge. It involves providing care that is safe, effective, patient-centred, timely, efficient, and equitable (IOM, 2001). Quality of healthcare stands as an indispensable cornerstone of public health, constituting a pivotal determinant in ensuring that individuals receive timely and appropriate medical care. In a study conducted by Glied and Balser (2012), the intricate relationship between health insurance and access to care is explored, revealing a positive association. Specifically, their findings illuminate heightened access to preventive services and prescription medications among those covered by health insurance. Key indicators examined include the proportion of the population with health insurance, out-of-pocket healthcare costs, and the prevalence of individuals delaying or forgoing care due to financial constraints.

In a distinct geopolitical context, Maphumulo and Bhengu (2019) critically review the challenges of enhancing healthcare quality in post-apartheid South Africa. This investigation highlights the complexities inherent in addressing healthcare quality within a nation marked by a historical backdrop of systemic inequality. By scrutinizing the unique challenges faced by South Africa, the review contributes valuable contextual insights to the broader global discourse on improving healthcare quality across diverse socio-political environments.

Shifting focus to the realm of mental health, Torous et al. (2020) navigate the intersection of digital mental health and the COVID-19 pandemic, shedding light on the catalytic role of technology in augmenting access and enhancing quality. Their study underscores the pivotal role of innovative solutions, particularly in the realm of mental health, where traditional care access may be limited. These findings provide crucial insights into the transformative potential of technology in bolstering healthcare accessibility and quality, particularly during times of crisis.

Kilbourne et al. (2018) contribute a global perspective on the measurement and enhancement of the quality of mental health care. By addressing challenges and opportunities in delivering high-quality mental health services across diverse healthcare systems, the study enriches the ongoing discourse on the universal principles underpinning quality mental health care.

Advocating for a paradigm shift in healthcare delivery, Kruk et al. (2018) propose a revolution aligned with the Sustainable Development Goals (SDGs). The study outlines key principles and strategies to usher in a new era of high-quality health systems, contributing significantly to the global conversation on reimagining healthcare to meet the evolving needs of populations.

Fullman et al. (2018) undertake a systematic analysis of the Healthcare Access and Quality Index for 195 countries and territories, presenting a comprehensive assessment of global healthcare performance. Their study evaluates access and quality based on a diverse array of indicators, emphasizing the pivotal role of healthcare delivery systems in achieving positive health outcomes. The findings contribute to a nuanced understanding of the disparities in healthcare access and quality across regions.

In the United States, Grumbach and Bindman (2015) explore the geographic distribution of healthcare providers, revealing significant disparities between rural and urban areas. This investigation encompasses indicators such as the number of healthcare providers per capita, travel time to the nearest healthcare provider, and the availability of specific types of healthcare services.

Cultural competence takes centre stage in the study conducted by Flores and Abreu (2018), emphasizing its critical role in ensuring quality healthcare for individuals from diverse backgrounds. The study examines indicators including the number of culturally competent healthcare providers, language services offered by healthcare providers, and patient satisfaction with the cultural competence of their care.

Androwich and Davidson (2020) provide a comprehensive, multidimensional analysis of access to healthcare, recognizing the intricate interplay between affordability, availability, and accessibility. Their study integrates indicators from all three categories, including the proportion of the population with health insurance and the number of healthcare providers per capita, alongside patient satisfaction with the cultural competence of their care. This multifaceted approach contributes to a holistic understanding of the complexities surrounding access to quality healthcare.

This literature review integrates insights from diverse studies to provide a comprehensive understanding of access to quality healthcare on a global scale. The examined studies contribute valuable perspectives on the challenges, innovations, and overarching principles that shape the discourse on healthcare access and quality. As the world continues to grapple with health crises and strives to achieve sustainable development goals, the lessons gleaned from these studies can inform policies and practices that promote equitable, accessible, and high-quality healthcare for all.

1.2 Statement of the Problem

The high cost of healthcare prevents the underprivileged from receiving high-quality medical care. A sizeable section of Kenyans has for many years failed to access quality health care due to its high cost. The promulgation of Kenya's constitution in August 2010 marked the official initiation of devolution as the most recent and comprehensive reform approach in the country. Among the various service sectors, the health sector was the largest one to undergo devolution within this new governance framework (Korir, *et al.,* 2021). The underlying motive behind devolving the sector as shown in Appendix III, was to empower county governments to formulate creative policies and interventions tailored to the distinct healthcare requirements in their respective regions. This was intended to foster active citizen engagement, enabling prompt and independent decision-making on resource acquisition and administration (Chuma & Okungu, 2021). In addition, Pujolar *et al.,* (2022) observed that implementing accessible primary healthcare is crucial for overcoming barriers to universal health coverage and ensuring quality healthcare for all, regardless of their socio-economic background or location. But despite devolution of healthcare, several challenges persist in the county-level healthcare sector, jeopardizing the provision of high-quality services and the advancements achieved in the sector over the past decade. These challenges encompass a broad range of issues, including capacity limitations, human resource constraints, infrastructure deficiencies, legal framework constraints, resource limitations, and the dynamics of the relationship between county and national government.

In Samburu County, despite grappling with these capacity issues, the county government has delegated facility management responsibilities to healthcare professionals (Korir, *et al.,* 2021). Although these individuals possess substantial

technical and professional knowledge, many of them lack the necessary strategic management skills to efficiently acquire and utilize resources and address emerging devolution-related challenges. Additionally, the centralization of goods and services procurement at the county headquarters has resulted in confusion and procurement difficulties, impacting the quality of acquired products and service delivery (Masaba, Moturi, Taiswa, & Mmusi-Phetoe, 2020). The excessive concentration of procurement activities at the county level reintroduces the same obstacles that were encountered under the previous centralized system at the national level, a situation which underscored the need for devolution.

Existing literature predominantly examines healthcare reforms in developed countries (Shi & Singh, 2022; Kauhanen *et al.,* 2023), at national or regional levels in Kenya (Kisali, 2021; Barasa et al, 2018), with limited attention given to county-specific analyses, thereby creating a contextual gap in understanding the localized effects of reforms in this particular region. Issues in resource allocation have also been observed, resulting in inconsistent funding distributions to sub-counties, which in turn give rise to inefficiencies (Barasa, Nguhiu, & McIntyre, 2020). Healthcare workers, also harbour concerns regarding the stability of their employment. Some have encountered salary delays despite the implementation of devolution which was seen as great reform, and they perceive this as detrimental to their job security (Oraro-Lawrence & Wyss, 2020). The death in literature connecting health equity, health insurance expansion, health financing, health technology integration to quality of healthcare to the residents of Samburu County posed a knowledge gap. This study therefore sought to evaluate on the influence of healthcare reforms on quality of healthcare in Samburu County.

1.3 Objectives of the study

1.3.1 Main Objective

The study sought to establish the influence of healthcare reforms on quality of healthcare in Samburu County, Kenya.

1.3.2 Specific Objectives

i). To evaluate the influence of health equity reforms on quality of healthcare in Samburu County

ii). To determine the influence of health insurance expansion on quality of healthcare in Samburu County

iii). To examine the influence of health financing reforms on quality of healthcare in Samburu County

iv). To examine the influence of health technology integration on quality of healthcare in Samburu County

v). To establish the influence of initiation of incentive programs on quality of healthcare in Samburu County.

1.4 Research Hypothesis

H_{01}: Health equity reforms have no significant influence on the quality of healthcare in Samburu County?

H_{02}: Health insurance expansion have no significant influence on the quality of healthcare in Samburu County?

H_{03}: Health financing reforms have no significant influence on the quality of healthcare in Samburu County?

H_{04}: Health technology integration reforms have no significant influence on the quality of healthcare in Samburu County?

H_{05}: Health initiation of incentive programs have no significant influence on the quality of healthcare in Samburu County?

1.5 Significance of the study

Understanding how healthcare reforms impact the quality of healthcare directly contributes to improving health outcomes among the population in Samburu County. Assessing the effectiveness of reforms would help identify areas that need improvement, potentially leading to enhanced health services and better health for residents.

The study provides valuable insights to policymakers and healthcare authorities in Samburu County and Kenya at large. Findings from such research would inform evidence-based policy decisions, allowing for targeted reforms or adjustments to existing healthcare policies to better address the needs of the population.

The evaluation of the impact of reforms on quality of healthcare, the study can aid in optimizing resource allocation. It identifys areas where resources are most needed or where they could be more efficiently utilized to enhance healthcare services and accessibility.

Research on healthcare reforms involve community engagement, seeking the perspectives and experiences of residents. This involvement fosters community empowerment and enables residents to voice their healthcare needs, preferences, and challenges, ensuring that reforms align with community expectations and realities.

Understanding the effect of healthcare reforms on quality of healthcare is essential for addressing health disparities. It highlights whether reforms are reaching all segments of the population equally or if there are disparities in access based on socioeconomic status, geographic location, or other factors.

The study's findings contribute to the global knowledge base on healthcare reforms and their impact on quality of healthcare. Lessons learned from Samburu County's experiences can serve as a case study for other regions or countries facing similar challenges, offering insights into effective strategies or potential pitfalls to be avoided during healthcare reforms.

1.6 Assumption of the study

The study made the following assumptions.

i). That the respondents were knowledgeable on the influence of healthcare reforms on quality of healthcare.

ii). That the respondents were honest and accurate in giving information regarding the study subject.

iii). That all the results obtained from the study were representative and generalizable to all the hospitals in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter focused on literature related to the influence of health equity reforms health insurance expansion technology integration reforms and initiation of incentive programs on quality of healthcare will be reviewed. Also included in this chapter is the theoretical framework, conceptual framework, research gap and the summary.

2.2 Theoretical Review

The study was guided by health systems theory, policy implementation theory and health equity theory.

2.2.1 Health Systems Theory

The development of Systems Theory is largely accredited to the Austrian biologist, Karl Ludwig von Bertalanffy (Anderson, 2016). Beginning in the 1920s, von Beralanffy lectured on the limitations of the Newtonian concepts of closed systems and linear cause-and-effect. Health Systems Theory, as proposed by WHO, examines healthcare as a multifaceted entity comprising interrelated components, including governance, financing, service delivery, workforce, and information systems. The theory underscores the importance of these components working harmoniously to deliver effective, equitable, and accessible healthcare services to populations.

Anderson (2016) observes that the components of health systems theory, aid in understanding the structure, operation, and potential improvements of health systems. These components are identified as including; service delivery, health workforce, health information systems, medical products and technologies, health financing, governance and leadership, community engagement and participation and external

factors. Service delivery refers to how health services are provided to both individuals and populations. It covers how services are organized, the kinds of care that are provided (preventive, curative, and rehabilitative), and the standard of care. Health workforce includes everyone taking part in activities whose main goal is to improve health. Physicians, nurses, midwives, pharmacists, and community health workers are among them. Critical issues include distribution, retention, and training. Health information systems provide data that aid in monitoring, evaluation, and decision-making. This comprises financial data, epidemiological data, and medical records. Health financing covers insurance programs, public and private financing sources, and health service financial management. Governance and leadership entail regulatory supervision, stakeholder involvement, and policy formulation. Effective development and implementation of health policies are guaranteed by robust leadership and governance frameworks.

Health Systems Theory suggests that healthcare workforce reforms, such as training, distribution, and retention strategies, significantly impact the quality of care. Studies by Lehmann et al. (2008) highlight that initiatives like training community health workers can improve the quality of healthcare by bridging gaps in healthcare provision, particularly in remote regions. Reforms in governance and policies can influence the quality of healthcare by restructuring the regulatory framework, incentivizing service provision, and fostering accountability. Research by Siddiqi et al. (2015) indicates that good governance practices, transparency, and effective policies positively impact the quality of healthcare services.

Enhancements in information systems through technological reforms contribute to improving quality of healthcare by enhancing data-driven decision-making and resource allocation. Studies like those by Nutley et al. (2013) suggest that robust

information systems facilitate efficient service delivery, potentially enhancing the quality of healthcare in Samburu County. Health Systems Theory emphasizes a holistic approach, indicating that comprehensive reforms across all system components are crucial for improving the quality of healthcare. Works by WHO (2007) stress that piecemeal reforms may not yield substantial improvements unless they address multiple dimensions of the healthcare system simultaneously.

Application of Health Systems Theory in Samburu County requires context-specific analyses considering local challenges, cultural factors, and socioeconomic conditions. Studies by local researchers (unpublished data) may illustrate how the theory's application is adapted to the unique context of Samburu County. Regular evaluation and monitoring of healthcare reforms, following Health Systems Theory principles, are essential to assess their impact on quality of healthcare. Works by Agyepong et al. (2018) highlight that continuous evaluation helps identify gaps and successes in reform implementation, guiding further strategies for enhancing the quality of healthcare in Samburu County.

Health Systems Theory is relevant in the current study, as it offers a robust framework for understanding how healthcare reforms impact the quality of healthcare in Samburu County, emphasizing the interconnectedness of various components. It provides valuable insights guiding policymakers toward comprehensive reforms essential for achieving improved quality of healthcare services in the region.

2.2.2 Policy Implementation Theory

Policy Implementation Theory was developed by Mazmanian and Sabatier (1983) where implementation was defined as the carrying out of a basic policy decision, usually incorporated in a statute but which can also take the form of important

executive orders or court decisions. The theory underscores the importance of well-crafted policies. For instance, healthcare reforms emphasizing equitable distribution of resources and infrastructure development may lead to improved quality healthcare (Hood, 1983).

Successful implementation of reforms often depends on involving diverse stakeholders. In Samburu County, engaging healthcare providers, community leaders, and citizens in reform discussions ensures broader buy-in and enhances the probability of successful policy execution (Pressman & Wildavsky, 1984). Adequate resource allocation is crucial. Effective healthcare reforms require financial investments, ensuring that facilities have the necessary equipment, medicines, and skilled personnel to deliver quality healthcare services (Bardach, 1977).

The political commitment to healthcare reforms significantly influences their implementation. Political support and sustained commitment from local authorities and government officials in Samburu County are pivotal for ensuring reforms translate into improved quality of healthcare (Sabatier, 2007). Policies must be adaptable to the local context. Flexibility allows policies to be tailored to the specific needs and challenges faced in Samburu County, considering its unique socio-economic and geographic characteristics (Lester, 1995).

Effective implementation requires continuous monitoring and evaluation. Regular assessment of reforms in Samburu County can identify bottlenecks, assess the effectiveness of policy interventions, and ensure adjustments are made for better outcomes (Weiss, 1977). Networks among different agencies and organizations involved in healthcare delivery play a critical role. Collaborative efforts between government bodies, Non-Governmental Organizations (NGOs), and healthcare

providers in Samburu County enhance coordination and efficiency in implementing reforms (Marsh & Rhodes, 1992).

Strengthening the capacity of healthcare workers and institutions is essential. Healthcare reforms that invest in training programs and infrastructure development can improve service delivery and the quality of healthcare in Samburu County (Elmore, 1982). Effective communication strategies facilitate successful policy implementation. Clear communication of reform objectives and benefits ensures understanding and support from stakeholders in Samburu County (Dunn, 1994).

Acknowledging and addressing socio-cultural factors is crucial. Policies must be sensitive to local customs, beliefs, and traditions in Samburu County to ensure cultural acceptance and effective implementation (Frederickson, 1980). Policy Implementation Theory provides a comprehensive framework for understanding the multifaceted process of healthcare reform execution and its impact on the quality of healthcare in Samburu County, Kenya. It underscores the necessity of well-designed policies, stakeholder engagement, resource allocation, adaptability, monitoring, and collaborative efforts to successfully implement reforms and ensure improved quality of healthcare for the local population.

2.2.3 Health Equity Theory

Meltsner published the first article using the term “health and equality” in 1966. Health Equity Theory is a critical framework for understanding the disparities in the quality of healthcare and serves as a lens through which the influence of the quality of healthcare can be comprehensively analysed. Rooted in the premise of fairness and justice, Health Equity Theory posits that everyone should have the opportunity to

attain their full health potential, and that no one should be disadvantaged due to social, economic, or other circumstances.

Health Equity Theory helps in recognizing and highlighting disparities in the quality of healthcare in Samburu County, Kenya. Studies (Braveman et al., 2017) have shown that marginalized populations, often based on socioeconomic status, geography, or ethnicity, face significant barriers to accessing quality healthcare even in the presence of reforms. The theory facilitates an evaluation of healthcare reforms in Samburu County by assessing whether the reforms address existing health inequities. For instance, reforms that specifically target marginalized communities or focus on addressing social determinants of health, such as poverty or education, are more likely to contribute to health equity (Marmot et al., 2020).

Health Equity Theory emphasizes community involvement in the design and implementation of healthcare reforms. Research (Kawachi et al., 2010) suggests that community engagement in decision-making processes leads to more tailored and effective reforms that meet the needs of diverse populations in Samburu County. It allows for an examination of resource allocation within the healthcare system. Assessing whether resources are distributed equitably among different areas or population groups aids in understanding if reforms are effectively addressing disparities (Whitehead et al., 2021).

Health Equity Theory underscores the need to address broader structural factors influencing health, such as access to education, employment opportunities, and housing. Reforms that tackle these structural determinants alongside healthcare can contribute to more significant improvements in health equity (Solar & Irwin, 2010). The theory advocates for ongoing monitoring and evaluation of healthcare reforms.

Regular assessments can help identify gaps and measure progress toward reducing health disparities in Samburu County (Bambra et al., 2020).

Healthcare reforms guided by Health Equity Theory address systemic barriers that limit the quality of healthcare. This might involve legislative changes, resource allocation, and advocacy efforts to address structural inequities within the healthcare system. Implementing health equity-focused reforms may face challenges, such as resource constraints or resistance to change. Additionally, addressing entrenched disparities may require long-term strategies beyond the scope of immediate policy changes. Health Equity Theory offers a framework to guide healthcare reforms towards achieving fair and just quality of healthcare in Samburu County. Future research can focus on assessing the long-term impact of equity-driven reforms on health outcomes and disparities in the region.

2.3 Empirical Review

This section presents a review of literature on studies done by other scholars on health equity reforms, health insurance expansion, health financing reforms technology integration reforms, and initiation of incentive programs on to quality healthcare.

2.3.1 Health Equity Reforms and Quality of Healthcare

To investigate how these reforms have impacted health system outcomes in terms of fairness, access, care quality, and financial protection, Kabia et al. (2022) adopted a narrative review of peer-reviewed and grey literature methodology in assessing the effect of health purchasing reforms on equity, access, quality of care, and financial protection in Kenya. The research specifically focused on the introduction of benefit packages for maternity, outpatient, and specialized services, as well as delving into the intricacies of provider payment reforms and performance monitoring reforms. The

authors found that these reforms yielded positive outcomes, notably enhancing access to care, improving the quality of healthcare services, and bolstering financial protection for the population. However, the study acknowledges certain limitations to the reforms, giving rise to conceptual gaps, including insufficient awareness among healthcare providers regarding the covered services and a notable lack of service availability at contracted facilities.

Anderson et al. (2018) applied a literature review methodology in an assessment spanning nine years from 2000 to 2018 to investigate the efficacy of performance measurement and payment strategies in mitigating health disparities. The researchers systematically searched for English-language articles addressing the promotion of health equity and the elimination of disparities through these approaches. The analysis of the literature revealed three central themes: the effectiveness of various performance measures in identifying and mitigating disparities, the role of payment incentives in fostering health equity, and the challenges associated with implementing programs that target disparities through performance measurement and payment. While the findings indicate a growing body of evidence supporting the effectiveness of these strategies in reducing health disparities, the study also underscored significant challenges in their implementation. These challenges encompass the necessity for valid and reliable measures of disparities, the design of payment incentives that are not only effective but also equitable, and the imperative to address the root causes of health disparities. The use of time series data as opposed to cross sectional data resulted in a methodological gap.

Nyarko et al. (2020) employed a mixed methods approach to scrutinize the effect of health equity reforms on access to quality healthcare in Ghana. The methodology encompassed a quantitative survey of patients to gauge changes in access pre and

post-reforms, a qualitative study of healthcare providers to understand their attitudes and experiences with the reforms, and a review of government documents to assess the overall implementation process. The study revealed positive outcomes, indicating that the implemented reforms had significantly improved patients' access to care. However, the research also identified limitations, notably a lack of awareness among patients regarding the reforms and inadequate resources at certain healthcare facilities. The findings from the quantitative survey were encouraging, showing improved access, and the qualitative study indicated general support from healthcare providers, albeit with noted challenges. The current study was undertaken in Samburu county Kenya and hence a contextual gap.

Adedoyin et al. (2019) conducted a study on the effects of health equity reforms on the access to quality healthcare in Nigeria. The study involved a systematic comprehensive literature review of existing studies, policies, and reports related to health equity reforms and healthcare access. The methodology detailed the process of data extraction, summarization, and synthesis of findings from the selected literature which involved thematic analysis or qualitative synthesis to identify common themes, trends, and key insights. The study identified effects of health equity reforms on healthcare access in Nigeria as it encompasses improvements or challenges in access to healthcare services, focusing on marginalized populations or regions within the country. The review highlighted barriers and facilitators associated with the implementation of health equity reforms which included factors that hinder or support the effectiveness of reforms in achieving equitable healthcare access. The use of systematic comprehensive literature review points at a methodology gap in comparison to the current study.

Lurie and Dubowitz (2017) conducted a study on health disparities and access to health. The study found that racial and ethnic minorities, populations who are more likely to be poor, have lower educational levels, or both are fundamentally at greater risk of ill health than their nonminority, non-poor, better educated peers. Multiple factors, both within and outside the health care delivery system, explained these disparities. Health care and social factors associated with such disparities related directly to access to care, and access to care is important because it is believed to lead to better health. The focus of the study on health disparities and access to health indicated a conceptual gap from the current focus on health reforms.

2.3.2 Health Insurance Expansion and Quality Healthcare

A meaningful healthcare coverage is essential to leading a successful, safe, and healthy life. A study by Loehrer et al. (2018) using a quasi-experimental methodology provides evidence that health insurance coverage enhances treatment accessibility, bolsters favorable health consequences, such as an individual's perception of their own health and welfare, encourages responsible use of healthcare resources, and lessens the financial burden on people, families, and communities. Sommers et al. (2014) applied multiple regression analysis in assessing the association between health reforms and health insurance coverage and deduced that decreases in mortality are correlated with an increase in healthcare coverage, and that following the implementation of Medicaid and private coverage expansion, Massachusetts saw a considerable decrease in the state's all-cause death rate. The use of quasi-experimental methodology meant a methodology gap relative to the current study choice of mixed methods.

O’Lawrence (2019) undertook a study using the adult California Health Interview Survey (CHIS) questionnaire, to examine how non-elderly people' access to healthcare services was influenced by socioeconomic variables, membership in various racial and ethnic groups, and insurance status. It was established that individuals without health insurance and who are predisposed to factors like poverty, lack of health care and health coverage are more likely to experience losses in their general health, be hospitalized for preventable medical conditions, and receive less regular outpatient care than those with insurance. When hospitalized, uninsured patients typically receive less diagnostic and therapeutic care and have greater death rates than insured patients. The reported study was undertaken in California giving rise to a contextual gap.

In Kenya and other developing countries in Africa, contributory health insurance has grown in favor as a means of financing healthcare, transforming national health systems to achieve universal health coverage, notes Barasa (2018). Kenya's health system has been primarily tax-funded since the country's independence in 1963, but it has also progressively implemented a number of adjustments to its health financing policies (Carrin et al., 2007). The introduction of "cost-sharing," or user fees, occurred in 1989. In 1990, user fees for outpatient care were eliminated due to concerns about social justice; however, due to financial restrictions, they were reinstated in 1992. Up until recently, these costs persisted, and numerous empirical studies have examined how they affect people's ability to obtain healthcare. The government's interest in Social Health Insurance (SHI) has been the most noteworthy development since 1989. The latter aimed to guarantee that all Kenyans have access to both inpatient and outpatient medical treatment, as well as to drastically lower household out-of-pocket medical expenses, particularly for the most impoverished.

2.3.3 Health Financing Reforms and Quality of Healthcare

Healthcare financing reforms, such as increased budget allocation or innovative funding mechanisms, influence the quality of health care. Studies like those by Kutzin (2013) emphasize how financial reforms improve access by enhancing the availability of resources for healthcare delivery, impacting infrastructure, staff, and service availability in Samburu County.

Kabia et al., (2019) conducted a study to examine the experiences of the poor with health financing reforms that target them. The researchers conducted a qualitative cross-sectional study in two purposively selected counties in Kenya. The study collected data through focus group discussions and in-depth interviews with people in the lowest wealth quintile residing in the health and demographic surveillance systems, and HISP beneficiaries. The data was analyzed using a framework approach focusing on four healthcare access dimensions; geographical accessibility, affordability, availability, and acceptability. The study's findings reveal a nuanced effect of health reforms on the quality of care. While the reforms have positively influenced access to care for the impoverished, significant barriers persist. Notably, the high cost of care, lack of transportation, and insufficient information about the reforms continue to hinder the quality of healthcare. In addition to the use of qualitative data, the current study also collected quantitative data, signifying a methodological disparity.

Moreover, the study by Kabia et al., (2019) on experiences of the poor with health financing reforms targeted two Kenyan counties and adopted a qualitative cross-sectional study. The study gathered information from Health Insurance Subsidy Programme (HISP) recipients and those in the lowest wealth quintile living in the health and demographic surveillance systems through focus groups (n = 8) and in-

depth interviews (n=30). Four aspects of healthcare access—geographic accessibility, affordability, availability, and acceptability—were the focus of our framework-based data analysis. The study identified a mixed effect on the quality of care resulting from the reforms. Positive aspects include improvements through the introduction of new drugs and treatments; however, negative consequences are observed, particularly with a reduction in the number of healthcare providers. The study advocates for government intervention to address these barriers, emphasizing the need for ensuring that the reforms comprehensively benefit the economically disadvantaged. Additionally, the authors recommend ongoing government monitoring of the reform's impact on the quality of care, suggesting a commitment to a dynamic and responsive healthcare system that continually adapts to the evolving needs of the population.

Mbau et al., (2020) examined the influence of purchasing reforms on National Health Insurance Fund (NHIF) purchasing practices and their implications for strategic purchasing and health system goals of equity, efficiency and quality. The researchers collected data at the national level and in two purposively selected counties through 41 in-depth interviews with health financing stakeholders, facility managers and frontline providers; 4 focus group discussions with 51 NHIF members; and, document reviews. The study found that these reforms have improved access to care for the poor, but there are still barriers that prevent them from fully benefiting. These barriers include long distances to health facilities, lack of public transport, poor condition of roads, and high transport costs. Additionally, continued charging of user fees, delayed insurance reimbursements, and informal fees can expose the poor to out-of-pocket payments. Stock-outs of medicine and other medical supplies, dysfunctional medical equipment, shortage of healthcare workers, and frequent strikes can also limit the availability of health services. The study concludes that pro-poor health financing

reforms can improve the quality of healthcare, but that more needs to be done to address the barriers that prevent the poor from fully benefiting.

Barasa et al. (2018) conducted a research project aimed at identifying and delineating the reforms implemented by the National Hospital Insurance Fund (NHIF) and assessing their implications for Kenya's pursuit of UHC. The researchers conducted a comprehensive review of both published and grey literature to pinpoint the key reforms enacted by the NHIF since 2010. The evaluation of these reforms utilized a health financing framework that considered aspects of feasibility, equity, efficiency, and sustainability in health financing mechanisms. The study uncovered several NHIF reforms, including the introduction of the Civil Servants Scheme (CSS), the implementation of a stepwise quality improvement system, the initiation of the Health Insurance Subsidy for The Poor (HISP), the adjustment of monthly contribution rates, and the expansion of the benefit package. Additionally, the study identified the upward revision of provider reimbursement rates as part of the NHIF reforms. Despite improvements observed in various areas, the reforms raised concerns related to equity, efficiency, feasibility, and sustainability. In conclusion, the study acknowledged the positive intentions behind the NHIF reforms in Kenya and recognized improvements in certain aspects. However, its highlighted design attributes that could potentially undermine the effectiveness of these reforms in achieving their primary goal of providing universal financial risk protection for the Kenyan population. This study was undertaken in different parts of Kenya and the current study was undertaken in Samburu county which has its uniqueness from the rest of the country hence a contextual gap.

2.3.4 Technology Integration Reforms and Quality of Healthcare

Johnson et al. (2018) did a study on the experiences of technology integration in home care nursing in China. As part of a randomized field experiment evaluating web-based support for home care of patients with chronic heart disease, the study engaged nine nurses in a dialogue about their experience integrating this modification of care delivery into their practice. They shared their perceptions of the work they needed to do and their perceptions and expectations for patients and themselves in using technologies to promote and manage self-care. The study established that the infusion of health care technologies into the home leads to substantial changes in the nature of work for home care nurses and their patients. In addition, nurses and nursing practice changed to capitalize on these innovations. The study documented three overarching themes that identify pre-existing factors that influenced integration or represent the consequences of technology integration into home care which included doing tasks differently, making accommodations in the home for devices and computers, and being mindful of existing expectations and skills of both nurses and patients. The use of thematic analysis is methodologically dissimilar from the current study.

Dinh-Le et al., (2019) carried out a review of the landscape of wearable health technology and data integration to provider EHRs, specifically Epic, because of its prevalence among health systems. The objectives of the study were: first to identify the current innovations and new directions in the field across start-ups, health systems, and insurance companies and second, to understand the associated challenges to inform future wearable health technology projects at other health organizations. The researchers used a scoping process to survey existing efforts through Epic's Web-based hub and discussion forum, UserWeb, and on the general Web, PubMed, and Google Scholar. The study found that there are a number of

challenges to integrating wearable health device data into electronic health records, including concerns about patient privacy, system interoperability, and the immense amount of patient data. However, the authors also found that there are a number of opportunities for wearable health technology to improve patient care. For example, wearable devices can be used to collect data on a patient's activity levels, sleep patterns, and heart rate. This data can then be used to identify potential health problems and to track the progress of treatment. By focusing on a review of the landscape of wearable health technology only, the study left out other elements of health reforms resulting in a conceptual gap.

2.3.5 Initiation of Incentive Programs and Quality of Healthcare

Bhatt et al., (2018) conducted a study on the contribution of Nepal's free delivery care policies in improving utilisation of maternal health services. The study used a cross-sectional analysis of data from the Nepal Demographic and Health Surveys (NDHS) from 1996, 2006, 2011, and 2016. The NDHS is a nationally representative survey of women of reproductive age (15-49 years) that collects data on a wide range of health and demographic indicators. The study found that the implementation of Free Delivery Care (FDC) policies was associated with a significant increase in the utilization of maternal health services. The proportion of women who had four African National Congress (ANC) visits increased from 26% in 1996 to 68% in 2016, and the proportion of women who delivered in a health institution increased from 32% in 1996 to 61% in 2016. The study also found that the effect of FDC policies was stronger in rural areas and among women from lower socioeconomic backgrounds. These findings suggest that FDC policies can be an effective way to improve maternal health outcomes in low- and middle-income countries. The study was undertaken in Nepal, which is contextually different from Samburu county.

Vlaev et al. (2019) conducted a systematic review of the literature on the use of financial incentives to change health behaviors. The researchers identified 156 relevant studies and assessed their quality using a validated tool. They then synthesized the findings of the high-quality studies. The researchers found that financial incentives can be effective in promoting some health behaviors, such as smoking cessation, weight loss, and medication adherence. However, the effects of incentives tend to be modest and short-lived. The study also found that the effectiveness of incentives can be influenced by a number of factors, such as the size of the incentive, the target behavior, and the delivery method. The use of systematic review of the literature points at existence of a methodology gap relative to the present study.

Song and Baicker (2019) conducted a randomized clinical trial with 32,974 employees from a large US warehouse retail company to assess the impact of a workplace wellness program on health and economic outcomes. Participants were randomly assigned to either an intervention group, receiving the comprehensive wellness program with various components promoting healthy behaviors, or a control group without the program. Outcomes, including self-reported health behaviors, clinical health measures, health care spending, utilization, and employment outcomes, were measured at baseline and 18 months follow-up. The researchers found that the wellness program had a significant positive effect on self-reported health behaviors. Employees in the intervention group were more likely to report engaging in regular exercise and actively managing their weight than employees in the control group. However, the program did not have a significant effect on any of the clinical measures of health, health care spending or utilization, or employment outcomes. The findings of this study suggest that workplace wellness programs may be effective in promoting

healthy behaviors, but they may not have a significant impact on clinical health outcomes or health care costs. Further research is needed to determine the long-term effects of workplace wellness programs and to identify the factors that contribute to their success or failure. The focus on the impact of a workplace wellness program on health and economic outcomes indicates a conceptual gap from the current focus on health reforms.

Rossouw, Burger and Burger (2019) conducted a study on incentive-based and community health worker package intervention to improve early utilization of antenatal care. The study employed a pilot randomized controlled trial design, involving 72 pregnant women aged 18 and older in an urban area in South Africa. The intervention included a package consisting of the Thula Baba Box (TBB) incentive and a Community Health Worker (CHW) program, while the control group followed standard clinical practice. Data collection involved interviews conducted at recruitment and postpartum. Key outcomes focused on the timing of the first antenatal care (ANC) visit and whether participants attended more than four times. The findings revealed that women in the intervention group sought care approximately 1.35 months earlier than those in the control group. Furthermore, women in the intervention group were significantly more likely to attend at least four antenatal clinic visits compared to the control group. The adoption of a pilot randomized controlled trial design is methodology that is different from the current choice of a mixed methods approach. By studying incentive-based and community health worker package intervention, the study was conceptually different from the current study.

Celhay et al. (2019) conducted a study on long-run effects of temporary incentives on medical care productivity. The study uses a Randomized Controlled Trial (RCT) to examine the effects of temporary financial incentives on the rate of early initiation of

prenatal care in Argentina. The researchers randomly assigned 120 health clinics to one of two groups: a treatment group that received financial incentives for early initiation of prenatal care, or a control group that did not receive any incentives. The incentives were paid for a period of 24 months, after which they were discontinued. The researchers measured the rate of early initiation of prenatal care as the percentage of pregnant women who initiated care in the first trimester of pregnancy. They also measured a number of other outcomes, including the quality of prenatal care, maternal and child health outcomes, and clinic costs. The researchers found that the temporary financial incentives led to a 34% increase in the rate of early initiation of prenatal care while the incentives were being paid. This effect persisted for at least 24 months after the incentives ended. The researchers did not find any effects of the incentives on the quality of prenatal care, maternal and child health outcomes, or clinic costs. The current study goes beyond reforms on incentives and poses a conceptual gap from the study by Celhay et al. (2019).

Chukwuma et al., (2019) carried out a study on the effect of monetary incentives on referrals by Traditional Birth Attendants (TBAs) for postnatal care in Nigeria. The study discusses the importance of postnatal care and how TBAs can play a role in increasing its use. The study used a randomized controlled trial to investigate the effect of offering TBAs a monetary incentive for every maternal client they referred for postnatal care. The results showed that the incentive increased the proportion of maternal and neonatal clients of TBAs that reported attending postnatal care within 48 h of delivery. However, the quality of care received during these visits was often not up to standard. The researchers conclude that monetary incentives can be an effective way to increase postnatal care use, but that more needs to be done to improve the quality of care. By using randomized controlled trial to investigate the effect of

offering TBAs a monetary incentive for every maternal client, the study adopted a methodology that is different form the extant study.

Debnath (2021) examined the effect of incentives for mothers and health care workers on maternal and child health services in India. The study utilized a regression discontinuity design (RDD) that exploits variations in date of birth, eligibility, and transfer size for a conditional cash transfer program in India. The findings suggested that the incentives significantly increased the use of maternal and child health services, including delivery at a health care facility, pre- and postnatal care services, and immunization. The program also reduced early-neonatal deaths but had no impact on late-neonatal mortality. Additionally, the study found that larger incentives to health workers are associated with relatively higher utilization rates compared with larger incentives to mothers. The reform in question was incentives for mothers and health care workers, the current study looks at other reforms beyond incentives hence a conceptual gap.

Aninanya, Otupiri and Howard (2021) conducted a study of the effects of combined decision-support and performance-based incentives on reported client satisfaction with maternal health services in primary facilities. This study was a quasi-experimental study that evaluated the effects of a Combined Decision Support System and Performance Based Incentives (CDSS-PBI) intervention on reported client satisfaction with maternal health services in primary facilities in the Upper East Region of Ghana. The study used a two-group pre-post design, with intervention and comparison groups. The intervention group received the CDSS-PBI intervention, while the comparison group did not receive any intervention. The study found that the CDSS-PBI intervention was associated with greater antenatal and delivery client satisfaction with some aspects of maternity services within two years of

implementation. Specifically, the intervention was associated with significantly greater satisfaction with provider availability, provider attitude, and overall satisfaction with delivery services. By using client satisfaction with maternal health services in primary facilities as a dependent variable, the study reveals a conceptual gap from the extant study whose predictor variable is quality of healthcare.

2.4 Research Gaps

From the empirical literature reviewed, a closer examination reveals the existence of research gaps in the form of methodological gaps, conceptual gaps, and contextual gaps as displayed in Table 2.1.

Table 2.1: Summary of Literature Review and Research Gaps

Author/s	Research Topic	Research Finding	Research Gap	Focus of Current Study
Nyarko et al. (2020)	The Impact of Health Equity Reforms on Access to Quality Healthcare in Ghana: A Mixed-Methods Study.	The study revealed positive outcomes, indicating that the implemented reforms had significantly improved patients' access to care.	The study used mixed methods to triangulate different methodologies, resulting in a methodological gap.	The study will use multiple regressions to establish the nexus between the predictor variables and the predicted variable.
Adedoyin, Olayinka and Ologun (2019)	Health Equity Reforms and Access to Quality Healthcare in Nigeria: A Review of the Literature.	Using a literature review approach, the study established the barriers and facilitators associated with the implementation of health equity reforms which also included factors that hinder or support the effectiveness of reforms in achieving equitable healthcare access.	The study was undertaken in Nigeria, resulting in a contextual gap	The current study shall be undertaken in Samburu count, Kenya.

Lurie and Dubowitz (2017)	Health disparities and access to health.	The study found that racial and ethnic minorities, populations who are more likely to be poor, have lower educational levels, or both are fundamentally at greater risk of ill health than their nonminority, non-poor, better educated peers.	The study focused on Health disparities, indicating a conceptual gap.	The current study will focus of healthcare reforms
Loehrer et al. (2018)	Association of the Affordable Care Act Medicaid Expansion with Access to and Quality of Care for Surgical Conditions	It was noted that health insurance coverage enhances treatment accessibility, bolsters favorable health consequences, such as an individual's perception of their own health and welfare, encourages responsible use of healthcare resources, and lessens the financial burden on people, families, and communities.	The study was undertaken among the lower income Americans, indicating a contextual gap.	The current study will be focus on the healthcare employees within Samburu County in Kenya.

Sommers et al. (2014)	Changes in Mortality after Massachusetts Health Care Reform	The study found out that decreases in mortality are correlated with an increase in health care coverage, and that following the implementation of Medicaid and private coverage expansion, Massachusetts saw a considerable decrease in the state's all-cause death rate.	The study focused on the effect of healthcare reforms on mortality, indicating a conceptual gap.	The current study focuses on the effect of healthcare reforms on quality of healthcare

O'Lawrence (2019)	Lack of insurance coverage affect access to healthcare	It was established that individuals without health insurance who are predisposed to factors like poverty, lack of health care and health coverage are more likely to experience losses in their general health, be hospitalized for preventable medical conditions, and receive less regular outpatient care than those with insurance.	The study paid attention to access to insurance coverage only, leaving a conceptual gap.	The current study focusses on additional concepts including; health equity reforms, insurance expansion, financing reforms, technology integration reforms, and initiation of incentive programs
Barasa (2018)	Measuring progress towards sustainable development goal 3.8 on universal health coverage in Kenya	Using literature reviewed overtime, the study uncovered several NHIF reforms, including the introduction of the Civil Servants Scheme (CSS), the implementation of a stepwise quality improvement system, the initiation of the Health	The study did not relate the NHIF reforms to any dependent variable, resulting in a methodological gap	The current study shall endeavour to examine link between healthcare reforms and quality of healthcare using multiple regression analysis

		Insurance Subsidy for The Poor (HISP), the adjustment of monthly contribution rates, and the expansion of the benefit package. Additionally, the study identified the upward revision of provider reimbursement rates as part of the NHIF reforms.		
Johnson et al. (2018)	Experiences of technology integration in home care nursing in China	The study established that the infusion of health care technologies into the home leads to substantial changes in the nature of work for home care nurses and their patients. And in addition, nurses and nursing practice changed to capitalize on these innovations.	The study was undertaken amongst nurses in China, implying a contextual gap	The current study will be focus on the healthcare employees within Samburu County in Kenya.
Dinh-Le et al., (2019)	Wearable health technology and electronic health record	The study found that there are a number of challenges to	The study paid attention to only one reform, health	Besides technology integration, the current

	integration: scoping review and future directions	integrating wearable health device data into electronic health records, including; concerns about patient privacy, system interoperability, and the immense amount of patient data	technology, resulting in a conceptual gap.	study pays attention to; health equity reforms, insurance expansion, financing reforms, reforms, and initiation of incentive programs
Bhatt et al., (2018)	Contribution of Nepal's free delivery care policies in improving utilization of maternal health services	The study found that the implementation of Free Delivery Care (FDC) policies was associated with a significant increase in the utilization of maternal health services.	The study used secondary data from the Nepal Demographic and Health Surveys (NDHS) from 1996, 2006, 2011, and 2016	The current study shall be a cross-sectional survey, that leverages on primary data collection approach.
Vlaev et al. (2019)	Changing health behaviors using financial incentives: a review from behavioural economics.	The study found that financial incentives can be effective in promoting health behaviors, such as smoking cessation, weight loss, and medication adherence. However, the effects of incentives tend to be modest	The focus of the study was financial incentives only, resulting in a conceptual gap.	Besides financing reforms, the current study examines the predictive power of health equity reforms, insurance expansion, technology integration

		and short-lived. The study also found that the effectiveness of incentives can be influenced by a number of factors, such as the size of the incentive, the target behavior, and the delivery method.		reforms, and initiation of incentive programs on quality of health care.
Song and Baicker (2019)	Effect of a workplace wellness program on employee health and economic outcomes: a randomized clinical trial.	The researchers found that the wellness program had a significant positive effect on self-reported health behaviors. Employees in the intervention group were more likely to report engaging in regular exercise and actively managing their weight than employees in the control group.	The study focused on workplace wellness programs, giving rise to a conceptual gap.	The current study goes beyond employee incentive programs, which cover employee health-seeking behavior and considers the collective effect of additional healthcare reforms encompassing; health equity reforms, insurance expansion, technology integration

				reforms, and financing reforms.
Rossouw, Burger and Burger (2019)	An incentive-based and community health worker package intervention to improve early utilization of antenatal care: Evidence from a pilot randomised controlled trial.	The findings revealed that women in the intervention group sought care approximately 1.35 months earlier than those in the control group. Furthermore, women in the intervention group were significantly more likely to attend at least four antenatal clinic visits compared to the control group.	The data collection method employed involved interviews conducted at recruitment and postpartum.	The current study shall employ the use of self-completion questionnaires.
Celhay et al. (2019)	Long-run effects of temporary incentives on medical care productivity	The researchers found that the temporary financial incentives led to a 34% increase in the rate of early initiation of prenatal care while the incentives were being paid. This effect persisted for at least 24 months after the	The study focused on prenatal care in Argentina, indicating the existence of a contextual gap.	This study shall focus on the healthcare employees in Samburu County in Kenya.

		incentives ended.		
Chukwuma et al., (2019)	The impact of monetary incentives on referrals by traditional birth attendants for postnatal care in Nigeria	The study established that monetary incentives increased the proportion of maternal and neonatal clients of TBAs that reported attending postnatal care within 48 hours of delivery. However, the quality of care received during these visits was often not up to standard. The researchers conclude that monetary incentives can be an effective way to increase postnatal care use, but that more needs to be done to improve the quality of care.	The study focused on the effect of financial incentives on patients, indicating a contextual gap	The current study shall consider the influence of financial reforms on quality of healthcare, but collect data from healthcare employees

Debnath (2021)	Improving maternal health using incentives for mothers and health care workers: evidence from India.	The findings suggested that the incentives significantly increased the use of maternal and child health services, including delivery at a health care facility, pre- and postnatal care services, and immunization. The program also reduced early-neonatal deaths but had no impact on late-neonatal mortality. Additionally, the study found that larger incentives to health workers are associated with relatively higher utilization rates compared with larger incentives to mothers.	The study utilized a regression discontinuity design (RDD), indicating the existence of a methodological gap.	The current study shall use multiple regression in examining the influence of healthcare reforms on quality of healthcare.
Aninanya, Otupiri and Howard (2021)	Effects of combined decision-support and performance-based	The study found that the CDSS-PBI intervention was associated with greater antenatal and	The use of quasi-experimental approach points at a methodological	The current study shall adopt the use of descriptive research

	incentives on reported client satisfaction with maternal health services in primary facilities: A quasi-experimental study in the Upper East Region of Ghana	delivery client satisfaction with some aspects of maternity services within two years of implementation. Specifically, the intervention was associated with significantly greater satisfaction with provider availability, provider attitude, and overall satisfaction with delivery services.	gap.	and focus on a quantitative approach

Source: Researchers Citation of Various Sources

2.5 Conceptual Framework

The relationships between the study variables can be demonstrated using a framework (Mugenda & Mugenda, 2009). Figure 2.1 shows the link between the independent variables and the dependent variables. The conceptual framework illustrates the multidimensional relationship between various health system reforms and the quality of healthcare.

The independent variable, healthcare reforms is conceptualised as deliberate and systematic changes, policies, interventions, or initiatives aimed at reducing disparities, inequalities, and barriers that prevent certain populations or individuals from accessing healthcare services on an equal basis (World Health Organization, 2010). It categorizes reforms into five major domains; health equity, insurance expansion, financing and technology integration.

Health equity reforms aim to address disparities in access to care, especially in underserved regions. Geographic accessibility and equitable distribution of healthcare professionals are central to improving healthcare outcomes for marginalized populations. According to Braveman and Gruskin (2003), health equity involves the absence of unfair and avoidable differences in health services. Reforms that improve geographic coverage and redistribute human resources are essential for reducing inequities and ensuring inclusive service delivery (Whitehead, 1992).

Health Insurance Expansion enhances healthcare utilization and reduces financial hardship, particularly through universal health coverage (UHC). Health insurance reforms increase the proportion of the population with access to essential services without financial strain (WHO, 2010). Studies by Lagomarsino et al. (2012) and Kutzin (2013) show that insurance expansion significantly contributes to improved

service availability and affordability, especially when integrated within broader UHC strategies.

Health financing reforms are vital for ensuring that health systems are adequately resourced and equitably funded. Key mechanisms include increased healthcare budget allocations, reduction of out-of-pocket expenditures, and higher per capita health spending. According to McIntyre and Meheus (2014), sustainable financing is foundational for healthcare accessibility and affordability. Adequate public investment reduces reliance on catastrophic expenditures, thereby improving equity and satisfaction (Xu et al., 2007).

Technology integration reforms including telehealth, digital health records, and health information exchange are increasingly recognized as catalysts for efficiency, quality improvement, and patient-centered care. Research by Adler-Milstein and Jha (2017) demonstrates that digital health systems contribute to better coordination, data accuracy, and access in rural and remote settings. Additionally, technology integration enhances responsiveness and reduces delays in care, impacting overall service satisfaction.

Initiation of Incentive Programs targeting healthcare worker motivation, clinical outcomes, and patient engagement. Performance-based initiatives, including pay-for-performance and non-monetary recognition, have been linked to improved staff productivity and better health-seeking behavior among patients. Witter et al. (2012) note that such programs are especially effective in improving quality in resource-limited settings by aligning incentives with health system goals.

The dependent variable, quality of healthcare is defined as the ability of individuals or communities to obtain timely, appropriate, and effective healthcare services that meet

their healthcare needs and are consistent with current medical knowledge, best practices, and standards (Cerezo et al., 2023). The culmination of these reforms is reflected in improvements in healthcare quality. The WHO (2006) defines quality healthcare as care that is effective, safe, people-centered, timely, equitable, integrated, and efficient. The conventional measures of quality of healthcare are typically based on Donabedian's model, which breaks healthcare quality into three main domains: Structure, process and outcomes (Donabedian, 1988). Under structure, key consideration include; Availability of medical equipment, staffing levels and qualifications, facility infrastructure and health information systems. The key indicators of process include; Adherence to clinical protocols, timeliness of care, communication between providers and patients and patient safety procedures. The main indicators of outcomes include; Mortality and morbidity rates, patient-reported outcomes (e.g., pain reduction, functional improvement), readmission rates and patient satisfaction.

Kruk et al., (2018) proposes a patient centered and system level indicators as including; Affordability, accessibility, availability of services, equity of care, efficiency and effectiveness and continuity and coordination of care. The study under the framework in Figure 2.1 operationalizes the concept of quality of health care through four measurable dimensions: affordability, availability, accessibility, and patient satisfaction, all recognized as core indicators of system performance (Kruk et al., 2018).

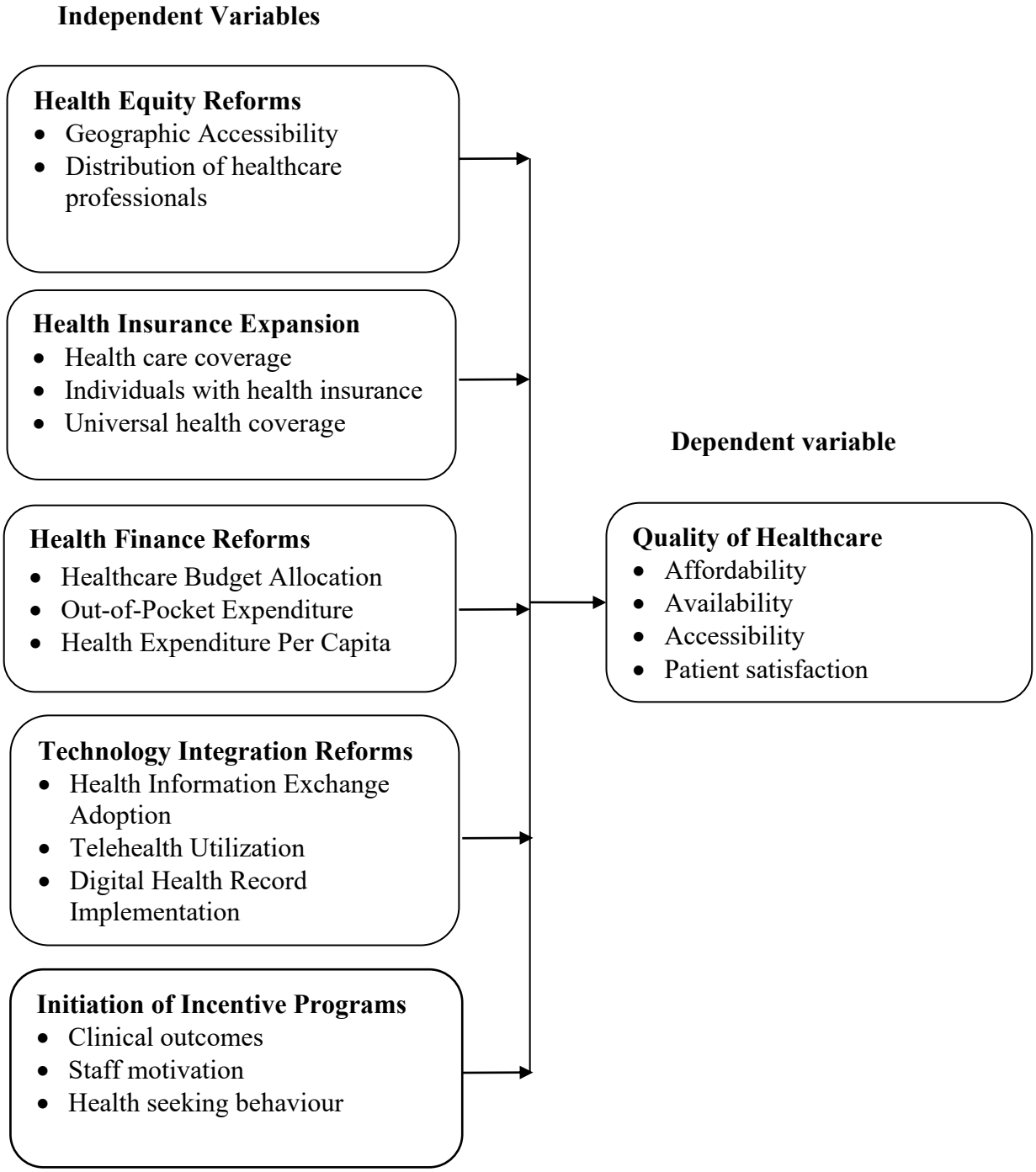

Figure 2.1: Conceptual Framework

The conceptual framework in Figure 2.1 shows the relationship between various health reforms and healthcare quality and is strongly supported by three interrelated theoretical perspectives; Health Systems Theory, Policy Implementation Theory, and Health Equity Theory.

Health systems theory provides a foundational structure for understanding how reforms across different domains including financing, human resources, and technology, interact to influence healthcare outcomes. According to the World Health Organization (2007), health systems function through core components or "building blocks" that include service delivery, workforce, information systems, financing, and leadership. Reforms targeting these components, as shown in the conceptual framework, align with a systems-thinking approach, emphasizing the need for coherence and interdependence among policy actions (De Savigny & Adam, 2009).

Policy implementation theory offers insight into how reforms are operationalized and translated into practice. Effective implementation is influenced by political will, institutional capacity, and stakeholder engagement (Hill & Hupe, 2014). Buse et al. (2012) emphasize that even well designed health policies may fail without attention to how they are carried out. This theoretical lens helps explain the pathway from reform design, such as health insurance expansion or incentive programs to actual improvements in healthcare quality, as captured in the framework.

Health equity theory underpins the focus on reducing disparities in access and outcomes. Braveman and Gruskin (2003) argue that equitable health systems must address both structural and social determinants that create barriers to care. The conceptual framework's inclusion of health equity reforms and its emphasis on accessibility and affordability of care directly reflect this theoretical foundation. Whitehead (1992) further stresses that health reforms should aim not only to improve average outcomes but also to ensure fairness in distribution, particularly for marginalized populations.

In synthesis, these three theories offer complementary perspectives: Health systems theory provides the structural understanding, policy implementation theory ensures the practical pathway, and Health Equity Theory ensures reforms are inclusive and just. Together, they reinforce the conceptual framework's depiction of how targeted reforms can improve the overall quality of healthcare services.

2.6 Operationalization of Variables

The operationalization of variables in Table 2.2 provides a structured breakdown of how the concept of healthcare reforms and quality of healthcare can be translated into measurable components for empirical research.

Table 2.2: Operationalization of the Study Variables

Variable	Type	Indicators	Measure	Question in Questionnaire
Health Equity Reforms	Independent Variable	• Geographic accessibility • Distribution of healthcare professionals	Interval Scale	SECTION B
Health Insurance Expansion	Independent Variable	• Health coverage rate • Individuals with health insurance • UHC progress	Interval Scale	SECTION C
Health Finance Reforms	Independent Variable	• Healthcare budget allocation • Out-of-pocket expenditure • Health expenditure per capita	Interval Scale	SECTION D
Technology Integration Reforms	Independent Variable	• Health information exchange adoption • Telehealth utilization • Digital health record implementation	Interval Scale	SECTION E
Initiation of Incentive Programs	Independent Variable	• Clinical outcomes • Staff motivation • Health seeking behaviour	Interval Scale	SECTION F
Quality of Healthcare	Dependent Variable	• Affordability • Availability • Accessibility • Patient satisfaction	Interval Scale	SECTION G

2.7 Chapter Summary

The chapter focused on literature related to the influence of health equity reforms health insurance expansion technology integration reforms and initiation of incentive programs on the quality of healthcare will be reviewed. Also included in this chapter was the theoretical framework, conceptual framework, research gap and the summary.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the overall research methodology that was applied in carrying out the research study. The chapter started with research philosophy, it identifies and justifies the type of research design, the target population, the sample size and the sampling procedure. In addition, the chapter elaborates on the instrument to be used in data collection, its validity and its reliability. Finally, it concludes with details on the data collection procedure and the statistical approach to data analysis.

3.2 Research Philosophy

The study espoused a post-positivism research philosophy. Post-positivism is a philosophical stance that recognizes the limitations of human knowledge, emphasizes the importance of falsifiability in scientific inquiry, and accepts that observations are influenced by theory, context, and human bias (Creswell & Creswell, 2018). While positivism assumes a fully knowable reality, post-positivism holds that reality exists, but the researcher's understanding of it is always imperfect and influenced by context. Post-positivism allowed for the understanding of healthcare reforms in the context of Samburu County.

According to Hilary (2010) positivism "as a philosophy, is in line with the empiricist view that knowledge stems from human experience. It has an atomistic, ontological view of the world as comprising discrete, observable elements and events that interact in an observable, determined and regular manner". The choice of this philosophy was informed by the researcher's need for objectivity and to enable him to distance himself from personal views while conducting this study. The researcher applied

quantitative methods of research. Results were then integrated into the research and inferences were drawn (Johnson and Onwuegbuzie, 2006).

3.3 Research Design

Research design as defined by Kothari and Garg (2014) is the plan or approach employed in fulfilling the purpose of a study. The study adopted a mixed methods approach, and in particular explanatory sequential mixed methods design, where the analysis started with quantitative data analysis followed by qualitative methods to explain or elaborate on the results. Using this approach, a descriptive research design was employed in addition to the exploratory methodology. The flexibility of exploratory approach helped the study to get insights on health sector reforms and provide an understanding of the complex issues around the reforms, generate new ideas and give preliminary expert views on the subject at hand (Creswell, 2014). Exploratory design was be preferred as it incorporated qualitative methodologies to acquire in-depth information, making it easier to understand complex perspectives. While the descriptive research design, gave a detailed examination of the phenomenon, situation, or characteristic (Cooper & Schindler, 2007). Descriptive research was also applied in the study to establish the relationship between variables and describe the existing state of affairs without manipulating the variables. Additionally, under descriptive survey design, the objectives were predetermined and this allowed for collection of data that was relevant and sufficient for the study problem (Kothari, 2014).

3.4 Target Population

Population defines the whole set of objects or events under investigation about which one wishes to make inferences (Cooper & Schindler, 2003). Additionally, Mugenda

and Mugenda (2003) describe the target population as having some observable characteristics to which the findings of the study could be generalized. In this study, the target population were healthcare workers in public hospitals in Samburu County, Kenya. Samburu County has 137 health facilities spread across the 3 sub-counties namely Samburu West, Samburu East and Samburu North. Where 12 of these are faith-based facilities while 86 belong to the Ministry of Health. Then 37 are private facilities and 2 are under NGO's. For the sake of manageability, the study focused on the public health facilities which were 86 public health facilities with a total of 480 health workers across all cadres (Samburu County Health Sector Annual Performance Review, 2022).

Table 3.1: Target Population

Department	Target Population
Health Management Team	17
Medical Officers	25
Clinical Officers	64
Nurses	340
Paediatricians	3
Pharmacists	24
Dentists	7
Total	**480**

Source: Samburu County Health Sector Annual Performance Review (2022)

3.5 Sample Size and Sampling Technique

3.5.1 Sample size

The sample size of the health workers interviewed was ascertained using the Yamane's 1967 formula.

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

Where: N = Population size

n = sample size

e = Margin error of the study set at ±5%

The sample size will be **n** =

$$= \frac{480}{1+480(0.05)^2}$$

N = 218.18, or 219 respondents which was 45.6% of the target population. The sample population is presented in Table 3.1.

Table 3.2: Sample Size

Department	Target Population (N)	Sample (n=45.6%*N)
Health Management Team	17	8
Medical Officers	25	12
Clinical Officers	64	29
Nurses	340	155
Paediatricians	3	1
Pharmacists	24	11
Dentists	7	3
Total	**480**	**219**

Source: Samburu County Health Sector Annual Performance Review (2022)

3.5.2 Sampling Technique

The study employed a stratified random sampling technique. Stratified random sampling is unbiased sampling method of grouping heterogeneous population into homogenous subsets then selecting within the individual subset to ensure representativeness. The goal of stratified random sampling was to achieve the desired representation from various sub-groups in the population (Kothari, 2014). The staff were grouped as per the workers' cadres; hence the population resulted in 7 groups/strata. The study further used simple random sampling within the different

strata to select health workers and health management team members from the public health facilities. According to Cooper and Schindler (2007), random sampling frequently minimizes the sampling error in the population. In random sampling, each item or element of the population had an equal chance of being chosen at each draw.

3.6 Research Instruments

The study employed questionnaires (Appendix I) and interview schedules (Appendix II) to collect primary data. The researcher acknowledges that no single source of information could have been trusted to provide a comprehensive perspective in any study program and therefore the combination of qualitative and quantitative methods of data collection to enhance the reliability and validity of data collected. The use of mixed data collection methods in terms of interviews and surveys was expected to increase the validity and reliability of information (Bloomfield and Fisher, 2019). The questionnaire was used to collect data from healthcare workers in the public health facilities. They were chosen because they could be applied in reaching out to a large sample of respondents within a relatively short time yielding meaningful results generalizable to a large population. Questionnaires provided a standardized way of collecting data. The questions were typically predetermined and presented in a consistent manner to all respondents. This standardization helped ensure that each participant was exposed to the same set of questions, reducing variability in responses and enhancing the reliability of the data. Also, questionnaires made respondents feel more comfortable expressing their opinions or providing sensitive information through a questionnaire because it allows for anonymity. The questionnaire comprised closed ended questions in a standardized form that was uniform for all respondents. Closed-ended questions enhanced the consistency of responses across respondents. The questionnaire was developed guided by the study objectives, variables and

indicators under each variable. The interview guide in Appendix II was used to collect data from health officials in the Department of Health in Samburu County. It was deemed appropriate and effective in collecting in-depth information required further probing. The interview was also comprised of questions guided by the study research objectives. Structured interviews were preferred because it yielded data that was easier to analyse, economical, and provide a basis for generalization of results (Olsen & George, 2004).

3.7 Pre-test Analysis

Once the study instruments were ready for data collection, a pre-test was done with the aim of evaluating the reliability of the questions contained therein as well as assessment of the validity of the raw data that was realized from the field. The exercise was done with 10 staff at Mbagathi Hospital as were not part of the actual study, but they had the same expertise as the target population. The pilot study assisted the researcher in evaluating the clarity of the study tool. Mugenda and Mugenda (2003) posited that pretests gives the researcher an opportunity to discover mistakes and play the role of training the data collection team before the main data collection exercise kicks off. Therefore pretesting of the study instrument allowed for the determination of the respondents' interests, improvement of ambiguous questions, assessment of the continuity and flow of the questions, understanding of the sequencing patterns of the questions, evaluation of the response variations, and timeliness of the tool (Mugenda & Mugenda, 2003).

3.7.1 Reliability of Research Instruments

The questionnaire was scrutinized with the aim of establishing its collective reliability and its internal consistency. It was evaluated by the use of the Cronbach alpha to

determine internal consistency of the items in the instrument and measure whether the different questions which were hypothesized measured a common factor and gave the same results. According to Castillo (2009), the crobach alpha test results are interprated as follows; it is excellent if $\alpha > 0.9$, Good if $\alpha > 0.8$, Acceptable if $\alpha > 0.7$, Questionable if $\alpha > 0.6$, Poor if $\alpha > 0.5$ and $\alpha < 0.5$ is Unacceptable. The cut point for determinant value of the reliability of the study was 0.7.

3.7.2 Validity of Research Instruments

According to Cooper and Schindler (2007), the study instrument must be precise on what the research seeks to measure. Therefore a test was taken through a process of measuring the validity in order to assess the level to which the tool measures what the researcher wishes to study. Also testing of the practical aspect of the instrument guided by the economic, efficiency and interpretation of the results was performed. The study further focused on the validity of the content in the questionnaire that offered appropriate coverage of all the objectives of the study. To ensure that the instrument captured the right information, it was critical to validate the tools before they were distributed to the selected sample. The study employed different tactics in the validation of the content and layout of the instrument. According to Kothari (2014), content validity refers to the extent to which the tool questions cover the exact content that the instrument was developed to capture. Face validity tests the general layout of the tool which represents the convenience of the questionnaire in measuring the factors the study aimed to measure. The questionnaire was given to the supervisors and researchers in the department to check for content and layout validity. The validation process was to allow the researcher to establish the extent to which the questionnaire actually collected the data that it was intended. The responses they gave were used in making the necessary changes and promoting clarity of the tool. This

procedure allowed for the correction of typing and spelling mistakes and removal of ambiguous statements.

3.8 Methods of Data Collection

The study collected quantitative and qualitative primary data. Quantitative data was collected using self-administered questionnaires to healthcare workers in public hospitals in Samburu County. The questionnaires were administered through drop and pick method where the researcher delivered the questionnaires in person at the respondents' places of work. However, because of the geographic dispersion of the healthcare facilities, survey monkey was employed to reach far flunked facilities. The questionnaire was converted into a google form format and distributed through email to the target participants allowing the study to reach a broader audience within Samburu County, enhancing the representativeness of the data. It was estimated that it would take a respondent an average of 15-20 minutes to respond to the questionnaire.

Qualitative data was collected using interview schedules (Appendix II). Key informant surveys were used and 10 key informants in the health sector in Samburu County were interviewed. Personal visits to the informant work workplace following prior seeking of permission was undertaken and the interviews did last not more than 30 minutes. The study was conducted within a period of three weeks. This was done to allow for enough time for data collection. This also helped the researcher to overcome the limitation of time.

3.9 Methods of Data Analysis

Data analysis is the whole process that starts immediately after data collection and ends at the point of interpretation and processing data (Kothari, 2014). The study undertook qualitative analysis followed by quantitative analysis. The qualitative

analysis was geared at providing systematic and reliable data collection and analysis, NVivo 10 for Windows for thematic content analysis was employed. This software allowed for classifying transcripts, coding, finding recurrent patterns, and recording categories. Participants' queries were influenced by research topics and literature, and the categories derived from interviews and empirical literature.

For quantitative analysis, the study employed the use of Statistical Packages for Social Scientists (SPSS Version 26) and the quantitative data was subjected to descriptive and inferential statistics analysis. Descriptive statistics involved the use of absolute and relative (percentages) frequencies, measures of central tendency and dispersion (mean and standard deviation respectively). The results were presented in tables, histograms, graphs and explanations presented in prose. The study also used multiple regressions to establish the relationship between the independent variables and the dependent variables. The regression equation took the form of equation (1) below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon \ldots \text{equation (1)}$$

Where;

Dependable variable Y = Quality of Healthcare

Independent variable X_1 = Health Equity Reforms

Independent variable X_2 = Health Insurance Expansion

Independent variable X_3 = Health financing reforms

Independent variable X_4 = Technology Integration Reforms

Independent variable X_5 = Initiation of Incentive Programs

From equation (1), β_0 was a constant in the regression model and β_1, β_2, β_3, β_4 and β_5 were coefficients of the independent variable and ε was the error term. The data set was examined for regression analysis assumptions including; normality, multicollinearity, the presence of outliers, linearity, and homoscedasticity

3.10 Ethical Considerations in Research

Ethical approval was obtained from the university before the commencement of the study. The researcher secured authorization from the National Commission for Science, Technology and Innovation (NACOSTI). Permission was also obtained from the Samburu County Department of Health to conduct the study at their health facilities and to allow health managers to participate. Additionally, written consent was obtained from all respondents before the commencement of data collection (Appendix VI). The confidentiality and privacy of the respondents were assured. The researcher ensured that the respondents understood that the data collected would be treated with the utmost respect, solely for fulfilling an academic study requirement (Appendix VII).

CHAPTER FOUR: FINDINGS

4.1 Introduction

This chapter presents the research findings and interprets the results of the data analysis. The general objective of this research was to determine the influence of healthcare reforms on the quality of healthcare in Samburu County, Kenya. The study specifically sought to evaluate the influence of health equity reforms, determine the influence of health insurance expansion, to examine the influence of health financing reforms, to examine the influence of health technology integration and establish the influence of the initiation of incentive programs on the quality of healthcare in Samburu County.

The study undertook qualitative analysis followed by quantitative analysis. The qualitative analysis phase comprised thematic analysis of the interview schedules. The quantitative analysis took the form of descriptive analysis and inferential analysis. Descriptive analysis profiled respondents ranked the responses using mean score analysis, and correlation analysis was employed to determine the existence of bivariate correlation. The study's inferential statistical analysis took the form of multiple regression analysis, with healthcare reforms serving as the predictor variable and healthcare quality as the predicted variable.

4.2 Response Rate

A total of 219 questionnaires were administered to health workers in Samburu County in the survey. At the end of the fieldwork period, 210 questionnaires were returned, representing a 95. % response rate. Upon keying in the data in SPSS and cleaning it, three questionnaires were dropped for being significantly incomplete and hence ineligible for analysis. A total of 207 admissible questionnaires were then adopted,

resulting in a final response rate of 94.5% as shown in Figure 4.1 below. This response rate was considered reliable and representative going by Fan and Yan (2020) who interpreted a response rate greater than 70% as excellent for analysis.

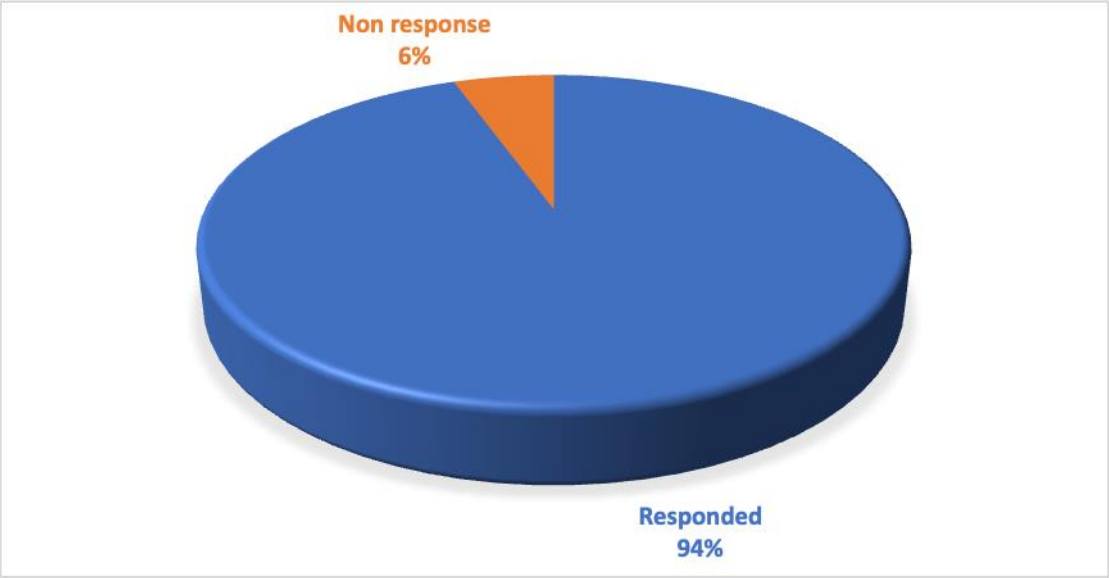

Figure 4.1: Response Rate

4.3 Validity and Reliability of Instrument

The study instruments in Appendix II and Appendix III were pilot tested and evaluated for validity and reliability. Validity assesses if the research instrument genuinely measures what it was designed to test or how accurate the research findings are (Taherdoost, 2022) and can take the form of: face validity, content validity, construct validity, internal validity, external validity, amongst others. The study instruments were subjected to a pilot study, face validity, content validity and internal construct validity assessments.

Initially the instruments was pilot tested and subjected to content analysis by being given to the supervisor and two research experts from the SBS. They were asked to pilot test the tools, by checking the extent to which they appeared to measure what

they were meant to measure, based on subjective judgment. They were equally requested check the questions content to validate that the instrument comprehensively covered all aspects of the health care reform construct they were intended to measure. Feedback from the experts were incorporated in the instrument before the final survey. Fraser et al. (2018) view pilots as a significant risk mitigation method for reducing the likelihood of failure in the broader survey.

The instruments were then pilot tested. Ten health care service providers at Mbagathi Hospital were subjected to an interview and the questionnaire administered to them. They were asked to identify any question flaws, suggest improvements and comment on the general flow of questions in the two instruments. The ten participants' comments was used to remove unclear questions, adjust tough questions, clarify double-barreled questions, and improve the instrument. The final survey instrument in Appendix II and Appendix III were then interpreted as meeting the validity requirement (Taherdoost, 2022).

The Cronbach alpha test, proposed by Akeem (2015), was applied in assessing the instrument's reliability. The Item-Total Statistics in Appendix VIII shows that the 63 item questionnaire yielded an overall Cronbach alpha of 0.967. According to Field (2013), an overall alpha ≥ 0.7 of an instrument indicates the instrument meets the threshold of reliability. Therefore, the study instrument was considered reliable. The five key constructs in the study were subjected to a scale test to determine their internal construct validity (the extent to which a measurement instrument accurately measures the theoretical construct or concept it is intended to assess within the study context). Table 4.1 helps assess the reliability of a survey instrument by examining

the contribution of each item to the overall scale's consistency. It shows that the Cronbach's Alpha if item was deleted for health equity reforms would be 0.733, health insurance expansion would be 0.823, health financial reforms would be 0.780, technology integration reforms would be 0.782, initiation of incentive programs would be 0.830 and that of quality of healthcare would be 0.779. The overall Cronbach's Alpha of the scale in Table 4.1 lied between 0.733 and 0.830, indicating good internal consistency. Health insurance expansion and initiation of incentive programs were weak contributors, implying removing or revising these items could enhance the instrument's reliability.

Table 4.1: Item-Total Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Health Equity Reforms	20.565	6.508	0.622	0.733
Health Insurance Expansion	20.350	8.272	0.108	0.823
Health Financial Reforms	20.577	6.241	0.772	0.780
Technology Integration Reforms	20.485	7.255	0.766	0.782
Initiation of Incentive Programs	20.618	7.774	0.159	0.830
Quality of Healthcare	20.388	7.271	0.778	0.779

Source: Research Data

4.4 Participants Demographic Profile

The study examined the respondent's demographic characteristics in terms of age, gender, education level, and work experience. Figure 4.2 shows that out of the sample of 207 participants, a majority fell in the age bracket 45 years and above (44.9%), followed by 36-45 years (39.6%), and 26-35 years (15.5%). The age distribution skews towards an older workforce, suggesting potential for expertise attributable to years of service amongst the health care workers under study.

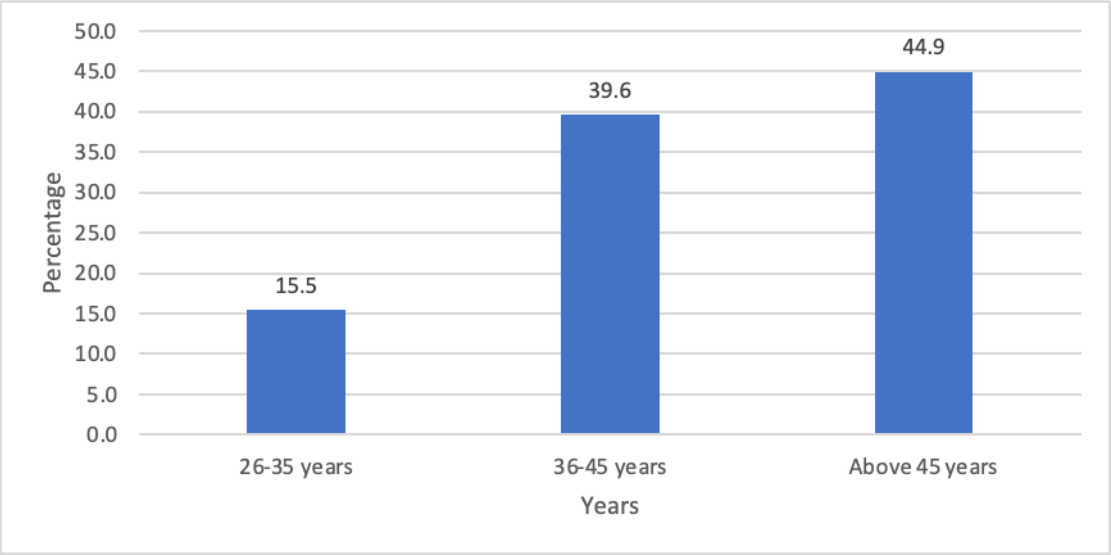

Figure 4.2: Participant Age
Source: Research Data

From Table 4.2, it was noted that the male respondents make up the majority (65.2%) of the healthcare professionals, while female respondents represent 34.8%. While this suggests a gender imbalance within the sample, it also shows that the working environment in Samburu County favours the male gender. An examination of the respondent's education levels shows most respondents have a graduate qualification (54.6%), followed by diploma holders (29.5%) and postgraduates account for 14%. This meant that the workforce was generally well educated and capable of sharing invaluable knowledge relevant to the study at hand. Table 4.2 also shows that a majority of respondents had 10 years of experience (48.3%), while those with 6-10 years of experience accounted for 27.5%, while 1-5 years of experience was held by 18.4% of the respondents. The lengthy work experience suggests strong organizational commitment and was interpreted to mean the presence of a more seasoned workforce that was vital in sharing a longitudinal experience of health reforms in Samburu County.

Table 4.2: Participants Demographic Profile

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
What is your age bracket?	26-35 years	32	15.5	15.5
	36-45 years	82	39.6	55.1
	Above 45 years	93	44.9	100.0
What is your gender ?	Male	135	65.2	65.2
	Female	72	34.8	100
What is your highest education level?	Certificate	4	1.9	1.9
	Diploma	61	29.5	31.4
	Graduate	113	54.6	86
	Postgraduate	29	14	100
For how long have you worked in this station?	Less than 1 years	12	5.8	5.8
	1-5 years	38	18.4	24.2
	6-10 years	57	27.5	51.7
	Over 10 years	100	48.3	100
	Total	207	100	

Source: Research Data

4.5 Health Equity Reforms Analysis

A descriptive analysis of health equity reforms was undertaken and the results summarized in Table 4.3. A majority of the respondents (61.8%) disagree and 24.2% strongly disagree that distance to nearby healthcare facilities was within a 5 km radius. Most of the participants disagreed (46.4%), moderately agreed (22.2%) and 19.8% moderately agreed that healthcare facilities were regularly distributed. The cumulative percentage disagreement, indicates a consensus on poor proximity to healthcare services. This suggests that most respondents perceive healthcare facilities as inaccessible, potentially limiting access to essential services. This may result in delayed treatments, reduced healthcare utilization, and adverse health outcomes, particularly for vulnerable populations

A majority of respondents (57.5%) either strongly disagree (17.4%) or disagree (40.1%) that vulnerable groups are adequately served and 28.5% moderately agree, suggesting some acknowledgment of efforts but with reservations. The findings in

Table 4.3, indicate that most respondents feel vulnerable groups in Samburu County are underserved. This suggests potential challenges in accessing specialized healthcare, social services, and support systems for these populations.

The results in Figure 4.3 show that a majority (45.4%) of respondents disagreed and 14.0% strongly disagreed that healthcare services are affordable, with a further 21.7% moderately agreeing, reflecting a mixed perception. These meant that healthcare costs are a significant barrier to access to healthcare in Samburu County. Affordability issues may discourage healthcare-seeking behavior, especially for low-income or marginalized groups.

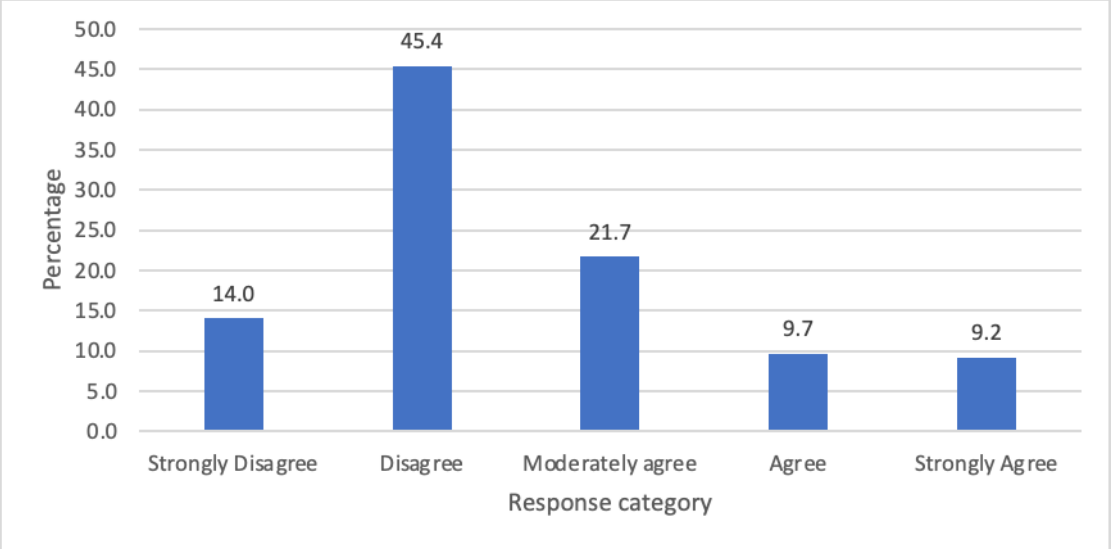

Figure 4.3: Healthcare Services Are Affordable
Source: Research Data

An analysis of reduction in health disparities shows that a majority of respondents are neutral (42.5%) or moderately agree (14%) that there is a reduction in health disparities. Table 4.3 shows that most respondents agreed (72%) or strongly agree (8.2%) that there are improvements in preventive healthcare services. This positive feedback suggests successful implementation of preventive healthcare initiatives in Samburu County.

Table 4.3: Health Equity Reforms Descriptive Analysis

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
Distance to Healthcare Facilities is within a 5 km radius	Strongly Disagree	50	24.2	24.2
	Disagree	128	61.8	86.0
	Moderately agree	7	3.4	89.4
	Agree	18	8.7	98.1
	Strongly Agree	4	1.9	100.0
Healthcare Facilities are regularly distributed	Strongly Disagree	20	9.7	9.7
	Disagree	96	46.4	56.0
	Moderately agree	46	22.2	78.3
	Agree	41	19.8	98.1
	Strongly Agree	4	1.9	100.0
Vulnerable Groups in Samburu County are well served	Strongly Disagree	36	17.4	17.4
	Disagree	83	40.1	57.5
	Moderately agree	59	28.5	86.0
	Agree	25	12.1	98.1
	Strongly Agree	4	1.9	100.0
The health care services are affordable for all	Strongly Disagree	29	14.0	14.0
	Disagree	94	45.4	59.4
	Moderately agree	45	21.7	81.2
	Agree	20	9.7	90.8
	Strongly Agree	19	9.2	100.0
There is reduction in health disparities	Strongly Disagree	24	11.6	11.6
	Disagree	49	23.7	35.3
	Moderately agree	88	42.5	77.8
	Agree	29	14	91.8
	Strongly Agree	17	8.2	100
There are improvements in preventive health care services	Strongly Disagree	4	1.9	1.9
	Disagree	26	12.6	14.5
	Moderately agree	11	5.3	19.8
	Agree	149	72	91.8
	Strongly Agree	17	8.2	100
The local Communities are involved in decision-making	Strongly Disagree	25	12.1	12.1
	Disagree	127	61.4	73.4
	Moderately agree	21	10.1	83.6
	Agree	17	8.2	91.8
	Strongly Agree	17	8.2	100
An effective mechanism allowing community feedback on healthcare services is established	Strongly Disagree	40	19.3	19.3
	Disagree	54	26.1	45.4
	Moderately agree	63	30.4	75.8
	Agree	37	17.9	93.7
	Strongly Agree	13	6.3	100.0
There is fair distribution of healthcare resources	Strongly Disagree	34	16.4	16.4
	Disagree	61	29.5	45.9
	Moderately agree	82	39.6	85.5
	Agree	26	12.6	98.1
	Strongly Agree	4	1.9	100.0
There is budget allocation for marginalized groups in Samburu County	Strongly Disagree	48	23.2	23.2
	Disagree	78	37.7	60.9
	Moderately agree	61	29.5	90.3
	Agree	12	5.8	96.1
	Strongly Agree	8	3.9	100
	Total	n=207	100	

Source: Research Data

An examination of local communities' involvement in decision-making shows a majority (73.5%) feel excluded from decision-making, with 12.1% strongly disagreeing and 61.4% disagreeing. This indicates a significant gap in community engagement in healthcare decisions. On assessing the establishment of an effective mechanism for community feedback on healthcare services, responses suggest limited feedback mechanisms, with 45.4% expressing dissatisfaction (19.3% strongly disagree, 26.1% disagree). The data indicates that current feedback systems are ineffective or insufficiently promoted. Effective community feedback mechanisms are crucial for responsive and adaptive healthcare services.

The analysis in Table 4.3 shows that a majority (45.9%) felt that resources are unfairly distributed, with 16.4% strongly disagreeing and 29.5% disagreeing. These indicates a potential existence of inequities in resource allocation within the healthcare sector. It was further observed that a significant proportion of the respondents (60.9%) believed that budget allocation for marginalized groups is inadequate, with 23.2% strongly disagreeing and 37.7% disagreeing. The data points to serious concerns about the inclusivity and fairness of budgetary allocations.

4.5.1 Mean Analysis of Health Equity Reforms

Health equity reforms were analysed using mean score and standard deviation resulting in Table 4.4 below. From the table, health care reforms comprised of eleven elements out of which, improvements in preventive health care services had the highest mean (3.720), indicating relatively favorable perceptions compared to other reforms. This meant that preventive health services were perceived to be more effective or accessible. Table 4.4 shows that distance to healthcare facilities was

within a 5 km radius had the lowest mean (2.024), highlighting the significant challenges in healthcare accessibility. Budget allocation for marginalized groups in Samburu County (mean = 2.295) and involvement of local communities in decision-making had a mean=2.391, the low means indicating dissatisfaction in these areas. The standard deviation (std. dev.) measures was applied to examine how much responses vary from the mean. The two variables with the lowest standard deviations were; distance to healthcare facilities was within a 5 km radius had a std. dev. = 0.895 and improvements in preventive health care services had a std. dev. = 0.858. These low standard deviations indicated the lowest deviation and hence there was a consensus in responses amongst respondents on the two items. The weighted mean score = 2.940 shows, is just below 3, indicating that the health equity reforms are perceived as mild in meeting expectation of the respondents.

Table 4.4: Mean Analysis of Health Equity Reforms

Health Equity Reforms	Minimum	Maximum	Mean	Std. Dev.
There are improvements in preventive health care services	1.00	5.00	3.720	0.858
There is reduction in health disparities	1.00	5.00	2.836	1.071
An effective mechanism allowing community feedback on healthcare services is established	1.00	5.00	2.657	1.163
Healthcare Facilities are regularly distributed	1.00	5.00	2.580	0.977
The health care services are affordable	1.00	5.00	2.546	1.131
There is fair distribution of healthcare resources	1.00	5.00	2.541	0.974
Vulnerable Groups in Samburu County are well served	1.00	5.00	2.411	0.976
The local Communities are involved in decision-making	1.00	5.00	2.391	1.069
There is budget allocation for marginalized groups in Samburu County	1.00	5.00	2.324	1.027
There is budget allocation for marginalized groups in Samburu County	1.00	5.00	2.295	1.012
Distance to Healthcare Facilities is within a 5 km radius	1.00	5.00	2.024	0.895

Weighted mean score	2.940

Source: Research Data

4.6 Health Insurance Expansion Analysis

The elements that make up health insurance expansion were analysed using descriptive statistical analysis as reported in Table 4.5. Most of the respondents (51.7%) moderately agree that health care reforms have enhanced health care coverage. Only 19.8% of the respondents agree, and 1.9% strongly agree that health care reforms have enhanced health care coverage. This relatively low percentage of strong support could imply that while health care reforms have increased the number of individuals with health insurance coverage the reforms are perceived as insufficiently impactful. Table 4.5 shows that a majority of the respondents (39.1%) moderately agree, 20.3% agree, 25.1% disagree and 11.6% strongly disagree. The data indicates a mixed but cautious optimism about health care reforms' impact on insurance coverage. The reforms are therefore perceived to have a moderate impact on increasing insurance coverage, but a notable portion remains unconvinced.

The analysis in Table 4.5 shows that 35.7% (74 respondents) moderately agree and 28.0% (58 respondents) agree that health care reforms have increased universal health coverage in the county. This implies that the reforms are perceived to have brought partial improvements, but significant gaps remain in achieving true universal coverage. It was observed that 41.1% (85 respondents) agree, and 35.3% (73 respondents) moderately agree that health insurance coverage enhances treatment accessibility. The data therefore strongly supports the notion that health insurance coverage enhances treatment accessibility. This means that health insurance is largely

viewed as a valuable tool for improving healthcare access, but concerns about affordability, service quality, and gaps in coverage remain.

Table 4.5: Health Insurance Expansion

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
Health care reforms has enhanced health care coverage	Strongly Disagree	20	9.7	9.7
	Disagree	35	16.9	26.6
	Moderately agree	107	51.7	78.3
	Agree	41	19.8	98.1
	Strongly Agree	4	1.9	100.0
Health care reforms have resulted in an increased number of individuals with health insurance cover	Strongly Disagree	24	11.6	11.6
	Disagree	52	25.1	36.7
	Moderately agree	81	39.1	75.8
	Agree	42	20.3	96.1
	Strongly Agree	8	3.9	100.0
Health care reforms has increased universal health coverage in the county	Strongly Disagree	20	9.7	9.7
	Disagree	47	22.7	32.4
	Moderately agree	74	35.7	68.1
	Agree	58	28.0	96.1
	Strongly Agree	8	3.9	100.0
Health insurance coverage enhances treatment accessibility	Strongly Disagree	16	7.7	7.7
	Disagree	24	11.6	19.3
	Moderately agree	73	35.3	54.6
	Agree	85	41.1	95.7
	Strongly Agree	9	4.3	100.0
	Total	207	100.0	
The increased insurance enrolment rates have increased healthcare access	Strongly Disagree	16	7.7	7.7
	Disagree	43	20.8	28.5
	Moderately agree	102	49.3	77.8
	Agree	38	18.4	96.1
	Strongly Agree	8	3.9	100.0
Insurance coverage and enrolment rates have increased	Strongly Disagree	20	9.7	9.7
	Disagree	34	16.4	26.1
	Moderately agree	116	56.0	82.1
	Agree	33	15.9	98.1
	Strongly Agree	4	1.9	100.0
Total		n=207	100	

Source: Research Data

The results in Table 4.5 further shows that 49.3% moderately agreed, 20.8% disagreed and 18.4% of the respondents agreed that increased insurance enrollment rates have

improved healthcare access. While the majority acknowledge improvements, a significant portion remains skeptical about the true benefits of increased insurance enrollment. This perception could stem from issues such as limited service coverage, affordability, or administrative inefficiencies. Finally, Table 4.5 displays that 56.0% of the respondents moderately agreed and 15.9% agreed that insurance coverage and enrolment rates have increased. The majority of those interviewed acknowledge some increase in coverage and enrolment rates, but the dominance of "Moderately Agree" highlights uncertainty or mild approval rather than strong endorsement. Generally, these results reflect cautious optimism about the impact of insurance reforms, with most respondents acknowledging some improvement but expressing reservations.

4.6.1 Mean Analysis of Health Insurance Expansion

Using mean score analysis, an examination of health insurance expansion was performed and the results displayed in Table 4.6. It is evident that the variable with the highest mean score was health insurance coverage enhances treatment accessibility (Mean = 3.227), followed by health care reforms have increased universal health coverage (Mean = 2.937) and the increased insurance enrolment rates have increased healthcare access (Mean = 2.899). The standard deviation measures were applied to examine how much responses vary from the mean. A higher value indicates greater variability in responses, suggesting differing opinions. The highest std. dev=1.024 was registered under the variable universal health coverage. This high variability implied divergent opinions on the impact of reforms on universal coverage. More specifically it points at the inconsistent impact of reforms, possibly due to challenges in coverage, affordability, or accessibility. The weighted mean score of 2.940 indicates mild optimism about health insurance expansion and indicates that the health insurance expansion are not meeting expectations for many respondents.

Table 4.6: Mean Analysis of Health Insurance Expansion

Health Insurance Expansion	Minimum	Maximum	Mean	Std. Deviation
Health insurance coverage enhances treatment accessibility	1.00	5.00	3.227	0.981
Health care reforms has increased universal health coverage in the county	1.00	5.00	2.937	1.024
The increased insurance enrolment rates have increased healthcare access	1.00	5.00	2.899	0.921
Insurance Coverage and Enrolment Rates have increased	1.00	5.00	2.841	0.875
Health care reforms have resulted in an increased number of individuals with health insurance cover	1.00	5.00	2.797	1.018
Weighted mean score			2.940	

Source: Research Data

4.7 Health Financing Reforms Analysis

Health financing reforms was analysed using frequencies and the results presented in Table 4.7 below. The outcome shows that 44.0% of the respondents moderately agree, 24.2% disagree, and 20.3% agree that health care reforms have positively influenced access to health care for low-income earners. This indicates a cautiously optimistic view of the impact of health care reforms on low-income earners, but the dominance of moderate agreement highlights unmet expectations.

Table 4.7: Health Financing Reforms

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
Reforms have positively influenced access to health care for low-income earners	Strongly Disagree	20	9.7	9.7
	Disagree	50	24.2	33.8
	Moderately agree	91	44.0	77.8
	Agree	42	20.3	98.1
	Strongly Agree	4	1.9	100.0
Essential medicines and equipment are now available following the reforms	Strongly Disagree	18	8.7	8.7
	Disagree	73	35.3	44
	Moderately agree	65	31.4	75.4
	Agree	43	20.8	96.1
	Strongly Agree	8	3.9	100
Frequent strikes by health care staff have reduced following the reforms	Strongly Disagree	17	8.2	8.2
	Disagree	58	28.0	36.2
	Moderately agree	80	38.6	74.9
	Agree	40	19.3	94.2
	Strongly Agree	12	5.8	100.0
Reforms have improved the health insurance subsidy for the poor (HISP)	Strongly Disagree	38	18.4	18.4
	Disagree	62	30	48.3
	Moderately agree	60	29	77.3
	Agree	38	18.4	95.7
	Strongly Agree	9	4.3	100
Health seeking behaviors have positively changed	Strongly Disagree	4	1.9	1.9
	Disagree	20	9.7	11.6
	Moderately agree	88	42.5	54.1
	Agree	77	37.2	91.3
	Strongly Agree	18	8.7	100
Level of financial resources allocated to healthcare is sufficient	Strongly Disagree	59	28.5	28.5
	Disagree	79	38.2	66.7
	Moderately agree	60	29	95.7
	Agree	9	4.3	100
Out-of-pocket spending for healthcare by individuals or households have reduced	Strongly Disagree	20	9.7	9.7
	Disagree	78	37.7	47.3
	Moderately agree	69	33.3	80.7
	Agree	32	15.5	96.1
	Strongly Agree	8	3.9	100
Health funds are distributed across different geographic areas and population groups within Samburu County	Strongly Disagree	33	15.9	15.9
	Disagree	55	26.6	42.5
	Moderately agree	81	39.1	81.6
	Agree	34	16.4	98.1
	Strongly Agree	4	1.9	100
Healthcare utilization rates e.g. the number of visits to healthcare facilities has reduced	Strongly Disagree	18	8.7	8.7
	Disagree	65	31.4	40.1
	Moderately agree	59	28.5	68.6
	Agree	57	27.5	96.1
	Strongly Agree	8	3.9	100

Health financing reforms have reduced catastrophic health expenditure	Strongly Disagree	21	10.1	10.1
	Disagree	63	30.4	40.6
	Moderately agree	72	34.8	75.4
	Agree	47	22.7	98.1
	Strongly Agree	4	1.9	100
Financial reforms have increased healthcare infrastructure development	Strongly Disagree	16	7.7	7.7
	Disagree	25	12.1	19.8
	Moderately agree	57	27.5	47.3
	Agree	105	50.7	98.1
	Strongly Agree	4	1.9	100
Perceived Affordability and Satisfaction have increased	Strongly Disagree	17	8.2	8.2
	Disagree	86	41.5	49.8
	Moderately agree	53	25.6	75.4
	Agree	51	24.6	100
	Total	n=207	100	

Source: Research Data

Table 4.7 shows that most of the respondents (35.3%) disagreed, 31.4% moderately agreed and 8.7% disagreed that essential medicines and equipment are now available following the reforms. Cumulatively, 44% (35.3%+8.7%) of the respondents either strongly disagreed or disagreed that essential medicines and equipment are now available following the reforms. The results were then be interpreted to mean that health reforms have not sufficiently ensured the availability of essential medicines and equipment in Samburu County.

Results in Table 4.7 shows that most of the respondents 38.6% moderately agreed and 19.3% agreed that. This outcome depicts mixed perceptions on the impact of reforms in reducing healthcare staff strikes. This means that while reforms have led to a perceived reduction in healthcare staff strikes, the effect seems partial and potentially unstable. The high percentage of moderate agreement and notable disagreement indicate the need for stronger, long-term measures to address labour issues. It was notable from Table 4.7, that most of the respondents either disagreed (30.0%) or strongly disagreed (18.4%) that reforms have improved the Health Insurance Subsidy

for the Poor (HISP). The high level of disagreement indicates that the reforms have not sufficiently enhanced the HISP.

An examination of health seeking behaviours have positively changed in Figure 4.6 shows that 42.5% of the respondents moderately agree and 37.2% agree that health-seeking behaviors have positively changed due to the reforms. This majority response suggests recognition of improvement, but the use of "Moderately Agree" implies incremental progress rather than a significant transformation. It may reflect a cautious acknowledgment that reforms are working, but cultural, social, or systemic barriers may still exist.

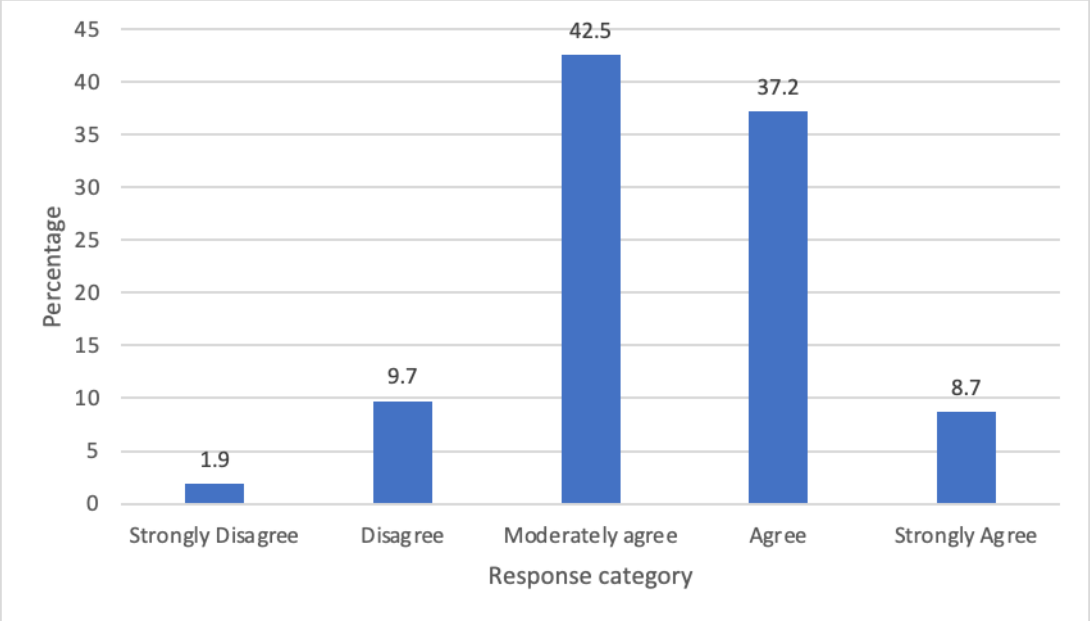

Figure 4.4: Health seeking behaviors have positively changed
Source: Research Data

The study sought to determine the sufficiency of financial resources allocated to healthcare. The outcome in Table 4.7 shows that most of the respondents disagreed (38.2%) and strongly disagreed (28.5%) that the level of financial resources allocated to healthcare was sufficient. This two-thirds majority indicates strong dissatisfaction

and perceived underfunding of the healthcare sector. The high level of disagreement suggests chronic or systemic financial constraints affecting healthcare delivery.

An analysis of out-of-pocket spending for healthcare by individuals or households have reduced in Table 4.7 indicates that a majority of the respondents disagree (37.7%) and that 9.7% strongly disagreed, resulting in a 47.4% disagreement that out-of-pocket healthcare spending has reduced. This significant proportion indicates widespread dissatisfaction and a perception that healthcare costs remain burdensome. The reforms appear to have fallen short of effectively reducing direct healthcare expenses for individuals and households. This may reflect gaps in health insurance coverage, inadequate subsidies, or rising healthcare costs.

From Table 4.7, most of those interviewed disagreed (26.6%) or strongly disagreed (15.9%) that health funds are equitably distributed across different geographic areas and population groups within Samburu County. This significant proportion reflects concerns about inequitable resource allocation. The findings means certain areas or groups may be underserved, potentially worsening health disparities. A crosstabulation in Table 4.7.1 shows the relationship between healthcare utilization rates (perceived changes in the number of visits to healthcare facilities) and the length of time respondents have worked at their current station. A majority of the respondents had worked for over 10 years (100 individuals), followed by 6–10 years (57), 1–5 years (38), and less than 1 year (12). Most of the participants who had over 10 years work experience (37) and 6–10 years' experience (16) disagreed, suggesting that experienced staff generally do not perceive a reduction in utilization. The high level of disagreement may suggest that healthcare services are still being sought frequently, possibly due to unresolved healthcare needs or persistent illness burden.

Table 4.7.1: Crosstabulation of Healthcare utilization rates * For how long have you worked in this station

		For how long have you worked in this station?				
Variable	Response	Less than 1 years	1-5 years	6-10 years	Over 10 years	Total
Healthcare utilization rates e.g. the number of visits to healthcare facilities has reduced	Strongly Disagree	4	9	0	5	18
	Disagree	4	8	16	37	65
	Moderately agree	3	10	22	24	59
	Agree	1	11	11	34	57
	Strongly Agree	0	0	8	0	8
	Total	12	38	57	100	207

Source: Research Data

The impact of health financing reforms on catastrophic health expenditure was analysed and the results displayed in Table 4.7. It was observed that most of the participants disagreed (30.4%) or strongly disagree (10.1%) and 34.8% moderately agreed that health financing reforms have effectively reduced catastrophic health expenditure. The findings indicate that health financing reforms have not sufficiently protected households from catastrophic health expenditure. The mixed responses suggest inequities in financial protection and ineffective targeting of vulnerable populations.

On examining the impact of financial reforms on healthcare infrastructure development, Table 4.7 shows that 50.7% of the respondents agreed that financial reforms have led to increased healthcare infrastructure development. This was interpreted to mean that financial reforms had enhanced healthcare infrastructure in Samburu County, but the progress was uneven. The modest confidence in the reforms' success indicates room for improvement in access, quality, and distribution of healthcare facilities.

Last, an analysis of perceived affordability and satisfaction with healthcare services in Table 4.7 shows that 41.5% disagreed and 8.2% strongly disagree (8.2%) that

perceived affordability and satisfaction with healthcare services had increased. The findings indicate that healthcare reforms have not sufficiently increased affordability and satisfaction for the majority of respondents. The high levels of disagreement and neutrality underscored ongoing challenges in healthcare financing and service delivery in Samburu County.

4.7.1 Mean Analysis of Financing Reforms Analysis

The mean represents the average level of agreement on each statement, with values ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Higher means indicate more favourable views on the impact of financing reforms. Table 4.8 shows that the variable with the highest mean scores was health seeking behaviors have positively changed (mean = 3.411), implying that respondents generally agreed that health-seeking behaviors have improved, reflecting positive change. The second variable with the highest mean score was financial reforms have increased healthcare infrastructure development (mean=3.271), which implied a slightly positive perception of infrastructure development.

Table 4.8: Mean Analysis of Financing Reforms Analysis

Financing Reforms Analysis	Minimum	Maximum	Mean	Std. Deviation
Health seeking behaviors have positively changed	1.00	5.00	3.411	0.854
Financial reforms have increased healthcare infrastructure development	1.00	5.00	3.271	0.973
Frequent strikes by health care staff have reduced following the reforms	1.00	5.00	2.865	1.010
Healthcare utilization rates e.g. the number of visits to healthcare facilities has reduced	1.00	5.00	2.865	1.039
Reforms have positively influenced access to health care for low-income earners	1.00	5.00	2.807	0.935
Essential medicines and equipment are now available following the reforms	1.00	5.00	2.758	1.005
Health financing reforms have reduced catastrophic health expenditure	1.00	5.00	2.758	0.980
Perceived Affordability and Satisfaction have increased	1.00	4.00	2.667	0.940

Out-of-pocket spending for healthcare by individuals or households have reduced	1.00	5.00	2.662	0.981
Health funds are distributed across different geographic areas and population groups within Samburu County	1.00	5.00	2.618	1.002
Reforms have improved the health insurance subsidy for the poor (HISP)	1.00	5.00	2.604	1.114
Level of financial resources allocated to healthcare is sufficient	1.00	4.00	2.092	0.863
Weighted mean score			2.781	

Source: Research Data

The element of financial reforms with the least mean was level of financial resources allocated to healthcare is sufficient (mean=2.092), indicating respondents strong disagreement highlighting insufficient funding for healthcare. This was followed by, reforms have improved the health insurance subsidy for the poor (mean=2.604), which shows respondents strong disagreement an indication of insufficient impact on subsidies on the poor. The standard devotion analysis shows the variable with the least std. dev.=0.854 was health seeking behaviors have positively changed, indicating that most respondents agreed, indicating a shared view on improved health seeking behaviors.

4.8 Technology Integration Reforms Analysis

The variables that comprise technology integration reforms were examined using descriptive statistics and the outcome presented in Table 4.9 below. A significant majority of respondents (62.8%) agreed and an additional 30% strongly agreed that Health Information Exchange (HIE) with other health facilities exists. The results indicate a strong consensus that HIE is established and functioning within the health facilities surveyed. The high level of agreement (over 90%) suggests that digital health information exchange systems are likely integrated and effectively supporting patient data sharing and continuity of care. Table 4.9 shows that a total of 46.9% of

respondents agreed and 14.5% strongly agreed that there was implementation of digital health records. This shows a promising progress in digital health record implementation, with the majority of respondents acknowledging it. However, efforts are needed to address existing gaps in digitalising records that made a few respondents indicate that otherwise.

Table 4.9: Technology Integration Reforms

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
There is Health Information Exchange (HIE) with other health facilities	Strongly Disagree	6	2.9	2.9
	Disagree	1	0.5	3.4
	Moderately agree	8	3.9	7.2
	Agree	130	62.8	70.0
	Strongly Agree	62	30.0	100.0
Digital health record has been implemented	Strongly Disagree	19	9.2	9.2
	Disagree	28	13.5	22.7
	Moderately agree	33	15.9	38.6
	Agree	97	46.9	85.5
	Strongly Agree	30	14.5	100
Telehealth is utilized in the county	Strongly Disagree	16	7.7	7.7
	Disagree	45	21.7	29.5
	Moderately agree	59	28.5	58
	Agree	63	30.4	88.4
	Strongly Agree	24	11.6	100
Digital health infrastructure and connectivity of healthcare facilities is in place	Strongly Disagree	55	26.6	26.6
	Disagree	50	24.2	50.7
	Moderately agree	85	41.1	91.8
	Agree	13	6.3	98.1
	Strongly Agree	4	1.9	100
Mobile Health (mHealth) has been Adopted in the county	Strongly Disagree	46	22.2	22.2
	Disagree	81	39.1	61.4
	Moderately agree	59	28.5	89.9
	Agree	21	10.1	100
Patients are allowed to access to Health Information through secure online portals	Strongly Disagree	88	42.5	42.5
	Disagree	58	28	70.5
	Moderately agree	44	21.3	91.8
	Agree	13	6.3	98.1
	Strongly Agree	4	1.9	100
There is technology-enabled preventive care e.g. wearable devices for monitoring vital signs	Strongly Disagree	54	26.1	26.1
	Disagree	56	27.1	53.1
	Moderately agree	72	34.8	87.9
	Agree	17	8.2	96.1
	Strongly Agree	8	3.9	100
Robust data security measures and adherence to privacy are in place	Strongly Disagree	26	12.6	12.6
	Disagree	27	13	25.6
	Moderately agree	48	23.2	48.8
	Agree	74	35.7	84.5
	Strongly Agree	32	15.5	100
	Total	207	100	

Source: Research Data

As displayed in Table 4.9, the study found out that 30.4% of the respondent agreed, 28.5%, moderately agreed and 21.7% disagreed that there was telehealth utilization in Samburu county. The strong positive response indicates progress in telehealth adoption, reflecting a willingness to embrace digital healthcare solutions. However, those who disagreed show skepticism and highlights areas needing improvement such as infrastructure, user training, awareness campaigns, and policy support. An examination of digital health infrastructure and connectivity in healthcare facilities in Table 4.9 show that 41.1% moderately agreed, while 24.2% disagreed and 26.6% strongly disagreed. This was interpreted to mean that partial or inconsistent digital health connectivity exists, but the infrastructure may not be robust or reliable. This could reflect limited access to technology, geographical disparities, or inefficient implementation. Figure 4.8 shows that a significant number of respondents 61.3% (22.2% Strongly Disagree + 39.1% Disagree) do not believe that m-Health has been effectively adopted in the county. The data indicates low adoption of m-Health in the county, with a significant majority expressing dissatisfaction with its implementation.

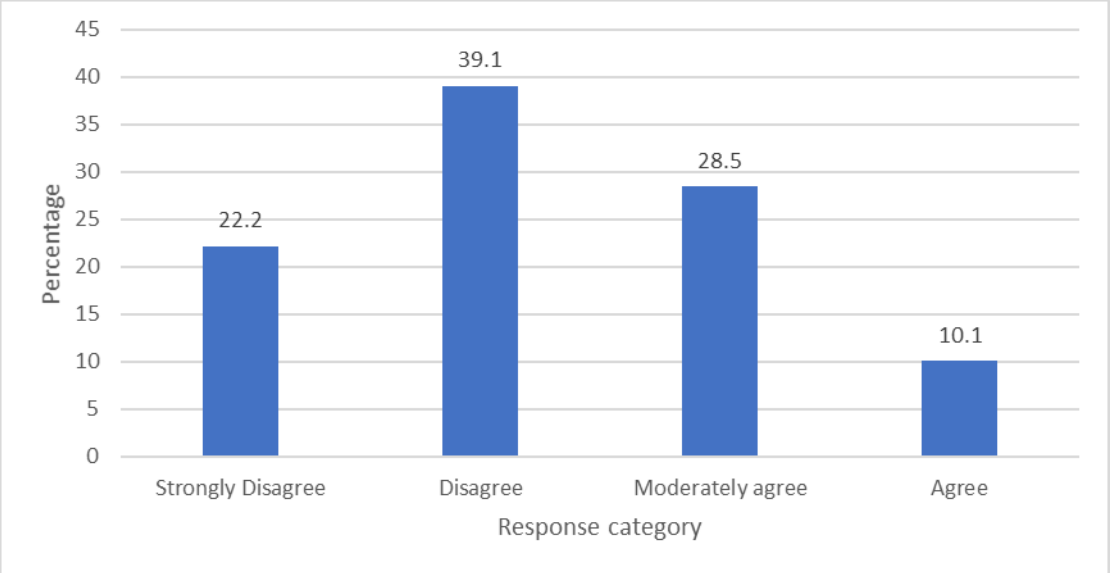

Figure 4.5: Mobile Health (m-Health) has been Adopted in the county
Source: Research Data

Patients' ability to access to health information through secure online portals was examined as displayed in Table 4.9. A majority of respondents, 42.5% strongly disagreed and 28% disagreed indicating that patients are not allowed access to health information through secure online portals. The results indicate very limited access to health information through secure online portals in the county, with the majority of patients unable to utilize digital health services.

Analysis of technology-enabled preventive care in Table 4.9, shows that a majority of respondents 26.1% strongly disagreed and 27.1% disagreed that technology-enabled preventive care, such as wearable devices for monitoring vital signs, is not in place or not effectively implemented. This was interpreted to mean that technology-enabled preventive care is not yet effectively utilized in the county, with most respondents sceptical about its presence or impact.

The study then examined robustness of data security measures and adherence to privacy, resulting in the display in Table 4.9. A total of 51.2% (35.7% agreed + 15.5% strongly agreed**)** that respondents believe robust data security measures and privacy adherence are in place. A further 23.2% (moderately agreed) are were neutral about data security, suggesting some level of confidence but potential reservations. This group may recognize existing measures but feel improvements are necessary for comprehensive protection. The analysis suggests overall confidence in data security and privacy measures in the county, though a sizeable minority remains uncertain or dissatisfied.

4.8.1 Mean Analysis of Technology Integration Reforms

Using mean score analysis and standard deviation analysis, the study examined technology integration reforms as displayed in Table 4.5 below. The mean scores

reflect the average level of agreement or perception of respondents on each aspect of technology integration reforms. Scores closer to 5 indicate stronger agreement (positive perception), while those closer to 1 indicate stronger disagreement (negative perception). The results in Table 4.10 shows that Health Information Exchange (HIE) with other health facilities had the highest mean = 4.1643, followed by digital health record implementation with a mean = 3.4396 and robust data security measures with a mean = 3.2850. The low standard deviation = 0.7780 of there is Health Information Exchange with other health facilities meant that the respondents agreed that the HIE integration was in place. The weighted mean score of 2.873 indicates an overall moderate level of technology integration in healthcare. Health information exchange and digital health records are the most successful initiatives, while m-Health, digital connectivity, and patient access remain challenges.

Table 4.10: Mean Analysis of Technology Integration Reforms

Technology Integration Reforms	Minimum	Maximum	Mean	Std. Deviation
There is Health Information Exchange (HIE) with other health facilities	1.00	5.00	4.1643	0.77088
Digital health record has been implemented	1.00	5.00	3.4396	1.16793
Robust data security measures and adherence to privacy are in place	1.00	5.00	3.2850	1.23890
Telehealth is utilized in the county	1.00	5.00	3.1643	1.12865
There is technology-enabled preventive care e.g. wearable devices for monitoring vital signs	1.00	5.00	2.3671	1.07509
Digital health infrastructure and connectivity of healthcare facilities	1.00	5.00	2.3285	0.99918
Mobile Health (mHealth) has been Adopted in the county	1.00	4.00	2.2657	0.92007
Patients are allowed to access to Health Information through secure online portals	1.00	5.00	1.9710	1.03301
Weighted mean score			2.873	

Source: Research Data

4.9 Initiation of Incentive Programs Analysis

The study analysed the initiation of incentive programs and the outcome were presented in Table 4.11 below. Results in Table 4.11 presents data on perceptions regarding improvements in clinical outcomes. It is evident that 52.2% of respondents moderately agreed and 21.7% agreed that that clinical outcomes had improved. The result indicates a generally positive but not overwhelming perception of clinical outcome improvements. This implies progress, but there may be concerns or reservations preventing stronger endorsement.

Table 4. 11: Initiation of Incentive Programs

Variable	Response Category	Frequency (n)	Percent (%)	Cumulative Percent (%)
The clinical outcomes have improved	Strongly Disagree	16	7.7	7.7
	Disagree	30	14.5	22.2
	Moderately agree	108	52.2	74.4
	Agree	45	21.7	96.1
	Strongly Agree	8	3.9	100.0
The staff are fairly motivated	Strongly Disagree	48	23.2	23.2
	Disagree	59	28.5	51.7
	Moderately agree	87	42	93.7
	Agree	13	6.3	100
All healthcare providers (hospitals, clinics, practitioners) are enrolled in the incentive program	Strongly Disagree	47	22.7	22.7
	Disagree	67	32.4	55.1
	Moderately agree	73	35.3	90.3
	Agree	12	5.8	96.1
	Strongly Agree	8	3.9	100
The increased enrolment rates have increased healthcare access	Strongly Disagree	25	12.1	12.1
	Disagree	34	16.4	28.5
	Moderately agree	111	53.6	82.1
	Agree	29	14	96.1
	Strongly Agree	8	3.9	100
	Total	207	100	

Source: Research Data

Staff motivation in Table 4.11, points a significant proportion of respondents disagree (28.5%) or strongly disagree (23.2%) that staff are fairly motivated, indicating a potential morale issue. The data points to low to moderate motivation levels among staff, with a concerning number expressing dissatisfaction. The absence of strong

agreement highlighted underlying issues affecting morale, such as workload, recognition, or work environment.

Table 4.11 shows that up to 55.1% of respondents do not believe (32.4% disagree and 22.7% strongly disagree) all healthcare providers are enrolled in the incentive program. The data strongly indicates perceived gaps or inconsistencies in the enrolment of healthcare providers into the incentive program. Over half of the respondent's express scepticism, suggesting either communication issues or real challenges in implementation. Analysis of the increased enrolment rates and healthcare access in Table 4.11 shows that a majority of the respondents (53.6%) moderately agreed and 28.5% of respondents did not agree that increased enrolment rates have improved healthcare access. By a majority moderately agreeing, it meant that increased enrolment rates have improved healthcare access, suggesting perceived progress but not overwhelming confidence. This outcome also meant that most respondents recognize some positive changes, there is hesitation to endorse the improvements fully. This may reflect barriers to access or uneven program implementation.

4.9.1 Mean Analysis of Initiation of Incentive Programs

The mean score analysis in Table 4.12 shows that the component of initiation of incentive programs with the highest mean were; Health seeking behaviors have positively changed (mean score=3.029), The clinical outcomes have improved (means score=2.995) and the increased enrolment rates have increased healthcare access (mean score = 2.812). The item with the lowest mean score was the staff are fairly motivated (mean score = 0.899). The relatively low standard deviation (0.90) means the respondents opinions were more consistent in recognizing the low staff motivation. The weighted mean score of 2.701 meant a general perception of slight

disagreement to neutrality across all indicators. This average score points to a mixed assessment of healthcare performance and reform impacts.

Table 4.12: Mean Analysis of Initiation of Incentive Programs

Initiation of Incentive Programs	N	Minimum	Maximum	Mean	Std. Deviation
Health seeking behaviors have positively changed	207	1.00	5.00	3.0290	1.07898
The clinical outcomes have improved	207	1.00	5.00	2.9952	0.91108
The increased enrolment rates have increased healthcare access	207	1.00	5.00	2.8116	0.95443
All healthcare providers (hospitals, clinics, practitioners) are enrolled in the incentive program	207	1.00	5.00	2.3575	1.01815
The staff are fairly motivated	207	1.00	4.00	2.3140	0.89927
Weighted mean score				2.701	

Source: Research Data

4.10 Correlation of Healthcare Reforms and Quality of Healthcare

The study sought to determine the existence of significant bivariate analysis between the concepts under investigation. Using Karl Pearson's coefficient of correlation (r) and probability value (p-value) analysis, the correlation between healthcare reforms on quality of healthcare was tested and results displayed in Table 4.13. Karl Pearson's correlation was interpreted as guided by Pearson (1895) that correlations closer to 1 or -1 indicate stronger relationships, while values near zero (0) suggest weak or no correlation. The p-values (Sig. 2-tailed) indicate statistical significance, with $p \leq 0.05$ considered significant. The highest significant (Significant at 0.01 level) Pearson correlation ($r=0.805$, $p=0.000$) existed between health financial reforms and quality of healthcare. This was interpreted to mean a very strong positive correlation exists, implying that financial reforms significantly enhance the quality of healthcare. This was followed by a significant strong positive correlation ($r=0.789$, $p=0.000$) between

technology integration reforms and quality of healthcare, followed by a significant strong positive correlation (r=0.637, p=0.000) between health equity reforms and quality of healthcare, followed by a weak significant positive relationship (r=0.142, p=0.041) between initiation of incentive programs and quality of healthcare. The correlation between health insurance expansion and quality of healthcare was weak and insignificant. In general, the results in Table 4.13 collectively indicated that, based on correlation analysis, out of the five health reform drivers, health financial reforms (0.805), technology integration reforms (0.789) and health equity reforms (0.637) are the strongest drivers of healthcare quality and are likely to have significant positive impact.

Table 4.13: Correlation Between Healthcare Reforms on Quality of Healthcare

Concept	Correlation Statistics	Health Equity Reforms	Health Insurance Expansion	Health Financial Reforms	Technology Integration Reforms	Initiation of Incentive Programs	Quality of Healthcare
Health Equity Reforms	Pearson Correlation	1					
	Sig. (2-tailed)						
Health Insurance Expansion	Pearson Correlation	0.089	1				
	Sig. (2-tailed)	0.202					
Health Financial Reforms	Pearson Correlation	.587**	0.078	1			
	Sig. (2-tailed)	0.000	0.267				
Technology Integration Reforms	Pearson Correlation	.599**	0.120	.764**	1		
	Sig. (2-tailed)	0.000	0.086	0.000			
Initiation of Incentive Programs	Pearson Correlation	0.080	.140*	.174*	0.136	1	
	Sig. (2-tailed)	0.250	0.044	0.012	0.052		
Quality of Healthcare	Pearson Correlation	.637**	0.016	.805**	.789**	.142*	1
	Sig. (2-tailed)	0.000	0.816	0.000	0.000	0.041	
	N	206	207	207	207	207	207

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

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

Source: Research Data

4.11 Influence of Healthcare Reforms on Quality of Healthcare

The study subjected the cross-sectional data to Multiple Regression Analysis (MRA) to to establish the influence of healthcare reforms on quality of healthcare in Samburu County, Kenya. Based on the assumption that there was a linear link between healthcare reforms on quality of healthcare, the study used the Ordinary Least Squares

(OLS) technique of estimation and generate a regression line of best fit. The study used the estimated model shown in equation (1) below.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$ … equation (1)

Where; Dependable variable Y = Quality of Healthcare, X_1 = Health Equity Reforms, X_2 = Health Insurance Expansion, X_3 = Health financing reforms, X_4 = Technology Integration Reforms, X_5 = Initiation of Incentive Programs. From equation (1), β_0 was a constant in the regression model and β_1, β_2, β_3, β_4 and β_5 were coefficients of the independent variable and ε was the error term.

4.11.1 Diagnostic Test

The data set was examined for regression analysis assumptions including normality, linearity, the presence of outliers, multicollinearity, and homoscedasticity, with the results presented in Table 4.14 below.

Table 4.14: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Variable	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Health Equity Reforms	0.129	207	0.123	0.901	207	0.152
Health Insurance Expansion	0.127	207	0.248	0.944	207	0.289
Health Financial Reforms	0.153	207	0.328	0.923	207	0.321
Technology Integration Reforms	0.198	207	0.052	0.827	207	0.062
Initiation of Incentive Programs	0.134	207	0.189	0.956	207	0.197

a. Lilliefors Significance Correction

Source: Research Data

The Shapiro-Wilk test for normality was used to ensure that the data followed a normal distribution. Using the Shapiro-Wilk test, a null hypothesis that the data was not normally distributed was investigated. the results in table 4.14 reveal that health equity reforms had a sig. value of 0.152, health insurance expansion had a sig. value of 0.289, health financial reforms had a sig. value of 0.321,technology integration

reforms had a sig. value of 0.062 and initiation of incentive programs had a sig. value of 0.197. The Shapiro-Wilk test results show that in this study, all of the key variables had Sig." (p-value) greater than 0.05 suggesting that the data did not significantly deviate from a normal distribution, indicating normality, so the null hypothesis that the data was not normally distributed was not rejected, and the study deduced that the data tested was normally distributed (Hawkins, 2024). The data set was therefore considered good for regression analysis.

The data was tested for linearity and the results displayed in Table 4.15 below. The study's goal in analyzing the data set for linearity was to see if the predictor variables and predicted variables had a linear relationship. The study used a simple linear regression analysis to test the null hypothesis that the predictor variables and predicted variables were not linearly connected. The p-value in Table 4.15 demonstrates that all of the predictor variables had p-values less than 0.05, except an initiation of incentive programs. Given most of the predictors were significant the null hypothesis was rejected, indicating that there was a linear relationship between healthcare reforms and quality of healthcare.

Table 4.15: Linearity Statistics

Independent Variable	Sig.
(Constant)	0.085
Health Equity Reforms	0.000
(Constant)	0.064
Health Insurance Expansion	0.000
(Constant)	0.561
Health Financial Reforms	0.002
(Constant)	0.045
Technology Integration Reforms	0.000
(Constant)	0.038
Initiation of Incentive Programs	0.609

a. Dependent Variable: Financial Performance

Source: Research Data

Next the data was checked for the presence of outliers. The extreme scores (outliers) were checked by using descriptive analysis. The five-point Likert scale was anticipated to have a minimum score of 1 and a maximum score of ≤5. Where the resulting score did not exceed five (5), the data set was regarded to be free of outliers and hence suitable for regression analysis. Based on the descriptive analysis of the data set in Appendix IX, the minimum score was 1 and the highest score was 5. This indicated that the data did not have extreme scores and hence was good for regression analysis.

Next, the data was subjected to a multicollinearity test. According to Ali (2020), multicollinearity is a diagnostic test for determining the presence of a strong linear relationship between two or more predictor variables. The Variance Inflation Factor (VIF) and Tolerance were used to determine multicollinearity. The study used MRA with one predictor variable (health equity reforms) as the dependent variable and performed a collinearity test, the results of which are shown in Table 4.16. According to Ali (2020), VIF values larger than 10 are indicative of multicollinearity.

Table 4.16: Collinearity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.900	0.356		5.342	0.000		
	Health Insurance Expansion	0.033	0.069	0.027	0.482	0.630	0.970	1.031
	Health Financial Reforms	0.235	0.062	0.315	3.755	0.000	0.422	2.369
	Technology Integration Reforms	0.266	0.062	0.358	4.273	0.000	0.424	2.360
	Initiation of Incentive Programs	-0.012	0.051	-0.013	-0.234	0.815	0.960	1.042

a. Dependent Variable: Health Equity Reforms

Source: Research Data

The collinearity diagnostic statistics in Table 4.16 demonstrate that health insurance expansion had a VIF=1.031 and Tolerance=0.970, while health financial reforms had a VIF=2.369 and Tolerance=0.422, technology integration reforms had a VIF=2.360 and Tolerance=0.424, initiation of incentive programs had a VIF=1.042 and Tolerance=0.960. The results show that all the predictors had VIF <10 and Tolerance statistics <1. The data was therefore not affected by multicollinearity and was good for regression analysis based on this test.

The data was tested for homoscedasticity using the Breusch-Pagan Test. Homoscedasticity indicates that the variance of errors is constant across all levels of the independent variables. Heteroscedasticity occurs when the variance of errors varies with the independent variable values. The Halunga et al. (2017), rule of thumb was applied, with heteroscedasticity defined as a p-value of less than 0.05. However, if the resulting p-value is above 0.05, the data was judged as being homoscedastic. Table 4.17 shows that the predictor variables had sig. values of 0.932 for health equity reforms, 0.828 for health insurance expansion, 0.947 for health financial reforms, 0.062 for technology integration reforms and 0.609 for initiation of incentive programs. because all of the predictor variables had sig. values greater than 0.05, the data set was homoscedastic and therefore suitable for regression analysis.

Table 4.17: Homoscedasticity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.031	0.219		0.142	0.887
	Health Equity Reforms	0.004	0.051	0.011	0.086	0.932
	Health Insurance Expansion	-0.021	0.095	-0.042	-0.217	0.828
	Health Financial Reforms	0.006	0.089	0.014	0.067	0.947
	Technology Integration Reforms	-0.13	0.06	-0.079	-2.164	0.062
	Initiation of Incentive Programs	0.023	0.044	0.019	0.513	0.609

a. Dependent Variable: Unstandardized Residual

Source: Research Data

4.11.2 Regression of Healthcare Reforms on Quality of Healthcare

In this study, the predictor variable was healthcare reforms and the predicted variable was quality of healthcare. The concept of healthcare reforms was decomposed into five variables: health equity reforms, insurance expansion, financing reforms, technology integration reforms, and initiation of incentive programs. The study sought to determine the influence of healthcare reforms on quality of healthcare by testing the following research hypotheses:

H_{01}: Health equity reforms have no significant influence on the quality of healthcare in Samburu County?

H_{02}: Health insurance expansion have no significant influence on the quality of healthcare in Samburu County?

H_{03}: Health financing reforms have no significant influence on the quality of healthcare in Samburu County?

H_{04}: Health technology integration reforms have no significant influence on the quality of healthcare in Samburu County?

H_{05}: Health initiation of incentive programs have no significant influence on the quality of healthcare in Samburu County?

A multiple linear regression analysis using the Ordinary Least Square (OLS) method was employed in examining the influence of healthcare reforms on quality of healthcare resulting in three tables; a model summary, ANOVA and coefficients tables. The model summary in Table 4.18 shows Model 1 had a coefficient of determination (R^2)= 0.744. This meant that model 1 could predict 74.4% of the variations in healthcare quality in Samburu County hence provided a very good fit

and had a high level of explanatory power. Frost, J (2020). Regression analysis: An intuitive guide for using and interpreting linear models, Statistics by Jim Publishing.

Table 4.18: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.862[a]	0.744	0.737	0.41579	0.744	115.967	5	200	0.000

a. Predictors: (Constant), Initiation of Incentive Programs , Health Equity Reforms, Health Insurance Expansion, Health Financial Reforms, Technology Integration Reforms
b. Dependent Variable: Quality of Healthcare

Source: Research Data

The ANOVA output in Table 4.19, shows a Sig. value = 0.000, which was less than 0.05, the regression model 1 was therefore statistically significant. This confirmed that the predictors (health equity reforms, insurance expansion, financing reforms, technology integration reforms, and initiation of incentive programs) significantly influenced healthcare quality.

Table 4.19: ANOVA Statistics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100.24	5.00	20.05	115.97	.000[b]
	Residual	34.58	200.00	0.17		
	Total	134.82	205.00			

a. Dependent Variable: Quality of Healthcare

b. Predictors: (Constant), Initiation of Incentive Programs , Health Equity Reforms, Health Insurance Expansion, Health Financial Reforms , Technology Integration Reforms

Source: Research Data

Resulting from the MRA, the coefficients of healthcare reforms associated with model 1 were presented in Table 4.20. The coefficient of health equity reforms was

significant with a sig. value = 0.000 and therefore the study rejected H_{01} at 5% level, and the results were interpreted to mean that health equity reforms significantly influenced healthcare quality in Samburu County. Resulting from an examination of the coefficient of health insurance expansion it was observed that their existed a significant p-value = 0.033 and therefore H_{02} was rejected at 5% level and health insurance expansion was interpreted as having a significant but negative influence on healthcare quality in Samburu County. The analysis in Table 4.20 shows that health financial reforms had a sig. value = 0.000 and therefore H_{03} was rejected at 5% level. This therefore meant that health financial reforms significantly influenced healthcare quality in Samburu County. The coefficient of technology integration reforms had a significant p-value = 0.000 and therefore H_{04} was rejected at 5% level. This was interpreted to mean that technology integration reforms had a significant influence on healthcare quality in Samburu County. Last, the coefficients associated with initiation of incentive programs had a sig. value = 0.679, and the study failed to reject H_{05} at 5% level. This meant that initiation of incentive programs had no significant influence on healthcare quality in Samburu County.

Table 4.20: Coefficients of Healthcare Reforms

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.620	0.331		1.875	0.062	-0.032	1.272
	Health Equity Reforms	0.230	0.061	0.173	3.748	0.000	0.109	0.352
	Health Insurance Expansion	-0.130	0.060	-0.078	-2.152	0.033	-0.249	-0.011
	Health Financial Reforms	0.416	0.056	0.426	7.381	0.000	0.305	0.528
	Technology Integration Reforms	0.357	0.057	0.367	6.308	0.000	0.246	0.469
	Initiation of Incentive Programs	0.018	0.044	0.015	0.414	0.679	-0.069	0.105

a. Dependent Variable: Quality of Healthcare

Source: Research Data

4.11.3 Interpretation of the Regression Model

The fitted model in equation (2) was derived from the results of the MRA shown in Table 4.20.

$$Y= 0.620+ 0.230X_1 - 0.130X_2+ 0.416X_3 + 0.357X_4 \ldots\ldots\ldots\ldots \text{ equation (2)}$$

From equation (2), Y = quality of healthcare, 0.620 is the value of the constant associated with the fitted regression model, X_1 = health equity reforms, X_2 = health insurance expansion, X_3 = health financing reforms, X_4 = technology integration reforms. The fitted model shows that in the absence of health reforms, the quality of healthcare in Samburu County would still be positive but at 0.620. This value represents the baseline quality of healthcare when all the predictor variables are zero. It's a starting point for predicting healthcare quality before considering the impact of reforms.

Health financing reforms had the highest influence on quality of healthcare in Samburu County, where a unit change in health financing reforms would result in a 41.6% positive change in quality of healthcare. A positive and relatively large coefficient (0.416) indicates a strong positive effect of health financing reforms on quality of healthcare. Technology integration reforms had the second highest influence on quality of healthcare in Samburu County. A unit change in technology integration reforms would result in a 35.7% positive change in quality of healthcare in the county. The positive coefficient (0.357) shows that integrating technology enhances quality of healthcare. Health equity reforms had the third highest influence on quality of healthcare in Samburu County. A unit change in health equity reforms would result in a 23.0% positive change in quality of healthcare in the county. Health insurance expansion had the fourth highest influence on quality of healthcare in Samburu County. A unit change in health insurance expansion would result in a

13.0% negative change on quality of healthcare in Samburu County. The negative coefficient (-0.130) suggests that increasing health insurance coverage may, paradoxically, reduce the perceived quality of healthcare. This phenomenon is associated with the negative perception currently held against the Social Health Insurance (SHA) as evidenced by the qualitative analysis. Initiation of incentive programs had a non-significant influence on quality of healthcare in Samburu County. While beneficial, the impact of initiation of incentive programs might be limited compared to other reforms. Resulting from these analyses, the study deduced that healthcare reforms had a significant positive influence in the quality of healthcare in Samburu County in Kenya and that the key antecedent to the quality of healthcare is health financing reforms.

4.12 Thematic Content Analysis

Interview schedules in Appendix II were applied in gathering qualitative data. Key informant surveys were employed, and 10 key informants from the health sector in Samburu County were interviewed. Personal visits to the informant's workplace were conducted with prior consent, and the interviews lasted no longer than 30 minutes.

As a preliminary step, the study employed the use of qualitative data to gain a deep understanding of the phenomenon of health reforms by exploring participants' lived experiences, attitudes, and perceptions. Thematic content analysis was then employed by classifying transcripts, coding, finding recurrent patterns, and recoding categories. Participants' queries were influenced by the research topic and literature reviewed, and the categories derived from interviews and empirical literature. Thematic analysis is a qualitative research strategy for organizing and analyzing complicated data sets (Nowell et al., 2017). The search for themes in data sets captures available narratives

and leads to the identification of themes by attentive reading and rereading of the written material. Dawadi (2020) posits that a rigorous thematic analysis approach can yield reliable and meaningful results. The study employed inductive thematic analysis, where topics were coded without regard for pre-existing coding frameworks or researcher biases (Brown & Clark, 2006). Themes were subsequently derived from the data, without relying on previous studies. These themes were closely tied to the data, rather than the researcher's theoretical interest in the topic.

The first phase of the qualitative data analysis involved familiarizing with the data and then the transcripts were reread before all the data were coded. The efficient NVivo coding tool allowed for many codes to be applied by selecting relevant phrases, sentences, or paragraphs. The 10 transcripts were coded following a thorough review. A total of 51 codes were identified, with some including only one phrase and others including multiple sentences as captured in the data extracts and codes in Appendix X.

While the initial phase involved creating a list of identified codes from the data set and identifying patterns and relationships in the overall data set (Roberts, 2015), the second phase involved a close examination of the codes to identify a common pattern. This step emphasized theme analysis over code analysis, where a theme in data was considered to reflect a patterned response to a study question. Williams and Moser (2019) suggest using codes as building blocks to identify probable themes related to research questions.

In the third phase, the study adopted a process proposed by Braun and Clarke (2006) that recommends creating a list of codes on a separate piece of paper and organizing them into theme piles based on the relationship between codes and themes. The

exploratory nature of the study required re-reading of all transcripts before clustering codes based on themes. The transcripts were re-read and codes were integrated into themes. All relevant coded data extracts were collected within the identified themes, as shown in the initial thematic map in Figure 4.6 . The study incorporated previously identified themes and issues from empirical literature review to construct the themes. The author identified important themes from the literature review that were used to subsume certain codes. To capture the spirit of clustered codes, primary themes or groups were created, encompassing all connected codes.

All of these basic themes were refined further throughout the next step of the investigation. This phase consisted of two levels. At phase two, coded extracts relevant to each theme were extracted from NVivo and pasted into a Microsoft Word document for cross-referencing, retrieval, comparison, and meaningful organization. The response from the interview schedule were reread for each theme and clustered to provide a coherent pattern. The codes, themes, and extracts were then analyzed to determine if they formed a coherent pattern that accurately reflected the coded data.

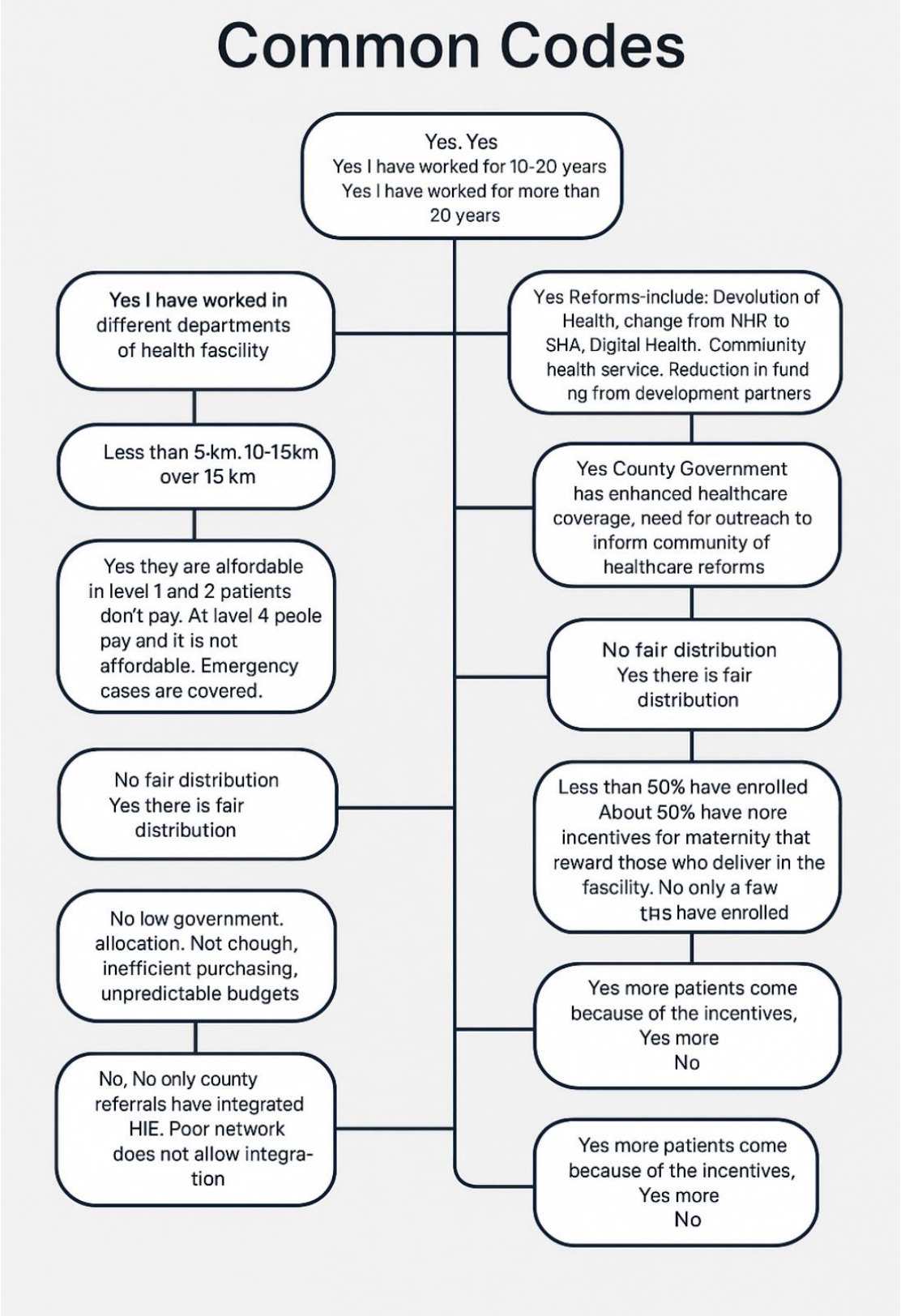

Figure 4.6: Initial Thematic Map

In the next phase, several themes were combined or deleted throughout the screening process. Seeking to zero in on the key thematic areas of interest to this study, a thematic scheme collating data into the five focal areas of interest was generated. Figure 4.8 illustrates the final thematic map categorizing healthcare reforms into five key themes: First, eight items collated under a theme that was interpreted as health equity reforms, and the included; Nearest healthcare facilities is less than 5km, 10-15km over 15 km, yes, they are affordable, in level 1 and 2 patients don't pay, at level 4 people pay and it is not affordable, emergency cases are covered, community involved, yes through their elected representatives, yes County Government has enhanced healthcare coverage and need for outreach to inform community of healthcare reforms

The second thematic area was financial expansion, under which three items were pooled; no, low government allocation, allocation not enough, inefficient purchasing, unpredictable budgets, yes we have had more clinical outcomes, yes more women come to deliver, no, no clinician has been hired, yes increased access to care, no fair distribution of resources, yes, there is fair distribution of resources, yes we have constructed more facilities and yes have constructed more facilities through ward fund.

From Figure 4.7, the third theme was interpreted as technology integration reforms and comprised of four core responses; HIE has not been integrated, no, no only county referrals have integrated HIE, Poor network does not allow integration, no digital health infrastructure. The fourth theme that was generated was referred to as insurance reforms, with only one item loading on it in the form of the answer, no only a few facilities have enrolled in SHA. The fifth theme was interpreted as initiation of incentives reforms and was made up of; Less than 50% of health care providers have

enrolled to the incentive programme, about 50% have enrolled, yes, we have incentives for maternity that reward those who deliver in the facility and yes more patients come because of the incentives or motivation and no, incentives does not attract more patients.

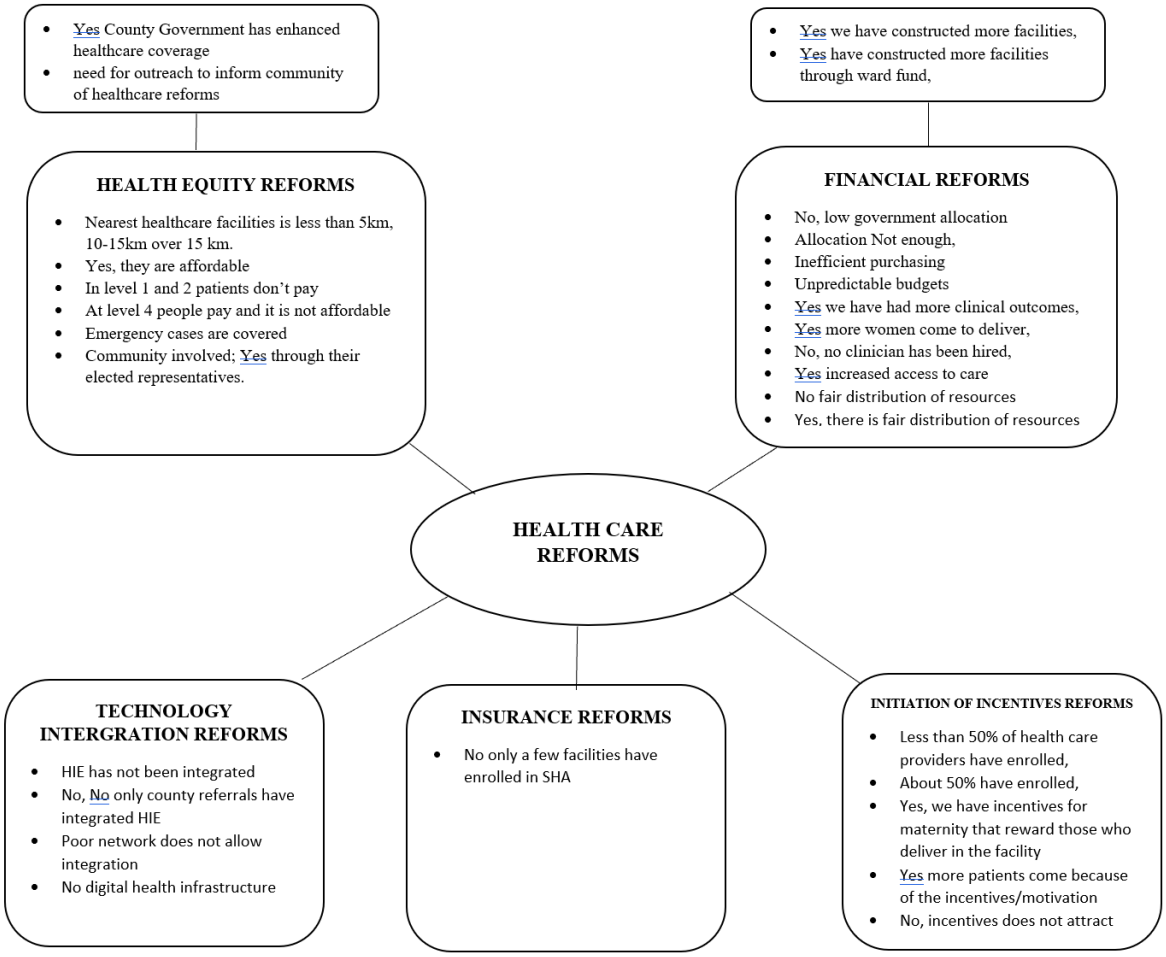

Figure 4.7: Final Thematic Map

In line with the chosen research methodology of mixed methods, the study combined both qualitative and quantitative research approaches to gain a deeper understanding of the influence of healthcare reforms on the quality of healthcare in Samburu County, Kenya. This method allowed the study to explore complex issues by integrating the detailed narratives and themes emanating from the qualitative approach to the

numerical data derived from quantitative methods (Bloomfield and Fisher, 2019). In the subsequent section, the study proceeded with the quantitative approach.

CHAPTER FIVE: SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the study's findings, conclusions, and suggested recommendation based on the general study objective which was to determine the influence of healthcare reforms on quality of healthcare in Samburu County, Kenya.

5.1 Summary of Study Findings

In this section, the study triangulates the qualitative and quantitative data drawn from the previous section to cross-verify results from the different data sources. Specifically, the study employed an explanatory sequential mixed-methods design, where the analysis started with quantitative data analysis followed by qualitative methods to explain or elaborate on the results. The discussion is anchored on addressing the five specific research objectives.

5.1.1 Influence of Health Equity Reforms on Quality of Healthcare

The first objective of the study was to evaluate the influence of health equity reforms on the quality of healthcare in Samburu County. Using thematic analysis, the study identified health equity reforms as a theme comprised of several components including; distance to healthcare facilities, affordability of healthcare and community involvement. Resulting from the MRA, it was established that health equity reforms had a significant favourable influence on the quality of healthcare in Samburu County. Preceding the MRA, a mean score analysis of the concept of healthcare equity had identified the main variables that comprise healthcare equity reforms to include; improvements in preventive healthcare services, distance to healthcare

facilities, budget allocation for marginalized groups in Samburu County and involvement of local communities in decision-making.

These results corroborate the findings of Kabia et al. (2022) who had established that health equity reforms yielded positive outcomes, notably in terms of enhancing access to care, improving the quality of healthcare services, and bolstering financial protection for the population. The findings are equally consistent with works of Nyarko et al. (2020) who using a mixed method approach did deduce that the implementation of health equity reforms significantly improved patients' access to healthcare in Ghana. Similarly, the results compare well with Lurie and Dubowitz (2017) who conducted a study on health disparities and access to health and deduced that health care and social factors associated with such disparities related directly to access to healthcare leading to better health. Collectively, these findings are in support of the theoretical position of the Health Equity Theory that posits that everyone should have the opportunity to attain their full health potential, and that no one should be disadvantaged due to social, economic, political or other circumstances.

5.1.2 Influence of Health Insurance Expansion Reforms on Quality of Healthcare

The second research objective sought to determine the influence of health insurance expansion on quality of healthcare in Samburu County. The qualitative analysis revealed the existence of health insurance as a thematic area, with only one variable identified as enrolment of health facilities to SHA loading on it. Using MRA, the study established that the coefficient of health insurance expansion was significant but negative and therefore health insurance expansion had a significant but negative influence on healthcare quality in Samburu County. It was also noted that the correlation between health insurance expansion and quality of healthcare was weak

and non-significant. A mean analysis identified the sub elements of health insurance expansion that had the highest influence on quality of healthcare as including; health insurance coverage enhances treatment accessibility, followed by health care reforms have increased universal health coverage and the increased insurance enrolment rates have increased healthcare access. The negative influence of insurance reforms in Kenya was context specific and time-sensitive. The study was undertaken in the Kenyan context when the government was transitioning from NHIF to SHA and due to hitches in the implementation of the new insurance scheme, the Kenyan citizens have a negative perception of SHA, as indicated by the qualitative data.

These findings are contrary to the with the findings by Loehrer et al. (2018) who applied a quasi-experimental methodology to arrive at the conclusion that health insurance coverage enhances treatment accessibility, bolsters favorable health consequences, such as an individual's perception of their own health and welfare, encourages responsible use of healthcare resources, and lessens the financial burden on people, families, and communities. Related results were documented by Sommers et al. (2014), who applied MRA in assessing the association between health reforms and health insurance coverage and deduced that decreases in mortality are correlated with an increase in healthcare coverage. The results are further in concurrence with the outcome of O'Lawrence (2019) study that established that individuals without health insurance and who are predisposed to factors like poverty, lack of health care and health coverage are more likely to experience losses in their general health, be hospitalized for preventable medical conditions, and receive less regular outpatient care than those with insurance. The ensuing discourse is underpinned by the Policy Implementation Theory that elucidates on the strategic role of policies of providing a comprehensive framework for accommodating and being sensitive to local customs,

beliefs, to ensure cultural acceptance and effective implementation of healthcare reforms.

5.1.3 Influence of Health Financing Reforms on Quality of Healthcare

The third research objective sought to examine the influence of health financing reforms on the quality of healthcare in Samburu County. Using thematic analysis, health financing reforms emerged as a key theme under healthcare reforms. The variables that pooled under the theme of financing reforms included; construction of more health facilities, allocations not enough, increased access to care and no fair distribution of resources. Using MRA, it was found that financing reforms had the strongest positive influence on the quality of healthcare. Under correlation analysis, it was noted that there exists a significant positive relationship between health financing reforms and quality of healthcare. A mean analysis score classified the elements of health financing reforms with the highest influence quality of healthcare as including; health seeking behaviours have positively changed, implying that respondents generally agreed that health-seeking behaviours have improved and financial reforms have increased healthcare infrastructure development, which implied a slightly positive perception of infrastructure development.

The outcome of financial reforms analysis are aligned with the findings of a study by Kabia et al., (2019) on experiences of the poor with health financing reforms, that found a mixed effect on the quality of care resulting from the financial reforms. Positive aspects include improvements through the introduction of new drugs and treatments; however, negative consequences are observed, particularly with a reduction in the number of healthcare providers. The study findings on financial reforms are in sync with the outcome of an empirical study by Mbau et al., (2020)

who examined the influence of purchasing reforms on National Health Insurance Fund (NHIF) and found that these reforms have improved access to care for the poor, but there are still barriers that prevent them from fully benefiting. These barriers include long distances to health facilities, lack of public transport, poor condition of roads, and high transport costs. The study concludes that pro-poor health financing reforms can improve the quality of healthcare. The outcomes corroborate the findings by Barasa et al. (2018) who uncovered several NHIF reforms, including the introduction of the Civil Servants Scheme (CSS), the implementation of a stepwise quality improvement system, the initiation of the Health Insurance Subsidy for The Poor (HISP), the adjustment of monthly contribution rates, and the expansion of the benefit package. Despite improvements observed in various areas, the reforms raised concerns related to equity, efficiency, feasibility, and sustainability.

5.1.4 Influence of Health Technology Integration on Quality of Healthcare

The fourth research objective was to examine the influence of health technology integration on quality of healthcare in Samburu County. The qualitative analysis unearthed technology integration reforms as thematic areas in relation to healthcare reforms. The main variables that collate under the theme technology integration reforms encompassed; HIE has not been integrated, only county referrals have integrated HIE, there is poor network connectivity in the county, no digital health infrastructure. Using correlation analysis, the study, a significant strong positive correlation existed between technology integration reforms and quality of healthcare. A mean score analysis ranked the variables that make up technology integration reforms to comprise of; Health Information Exchange with other health facilities, digital health record implementation and robust data security measures. The low standard deviation of HIE with other health facilities was interpreted to mean that

meant that the respondents agreed that the HIE integration was in place. The weighted mean score showed a moderate level of technology integration in healthcare in the county. Generally, HIE and digital health records are the most successful initiatives, while m-Health, digital connectivity, and patient access remain challenges.

These results compare well with the findings of Johnson et al. (2018) who examined the experiences of technology integration in home care nursing in China and established that the infusion of health care technologies into the home leads to substantial changes in the nature of work for home care nurses and their patients. Dinh-Le et al., (2019) carried out a review of the landscape of wearable health technology and data integration to provider EHRs, specifically Epic, because of its prevalence among health systems. The study found that there are a number of challenges to integrating wearable health device data into electronic health records, including concerns about patient privacy, system interoperability, and the immense amount of patient data. However, the authors also found that there are a number of opportunities for wearable health technology to improve patient care. For example, wearable devices can be used to collect data on a patient's activity levels, sleep patterns, and heart rate. This data can then be used to identify potential health problems and to track the progress of treatment. These discussions are in tandem with the Health Systems Theory which posits that the components of health systems theory, aid in understanding the structure, operation, and potential improvements of health systems. Health Systems Theory emphasize the interconnectedness of various components and suggests that healthcare workforce reforms, such as training, distribution, and retention strategies, significantly impact the quality of care.

5.1.5 Influence of Initiation of Incentive Programs on Quality of Healthcare

The fifth research objective was meant to establish the influence of initiation of incentive programs on quality of healthcare in Samburu County. Using qualitative research, the study unearthed initiation of incentive programs as theme of interest in healthcare reforms. The variables that clustered around the theme initiation of incentive programs included; less than 50% of health care providers have enrolled for the incentive programmes, about 50% of health care providers have enrolled for the incentive programmes, yes, we have incentive programmes for maternity, yes patients come because of the incentive, yes patients come because of the motivation and no incentives does not attract patients. Using correlation analysis, it was noted that a weak significant positive relationship existed between initiation of incentive programs and quality of healthcare. Under inferential statistical approach, MRA reveals the existence of non-significant coefficients of incentive programs implying that the initiation of incentive programs had no significant influence on healthcare quality in Samburu County.

These results were contrary to the findings by Bhatt et al., (2018) who elucidated that implementation of Free Delivery Care (FDC) policies was associated with a significant increase in the utilization of maternal health services. Similarly, Vlaev et al. (2019) used systematic review of the literature to evaluate the effectiveness of financial incentives in changing health behaviors and found out that financial incentives can be effective in promoting some health behaviors, such as smoking cessation, weight loss, and medication adherence. However, the effects of incentives tend to be modest and short-lived. The study also found that the effectiveness of incentives can be influenced by a number of factors, such as the size of the incentive, the target behaviour, and the delivery method. The findings of the current study that

incentive programmes have a non-significant effect on health reforms is based on the lack of awareness of the health incentives as evidenced by the qualitative data.

5.2 Conclusion

The three theories; health systems theory, policy implementation theory and health equity theory against which the current study was anchored are supported by the research findings and both indicate that healthcare reforms have a significant influence on the quality of healthcare. The extant literature points at convergence in the thought that healthcare reforms have a significant influence on the quality of healthcare. The study has not only supported theoretical expectation but has tested the null hypothesis and provided empirical basis for the rejection of four of the hypotheses.

Drawing from the triangulation of the qualitative analysis results and the quantitative analysis results, the study concludes that healthcare reforms in Kenya, have a significant influence on the quality of healthcare, especially in Samburu County. In reference to the specific study objectives, the study deduced that health financing reforms had the highest positive influence on the quality of healthcare in Samburu County. Technology integration reforms had the second-highest influence on the quality of healthcare in the County, followed by health equity reforms. Health insurance expansion had a negative influence on the quality of healthcare in Samburu County. A phenomenon linked with the negative perception currently held by many Kenyans against SHA. It was deduced that the initiation of incentive programs had a non-significant influence on the quality of healthcare in Samburu County.

5.3 Recommendations

Based on these findings, the study draws policy recommendations, management recommendations and academic recommendations.

5.3.1 Policy Recommendations

It is recommended that policy formulators should enhance health equity reforms by designing policies that prioritize equitable healthcare access. This can be achieved by increasing budget allocations for marginalized communities and ensuring fair distribution of healthcare resources across a County. Second, policymakers should review of health insurance expansion policies by addressing the challenges associated with SHA implementation, ensuring better communication, transparency, and smooth transition to improve public trust and adoption.

Third, the government should strengthen health financing mechanisms by implementing sustainable healthcare financing strategies that ensure continuous funding for health infrastructure development, recruitment of healthcare workers, and equitable resource allocation.

Fourth, a policy should be instituted on legislates on technology integration in healthcare. A national framework should be established to support the full integration of Health Information Exchange (HIE), digital health records, and robust data security measures to enhance service delivery and patient care. Fifth, policymakers should revise the health incentive structures to enhance awareness and participation, ensuring incentives effectively attract both healthcare providers and patients.

5.3.2 Management Recommendations

The study recommends the following to the management of healthcare services: First, evidence from the study highlights the need to improve healthcare accessibility and community engagement by implementing mobile clinics and outreach programs in remote areas, as well as actively involving communities in healthcare decision-making to enhance access and promote uptake. Second, it is recommended that there is need to build capacity and improve resource allocation and utilization in the health sector. This can be achieved by training healthcare workers on health reform implementation and ensure the efficient use of available funds to improve infrastructure and service delivery. Third, managers need to ensure the acceleration of digital health integration. They should prioritize the adoption of digital tools like electronic health records and telemedicine to improve on operational efficiency, data management, optimal resource utilization and the quality of care.

5.4 Suggested Areas for Further Research

Emanating on this study, the following academic recommendations are made. Further research should be done on health insurance expansion. Specifically, studies should investigate the long-term effects of SHA on healthcare quality and identify specific policy adjustments needed for its success. Second, additional research should focus on exploring the role of health incentive programs. Inquiry should seek to determine how incentives can be optimized to increase healthcare provider and patient participation. Last, studies should examine the challenges and opportunities of digital health adoption in rural counties like Samburu to inform future integration strategies.

5.5 Limitations of the Study

Challenges related to data collection arouse due to inadequate or inaccessible data sources, especially in regions with limited documentation or incomplete records of healthcare reforms or health service utilization in Samburu County. Limitations in financial resources, time constraints, or limited research personnel hindered the ability to conduct extensive fieldwork, including comprehensive survey of the end-user community, or observations across different communities or healthcare facilities in the county. The study results are therefore be reported as health care service provider perspective. Difficulty in accessing or engaging with key stakeholders, policymakers, healthcare providers, or community members limited the researcher's ability to the healthcare givers perspective only, resulting in respondent bias. For instance, healthcare workers' perceptions of reforms was influenced by their personal experiences or job satisfaction. Samburu County have a unique socio-cultural context, infrastructural limitations, or geographic remoteness, that posed challenges in implementing healthcare reforms or affecting the generalizability of findings to other settings. The study faced limitations in assessing the full scope of healthcare reforms due to complexity, multiple reform initiatives, or changes over time, leading to a partial understanding of the overall impact on healthcare. The reliability and accuracy of available data sources, especially in resource-constrained settings, posed limitations in drawing robust conclusions or generalizing about the influence of healthcare reforms on healthcare in Samburu County. Adherence to ethical guidelines and considerations in conducting research, especially when involving sensitive healthcare-related topics or vulnerable populations, would limit access to certain information or restrict the scope of the study.

5.6 Delimitation of the study

The study was conducted in Samburu County and the findings might not be generalizable to other counties or regions within Kenya due to potential differences in healthcare infrastructure, demographics, or implementation of healthcare reforms. The study took place in November 2024-July 2025 as detailed in Appendix IV. This delimitation overlooked the longer-term impacts or historical contexts that could influence the quality of healthcare. The study concentrated on curative health care reforms namely; health equity reforms, health insurance expansion, technology integration reforms and initiation of incentive programs. The study focused on the healthcare employees within Samburu County. Delimitations might arouse from constraints in accessing comprehensive or up-to-date data. Limited access to relevant healthcare statistics, reports, or specific information related to healthcare reforms in Samburu County restricted the depth of the study. The study used English as the language for data collection exercise.

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APPENDICES

Appendix I: Questionnaire

1. Purpose of the Interview

The purpose of this interview is to collect information from the Health Workers to determine the influence of healthcare reforms on access to quality healthcare in Samburu County. The data collected will be for purposes of partial fulfillment of the requirements for the award of a degree of master's in public policy management, Strathmore Business School, Strathmore University

2. Confidentiality

Information provided in the Questionnaire by willing Health Workers will be treated as confidential and used strictly for the purposes indicated above. The student(s) involved are under oath not to disclose any information to a third party.

3. Time and Consent

This questionnaire takes approximately 15- 20 minutes to complete.

Section A: Demographic Information

1. What is your age bracket?

   Less than 25 years [ ] 26-35 years [ ]

   36-45 years [ ] above 45 years [ ]

2. What is your gender? [ ] Male [ ] Female

3. What is your highest education level?

   Certificate level [ ] Diploma level [ ] Graduate/Degree [ ]

   Postgraduate [ ] Others-specify……. [ ]

4. For how long have you worked in this station?

   Less than 1 year [ ] 1-5 years [ ]

   6-10 years [ ] Over 10 years [ ]

Section B: Health Equity Reforms

5. Using a scale of 1-5 where 1-strongly disagree, 2- disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Health Equity Reforms

Statements	**1**	**2**	**3**	**4**	**5**
Distance to Healthcare Facilities is within a 5km radius					
Healthcare Facilities are regularly distributed					
Vulnerable Groups in Samburu County are Served					
The services are affordable for all					
There is reduction in health disparities					
There are improvements in preventive services					
The local Communities are involved in decision-making					
An effective mechanism allowing community feedback on healthcare services is established					
There is fair distribution of healthcare resources					
There is budget allocation for marginalized groups in Samburu County					

Section C: Health Insurance Expansion

6. Using a scale of 1-5 where 1-Strongly disagree, 2- Disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Health Insurance Expansion

Statements	**1**	**2**	**3**	**4**	**5**
Health care reforms has enhanced health carecoverage					
Health care reforms have resulted to increased number of individuals with health insurance cover					
Health care reforms has increased universal health coverage in the county					
Health insurance coverage enhances treatment accessibility					

The increased insurance enrolment rates have increased healthcare access					
Insurance Coverage and Enrolment Rates have increased					

Section D: Health Financial Reforms

7. Using a scale of 1-5 where 1-strongly disagree, 2- disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Health financial reforms

Statements	1	2	3	4	5
Reforms have positively influenced access to health care for the low income					
Essential medicines and equipment are now available following the reforms					
Frequent strikes by health care staff have reduced following the reforms					
Reforms have improved the health insurance subsidy for the poor (HISP)					
Health seeking behaviors have positively changed					
Level of financial resources allocated to healthcare issufficient					
Out-of-pocket spending for healthcare by individualsor households have reduced					
Health funds are distributed across different geographic areas and population groups within Samburu County					
Healthcare utilization rates e.g. the number of visitsto healthcare facilities has reduced					
Health financing reforms have reduced catastrophichealth expenditure					
Financial reforms have increased healthcare infrastructure development					
Perceived Affordability and Satisfaction have increased					

Section E: Technology Integration Reforms

8. Using a scale of 1-5 where 1-strongly disagree, 2- disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Technology Integration Reforms

Statements	1	2	3	4	5
There is Health Information Exchange (HIE) with health facilities					
Digital health record has been implemented					
Telehealth is utilized in the county					
Digital health infrastructure and connectivity of healthcare facilities is in place					
Mobile Health (mHealth) has been Adopted in thecounty					
There is E-health literacy and training in the county					
Patients are allowed to access to Health Informationthrough secure online portals					
There is technology-enabled preventive care e.g. wearable devices for monitoring vital signs					
Robust data security measures and adherence to privacy are in place					

Section F: Initiation of Incentive Programs

9. Using a scale of 1-5 where 1-strongly disagree, 2- disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Initiation of Incentive Programs

Statements	**1**	**2**	**3**	**4**	**5**
The clinical outcomes have improved					
The staff are fairly motivation					
Health seeking behaviors have positively changed					
All healthcare providers (hospitals, clinics, practitioners) are enrolled in the incentive program					
The increased enrolment rates have increased healthcare access					
There is monitoring of the distribution of incentiveprogram services in remote					
There is increase in the utilization rates of healthcare services covered by the incentive program, e.g. preventive care visits					

Section G: Quality of Healthcare

10. Using a scale of 1-5 where 1-strongly disagree, 2- disagree, 3-Moderately agree, 4-Agree and 5-Strongly agree, kindly indicate your agreement level to the statements below that relate to Quality of Healthcare

Statements	**1**	**2**	**3**	**4**	**5**
Health seeking behaviors is boosted					
The staff motivation is promoted					
Clinical outcomes are enhanced					
Mortality and morbidity rates have reduced					
Life expectancy have improved					
Patient satisfaction is enhanced					

THANK YOU FOR YOUR PARTICIPATION.

Appendix II: Interview Schedule

1. Purpose of the Interview

The purpose of this interview is to collect information from the Health Workers to determine the influence of healthcare reforms on access to quality healthcare in Samburu County. The data collected will be for purposes of partial fulfillment of the requirements for the award of a degree of master's in public policy management, Strathmore Business School, Strathmore University

2. Confidentiality

Information provided in the interview by willing Health Workers will be treated as confidential and used strictly for purposes indicated above. The student(s) involved are under oath not to disclose any information to a third party.

3. Time and Consent

This interview takes approximately 15- 20 minutes to complete.

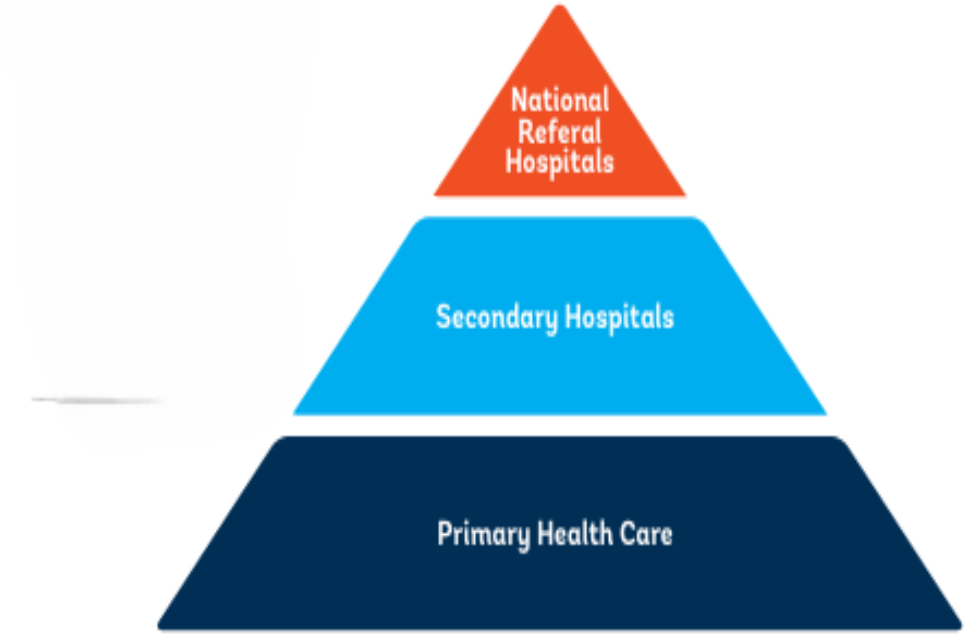
Section A: Demographic Information

1. Can you share your background in the healthcare sector?
2. Are you aware of any health care reforms?
3. What is the distance to the nearest Healthcare Facilities?
4. Are the health care services affordable for all?
5. In your opinion are the local communities involved in health care reforms decision-making?
6. Do you think there is fair distribution of healthcare resources in the county?
7. In your opinion, has health care reforms has enhanced health care coverage in the county?

8. Have financial reforms in the county led to increased clinical outcomes.
9. Are the financial resources allocated to healthcare in the county sufficient?
10. Has financial reforms increased healthcare infrastructure development in the county?
11. Has the Health Information Exchange (HIE) been integrated with health facilities in the county?
12. Are digital health infrastructure and connectivity of healthcare facilities being in place?
13. Have all healthcare providers (hospitals, clinics, practitioners) enrolled in the incentive program?
14. In your opinion, is there an increase in the utilization rates of healthcare services covered by the incentive program, e.g. preventive care visits?
15. Do you think incentive program services promote perceived affordability and satisfaction of healthcare?

THANK YOU FOR YOUR PARTICIPATION.

Appendix III: Kenya Health Sector Organization



Level of care	County/National	Type of services
National Referal Hospitals **Level 6:** Teriary care hospitals	National	❱ Tertiary/highly specialized services, including high-level specialist medical care, reference laboratory support, blood transfusion services, and research have defined level of self-autonomy
Secondary Hospitals **Level 5:** Secondary care hospitals Level 4: Primary care hospitals	County	❱ Comprehensive inpatient diagnostic, medical, surgical and rehabilitative care, including reproductive health services ❱ Specialized outpatient services ❱ Hospitals managed by a county
Primary health care Level 3: Health centers **Level 2:** Dispensaries and clinics	County	❱ Disease prevention and health promotion services ❱ Inpatient services for emergency clients awaiting referral, clients for observation, and normal delivery Services
Level 1: Community	County	❱ Community-based health services

Source: Di Giorgio (2022)

Appendix IV: Time Schedule for Research Activities (November 2024-May 2025)

2 Months (Nov- Dec 24) - Concept Development and Pilot Study

1 Month (Jan 2025) - Literature Review and final proposal

1 Month (Mar 2025) - Primary Data Collection

1 Month (Mar 2025) - Data Analysis

2 Months (April- May 2025) - Report Writing and Submission

SN	Description	2Months	2Month	1Month	1Month	2Months
I	Concept Development and Pilot Study					
II	Literature Review and final proposal					
III	Primary Data Collection					
IV	Data Analysis					
V	Report writing and submission					

Appendix V: Research Budget

ITEM	COST (KSHS)
Proposal Development and Data Collection	
Pretesting the Questionnaire	5,000
Printing of some journals	10,000
Traveling and subsistence	20,000
Printing of 5 copies of proposal	2,500
Sub Total	**37,500**
Field Work	
Questionnaire photocopy 5 pgs.	15,000
Research Assistant 2 @ Kshs. 15,000	30,000
Sub Total	**45,000**
Data Analysis	
Data Editing	20,000
Data Coding	20,000
Data Transcription and Cleaning	20,000
Data Analysis	20,000
Sub Total	**80,000**
Production of Final Document	
Report writing and editing	20,000
Printing of 80 pages @ Kshs. 10 * 5 Copies	4,000
Binding of the 5 copies at Kshs 500	2,500
Sub Total	**26,500**
Grand Total	**189,000**

Source: Researcher

Appendix VI: Participant Information Sheet and Informed Consent

PARTICIPANT INFORMATION SHEET AND CONSENT FORM

Study Title: Influence of Healthcare Reforms on Quality of Healthcare in Samburu County, Kenya

SECTION 1: The Researcher

Investigator: Jonathan Kipambi Leisen

Institutional Affiliation: Strathmore Business School (SBS)

SECTION 2: The Study

2.1 : Why is this study being carried out?

I hope this message finds you well. My name is Jonathan Kipambi Leisen and I am students at Strathmore Business School. I am reaching out to invite you to participate in an important survey titled "Influence of Healthcare Reforms on Quality of Healthcare in Samburu County, Kenya."

As you may know, recent healthcare reforms are designed to improve the accessibility and quality of healthcare services across Kenya. However, understanding their real impact on communities is essential for furthering these efforts. Your insights and experiences are invaluable in painting an accurate picture of how these reforms have influenced the quality of healthcare in Samburu County.

2.2 : Do I have to take part?

By participating in this survey, you can help me gather crucial data that will inform policymakers and healthcare providers about the effectiveness of these reforms. Your perspective as a stakeholder in healthcare is vital in ensuring that the healthcare system meets the needs of all its users.

Taking part in this study is entirely optional and the decision rests only with you. If you decide to take part, you will be asked to complete a questionnaire to get information on health reforms in Samburu County. If you are not able to answer all the questions successfully the first time, you may be asked to sit through another informational session after which you may be asked to answer the questions a second time. You are free to decline to take part in the study from this study at any time without giving any reasons.

2.3 : Inclusion Criteria

The Health care workers (Health Management Team, Medical Officers, Clinical Officers, Nurses, Pediatricians, Pharmacist, Dentists) shall be eligible to take part in this study;

2.4 : Exclusion Criteria

Non healthcare workers are not legible to take part in this study.

2.5 : What will taking part in this study involve?

You will be approached by an enumerator or the researcher and requested to take part in the study. If you are satisfied that you fully understand the influence of Healthcare Reforms on Quality of Healthcare in Samburu county, you will be asked to sign the informed consent form (this form) and then taken through a questionnaire to complete.

Participating in this study will involve providing information on healthcare reforms and how they have influenced the quality of healthcare in the county. You will be required to spend about 20-30 minutes in responding to the study questions.

2.6 : Are there any risks or dangers in taking part in this study?

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

2.7 : Are there any benefits of taking part in this study?

The information will be used to improve the accessibility and quality of healthcare services in Samburu County. Assessing the effectiveness of reforms would help identify areas that need improvement, potentially leading to enhanced health services and better health for residents. There will be no monetary rewards for taking part in this study.

2.8 : What will happen to me if I refuse to take part in this study?

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you are free to withdraw at any time without explanation.

2.9 : Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be transcribed into our database but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10 Data Management

Effective data management is essential to preserving a study's dependability and integrity. The following are some crucial approaches to guarantee data integrity during the course of the study:

Data Collection Protocols: Use of standardized procedures: The study shall employ clear, standardized methods for collecting data to minimize errors and biases. Training of enumerators: The study shall ensure that all personnel involved in data collection are trained thoroughly on the protocols.

Data Entry and Recording: Use of double data entry: The study shall consider using double data entry, where data entered by the data entry clerks shall be checked by reentered by the researcher independently, allowing for comparison and error checking.

Data Storage and Security: After fieldwork, data collected shall be stored in secure systems with restricted access to ensure that only authorized personnel can access sensitive information. The systems shall comprise password protect computers and encrypted servers. A back up database shall be set to prevent loss due to system failures or other unforeseen issues. The data shall be kept for a period of three years after which they will be destroyed.

Data Handling and Processing: The study shall employ a version control system in documentation to track changes and maintain an audit trail of modifications. After fieldwork, the researcher shall engage in data cleaning. The rigorous data cleaning processes shall allow the study to identify and rectify errors or inconsistencies in the dataset.

Confidentiality and Privacy: To ensure respondent anonymity, the study shall use anonymize personal identifiers when storing and sharing data to safeguard participants' privacy. The study shall comply with regulations and ethical guidelines regarding data protection set aside by the Strathmore University Institutional Ethics Review Board.

Documentation and Transparency: The study shall maintain detailed documentation of the data management processes, including methodologies, data sources, and any changes made to the dataset. Where possible, the study shall engage in open data practices, by availing data to peer reviewers or readers of the document to ensure transparency and allow other researchers to verify findings.

2.11 Research Result Dissemination

As a participant in this study, your contributions are valuable, and I am committed to sharing the research results in a transparent and ethical manner. Here's how I plan to disseminate the findings of our research:

1. **Confidentiality of Results**: Your individual data will remain confidential, and results will be reported in a way that protects your identity. There will be no disclosure of any personal information associated with your participation.

2. **Summary of Findings**: After the study has concluded and data analyzed, a summary of the findings shall be shared with all participants. This summary will be written in clear, accessible language to ensure you understand the results and their implications.

3. **Publications**: The results of this study may be published in scientific journals or presented at conferences. These publications will focus on aggregate data and general findings rather than individual participant information.

4. **Community Engagement**: We shall organize and hold community meetings or forums to discuss the findings and their relevance to the community. This community engagement shall be geared towards opening up a dialogue and feedback session.

5. **Future Research**: The findings may also inform future research. We will inform you if subsequent studies arise from this research and whether you might be eligible to participate.

6. **Access to Results**: The respondent has opportunity to request a copy of any published materials resulting from this study. Please provide your contact information on the consent form if you wish to receive these updates.

2.12 : Who can I contact in case I have further questions?

You can contact me, Jonathan Leisen at Strathmore Business School, by e-mail (jonathanleisen@gmail.co), or by phone (0720901747). You can also contact my supervisor, Dr. Ben Ngoye, at the Strathmore Business School, Nairobi.

If you want to ask someone independent anything about this research please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email ethicsreview@strathmore.edu Tel number: +254 703 034418.

I, _____, have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you;

Participation in the research study

☐ I AGREE to take part in this research

☐ DON'T AGREE to take part in this research

Storage of information on the completed questionnaire

☐ I AGREE to have my completed questionnaire stored for future data analysis

☐ DON'T AGREE to have my completed questionnaire stored for future data analysis

Participant's Signature:

_____ **Date**_____/_____/_____/

DD / MM / YEAR

Participant's Name:

Time _____/_____/_____/

_____ **HR / MN**

(Please Print Name)

I, _____ (Name of person taking consent) certify that I have followed the SOP for this study and have explained the study information to the study participant named above, and that s/he has understood the nature and the purpose of the study and consents to the participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Investigator's Signature:

_____ **Date_____/_____/_____/**

DD / MM / YEAR

Investigator's Name:

Time _____/_____/_____/

_____ **HR / MN**

(Please Print Name)

Appendix VII: Study Protocol

STUDY PROTOCOL FOR THE STUDY: INFLUENCE OF HEALTHCARE REFORMS ON QUALITY OF HEALTHCARE IN SAMBURU COUNTY, KENYA

1. Introduction This study protocol outlines the procedures for undertaking the study in terms of research objectives, methodology, data collection, processing, analysis, and management for the study titled "Influence of Healthcare Reforms on Quality of Healthcare in Samburu County, Kenya." The study aims to assess the impact of various healthcare policy changes on service delivery, patient satisfaction, and overall healthcare outcomes.

2. Research Objectives

1. To evaluate the influence of health equity reforms on quality of healthcare in Samburu County
2. To determine the influence of health insurance expansion on quality of healthcare in Samburu County
3. To examine the influence of health financing reforms on quality of healthcare in Samburu County
4. To examine the influence of health technology integration on quality of healthcare in Samburu County
5. To establish the influence of initiation of incentive programs on quality of healthcare in Samburu County.

3. Study Design

The study will adopt a mixed methods approach, where a combination of exploratory research design and descriptive research design will be employed. The flexibility of exploratory approach will help the study to get insights on health sector reforms and provide an understanding of the complex issues around the reforms, generate new ideas and give preliminary expert views on the subject at hand.

4. Data Collection Methods

The study shall collect quantitative and qualitative primary data.

Quantitative data shall be collected using self-administered questionnaires to healthcare workers to measure perceptions of healthcare quality in public hospitals in Samburu County. The questionnaires will be administered through drop and pick method where the researcher will deliver the questionnaires in person at the respondents' places of work. Additional data shall be sourced from; Government reports and policy documents, healthcare facility records and reports and previous research studies and publications on healthcare reforms.

Qualitative data shall be collected using interview schedules (Appendix II). Key informant surveys shall be undertaken in interviewing key informants in the health sector in Samburu county. Personal visits to the informants work place following prior seeking of permission shall be undertaken and the interview conducted.

5. Data Collection Instruments

The study will employ the use of a standardized questionnaire for healthcare workers (Appendix I) and an interview schedules (Appendix II) for policymakers and administrators.

6. Sampling Strategy

The target population will be healthcare workers in public hospitals in Samburu County, Kenya. Samburu County has 137 health facilities spread across the 3 sub-counties namely Samburu West, Samburu East and Samburu North. The study shall employ a stratified random sampling technique to survey 266 respondents.

7. Data Management and Analysis

Qualitative analysis shall be geared at providing systematic and reliable data collection and analysis, NVivo 10 for Windows for thematic content analysis shall be employed. This software shall allow for classifying transcripts, coding, finding recurrent patterns, and recoding categories.

For quantitative analysis, the study shall employ the use of Statistical Packages for Social Scientists (SPSS Version 26) and the quantitative data shall be subjected to descriptive and inferential statistics analysis. The study shall then triangulate the multiple data sources to enhance reliability and validity.

8. Ethical Considerations

Ethical approval will be sought from the university before commencement of study. The researcher will seek authorization from the National Commission for Science, Technology and Innovation (NACOSTI). Permission will also be sought from Samburu county department of health to carry out the study at their health facilities and to allow health managers to participate in the study. Additionally, written consent will be sought from all respondents before commencement of data collection (Appendix VI). The confidentiality and privacy of the respondents will be assured. The researcher will make sure the respondents understand that the data collected will be treated with utmost respect with a sole purpose of fulfilling an academic study requirement (Appendix VII).

9. Expected Outcomes

It is expected that this study shall give insights into how healthcare reforms have influenced service delivery and patient outcomes in Samburu County. The study results shall unearth the gaps and challenges in the implementation of health reforms in Samburu County. It is also expected that the study shall yield policy claims for improving healthcare service quality in Samburu County.

10. Data Storage and Security

After fieldwork, data collected shall be stored in password-protected electronic databases to ensure that only authorized personnel can access sensitive information. A back up database shall be set to prevent loss due to system failures or other unforeseen issues. Hard copies of consent forms and records will be securely locked in cabinets.

11. Limitations and Mitigation Measures

Quantitative data is likely to have limitations including; lack of depth in understanding personal experiences and perspectives, they may not capture contextual factors influencing healthcare outcomes in Samburu and poses the challenge of potential for response bias if participants misunderstand survey questions. To mitigate on these limitations, the study shall use diverse data sources including qualitative approaches of data collection. Health care facilities are likely to have strict permission to access and to overcome this challenge, the letter of authorization from the University and NACOSTI shall be used to introduce the researcher and in addition, efforts shall be employed to collaborate with local healthcare officials. Limitations in financial resources, time constraints, or limited research personnel may hinder the ability to conduct extensive fieldwork, including comprehensive survey of the end-user community, or observations across different communities or healthcare facilities in the county. This might lead to a bias in reporting. The study results shall therefore be reported as health care service provider perspective. It is envisioned that the use of self-administered questionnaires and interviews might result in the following limitations; possibility of response bias if participants provide socially desirable answers, misinterpretation of questions may lead to inaccurate responses, interviews may be time-consuming and require trained interviewers for consistency, and some respondents may be unwilling to provide honest responses due to fear of repercussions. Cover letters shall be used to minimize the tendency toward providing socially desirable answers, misinterpretation of questions shall be reduced by giving clear respondent guidelines and trained interviewees shall be engaged to improve the quality of response. Respondents shall be assured that their identity shall be treated confidentially to deter repercussions.

12. Data Management

Effective data management is essential to preserving a study's dependability and integrity. The following are some crucial approaches to guarantee data integrity during the course of the study:

Data Collection Protocols: Use of standardized procedures: The study shall employ clear, standardized methods for collecting data to minimize errors and biases. Training of enumerators: The study shall ensure that all personnel involved in data collection are trained thoroughly on the protocols.

Data Entry and Recording: Use of double data entry: The study shall consider using double data entry, where data entered by the data entry clerks shall be checked by reentered by the researcher independently, allowing for comparison and error checking.

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Data Handling and Processing: The study shall employ a version control system in documentation to track changes and maintain an audit trail of modifications. After fieldwork, the researcher shall engage in data cleaning. The rigorous data cleaning processes shall allow the study to identify and rectify errors or inconsistencies in the dataset.

Confidentiality and Privacy: To ensure respondent anonymity, the study shall use anonymize personal identifiers when storing and sharing data to safeguard participants' privacy. The study shall comply with regulations and ethical guidelines regarding data protection set aside by the Strathmore University Institutional Ethics Review Board.

Documentation and Transparency: The study shall maintain detailed documentation of the data management processes, including methodologies, data sources, and any changes made to the dataset. Where possible, the study shall engage in open data practices, by availing data to peer reviewers or readers of the document to ensure transparency and allow other researchers to verify findings.

13. Inclusion and Exclusion Criteria

Inclusion Criteria: The Health care workers (Health Management Team, Medical Officers, Clinical Officers, Nurses, Pediatricians, Pharmacist, Dentists) shall be eligible to take part in this study;

Exclusion Criteria: Non healthcare workers are not legible to take part in this study.

14. Research Result Dissemination

As a participant in this study, your contributions are valuable, and I am committed to sharing the research results in a transparent and ethical manner. Here's how I plan to disseminate the findings of our research:

1. **Confidentiality of Results**: Your individual data will remain confidential, and results will be reported in a way that protects your identity. There will be no disclosure of any personal information associated with your participation.

2. **Summary of Findings**: After the study has concluded and data analyzed, a summary of the findings shall be shared with all participants. This summary will be written in clear, accessible language to ensure you understand the results and their implications.

3. **Publications**: The results of this study may be published in scientific journals or presented at conferences. These publications will focus on aggregate data and general findings rather than individual participant information.

4. **Community Engagement**: We shall organize and hold community meetings or forums to discuss the findings and their relevance to the community. This community engagement shall be geared towards opening up a dialogue and feedback session.

5. **Future Research**: The findings may also inform future research. We will inform you if subsequent studies arise from this research and whether you might be eligible to participate.

6. **Access to Results**: The respondent has opportunity to request a copy of any published materials resulting from this study. Please provide your contact information on the consent form if you wish to receive these updates.

Appendix VIII: Item-Total Statistics

Sn.	Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	What is your age bracket?	167.502	1213.834	-0.032	0.968
2	What is your gender ?	169.449	1215.093	-0.078	0.968
3	What is your highest education level?	167.990	1206.650	0.117	0.968
4	For how long have you worked in this station?	167.614	1206.996	0.075	0.968
5	Distance to Healthcare Facilities is within a 5 km radius	168.773	1198.652	0.214	0.968
6	Healthcare Facilities are regularly distributed	168.000	1173.107	0.599	0.967
7	Vulnerable Groups in Samburu County are well served	168.386	1188.442	0.347	0.968
8	The health care services are affordable for all	168.087	1186.313	0.321	0.968
9	There is reduction in health disparities	167.961	1171.523	0.546	0.967
10	There are improvements in preventive health care services	167.473	1190.707	0.355	0.967
11	The local Communities are involved in decision-making	168.039	1173.892	0.528	0.967
12	An effective mechanism allowing community feedback on healthcare services is established	168.140	1165.228	0.581	0.967
13	There is fair distribution of healthcare resources	168.256	1181.638	0.450	0.967
14	There is budget allocation for marginalized groups in Samburu County	168.502	1184.601	0.389	0.967
15	There is budget allocation for marginalized groups in Samburu County	168.473	1182.668	0.411	0.967
16	Health care reforms has enhanced health care coverage	167.923	1171.528	0.652	0.967
17	Health care reforms have resulted in an increased number of individuals with health insurance cover	168.000	1166.398	0.651	0.967
18	Health care reforms has increased universal health coverage in the county	167.860	1172.140	0.564	0.967
19	Health insurance coverage enhances treatment accessibility	167.570	1167.809	0.656	0.967
20	The increased insurance enrolment rates have increased healthcare access	167.899	1175.160	0.581	0.967
21	Insurance Coverage and Enrolment Rates have increased	167.957	1179.877	0.534	0.967
22	Reforms have positively influenced access to health care for low-income earners	167.990	1166.485	0.710	0.967
23	Essential medicines and equipment are now available following the reforms	168.039	1165.212	0.678	0.967
24	Frequent strikes by health care staff have reduced following the reforms	167.932	1175.258	0.526	0.967
25	Reforms have improved the health insurance subsidy for the poor (HISP)	168.193	1154.128	0.758	0.966
26	Health seeking behaviors have positively changed	167.386	1178.015	0.580	0.967
27	Level of financial resources allocated to healthcare is sufficient	168.705	1180.083	0.538	0.967
28	Out-of-pocket spending for healthcare by individuals or households have reduced	168.135	1175.302	0.542	0.967
29	Samburu County	168.179	1161.177	0.740	0.966
30	Healthcare utilization rates e.g. the number of visits to healthcare facilities has reduced	168.039	1185.212	0.400	0.967
31	Health financing reforms have reduced catastrophic health expenditure	168.039	1157.785	0.809	0.966
32	Financial reforms have increased healthcare infrastructure development	167.662	1167.584	0.697	0.967
33	Perceived Affordability and Satisfaction have increased	167.995	1168.995	0.693	0.967
34	There is Health Information Exchange (HIE) with other health facilities	168.275	1175.967	0.504	0.967
35	Digital health record has been implemented	168.217	1162.045	0.632	0.967
36	Telehealth is utilized in the county	167.633	1196.195	0.196	0.968
37	Digital health infrastructure and connectivity of healthcare facilities is in place	168.469	1164.774	0.689	0.967
38	Mobile Health (mHealth) has been Adopted in the county	168.531	1181.881	0.474	0.967
39	Patients are allowed to access to Health Information through secure online portals	168.826	1190.222	0.301	0.968
40	There is technology-enabled preventive care e.g. wearable devices for monitoring vital signs	168.464	1161.347	0.698	0.967
41	Robust data security measures and adherence to privacy are in place	168.130	1163.784	0.608	0.967
42	There are health outcomes tracking devices, e.g. the use of technology-integrated healthcare services	168.546	1178.997	0.468	0.967
43	The clinical outcomes have improved	167.802	1165.121	0.752	0.966
44	The staff are fairly motivated.	168.483	1180.387	0.510	0.967
45	Health seeking behaviors have positively changed	167.768	1158.917	0.717	0.966
46	All healthcare providers (hospitals, clinics, practitioners) are enrolled in the incentive program	168.440	1175.976	0.512	0.967
47	The increased enrolment rates have increased healthcare access	167.986	1162.228	0.762	0.966
48	There is monitoring of the distribution of incentive program services in remote	168.401	1160.902	0.715	0.966
49	There is increase in the utilization rates of healthcare services covered by the incentive program, e.g. preventive care visits	168.111	1167.022	0.674	0.967
50	Out-of-pocket spending for healthcare by individuals or households have reduced	168.232	1169.383	0.597	0.967
51	Level of financial resources allocated incentive program services is sufficient	168.575	1169.246	0.638	0.967
52	Incentive program services promote Perceived Affordability and Satisfaction	168.179	1162.487	0.773	0.966
53	Health seeking behaviors is boosted	167.638	1162.591	0.769	0.966
54	The staff motivation is promoted	168.338	1170.070	0.651	0.967
55	Clinical outcomes are enhanced	167.758	1169.815	0.756	0.966
56	Mortality and morbidity rates have reduced	167.618	1173.829	0.686	0.967
57	Life expectancy have improved	167.942	1168.822	0.686	0.967
58	Patient satisfaction is enhanced	167.807	1164.428	0.761	0.966
59	Treatment success rates have increased	167.710	1168.003	0.698	0.967
60	Efficiency in resource utilization is enhanced	167.981	1174.582	0.692	0.967
61	Medication error rates have reduced	167.778	1178.300	0.556	0.967
62	Duration patients spend in hospitals for specific	167.792	1180.554	0.562	0.967
63	Preventive Services Utilization is enhanced	167.841	1169.610	0.757	0.966
	Overal Cronchbach value Total items				0.967

Appendix IX: Descriptive Statistics

Variable	Minimum	Maximum	Mean
What is your age bracket?	2.00	4.00	3.2947
What is your gender ?	1.00	2.00	1.3478
What is your highest education level?	1.00	4.00	2.8068
For how long have you worked in this station?	1.00	4.00	3.1836
Distance to Healthcare Facilities is within a 5 km radius	1.00	5.00	2.0242
Healthcare Facilities are regularly distributed	1.00	5.00	2.5797
Vulnerable Groups in Samburu County are well served	1.00	5.00	2.4106
The health care services are affordable for all	1.00	5.00	2.5459
There is reduction in health disparities	1.00	5.00	2.8357
There are improvements in preventive health care services	1.00	5.00	3.7198
The local Communities are involved in decision-making	1.00	5.00	2.3913
An effective mechanism allowing community feedback on healthcare services is established	1.0	5.0	2.657
There is fair distribution of healthcare resources	1.00	5.00	2.5411
There is budget allocation for marginalized groups in Samburu County	1.00	5.00	2.2947
There is budget allocation for marginalized groups in Samburu County	1.00	5.00	2.3237
Health care reforms has enhanced health care coverage	1.00	5.00	2.8744
Health care reforms have resulted in an increased number of individuals with health insurance cover	1.00	5.00	2.7971
Health care reforms has increased universal health coverage in the county	1.00	5.00	2.9372
Health insurance coverage enhances treatment accessibility	1.00	5.00	3.2271
The increased insurance enrolment rates have increased healthcare access	1.00	5.00	2.8986
Insurance Coverage and Enrolment Rates have increased	1.00	5.00	2.8406
Reforms have positively influenced access to health care for low-income earners	1.00	5.00	2.8068
Essential medicines and equipment are now available following the reforms	1.00	5.00	2.7585
Frequent strikes by health care staff have reduced following the reforms	1.00	5.00	2.8647
Reforms have improved the health insurance subsidy for the poor (HISP)	1.00	5.00	2.6039
Health seeking behaviors have positively changed	1.00	5.00	3.4106
Level of financial resources allocated to healthcare is sufficient	1.00	4.00	2.0918
Out-of-pocket spending for healthcare by individuals or households have reduced	1.00	5.00	2.6618
Health funds are distributed across different geographic areas and population groups within Samburu County	1.00	5.00	2.6184

Healthcare utilization rates e.g. the number of visits to healthcare facilities has reduced	1.00	5.00	2.8647
Health financing reforms have reduced catastrophic health expenditure	1.00	5.00	2.7585
Financial reforms have increased healthcare infrastructure development	1.00	5.00	3.2705
Perceived Affordability and Satisfaction have increased	1.00	4.00	2.6667
There is Health Information Exchange (HIE) with other health facilities	1.00	5.00	4.1643
Digital health record has been implemented	1.00	5.00	3.4396
Telehealth is utilized in the county	1.00	5.00	3.1643
Digital health infrastructure and connectivity of healthcare facilities is in place	1.00	5.00	2.3285
Mobile Health (mHealth) has been Adopted in the county	1.00	4.00	2.2657
Patients are allowed to access to Health Information through secure online portals	1.00	5.00	1.9710
There is technology-enabled preventive care e.g. wearable devices for monitoring vital signs	1.00	5.00	2.3671
Robust data security measures and adherence to privacy are in place	1.00	5.00	3.2850
There are health outcomes tracking devices, e.g. the use of technology-integrated healthcare services	1.00	4.00	2.2512
The clinical outcomes have improved	1.00	5.00	2.9952
The staff are fairly motivated.	1.00	4.00	2.3140
Health seeking behaviors have positively changed	1.00	5.00	3.0290
All healthcare providers (hospitals, clinics, practitioners) are enrolled in the incentive program	1.00	5.00	2.3575
The increased enrolment rates have increased healthcare access	1.00	5.00	2.8116
There is monitoring of the distribution of incentive program services in remote	1.00	5.00	2.3961
There is increase in the utilization rates of healthcare services covered by the incentive program, e.g. preventive care visits	1.00	5.00	2.6860
Out-of-pocket spending for healthcare by individuals or households have reduced	1.00	5.00	2.5652
Level of financial resources allocated incentive program services is sufficient	1.00	4.00	2.2222
Incentive program services promote Perceived Affordability and Satisfaction	1.00	5.00	2.6184
Health seeking behaviors is boosted	1.00	5.00	3.1594
The staff motivation is promoted	1.00	4.00	2.4589
Clinical outcomes are enhanced	1.00	5.00	3.0386
Mortality and morbidity rates have reduced	1.00	5.00	3.1787
Life expectancy have improved	1.00	5.00	2.8551
Patient satisfaction is enhanced	1.00	5.00	2.9903
Treatment success rates have increased	1.00	5.00	3.0870
Efficiency in resource utilization is enhanced	1.00	4.00	2.8164
Medication error rates have reduced	1.00	5.00	3.0193
Duration patients spend in hospitals for specific	1.00	5.00	3.0048
Preventive Services Utilization is enhanced	1.00	5.00	2.9565

Appendix X: Data Extracts and Codes

	Research questions	Codes	Data extracts	Initial Points of interest	Theme
1	Can you share your background in the healthcare sector?	Yes, No	Yes, Yes, I have worked for 10-20 years, Yes, I have worked for more than 20 years, Yes, I have worked in different departments of health facility	4	Background information
2	Are you aware of any health care reforms?	Yes, No	Yes, Reforms include; Devolution of Health, change from NHIF to SHA, Digital Health, Community health service, Reduction in funding from development partners	5	Background information
3	What is the distance to the nearest Healthcare Facilities?	Less than 5km, 10-15km over 15 km.	Nearest healthcare facilities is less than 5km, 10-15km over 15 km.	3	Background information
4	Are the health care services affordable for all?	Affordable, Not Affordable	Yes, they are affordable, in level 1 and 2 patients don't pay, at level 4 people pay and it is not affordable, Emergency cases are covered,	5	Health Equity Reform
5	In your opinion are the local communities involved in health care reforms decision-making?	Community involved, Community not involved	Yes, through their elected representatives, yes through representative committees,	2	Health Equity Reform
6	Do you think there is fair distribution of healthcare resources in the county?	there is fair distribution of healthcare resources	No fair distribution, Yes there is fair distribution	2	Financial reforms

7	In your opinion, has health care reforms has enhanced health care coverage in the county?	has health care reforms has enhanced health care coverage	Yes, County Government has enhanced healthcare coverage, need for outreach to inform community of healthcare reforms	2	Health Equity Reform
8	Have financial reforms in the county led to increased clinical outcomes.	Have financial reforms in the county led to increased clinical outcomes.	Yes, we have had more clinical outcomes, yes more women come to deliver, No clinician has been hired, Yes increased access to care	4	Financial reforms
9	Are the financial resources allocated to healthcare in the county sufficient?	financial resources allocated to healthcare in the county sufficient?	No low government allocation, Not enough, inefficient purchasing, unpredictable budgets	3	Financial reforms
10	Has financial reforms increased healthcare infrastructure development in the county?	financial reforms increased healthcare infrastructure development in the county?	Yes, we have constructed more facilities, Yes have constructed more facilities through ward fund,	3	Financial reforms
11	Has the Health Information Exchange (HIE) been integrated with health facilities in the county?	Health Information Exchange (HIE) been integrated with health facilities in the county	No, No only county referrals have integrated HIE, Poor network does not allow integration	3	Technology Integration reforms

12	Are digital health infrastructure and connectivity of healthcare facilities being in place?	Digital health infrastructure and connectivity of healthcare facilities is in place	No, No network connectivity,	2	Technology Integration reforms
13	Have all healthcare providers (hospitals, clinics, practitioners) enrolled in the incentive program?	healthcare providers (hospitals, clinics, practitioners) have enrolled in the incentive program	Less than 50% have enrolled, About 50% have enrolled, No, Yes we have incentives for maternity that reward those who deliver in the facility, No only a few facilities have enrolled in SHA	6	Insurance reforms
14	In your opinion, is there an increase in the utilization rates of healthcare services covered by the incentive program, e.g. preventive care visits?	is there an increase in the utilization rates of healthcare services covered by the incentive program	Yes, more patients come because of the incentives, Yes more , No	3	Initiation of incentives reforms
15	Do you think incentive program services promote perceived affordability and satisfaction of healthcare?	incentive program services promote perceived affordability and satisfaction of healthcare	Yes, more patients come because of the incentives, Yes more clients come because of motivation, Yes but we have limited resources, No	4	Initiation of incentives reforms
			Total	**51**	

Source: Research Data

Appendix XI: Ethical Approval

Strathmore UNIVERSITY

14th March 2025

Mr. Jonathan Leisen,
jonathan.kipambi@strathmore.edu

Dear Mr. Leisen,

RE: Influence of Healthcare reforms on the quality of healthcare in Samburu County, Kenya.

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2651/25.** The approval period is from **14th March 2025 to 13th March 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,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

Appendix XII: Research Permit_NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **821215**

Date of Issue: **10/March/2025**

RESEARCH LICENSE

This is to Certify that Mr.. Jonathan Kipambi Leisen of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Samburu on the topic: INFLUENCE OF HEALTHCARE REFORMS ON QUALITY OF HEALTHCARE IN SAMBURU COUNTY, KENYA for the period ending : 10/March/2026.

License No: **NACOSTI/P/25/416559**

821215

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to.
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
    i. Endanger national security
    ii. Adversely affect the lives of Kenyans
    iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
    iv. Result in exploitation of intellectual property rights of communities in Kenya
    v. Adversely affect the environment
    vi. Adversely affect the rights of communities
    vii. Endanger public safety and national cohesion
    viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. Neither the license nor any rights thereunder are transferable.
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

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