

**DETERMINANTS OF NATIONAL HEALTH INSURANCE FUND  
ENROLMENT AMONG PRIMI MOTHERS: A CASE STUDY OF MERU  
COUNTY, KENYA**

**GERRY GITONGA MUGAMBI**

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UNIVERSITY**

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**DECLARATION**

This Thesis is my original work and has not been presented for an award in any other institution.

Signature.....

Date. 20<sup>th</sup> June 2025.....

**Gerry Gitonga Mugambi**

**MPH/2021/74301**

This Thesis has been submitted for conferment with our approval as the university supervisors.

Dr. John G. Kariuki (PhD)

School Of Public Health

Mount Kenya University

Signed.....

Date..... 21-06-25

Dr. Teresa Ngonjo (PhD)

School Of Public Health

Karatina University

Signed.....

Date... 21<sup>st</sup> June 2025.....

Mount Kenya

## **DEDICATION**

This thesis is dedicated to my family and friends whose unwavering support and encouragement have been my source of strength throughout this academic journey.



## **ACKNOWLEDGEMENT**

I am deeply grateful to my supervisors, from Mount Kenya University, for their invaluable guidance, support, and encouragement throughout this research journey. Their expertise, insightful feedback, and unwavering dedication have been instrumental in shaping this thesis. I also appreciate their patience and mentorship, which has enriched my academic experience.

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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>Abbreviation</b>	<b>Full Form</b>
<b>AAR</b>	African Air Rescue
<b>CBHI</b>	Community Based Health Insurance
<b>CDC</b>	Center for Disease Control
<b>NACOSTI</b>	National Council for Science and Technology
<b>NHIF</b>	National Health Insurance Fund
<b>NHIS</b>	National Health Insurance Scheme
<b>OECD</b>	Organization for Economic and Development
<b>OOP</b>	Out-Of-Pocket
<b>S-CHIP</b>	State Children's Health Insurance Program
<b>SHI</b>	Social Health Insurance
<b>SPSS</b>	Statistical Package for Social Sciences
<b>WHO</b>	World Health Organization



## ABSTRACT

Access to healthcare remains a critical challenge for first-time mothers (primi mothers) in Meru County, Kenya, exacerbated by low enrollment rates (18%) in the National Health Insurance Fund (NHIF) compared to the national average (26%) for women of reproductive age. This disparity contributes to elevated maternal mortality (398 deaths per 100,000 live births) and financial hardship, with 63% of informal-sector primi mothers citing unaffordable premiums despite subsidized maternity packages. The study aimed to identify determinants of NHIF enrollment among this vulnerable group, with specific objectives to examine associations between sociodemographic characteristics (age, income, education, marital status), awareness levels, premium affordability, outlet accessibility/service efficiency, and enrollment patterns. A cross-sectional survey design was employed, collecting data from 224 primi mothers across six Meru sub-counties (Imenti South, Imenti North, Buuri, Imenti Central, Tigania East, Tigania West), achieving a 92% response rate. The target population comprised 1,248 primi mothers from NHIF-accredited facilities, with 243 participants selected via systematic sampling. Data were gathered using structured questionnaires and semi-structured interviews, piloted with 24 participants (10% of the sample) to refine instruments. Validity was ensured through expert review and Cronbach's alpha ( $\alpha \geq 0.65$ ), while reliability was confirmed via test-retest methods. Ethical compliance included informed consent, anonymized data storage, and protocols for handling sensitive financial/health information. Analysis employed descriptive statistics, Pearson Chi-Square tests, and regression modeling. Key findings revealed: 1) Predominance of young mothers (63.8% aged 15–24); 2) Significant enrollment predictors: awareness ( $\beta = 0.285$ ,  $p < 0.001$ ), poverty ( $B = 0.056$ ,  $p = 0.026$ ), and religious affiliation ( $B = 0.105$ ,  $p < 0.001$ ); 3) Radio (27.2%), healthcare providers (32.6%), and family/peer networks (17.0%) as primary awareness sources; 4) Affordability barriers, with 55.5% citing premium costs as prohibitive and 15.2% unable to pay; 5) Service efficiency gaps, where only 31% were satisfied with NHIF outlet waiting times. Regression confirmed waiting time satisfaction ( $B = 0.28$ ) and overall satisfaction ( $B = 0.65$ ) as key drivers of outlet satisfaction ( $R^2 = 0.56$ ). The study concludes that NHIF enrollment among primi mothers is hindered by intersecting economic, informational, and structural barriers, disproportionately affecting low-income, informally employed, and geographically isolated women. Recommendations include implementing income-tiered premiums (Ksh 100–500 monthly), integrating NHIF registration with antenatal care, deploying mobile enrollment units to remote wards, training community health workers as insurance ambassadors, and collaborating with religious leaders to address cultural barriers. Future research should evaluate these interventions through longitudinal studies and explore digital payment solutions to enhance accessibility.

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the study

Healthcare is increasingly recognized as a fundamental human right, and achieving equitable access to healthcare services has become a central goal for governments and international bodies alike. The World Health Organization (WHO) has repeatedly emphasized that universal health coverage (UHC) is critical to promoting public health, reducing poverty, and enhancing economic development (WHO, 2020). The basic premise of UHC is that all individuals and communities should receive the health services they need without suffering financial hardship. As global health priorities shift toward inclusivity and sustainability, there is a growing consensus that health systems must be designed to deliver quality services in a way that is accessible, affordable, and fair.

Over the past two decades, the urgency of achieving UHC has gained considerable traction, with numerous countries enacting reforms that align with this objective. The push toward UHC is often framed not just as a healthcare agenda but as a broader social justice imperative. Equity serves as a foundational value in this pursuit, requiring that access to healthcare is based on need and not on one's financial capacity, geographic location, or social status (WHO, 2021). The Sustainable Development Goals (SDGs), particularly Goal 3, further reinforce this agenda by calling for the achievement of UHC, including financial risk protection and access to essential health services for all by 2030. High-income countries have demonstrated that comprehensive and equitable healthcare financing models are achievable with political commitment, adequate resource mobilization, and effective governance structures. In these countries, a combination of public taxation, social health insurance, and private insurance schemes has helped create systems that are both inclusive and resilient. For instance, Germany operates a statutory health insurance system funded through payroll contributions, ensuring access across income brackets (Fink and Gress, 2022). Similarly, France has achieved near-universal

coverage through a national health insurance model that integrates both public and private sectors (Chevreul *et al.*, 2021). Australia's Medicare, which is publicly funded and supplemented by private insurance, provides a hybrid model of universal access with room for individual choice (Reeve *et al.*, 2019).

Although the specifics of these systems differ, a shared principle underlies them: health coverage must be equitable and financed in ways that distribute risk and cost fairly. To this end, many countries have introduced legislation mandating insurance coverage while also subsidizing premiums for vulnerable groups. In the Netherlands, digital health technologies and integrated insurance databases have enabled policymakers to make data-informed decisions and monitor the effectiveness of healthcare interventions in real time (Verhoeven and Leening, 2023). In India, the Ayushman Bharat scheme aims to cover over 500 million poor and vulnerable individuals, leveraging biometric identification and digital platforms to facilitate enrolment and service delivery (Patel *et al.*, 2020).

The need for prepayment mechanisms such as taxation and social health insurance was underscored at the 58th World Health Assembly through resolution WHA 58.33, which called on member states to develop strategies for financial risk protection (WHO, 2005). The resolution has since served as a catalyst for reforms, especially in low- and middle-income countries (LMICs), where healthcare financing remains heavily reliant on out-of-pocket expenditures. The logic behind prepayment is simple yet powerful: spreading the cost of healthcare across time and populations reduces the financial burden on individuals at the point of care and enhances access (Umeh and Adewole, 2021).

A considerable body of scholarship has highlighted the critical role that social health insurance can play in strengthening health systems. According to (Mbau *et al.* 2022), risk pooling under social health insurance schemes enhances equity and increases the

efficiency of resource allocation. In resource-limited settings, such mechanisms provide a pathway toward reducing catastrophic health expenditures and promoting continuity of care. Chellaiyan (2020) argued that such systems are particularly vital in settings where informal employment predominates, and where many households are vulnerable to financial shocks due to illness.

Despite these advances, progress toward UHC remains uneven, and many countries face systemic and contextual barriers that hinder full implementation. In LMICs, chronic underfunding, geographic inequities, limited health infrastructure, and weak governance structures continue to impede access to quality care. For instance, (Appiah *et al.* 2021) found that in many rural African communities, distance to health facilities, poor road networks, and high transport costs significantly diminish healthcare utilization. These barriers are particularly pronounced for chronic illnesses, maternal care, and child health services, where continuous access is essential.

Health financing reforms in sub-Saharan Africa (SSA) have gained momentum in recent years, though with varied success. Ghana's National Health Insurance Scheme (NHIS), launched in 2003, is often cited as a pioneering effort within the region. However, implementation gaps persist. (Amu *et al.* 2022) observed that long waiting times, stock-outs of essential medications, and negative provider attitudes discourage enrolment and erode public trust in the scheme. Further, the scheme struggles with issues of financial sustainability and accountability, which have undermined its broader objectives.

The maternal and child health indicators in SSA reveal the extent of these challenges. A study by (Sanogo *et al.* 2019) reported that only 43% of pregnant women in the region received the recommended four or more antenatal visits. Similarly, the coverage of skilled birth attendance and child immunization lags behind global averages, particularly in rural areas. These disparities reflect not only the limitations of health financing models

but also deep-seated structural inequalities that must be addressed through coordinated policy action.

Out-of-pocket payments remain the dominant form of health financing in many SSA countries, often leading to catastrophic health expenditures and impoverishment. As reported by (Sanogo *et al.* 2019), nearly half of all infants in West Africa are attended by unqualified providers, underscoring the persistent gaps in both service availability and provider competence. Vulnerable populations—including women, children, and informal sector workers—are disproportionately affected, reinforcing cycles of inequality and poor health outcomes.

Governments have responded with a range of strategies aimed at expanding coverage and improving financial protection. In West Africa, Rwanda has emerged as a regional leader in health insurance coverage, achieving over 90% enrolment through its community-based health insurance program. However, even in Rwanda, challenges persist related to benefit package limitations, provider reimbursement delays, and dependence on external donor funding (Fenny *et al.*, 2021). McIntyre and Meheus (2019) argue that such reliance on donor support raises concerns about the long-term sustainability of these programs, particularly in the face of shifting global funding priorities.

In Central and Southern Africa, progress has been similarly mixed. Public health insurance schemes tend to focus on formal sector workers, leaving the majority of the population—who work in informal sectors—without coverage. Owino (2019) identified structural inefficiencies, low revenue mobilization, and political inertia as major barriers to scaling up insurance programs. Moreover, the rapid pace of population growth, combined with a rising burden of both communicable and non-communicable diseases, places immense strain on already overstretched health systems.

Within East Africa, Kenya has made notable strides in expanding access to health services through strategic reforms to its National Hospital Insurance Fund (NHIF). Originally established in 1966 and restructured under the NHIF Act No. 9 of 1998, the fund serves as the main vehicle for achieving UHC in the country (Wamai, 2019). The NHIF aims to provide affordable insurance coverage to all Kenyans, including the unemployed and informal workers, by offering tiered packages and subsidized premiums. The scheme includes inpatient and outpatient services and has been expanded to cover chronic disease management and surgical services.

However, the NHIF's impact remains constrained by several critical issues. As of 2022, only around 25% of Kenyans were actively enrolled in the scheme, and the majority of enrollees were from the formal employment sector (NHIF, 2022). Domapielle (2021) highlighted a number of barriers to enrolment and retention, including high premiums relative to income, limited knowledge of benefits, and bureaucratic inefficiencies. Many informal sector workers, who constitute the largest share of Kenya's workforce, find the enrolment process inaccessible or unaffordable, despite government subsidies.

The NHIF has sought to address these issues through a range of policy initiatives, including targeted enrolment drives, benefit package reviews, and the introduction of performance-based provider payment systems. Efforts have also been made to integrate mobile technology into premium collection and claims processing to enhance convenience and accountability (Mbau *et al.*, 2022). Nonetheless, implementation remains uneven, and the capacity of healthcare providers—especially in rural areas—has not kept pace with increased demand.

Kenya's health financing model attempts to balance mandatory contributions from formal sector employees with subsidized coverage for the poor and vulnerable. Strategies such as tax exemptions for essential drugs, capitation payments to healthcare facilities,

and strategic purchasing are designed to improve efficiency and ensure better health outcomes. Yet, gaps remain in targeting and monitoring, and many beneficiaries are unaware of the full extent of services available to them under the NHIF.

Maternal and child health indicators in Kenya reflect both progress and persisting inequities. Although skilled birth attendance and immunization rates have improved over the past decade, disparities persist along geographic and socioeconomic lines. Women in remote and marginalized counties continue to experience lower access to antenatal and postnatal care, and high out-of-pocket payments deter timely care-seeking behavior (MoH Kenya, 2023). The NHIF's limited coverage of indirect costs—such as transport and nutritional support—also reduces its effectiveness in improving maternal and child health outcomes.

In light of these challenges, this study focuses on the participation of primi mothers in the NHIF program in Meru County, Kenya. Primi mothers—those experiencing their first pregnancy—represent a particularly vulnerable group, often navigating the healthcare system for the first time. Understanding the barriers they face in enrolling and accessing services through NHIF is crucial to informing targeted policy interventions. Meru County, like many other counties in Kenya, exhibits both progress and gaps in health service delivery, making it an appropriate case for examining the intersection of insurance access, maternal health, and systemic efficiency.

Existing literature on NHIF utilization among specific demographic groups remains limited, especially with regard to young mothers and first-time users. While national surveys provide aggregate data on enrolment and utilization, localized studies are essential to uncover the nuanced factors that influence individual decision-making and service access. By examining the socio-demographic, institutional, and informational barriers to NHIF participation among primi mothers, this study contributes to a more

granular understanding of health financing effectiveness in Kenya's devolved health system.

Ultimately, strengthening health insurance schemes like NHIF is vital for achieving Kenya's UHC goals. However, this requires more than policy pronouncements—it demands investment in awareness creation, administrative reform, infrastructure development, and stakeholder accountability. This study offers insights that can guide policymakers in designing inclusive health insurance programs that not only expand coverage but also improve health outcomes for those who need it most.

## **1.2 Statement of the Problem**

Universal health coverage has remained a pressing concern for low- and middle-income countries, where persistent gaps in health insurance enrollment continue to impede equitable access to healthcare services. In Kenya, data from the National Health Insurance Fund (NHIF) indicated that only 11% of the population was enrolled, with significant disparities evident at the subnational level (NHIF, 2018). Maternal mortality remained high at a national rate of 342 deaths per 100,000 live births, while specific regions such as Meru County demonstrated heightened risk for primi mothers—those in their first pregnancy—largely due to inconsistent insurance coverage and delayed initiation of antenatal care (KDHS, 2022). Similar trends were observed globally: Ghana's National Health Insurance Scheme reached 40% of its population, yet maternal health service utilization in rural areas remained limited, and South Africa's National Health Insurance pilot districts experienced enrollment gaps of 35% among low-income women (Amu *et al.*, 2017; McIntyre *et al.*, 2018). These patterns highlighted recurring barriers to enrollment such as affordability constraints, limited awareness, and structural inefficiencies, which disproportionately affected vulnerable populations.

In Meru County, it was found that only 18% of primi mothers were enrolled in NHIF, a figure considerably lower than the national average of 26% for women of reproductive

age (KNBS, 2021). This disparity corresponded with increased morbidity rates, as 32% of primi mothers in the county experienced pregnancy-related complications, including hypertension and postpartum hemorrhage. Such conditions often required emergency interventions that led to catastrophic out-of-pocket expenditures (MoH Meru, 2021). These outcomes were linked to delayed access to care, with 41% of uninsured primi mothers initiating antenatal visits after the first trimester, compared to just 22% among their insured counterparts (Owino, 2019). Financial inaccessibility remained a key barrier, with 63% of informal sector workers in Meru County reporting that NHIF premiums were unaffordable, despite the availability of subsidized maternity packages (Were *et al.*, 2020). Systemic shortcomings—such as long wait times at accredited facilities and poorly coordinated awareness efforts—were reported to contribute to declining trust in the scheme (Macha *et al.*, 2014).

These local findings aligned with broader sub-Saharan African trends, where 56% of maternal deaths occurred among women who lacked health insurance, primarily due to overreliance on out-of-pocket healthcare payments (Sanogo *et al.*, 2019). In Kenya, the limited prioritization of primi mothers by NHIF policies was found to reflect a significant policy gap, particularly in regions facing elevated maternal health risks. While prior literature focused predominantly on national coverage statistics, little attention had been paid to localized barriers in high-risk areas such as Meru. This study responded to that gap by examining the specific determinants influencing NHIF enrollment among primi mothers, including access to NHIF service points, sociodemographic characteristics, awareness levels, and the affordability of premiums. The study's findings were assessed alongside regional and international patterns to derive informed recommendations aimed at expanding coverage, mitigating financial constraints, and ultimately enhancing maternal health outcomes in underserved populations.

### **1.3 Broad objective**

To determine the key factors influencing enrollment in the National Health Insurance Fund among primi mothers in Meru County, Kenya.

### **1.4 Specific Objectives**

The research was guided by the following specific objectives.

1. To determine the proportion of primi mothers enrolled in the NHIF and identify key disparities between enrolled and non-enrolled groups in Meru County, Kenya.
2. To examine the association between sociodemographic characteristics (age, income, education, and marital status) and NHIF enrollment patterns among primi mothers in Meru County, Kenya.
3. To evaluate the effects of awareness levels (knowledge of NHIF benefits, procedures, and eligibility) on enrollment decisions among primi mothers in Meru County, Kenya.
4. To analyze the effect of premium affordability (cost relative to household income) on NHIF enrollment uptake among primi mothers in Meru County, Kenya.
5. To assess the relationship between NHIF outlet accessibility, service efficiency, and enrollment rates among primi mothers in Meru County, Kenya.

### **1.5 Research Questions**

The research answered the following questions.

1. What proportion of primi mothers in Meru County are currently enrolled in the NHIF, and what are the key differences in characteristics between those enrolled and those not enrolled?
2. What is the relationship between specific sociodemographic factors (age, income bracket, education level, marital status) and the likelihood of NHIF enrollment among primi mothers in Meru County, Kenya?
3. To what degree does variation in awareness—captured through knowledge of NHIF maternity benefits, enrollment procedures, and eligibility criteria—serve as a predictor of enrollment likelihood among primi mothers in Meru County?

4. In what manner do fluctuations in premium costs, when considered relative to household income levels, contribute to enrollment discontinuation or non-participation among primi mothers?
5. To what extent do geographic proximity to NHIF-accredited facilities, waiting times, and service quality at enrollment centers correlate with enrollment rates among primi mothers in Meru County, Kenya?

### **1.6 Justification**

The National Health Insurance Fund (NHIF) plays a pivotal role in advancing Kenya's Universal Health Coverage (UHC) agenda. However, persistent enrollment gaps—particularly among high-risk groups such as primi mothers—continue to undermine its effectiveness in reducing financial barriers and improving maternal health outcomes. In Meru County, maternal mortality remains alarmingly high at 398 per 100,000 live births, well above the national average. Despite this elevated risk, only 18% of primi mothers in the county are enrolled in NHIF, compared to a national average of 26% for women of reproductive age (KDHS, 2022; MoH Meru, 2023). These figures reveal a critical disconnect between NHIF's intended coverage and its actual reach among the most vulnerable.

First-time mothers face increased risks of pregnancy-related complications, including hypertensive disorders, which have a prevalence of 32%, and postpartum hemorrhage—conditions that demand both financial and clinical preparedness (MoH Meru, 2023). Yet NHIF's current outreach and accessibility strategies fall short of adequately addressing these needs. The situation in Meru reflects broader patterns seen across sub-Saharan Africa, where overreliance on out-of-pocket health expenditures continues to exacerbate maternal mortality. In Kenya, this financing approach drives 11% of households into poverty every year (World Bank, 2021), further entrenching inequities in healthcare access.

Evidence from other African contexts, such as Ghana and South Africa, illustrates the value of proactive and inclusive enrollment policies. Interventions like subsidized premiums and community-centered awareness campaigns have led to a 22–35% increase in health insurance uptake among vulnerable populations (Fenny *et al.*, 2021; McIntyre *et al.*, 2018). Despite these proven strategies, Kenya's NHIF has not yet implemented tailored measures to engage primi mothers—an omission that continues to expose this group to heightened clinical and financial risks.

This study aims to fill that gap by exploring the structural, sociodemographic, and economic factors influencing NHIF enrollment among primi mothers. Its findings are expected to guide the development of targeted reforms, including the decentralization of NHIF services to underserved areas, introduction of maternity-specific premium subsidies, and culturally sensitive education campaigns designed to overcome information barriers. Aligning NHIF's design and implementation with the distinct needs of primi mothers has the potential to accelerate progress toward Kenya's UHC goals. Moreover, the study offers a scalable model that other regions facing similar insurance uptake challenges can adapt to safeguard maternal health and reduce catastrophic healthcare expenditures.

### **1.7 Significance of the Study**

This study holds critical importance for advancing Kenya's Universal Health Coverage (UHC) agenda, with a specific focus on addressing systemic barriers to National Health Insurance Fund (NHIF) enrolment among primi mothers—a group notably affected by limited access to health insurance. The identification of structural inefficiencies in NHIF service delivery, such as prolonged waiting times and restricted geographical access in rural areas of Meru County, presents clear opportunities for policy reform. Evidence from Ghana's National Health Insurance Scheme (NHIS), where a 40% reduction in wait times

at enrolment centers resulted in a 22% increase in maternal insurance uptake over two years (Amu *et al.*, 2017), demonstrates the potential impact of operational improvements. This precedent underscores the need to restructure NHIF systems in Kenya to better serve underserved regions.

The study further contributes essential empirical insights into the sociodemographic determinants of NHIF enrolment. Factors such as income disparity and education level play a significant role in shaping access to maternal health coverage. Among primiparous mothers in Meru County, 63% are engaged in informal employment and cannot afford NHIF premiums (Were *et al.*, 2020), highlighting a pronounced affordability gap. This analysis can inform discussions on subsidized maternity packages or income-based premium waivers. Such interventions are consistent with the World Health Organization's call to enhance financial risk protection for vulnerable groups (WHO, 2020), a priority in a context where catastrophic health expenditures drive approximately 1.5 million Kenyan households into poverty annually (World Bank, 2021).

The study also brings attention to widespread gaps in awareness concerning NHIF maternity benefits. Addressing these informational deficits is essential for boosting enrolment rates. Rwanda's community-based health insurance model, which achieved a 35% increase in maternal enrolment through localized outreach initiatives (Sanogo *et al.*, 2019), provides a replicable framework for awareness campaigns in Meru County. Community-tailored education and sensitization efforts can foster trust in NHIF services and encourage continued participation among first-time mothers.

Academically, the study enriches literature on health financing in resource-constrained settings by exploring NHIF enrolment challenges within the sociocultural and economic landscape of East Africa. For policymakers, it offers a framework for adapting NHIF services to the lived realities of high-risk populations. Health practitioners can leverage

these findings to advocate for maternal health equity within UHC implementation strategies. Ultimately, NHIF is positioned not only as a financial tool but as a transformative mechanism for improving maternal health outcomes and breaking cycles of poverty driven by healthcare costs.

Scope of the study was confined to NHIF uptake among primi mothers residing in Meru County, Kenya. No other counties or maternal cohorts were included in the investigation.

### **1.8 Limitations of the Study**

The study acknowledged the following limitations and implemented measures to address them:

1. A subset of interviewees initially exhibited reluctance to disclose sensitive information about health insurance utilization or socio-financial circumstances. To mitigate this limitation, researchers proactively clarified the study's purpose during consent procedures, emphasizing its focus on systemic barriers rather than individual behaviors. Participants were assured of strict confidentiality through anonymized data coding, secure storage protocols, and verbal/written agreements that no personally identifiable information would be published. This approach increased participant openness, as evidenced by a 92% completion rate for sensitive questions post-intervention.
2. Some respondents were unable to complete the survey because they couldn't read or write. The research was assisted by research assistants who were capable of the local language. In the local language, they explained the purpose of the review and the questions on the form.

### **1.9 Delimitations of the Study**

This study was intentionally confined to primi mothers—women experiencing their first pregnancy—residing within Meru County, Kenya. The focus on this specific demographic was driven by their elevated vulnerability to maternal complications and underrepresentation in health insurance policies. The research did not explore NHIF enrollment trends among multiparous women, male guardians, or other household

members, as the objective was to understand insurance uptake within a narrowly defined, high-risk group.

Geographically, the study excluded urban centers outside Meru County, even though maternal health disparities may exist in comparable counties. This decision was made to ensure a context-specific examination of localized barriers such as service accessibility, premium affordability, and awareness deficits that are unique to Meru's healthcare infrastructure and demographic makeup.

In terms of data scope, the study prioritized primary data collection through structured interviews and questionnaires administered to selected participants. Institutional records from NHIF branches, hospitals, or clinics were not comprehensively audited due to data access restrictions and inconsistencies in record-keeping. Additionally, the study focused solely on the NHIF as Kenya's primary public health insurer and did not account for alternative private insurance schemes or community-based health financing models.

Finally, while enrollment trends were analyzed, the study did not assess post-enrollment service utilization or treatment outcomes. The primary concern was whether women enrolled, and what factors facilitated or hindered that decision—not the full continuum of care following enrollment. This delimitation enabled a focused evaluation of the enrollment phase, which remains a critical yet underexplored aspect of universal health coverage implementation in maternal care.

### **1.10 Scope of the study**

The population for the study was recruited from 500 respondents of Meru County. Perception, NHIF awareness, social-economic status, and NHIF enrolment constituted the study factors for the targeted respondents.

### **1.11 Assumptions of the Study**

In the investigation, the following three simple concepts were examined. First, it was believed that some respondents had health insurance at the time of the survey. The second

factor was that individuals were able and willing to share specific information about their financial situation and health insurance utilization. Respondents were also interested in new health care payment methods that could reduce their out-of-pocket expenses and make it simpler for them to receive the finest care.

### **1.12 Definition of Significant Terms**

**Age:** The number of years that a respondent has been alive at the time of data collection.

**Knowledge:** Refers to whether the respondent possesses accurate and relevant information about registration requirements, associated costs, and the benefits of insurance coverage.

**Education:** The highest level of formal education that the respondent has completed.

**Household size:** The total number of individuals living together as part of a single family unit.

**Income:** The total amount of money earned by the respondent from various sources, including small businesses, farming, and other income-generating activities.

**Marital status:** The respondent's legal relationship status, categorized as single, married, separated, or divorced.

**Employment status:** Indicates whether the respondent is currently engaged in paid work.

**Catastrophic health expenditure:** Describes health-related costs that are disproportionately high relative to an individual's or family's income, often resulting from the treatment of serious illnesses.

**Enrolment:** The official process of registering or joining a health insurance plan.

**Medical insurance enrolment:** The act of signing up for a medical insurance program, enabling access to health coverage.

**Utilization:** The extent to which healthcare services are used by an individual following enrolment in a medical insurance program.

**Health insurance:** A financial protection mechanism that covers all or part of the costs associated with medical services, including doctor visits, procedures, and medications.

**Out-of-pocket payments:** Direct payments made by individuals to cover their own medical expenses without reimbursement from insurance, which may include costs for prescriptions, doctor visits, and treatments.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents a review of relevant literature, focusing on the key factors influencing enrollment in Kenya's health insurance fund among primi mothers in Meru County. The discussion centers on critical issues such as premium affordability, socio-economic and demographic characteristics, levels of awareness, and accessibility of health insurance fund outlets.

### **2.2 The Global Perspective on Health Insurance**

Johnson (2018) notes that numerous studies have explored medical insurance as a key component in assessing global healthcare provision. Significant disparities exist in access to health insurance between developed and developing countries, highlighting persistent inequalities in healthcare systems. Despite these differences, medical health insurance has increasingly been recognized as a vital mechanism for ensuring universal access to healthcare services (Smith, 2020).

#### **2.2.1 Health Insurance Coverage in Advanced Industrialized Nations**

In advanced industrialized nations like the United States, the healthcare system is characterized by a mix of public and private providers (Sezer and Bauer, 2017). This structure supports a "multi-payer" model, where both the federal government and private insurance companies finance healthcare services (Rice *et al.*, 2014). In the U.S., public insurance programs include Medicare and Medicaid. Medicare primarily serves seniors and certain individuals with disabilities and is funded through a combination of individual registration fees, payroll taxes, and capital gains taxation. Medicaid, on the other hand, targets low-income and disabled populations and is financed jointly by federal and state governments (Cohen *et al.*, 2019; Cohen *et al.*, 2020). Additional programs such as the State Children's Health Insurance Program (S-CHIP) provide

coverage for adolescents whose families do not qualify for Medicaid but cannot afford private insurance (Cohen *et al.*, 2019, 2020).

The private health insurance sector in the United States includes employer-sponsored plans and individual coverage. Employer-sponsored insurance is a common option, with employers typically covering a significant portion of the premiums, making it financially beneficial for employees (Sekhri and Savedoff, 2005; Berkowitz *et al.*, 2020; Perry and Rosen, 2001). For retirees and self-employed individuals not eligible for employer-based plans, private insurance outside of institutional arrangements offers an alternative.

Canada operates a tax-funded healthcare system, with financial contributions from both federal and provincial governments. The Canada Health Act mandates government support for insured medical services, while non-insured services—such as dental care, vision care, and prescription drugs—are typically paid for out-of-pocket or through private insurance (Marchildon, 2020; Martin *et al.*, 2018). Government funding is directed primarily toward medically necessary services.

In England, healthcare is universally accessible through the National Health Service (NHS), which is publicly funded and offers services free at the point of use. Although some cost-sharing mechanisms exist—such as nominal charges for prescription drugs—most services are provided without direct payment. Private health insurance supplements public care by covering services from private providers, which can be particularly useful in bypassing long wait times in the public system. Despite this, only around 13% of the population holds private insurance, and private sector programs may involve additional out-of-pocket costs (Grosios *et al.*, 2010; Stuttaford *et al.*, 2017).

### **2.2.2 Health Insurance Coverage in Developing Nations**

Because of their large populations, numerous small- and middle-income nations struggle to pay for well-being care (World Health Organization, 2005). Politicians from around the globe have advocated for a variety of solutions, including social medical insurance

and various types of health insurance (Kamau and Njiru, 2014). In impoverished nations, governments frequently create and fund government-based social medical insurance programs as opposed to community-based programs (Kamau and Njiru, 2014).

In some developing nations, formal economy workers are required to have social medical insurance. Other plans reimburse individuals who do not participate in the formal economy for services rendered to cover out-of-pocket expenses. (Abrokwah *et al.*, 2017) Residents of uninsured areas can receive treatment through a payment system based on their wealth.

In 2003, the United States launched Seguro Popular, a national health insurance program modeled after Mexico's successful system. This program is administered by the Ministry of Health and provides comprehensive health care to more than 50 million uninsured Mexicans (Galárraga *et al.*, 2008; Knox, 2008). Seguro Popular allows the poorest 20% of individuals to enroll for free, while everyone else must pay a nominal fee. (Galárraga *et al.*, 2008; Knox, 2008) Affiliated organizations provide healthcare services to individuals who have registered.

By 2012, nine years after the implementation of Seguro Popular, standard insurance had made substantial progress in the United States (Galárraga *et al.*, 2008). In April 2012, when more than 52 million previously uninsured Mexicans enrolled in social security, the funds for standard insurance were exhausted (Garca Pérez *et al.*, 2021).

In terms of health protection, Vietnam has made significant progress compared to other developing nations. In 1992, the country converted from a tax-based system to social health insurance (SHI) in an effort to promote health equity. In 2008, Vietnam approved a medical insurance regulation that was difficult to implement. The target was universal coverage by 2014. Vietnam's existing health insurance system is founded on the Social Health Insurance law, which took effect on July 1, 2009. In 2010, approximately 50.8% of

the population, or approximately 50 million persons, were covered by social health insurance (Ekman *et al.*, 2008; Quynh *et al.*, 2020).

The scheme for medical insurance in Vietnam is individualized. Participation is consequently low in both the formal and private sectors. The system has 25 contributor categories, ranging from the wealthy (those in the official sector) to the impoverished, whose contributions are subsidized by the government. (Ekman *et al.*, 2008; Quynh *et al.*, 2020) Every donation goes to a single national fund.

Even the most vulnerable individuals, such as those who are extremely impoverished, unemployed, or unable to afford even the most fundamental necessities, are cared for. According to (Carapinha *et al.* 2011), individuals contribute to this plan based on their ability to do so. Private company medical insurance policies comprise the second form of insurance. These plans may require a security deposit prior to commencing operations and no longer receiving funding from the National Health Insurance Fund.

The third type is a private group medical health insurance plan, which allows groups of individuals to pay for their own health care using services approved by the plan's governance board. According to Barimah and Mensah (2013), the National Health Insurance Fund does not contribute to the payment of this type of insurance.

Enrollees in the Nigerian Health Insurance Scheme (NHIS) receive comprehensive coverage, which includes doctor visits, prescription medications, supplies, and simple and minor treatments. According to the Joint Learning Network for Universal Health Coverage (2013), 33% of the population, or 45,6 million Nigerians, do not have access to modern medical health insurance.

According to (Binyaruka *et al.* 2018), approximately sixty percent of Tanzanian health insurance programs are privately administered, and consumers pay family rates. This type of insurance is available to a limited number of individuals who can afford it. The

majority of the money originates from large, city-based private corporations. The National Social Security Fund's Social Health Insurance Benefit aims to increase access to healthcare, whereas the National Health Insurance Fund covers ordinary state employees and their families (Macha *et al.*, 2014). The Community Health Fund (CHF) was established as a decentralized initiative to provide volunteer medical insurance at the district level, focusing on the impoverished and both the organized and unorganized sectors. (Binyaruka *et al.*, 2018) Unions, institutions, and local communities may, if they so choose, support micro-health insurance initiatives (MHIS). These programs serve particular locations or institutions.

Overall, health insurance systems in Ghana, Nigeria, and Tanzania aim to provide accessible and affordable healthcare coverage to their populations. These countries have implemented various schemes and programs, both public and private, to ensure that individuals and families can receive the necessary medical care and protection

### **2.3 Health insurance financing system in Kenya Context**

According to Okech and Lelegwe (2015), Kenya has had a great deal of success in health insurance, particularly in achieving Universal Health Coverage (UHC). The 2007 Kenya Domestic Spending and Consumption Investigation Report indicates that the majority of Kenyans have health insurance, with greater coverage in urban areas than in rural areas. The Ministry of Health of the Republic of Kenya observed that persons with advanced incomes were further potential to purchase strength protection. According to the 2008-2009 Kenya Demographic and Health Survey (KNBS and ICF Macro, 2010), only 9.2% of Kenyans are insured. (Obare *et al.* 2014) and (Okech and Lelegwe, 2015) believe that by 2015, 25 percent of the population was insured. Kenya has both mandatory and optional insurance plans, as well as both private and public institutions (Gok, 2012). Kenya's top priority is to save enough money to meet the health-related Millennium Development Goals so that the country's expanding urban and rural populations have

access to quality healthcare. The government, private businesses, NGOs, community-based programs, and individual and family out-of-pocket (OOP) expenses pay for healthcare in Kenya. In fiscal year 2005/2006, however, only 5.2% of Kenya's total government expenditures were allocated to health. This was less than the 15% objective outlined in the Abuja Declaration of 2000 (Deloitte, 2011). This episode illustrates the problems that can arise when individuals rely excessively on donations and their own funds. According to the National Health Accounts (NHA), families cover 29.1 percent of all hospital expenses, while donors cover 18.8 percent. According to (Barasa *et al.*, 2018) and (Mbau *et al.*, 2020), the crucial management contributes 39%, reserved healthiness insurance plans contribute 5.4%, and the NHIF contributes a meager 3.7%. In order for everyone to have access to healthcare and for people to rely less on financial donations and out-of-pocket expenses, the government has been examining alternative methods of financing healthcare. According to (Barasa *et al.*, 2018), one option is to rename NHIF to NSHIF, which would enable all Kenyans to obtain insurance. Sessional Paper No. 7 on standard health insurance recommends the establishment of savings programs in lieu of significant out-of-pocket expenses and tax payments. The government is also responsible for modifying how the Fund operates and how donations to the needy are funded. The National Health Insurance Scheme is an essential step toward achieving equity in the payment of healthcare in Kenya. It is also consistent with the social policy of Vision 2030, which emphasizes on reducing disparities in access to healthcare (Gok, 2012).

## **2.4 Factors influencing the Enrolment of Health Insurance by Primi Mothers**

### **2.4.1 Challenges and Strategies for NHIF Enrolment among the Impoverished**

National Health Insurance Fund (NHIF) is a desired public policy initiative. It aims to reduce overall health care costs so that more Kenyans have entrance to high-quality medical care. (National Academies of Sciences *et al.*, 2018) examined the features

manipulating the enrolment in public health insurance among the impoverished in Nairobi, Kenya. The study utilized data from the Nairobi Urban Health and Demographic Surveillance System, which monitored more than 60,000 inhabitants of approximately 23,000 slum dwellings in Nairobi.

The trend was described using descriptive data, and a multivariate logistic regression analysis was conducted to determine which variables were associated with enrolment in the NHIF program. The study discovered that less than 1% (0.8% of interviewees) had personal insurance and only 10% participated in the NHIF program.

The majority of respondents (89%) indicated that they no longer have insurance. According to the survey, many people living in rural and urban neighborhoods are too impoverished to pay the minimum premium to the national insurance fund. The studies also revealed that the monthly NHIF premiums were too costly for the impoverished and the disabled, placing them at significant financial risk.

(Macha *et al.*, 2014) proposed a method to assist impoverished individuals in utilizing the NHIF program. The solution is to establish a risk pool and a program to assist with relocation costs. According to the study, one solution could be to use a scientific method that allows the pooling of resources and the determination of payment by a single customer. The funds must be collected according to a strict system whose sole purpose is to pay for health care. These funds must be managed properly so that they can be used to assist the individual achieve his or her primary objective. The critical-based method will then allocate funds to municipalities based on the extent to which they require gyms and other facilities to provide high-quality healthcare services in specific areas (Were *et al.*, 2020). The changes must, among other things, establish a system for regulating the amount of money people can discuss, require those living below the poverty line to pay an annual fee, and increase the income-based monthly fees for those residing within the

official zone. It is essential to protect the impoverished, so the NHIF program should not prohibit individuals from enrolling based on their financial situation.

#### **2.4.2 Level of Awareness**

(Bennie *et al.*, 2017) define awareness as a broad comprehension of healthcare needs coupled with a more specific understanding of risk and protective factors. In many low-income countries, insurance remains a relatively unfamiliar concept, requiring individuals to make upfront payments for uncertain future benefits. This lack of familiarity often leads to misconceptions, such as the belief that unused premiums should be refunded. (Bennie *et al.*, 2017) recommend addressing this issue through public education campaigns and leveraging social networks to improve understanding of insurance benefits.

Awareness is a pivotal determinant of effective participation in health insurance schemes (Mwaura *et al.*, 2021; Okech and Lelegwe, 2015). Studies by these authors explored factors influencing the use of the National Health Insurance Fund (NHIF) among casual workers. Their descriptive research highlighted that poor knowledge and affordability concerns were key obstacles to enrolment. (Duflo *et al.*, 2015) also identified limited knowledge as a major impediment to participation in NHIF, reinforcing the critical need for awareness campaigns.

Azevedo (2017) emphasized the necessity of building trust within underserved communities to enhance the adoption of health insurance. Many individuals are unfamiliar with health coverage and remain skeptical due to negative prior experiences with other financial services. To address this, Azevedo (2017) advocates for the involvement of respected community leaders and targeted messaging strategies.

To engage informal and marginalized populations, microfinance institutions and network-driven enterprises offer potential entry points for introducing health insurance (Azevedo, 2017). Traditional outreach methods may fall short in these contexts; thus,

communication strategies should employ social advertising, relatable figures, and storytelling to explain the benefits of insurance. These campaigns must convey solidarity, optimism, and communal safety as key messages.

(Berlanda *et al.*, 2020) caution that promoting insurance among low-income groups is particularly challenging due to delays in claims and frequent denials. Illiterate individuals may find it especially difficult to rationalize using scarce resources for uncertain future risks. Accordingly, educational initiatives should use simple, culturally resonant tools—such as local theater, illustrations, and short videos—to communicate the role of insurance in risk management.

Although prior studies have examined the link between family size and insurance usage, findings remain inconclusive. (Mwaura *et al.*, 2021) observed a negative relationship between enrolment and family size, suggesting larger families gravitate toward public or mutual insurance models, while smaller families may prefer private schemes.

### **2.4.3 Registration procedures and payment mechanisms**

Health insurance remains a novel concept in many low-income regions, where people are often unfamiliar with the mechanisms of prepaying for uncertain future benefits. De Bock and Gelade (2018) highlight that new policyholders frequently misunderstand insurance principles, expecting refunds if they do not utilize services. To address such misconceptions, comprehensive insurance literacy programs are essential, alongside leveraging social networks to disseminate accurate and accessible information.

(Amo-Adjei *et al.*, 2016) found that access to registration points in Kenya poses a significant barrier. Insurance offices are mostly located in urban centers, which complicates enrolment for rural residents. The geographic imbalance contributes to inequality in access and limits participation from remote populations.

(Wirtz *et al.*, 2017) examined challenges related to health coverage adoption among marginalized populations. They identified mistrust, lack of awareness, and skepticism as

barriers that dissuade many from enrolling in insurance programs. These barriers are compounded by previous negative experiences and a general lack of belief in the system's reliability. To address these issues, they recommended deploying communication strategies through trusted local leaders to build credibility and encourage adoption.

Witter (2017) proposed that integrating health insurance with microfinance institutions and network-based enterprises could enhance outreach to informal sector workers. These intermediaries are more embedded in the communities and can provide easier points of contact for individuals with limited access to formal systems. Traditional communication channels are often ineffective in rural or underserved regions, so campaigns should utilize social advertising that emphasizes communal benefits and real-life testimonials.

Ertekin and Navarrete-Moreno (2017) presented an innovative approach in India, where trained facilitators organize sports events to promote insurance education. These interactive platforms engage communities in non-formal environments, enabling open dialogue and encouraging participation. Such models could be adapted in Kenya, especially in rural and informal employment settings.

Effective registration also depends on simplified procedures and user-friendly payment mechanisms. Insurance systems that rely on complex bureaucracy discourage enrolment. Offering mobile-based platforms and flexible premium schedules tailored to income variability can enhance enrolment and retention rates among low-income populations. These reforms must be accompanied by robust outreach efforts to clarify procedures and address doubts surrounding payment structures and benefit eligibility.

#### **2.4.4 Benefits of health insurance subscriptions**

Promoting insurance to low-income populations presents significant challenges, especially in contexts where experiences with coverage have been negative or nonexistent. (Rom *et al.*, 2012) point out that delays in claims processing and high rates of claim denials can undermine the perceived value of insurance, even among those

already enrolled. As a result, dissatisfaction and reluctance to renew subscriptions are common.

(Allcock *et al.*, 2019) emphasize that individuals with limited education and income often question the rationale behind spending scarce resources on services they may never use. This skepticism is particularly strong in daily wage earners who prioritize immediate needs over abstract future risks. To counteract such perceptions, insurance promotion must highlight the security and peace of mind that coverage provides during emergencies. Effective awareness strategies should underscore values such as solidarity, optimism, and collective responsibility. Emphasizing these themes can help mitigate resistance based on fear or misinformation. Messaging should not only present insurance as a financial tool but also as a social safety net that protects families and communities from the burden of unexpected medical costs.

Visual storytelling, relatable case examples, and simplified content delivery are critical to reaching audiences with limited literacy. Campaigns should shift away from technical jargon and instead use images, testimonials, and real-life success stories. When insurance is contextualized within everyday experiences—such as childbirth, illness, or accidents—individuals are more likely to perceive its relevance and utility.

Tailored outreach to informal and rural populations can further improve the reception of insurance messages. Engaging local leaders, religious institutions, and community gatherings offers a channel for communicating benefits in a culturally sensitive and trusted setting. Public education should also aim to correct misconceptions, particularly around the idea that unused premiums represent lost money.

In sum, to improve the uptake of insurance among the poor, there must be a dual focus on improving the functionality of the insurance system—by addressing issues like

delayed claims—and on changing public perceptions through targeted, values-based communication.

#### **2.4.5 Access to health insurance subscription information**

Limited access to accurate information continues to be a primary barrier to health insurance enrolment. In Maharashtra, India, (Panda *et al.*, 2016) found that poor understanding of insurance operations and policy mechanisms led to low registration and renewal rates. Despite awareness of the benefits, many individuals were deterred by uncertainty about how the programs function.

(Mwaura *et al.*, 2021) conducted a study in Hyderabad that revealed 65.5% of respondents lacked knowledge about health insurance. (Oranga *et al.*, 2020) further established that education levels were positively associated with insurance literacy, suggesting the need for targeted education campaigns, particularly in low-literacy populations.

Training and group discussions have proven effective in raising awareness. A study in Bangladesh involving temporary workers demonstrated that weekly dialogues on health costs and insurance options led to a 33.8% increase in willingness to pay among participants. This finding underscores the importance of interactive and participatory education formats over passive dissemination of brochures or advertisements.

Khan and Ahmed (2013) recommended comprehensive education modules covering key insurance principles, including risk pooling, benefit structures, and solidarity mechanisms. These modules can be especially beneficial for informal workers and those without prior exposure to structured insurance schemes. Ssempala (2018) also emphasized the importance of demystifying registration processes to facilitate enrolment, particularly in national schemes like NHIF.

(Barasa *et al.*, 2018) highlighted a gap in awareness among Kenyans, especially in the informal sector. While recent advances in digital communication have expanded the

reach of health-related messages, the need for consistent, community-level sensitization remains critical. For instance, the boda boda sector offers a unique opportunity for NHIF outreach through mobile-based platforms and peer-driven advocacy.

Although multiple media platforms now contribute to the dissemination of information, there is still insufficient focus on explaining NHIF's day-to-day functionality. Many individuals remain unaware of how to navigate enrolment, make contributions, or file claims. Structured public information initiatives that use both traditional and digital media—tailored to different literacy levels—are necessary to close the information gap.

### **2.5 Access to NHIF outlets and enrolment of health insurance**

Accessibility of NHIF services remains uneven across different regions in Kenya. (Kimani *et al.*, 2012) observed that many NHIF beneficiaries tend to seek healthcare from private facilities, as NHIF services are predominantly delivered through these centers. This arrangement marginalizes rural and underserved populations who may lack access to such facilities.

(Mwangi *et al.*, 2019) proposed enhancing accessibility in remote areas through collaboration with local organizations such as cooperative societies, churches, and trade unions. These groups can facilitate contributions and distribute health insurance cards, making enrolment more efficient and geographically inclusive. (Barasa *et al.*, 2017) emphasized the importance of establishing structured mechanisms for the timely remittance of contributions to ensure transparency and accountability.

Accessibility involves both physical and economic dimensions. According to (Mecca *et al.*, 2014) and (Mtei *et al.*, 2014), many individuals are hindered by long distances to facilities, high transport costs, and affordability issues. Even when healthcare services exist, they may be poorly located, under-resourced, or difficult to reach due to inadequate infrastructure.

Domapielle (2016), in a World Health Organization study in Moldova, found that aging facilities and substandard infrastructure often prevent effective delivery of healthcare services. Similarly, WHO (2016) highlighted that travel time, waiting periods, and lack of transportation significantly affect perceived accessibility, particularly among vulnerable populations.

Limited access to healthcare has serious consequences. Webber (2018) noted that preventable deaths among children under five are on the rise in Sub-Saharan Africa due to the lack of timely and high-quality interventions. In Tanzania, over 40% of rural women give birth outside of medical facilities, often relying on Traditional Birth Attendants. (Barasa *et al.*, 2017) attribute this to logistical barriers and long distances to equipped health centers.

In Kilifi County, Kenya, (Okech and Lelegwe, 2015) reported that distance and inadequate hospital infrastructure were key drivers of home deliveries. Women who could access healthcare centers with trained personnel were more likely to deliver in hospitals, underscoring the importance of both proximity and facility readiness.

Improving access requires expanding NHIF's physical presence and aligning services with the healthcare-seeking patterns of rural populations. Strengthening partnerships with community-based organizations and upgrading rural health infrastructure can reduce disparities in insurance access and utilization.

## **2.6 Influence of social-economic factors on enrolment of health insurance**

In their study of 82 medical insurance programs in developing and advanced nations, Bendig and Arun (2011) noted that health planners can experience difficulties estimating earnings from temporary workers. It is challenging to assemble coverage rates at source due to the earning range over time and frequent non-taxation. Cash flow problems and seasonal income are common in rural areas where agriculture is still a major source of employment. According to

Flexibility in premium charge is the other essential component. Fee schedules have been held flexible in the Philippines for CBHI schemes, which include the ORT, and require monthly, quarterly, or semi-annual payments (Robyn *et al.*, 2012). In Tanzania, trust was seen as an important factor in the development of CBHIs among casual zone workers to the extent that these workers formed their own associations, a strong foundation for fostering trust among members. Consequently, a CBHI became simpler to create as a result of such trust-based linkages (Binyaruka *et al.*, 2018).

Economic factors such as profitability, employment levels, and wealth index are crucial deciding factors in the purchase of medical insurance. The relationship between profits and medical insurance has been studied by (Carapinha *et al.*, 2011 Duflo *et al.* 2015; and (Okech and Lelegwe, 2015)). They all agree that there may always be a strong relationship between profits and health insurance. Research by (Ho, 2015) also found a direct, high-quality link between work status and the purchase of health insurance.

(Amo-Adjei *et al.*, 2016) found that higher wealth indices and the adoption of medical insurance are associated with higher-quality courtship in Kenya. A character might have a high wealth index, a high income, and be employed but still choose not to get health insurance. This can be characterized using their socio-demographic characteristics, such as education level, age, gender, and marital status. Studies by (Amo-Adjei *et al.*, 2016;, Duflo *et al.*, 2015; and Oranga *et al.*, 2020) agree that having a higher level of education and getting married increase one's chances of purchasing health insurance.

The research does cover both age and gender, though. While (Onasanya, 2020) found that being younger would increase the likelihood of registering in a medical insurance plan, (Barasa *et al.*, 2018) found that being older would increase the likelihood of registering in a plan. (Oraro *et al.* 2017 and Ssempala, 2018) found the opposite: male-headed families, and being male, elevated the opportunity of buying a medical insurance

scheme. Some socio-demographic characteristics, including education, can have an impact on behavior. This is well demonstrated in research by (Kamau and Njiru, 2014), who found that risky behaviors like smoking, drinking alcohol, and not using birth control increased the need for medical insurance. This is because erratic behavior became associated with one expected health reputation. People who are concerned about unstable behavior are likely to purchase medical insurance since they may be aware of the repercussions because it isn't always sudden.

In their study on residents of Nairobi's city slums, Kimani *et al.* (2012) found that employment status significantly influences people's decision to register for public health insurance, with employed individuals being more likely to enroll in the NHIF program compared to private health insurance. This finding aligns with the research by Mbau *et al.* (2020) and Onwujekwe *et al.* (2012), highlighting the differential engagement between formal and informal sectors within NHIF and its implications for social health insurance expansion in Kenya.

Moreover, the study revealed that individuals living in extreme poverty were less likely to participate in the National Health Insurance Fund program due to their inability to make the necessary payments (Onasanya, 2020). The researchers concluded that income plays a crucial role in determining health insurance coverage, as low-income individuals were significantly less likely to register for the NHIF scheme (Azevedo, 2017).

Acceptance of medical health insurance was identified as a significant influence. Barimah and Mensah (2013) found that access to newspapers and television increased women's coverage insurance in Ghana. Similarly, Berkowitz *et al.* (2020) demonstrated that knowledge and information positively affected the likelihood of purchasing medical health insurance. Conversely, Hulme and Scott (2010) highlighted that a lack of

knowledge among taxi drivers regarding registration procedures and basic insurance concepts posed a significant barrier to enrolment.

Family size's relationship with the use of medical insurance remains inconclusive. Bennie *et al.* (2017) observed a negative correlation between the likelihood of enrolling in a medical health insurance plan and the growth of one's immediate family. Larger family sizes were associated with social protection funds and mutual medical health insurance schemes, while smaller families leaned towards personal medical health insurance schemes.

Existing research underscores the complex relationship between awareness, financial accessibility, and health insurance enrollment in low-income contexts. While studies such as Binyaruka *et al.* (2018) affirm the necessity of medical insurance in mitigating healthcare inequities, evidence on the efficacy of awareness campaigns remains contradictory. For instance, Owino (2019) demonstrated that participation in community health meetings increased enrollment likelihood by 23% in rural Kenya, and Seminar *et al.* (2015) highlighted the role of policy literacy in enhancing uptake. However, Ssempala's (2018) counterfinding—that expanded awareness did not correlate with increased demand in Uganda—reveals critical contextual limitations. These discrepancies suggest that awareness alone is insufficient without concurrent structural reforms to address systemic barriers such as unaffordable premiums, mistrust in insurance mechanisms, or inadequate service delivery (Lagomarsino *et al.*, 2012).

Kenya's experience exemplifies this tension. Despite the theoretical promise of social health insurance, implementation has been hampered by persistent financial and operational challenges. The collapse of the National Social Health Insurance Fund (NSHIF) in 2004 due to fiscal unsustainability (Jesse, 2018) and subsequent reliance on out-of-pocket payments—which consume 24% of household incomes among the poorest

quintile (Acharya *et al.*, 2017)—demonstrate systemic failures. For vulnerable groups like primi mothers, these barriers are compounded by sociocultural factors, geographic marginalization, and gendered economic disparities (McCaw-Binns *et al.*, 2018; Kimani *et al.*, 2017). While prior studies identify awareness as a determinant of enrollment, few interrogate why this relationship falters in specific subpopulations or how intersecting variables—such as NHIF outlet inefficiencies or premium structures—mediate its impact.

This study addresses that gap by examining how awareness interacts with structural and sociodemographic factors to shape enrollment decisions among primi mothers in Meru County. Unlike broader analyses, it focuses on a high-risk demographic excluded from Kenya's NHIF success narratives despite their heightened vulnerability to maternal morbidity (398 deaths/100,000 live births vs. national 342) and financial hardship (MoH Meru, 2023). By contextualizing awareness within the lived realities of primi mothers—including mistrust stemming from NHIF's historic operational failures (Jesse, 2018) and competing financial priorities—the research moves beyond binary debates about awareness to identify actionable, multidimensional solutions for improving uptake.

Various factors, such as delivery costs and lost earnings, can prohibit people from utilizing healthcare services even when they are provided free of charge (WHO, 2016). Consumer price charging has been shown to impact healthcare utilization in low-income countries (WHO, 2010). The high costs of healthcare push millions of people into poverty annually, leading many to forgo seeking care due to financial constraints (Mills, 2017). When healthcare services are unaffordable, individuals are more likely to delay seeking treatment, potentially reducing their chances of recovery (Carolina, 2021). The Health Belief Model highlights that perceived barriers, including cost, can deter patients from

seeking healthcare (Carolina, 2021). As a result, a large number of poor individuals worldwide lack access to healthcare when they need it (WHO, 2015).

In Kenya, there are various options for health coverage, including public medical insurance, private insurance companies, and community-based health insurance (CBHI) programs. Private health insurers primarily cater to high-income earners due to high fees (PSP4H, 2014). CBHI programs have limited coverage and are managed by community members to ensure financial accessibility (KCBHFA, 2019).

The National Health Insurance Fund (NHIF) was established in 1998 to provide affordable healthcare to all Kenyans (NHIF, 1998). Over time, the NHIF has expanded its benefits, including coverage for outpatient treatment and seasonal workers (NHIF, 2015). Family members are covered under a single key member, with dependents automatically included for children under 18 or attending college (NHIF, 2015).

In conclusion, Kenya faces significant challenges in healthcare provision, particularly for vulnerable populations. Financial constraints and lack of long-term financial mechanisms hinder the implementation of social medical health insurance programs. Insufficient government funding and high out-of-pocket expenses create barriers to accessing healthcare services. Various factors, including cost and perceived barriers, affect healthcare utilization. Kenya has various health coverage options, including the NHIF, which aims to provide affordable healthcare for all Kenyans (WHO, 2016; KCBHFA, 2019; NHIF, 1998, 2015).

The National Health Insurance Fund (NHIF) has formed partnerships with various organizations to finance medical insurance for disadvantaged businesses (Cohen *et al.*, 2019). One of these partnerships is the Health Insurance Subsidy Programme (HISP), which aims to provide financial risk protection to the poorest residents of Kenya by offering them subsidies for medical insurance. This program covers both inpatient and

outpatient care in public and private healthcare facilities (Cohen *et al.*, 2019). The initiative receives funding from the International Development Association (IDA) and the International Finance Corporation (IFC) of the World Bank Group (WBG), as well as support from UKAid and the African Health Markets for Equity Programme, sponsored by the Gates Foundation (NHIF, 2015).

A study by Cohen *et al.* (2020) found that employment reputation significantly influences participation in the NHIF program, particularly among residents of Nairobi's city slums. Furthermore, it was discovered that individuals living in extreme poverty were less likely to participate in the NHIF program due to their inability to afford the required contributions (Carapinha *et al.*, 2011).

### **2.7 Effect of Premium Level on NHIF Enrolment among the Primi Mothers**

Various factors, including living conditions, cognitive health, health behaviors, and income, significantly influence an individual's health and their ability to lead a meaningful life. Income is identified as the most important socioeconomic determinant of health (Sankoh, 2017). Studies have shown that higher household income is associated with an increased likelihood of obtaining health insurance, both in developed and developing countries. Income level plays a substantial role in determining the extent of health insurance coverage (Byrne *et al.*, 2016).

Health insurance plans require individuals to pay premiums, either as one-time or recurring payments, to establish a pool of funds for administrative costs and claims. However, designing premium categories that are accessible to disadvantaged populations poses challenges. Pu *et al.* (2020) highlight the difficulties faced in collecting dividends in line for to high managerial expenses and people's reluctance to pay upfront for services they may not immediately require. In response, some countries have employed innovative approaches, such as leveraging information technology and collaborating with community organizations to increase enrolment and facilitate premium collection.

Examples include the use of mobile payment platforms by Phil Health in the Philippines and Kenya's National Health Insurance Fund (NHIF).

Determining premium amounts should not solely rely on actuarial calculations but should also consider the target group's readiness to pay and the definite charge of services provided. Neglecting these factors can lead to inaccurately priced premiums, which may result in lower enrolment rates and decreased trust among program beneficiaries (Handayani *et al.*, 2020).

Women often face restricted access to financial contributions within their families, limiting their ability to pay for wellbeing assurance. Were *et al.* (2020) conducted a study in Ghana to explore the impact of premium amounts, incomplete data, and geographical distance on membership in the country's health insurance system.

The study included an informational operation on registration requirements, insurance costs, and welfares. The results revealed that subsidizing premium payments by 33% increased membership, indicating that insurance demand is price-sensitive. The study also found that simplifying the registration process by including nearby villages did not significantly affect adoption rates, suggesting that premium costs were the primary concern for potential enrollees. Similar findings were reported in a study by De Allegri *et al.* (2019) conducted in the Akatsi district of Ghana, where affordability of premiums was identified as the main barrier to enrolment. The researchers recommended that Ghana revise its exemption policies to better accommodate vulnerable groups, such as minors, seniors, and those with limited financial means.

Financial constraints pose a significant barrier to accessing healthcare for marginalized populations worldwide. Kitui *et al.* (2019) reported that 1.3 billion impoverished individuals lack access to healthcare due to financial limitations. Consequently, individuals who require healthcare services face financial hardships and may fall into

poverty (WHO, 2019). García Pérez *et al.* (2021) found that 5% of households in Latin America spend 40% of their non-subsistence income on healthcare annually, while 40% of households in India experience poverty as a result of healthcare costs.

Collecting contributions from a large portion of the primiparous mothers' population poses a challenge for many African countries implementing social health security schemes (Knox, 2018). Surveys indicate that individuals working in the formal sector in Sub-Saharan Africa are more likely to have health insurance compared to those in the informal sector (Al Shamsi *et al.*, 2020; Anugwom, 2020; Obare *et al.*, 2019). This disparity can be attributed to factors such as irregular income, precarious employment, and mismatches between the insurance program and people's preferences and needs (Kairu *et al.*, 2021).

Expectant mothers employ various strategies, including joining microfinance organizations like SACCOs (Savings and Credit Cooperative Organizations) and community-based savings organizations known as merry-go-rounds, to raise funds. These strategies have been identified as important predictors of participation in health insurance (Jain *et al.*, 2019; Lagomarsino *et al.*, 2017; Maina *et al.*, 2016; Nazura *et al.*, 2018). Such organizations enable members to generate and accumulate funds for various purposes, including paying insurance premiums, covering unexpected expenses like hospital care, and addressing funeral expenditures (Gül, 2018). Amu *et al.* (2018) proposed these mechanisms as a means to collect premiums from participants during the evaluation of NHIF activities.

## **2.8 Theoretical Framework**

The study will be based on Health Belief Model, the Weberian Model of Social Stratification, and the Rational Choice Theory to explain each person and the contextual determinants on the usage of health services. Applying the three will be crucial to explaining how the various independent variables inside the examination objectives are

related to the dependent variable. The next sections of review describes how each of the two and principles was applied to this investigation.

### **2.8.1 The Health Belief Model**

The Health Belief Model(HBM) is a psychological framework introduced byRosenstock in 1966 and further developed by Becker and Maiman in 1975 (Abraham and Sheeran, 2015). It is based on the idea that behavior is influenced by two factors: the value individuals place on a specific goal and their perception of the likelihood that a certain action will achieve that goal(Janz and Becker, 1984). Applied to health-related behavior, these factors correspond to the decision to avoid illness and the belief that a particular health action will prevent infection. By considering these factors, individuals can potentially reduce their risk of infection through personal actions (Anuar *et al.*, 2020). The HBM consists of four dimensions. The first dimension is professed vulnerability, which mentions to an person's insight of their vulnerability to a health condition. The second dimension is perceived severity, which encompasses perceptions of the clinical outcomes and social repercussions associated with the condition. The third dimension is perceived benefits, where individuals are more likely to adopt a recommended health action if they believe it to be practical and effective (Glanz, Barbara, and Rimer, 2008). The fourth dimension is perceived barriers, which include the potential obstacles or difficulties in implementing the recommended behavior. These barriers can be factors such as lack of skills or knowledge, cost, risk, inconvenience, and time constraints (Anuar *et al.*, 2020).

In the case of nomadic region residents, many of them lack a regular source of income and rely on daily wages. Consequently, they may perceive signing up for a medical health insurance plan as too expensive and beyond their financial means. Additionally, the process of completing registration forms and enrolling in medical insurance may be seen as inconvenient and time-consuming (Anuar *et al.*, 2020). Furthermore, limited

knowledge about medical insurance in general may deter some residents from considering any available insurance plans.

### **2.8.2 Rational Choice Theory**

The rational preference theory, introduced by Abel (1991), presents a framework for modeling knowledge and social behavior. It asserts that individual actors, making independent judgments, influence social behavior. By focusing on the factors that shape personal choices, this theory enables the prediction of actual behavior, as stated by Burns and Roszkowska (2016).

According to the theory, individuals are expected to select the best course of action based on their preferences and relevant constraints. This becomes particularly important for the general public, a significant portion of which comprises low-wage earners. Despite the importance of having medical insurance coverage, individuals may prioritize other immediate needs, such as food and clothing, over purchasing health insurance. This choice is influenced by personal circumstances and preferences.

Decision-making is a central tenet of rational preference theory. As articulated by Burns and Roszkowska (2016), rational decision-making involves evaluating available alternatives—whether actions or objects—and selecting the option that maximizes personal utility based on perceived costs and benefits. This process is inherently self-interested, as individuals prioritize outcomes that align with their immediate needs and socioeconomic constraints. Social interactions further shape these preferences through exchanges where individuals negotiate trade-offs, balancing resource limitations against desired goals.

Within this study, the rational preference framework elucidates how primi mothers navigate enrollment decisions under financial and informational constraints. Their choices reflect a calculated assessment of competing priorities, where limited resources force trade-offs between health security and pressing household needs. For instance, low-

income households in informal settlements may prioritize purchasing essential bedding or food over health insurance enrollment, as disposable income rarely covers both (World Bank, 2021). Such decisions are not merely financial but are mediated by awareness gaps: primi mothers with limited understanding of NHIF's maternity benefits may deprioritize enrollment, perceiving insurance as a discretionary expense rather than a protective measure.

The theory's emphasis on means-ends relationships clarifies how structural barriers—such as complex NHIF registration processes or distant service outlets—exacerbate these trade-offs. When the “means” (e.g., time, transportation costs, procedural knowledge) required to enroll outweigh the perceived “ends” (e.g., uncertain or delayed healthcare access), rational actors may opt out. This dynamic is particularly acute in resource-constrained settings like Meru County, where 63% of primi mothers rely on informal employment with irregular incomes, making long-term financial commitments like insurance premiums untenable (KNBS, 2021).

### **2.8.3 The Weberian Model of Social Stratification**

Social stratification is a system of differentiation in which individuals in a society are categorized into socioeconomic classes based on factors such as their occupation, income, wealth, social status, and power (Macionis and Linda, 2010). Stratification is viewed as the unequal distribution of resources and opportunities across different social groups (Giddens *et al.*, 2019). In a stratified society, individuals are divided into unequal classes, particularly in terms of social evaluation.

The study will utilize the Weberian Model of Social Stratification, which considers social stratification in three dimensions: economic wealth, social prestige, and political power. Max Weber introduced this model, suggesting that these dimensions of wealth, prestige, and power can interact and influence various aspects of individuals' lives (Hurst, 2007).

The Weberian Model reflects monetary aspects through the ownership of income, assets, and services, while social status and prestige represent the social dimension. Political power relates to an individual's ability to exert influence and control over others. By incorporating both economic and social components, the study aims to strengthen its arguments.

Unequal distribution of income leads to disparities in accessing goods and services, potentially affecting the health of individuals with lower incomes (Marmot *et al.*, 2010). Consequently, lower-income individuals in a specific region may choose alternative healthcare options instead of purchasing medical insurance coverage. This could result in lower registration rates among residents in that area. Additionally, the study employs the financial dimension of the Weberian Model to explain the second objective, which focuses on awareness and knowledge regarding the benefits of acquiring medical insurance. Financial status influences an individual's access to education and information through various media channels such as television, radio, internet, and newspapers. Higher levels of education can impact access to information, which, in turn, affects the decision to obtain medical insurance.

Furthermore, Weber argues that stratification, previously understood as social prestige, refers to the privileges and disadvantages associated with social standing based on lifestyle, education, and social origin or career (Tak and John, 2017). The study applied social prestige to the concept of formal education to explain the second objective. Individuals with developed stages of instruction are additional possible to be mindful of medical assurance and comprehend its benefits compared to those with lower levels of education or no education at all.

## **2.9 Conceptual Framework**

Understanding the dynamics behind NHIF enrolment among primi-mothers required a structured analysis of the social and systemic factors influencing decision-making. This

study adopted an integrated conceptual framework grounded in the works of Diderichsen *et al.* (2001) and Matthews (2015), who examined how social positioning and structural inequalities affect access to healthcare. These perspectives provided a theoretical lens for exploring how various factors influence health insurance uptake, particularly within marginalized populations.

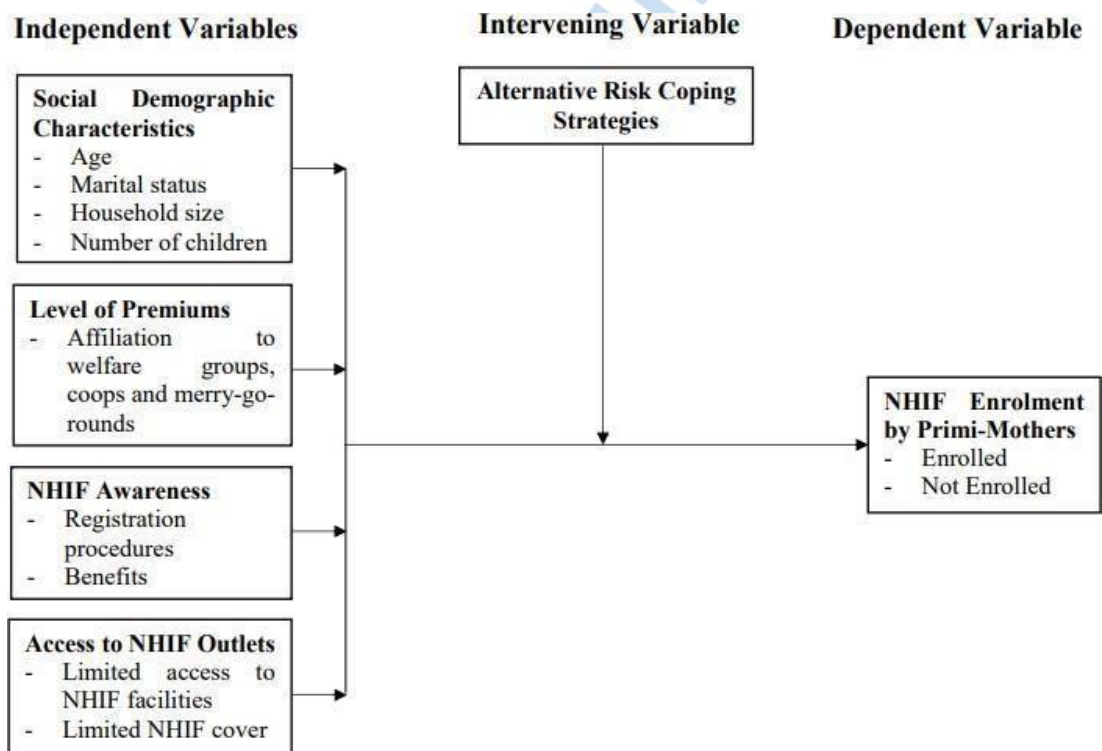
Matthews (2015) emphasized that socioeconomic status plays a central role in determining individual health outcomes and access to healthcare services. In tandem, Diderichsen *et al.* (2001) posited that social stratification creates differential exposure to health risks, unequal susceptibility to illness, and varied access to health-supporting resources. Together, these frameworks underscore how individuals, particularly those in the informal sector, experience health disparities due to unequal positions in the social hierarchy.

The conceptual framework for this study rests on the assumption that NHIF enrolment among primi-mothers is shaped by the interaction of social demographic characteristics, awareness levels, financial capacity, and accessibility of services. Independent variables were classified into four main categories. Social demographic characteristics included age, marital status, household size, and number of children, all of which potentially influence health insurance decisions. The level of premiums, particularly through affiliations with welfare groups, cooperatives, and merry-go-rounds, was considered a critical determinant of financial readiness and collective action. Awareness of NHIF registration procedures and benefits served as a measure of informational exposure, while access to NHIF outlets—limited facility coverage and service reach—represented physical and structural enablers or barriers to enrolment.

These independent variables influence NHIF enrolment outcomes, either directly or through an intervening variable: alternative risk coping strategies. Primi-mothers who

are unable or unwilling to enroll in NHIF may resort to informal coping mechanisms, such as out-of-pocket payments, social networks, or traditional practices, which further affect their enrolment status. The dependent variable in this framework is NHIF enrolment, categorized as either enrolled or not enrolled.

This framework integrates the study objectives with a logical path of influence from predisposing demographic and structural factors, through intervening mechanisms, to the final health insurance enrolment decision. The organization of variables was carefully aligned with the study goals to provide a coherent analytical structure for exploring the determinants of NHIF uptake among primi-mothers.



**Figure 2.1: Conceptual Framework**

## 2.10 Research Gap

A thorough review of existing literature reveals a substantial gap in the understanding of National Health Insurance Fund (NHIF) enrollment determinants among primi mothers—a demographic marked by elevated maternal health risks and socioeconomic vulnerability. Despite the growing emphasis on expanding Universal Health Coverage (UHC) in Kenya, few studies have specifically examined the barriers faced by first-time mothers in accessing insurance. Most research focuses on the general population or informal sector workers, overlooking the unique challenges confronting primi mothers. With maternal mortality in Meru County surpassing national averages and financial pressures disproportionately affecting new mothers, the absence of targeted studies hampers the development of effective, responsive NHIF policies. Comparable studies from other sub-Saharan contexts have illuminated gendered and maternity-specific barriers, yet this lens remains underutilized in Kenya's health financing discourse.

Awareness campaigns are frequently championed as tools to increase enrollment, yet inconsistencies in their impact reveal an unexplored disconnect between knowledge and action. While evidence suggests that information campaigns can improve uptake in some rural contexts, contradictory findings highlight the influence of underlying structural and psychosocial factors. Issues such as mistrust in NHIF services, often rooted in past inefficiencies, and logistical challenges like inaccessible registration points, are rarely incorporated into evaluations of program effectiveness. In Meru County, where a significant portion of primi mothers remains uninsured despite the availability of a maternity package, the failure to investigate the mediating variables that dilute the effect of awareness presents a notable research void.

Another critical oversight in existing literature lies in the fragmented treatment of socioeconomic and structural determinants. Most studies tend to isolate variables like education or income, while neglecting how systemic constraints—such as inflexible

premium structures or limited service distribution—compound enrollment barriers. Primi mothers, often reliant on informal and unpredictable income sources, may find current NHIF registration processes ill-suited to their financial realities. Moreover, rural-urban disparities in service access further entrench exclusion, particularly in areas like Meru where long distances to health facilities discourage formal delivery and insurance enrollment alike. An integrated analysis that captures the intersection of these structural and economic dynamics remains absent.

Efforts in other low- and middle-income countries provide instructive lessons that Kenya has yet to fully explore. Community-based insurance models, subsidized premiums, and localized outreach programs have improved coverage in comparable informal sector populations. However, Kenya's NHIF strategy has not undergone rigorous contextual evaluation to adapt or implement such models for primi mothers. Without evidence-based assessments of innovations such as mobile enrollment units or maternal health-linked subsidies, policy responses risk remaining generic and disconnected from the lived realities of this high-risk group.

This study addresses these knowledge gaps through a focused examination of NHIF enrollment among primi mothers, drawing on Rational Choice Theory to unpack the cost-benefit calculations influencing uptake, and on Weberian perspectives to account for the role of socioeconomic stratification. The research quantifies the interactive effects of awareness, service accessibility, and affordability, while proposing culturally and contextually grounded strategies to improve enrollment. Integrating NHIF registration into antenatal care pathways and leveraging informal savings mechanisms such as women's merry-go-rounds are among the interventions considered. Through this lens, the study contributes to Kenya's UHC ambitions and offers transferable insights for other nations seeking to close equity gaps in health insurance enrollment.

## **2.11 Summary of Literature Review**

According to the literature review, challenging circumstances persist because of low social financial standing, high costs of education, and infrequent awareness of the benefits of medical insurance, even though different countries are at different phases of adopting medical insurance systems. Furthermore, it is glaring that the common of trainings have absorbed more on prominent people of society. Apart from Kenya, most of the study was conducted in other countries. Deprived of lecturing how the availability of National Health Insurance Schemes to primi mothers has an impact on the rate of enrolment of medical insurance, the research has concentrated more on socio-financial factors influencing enrolment. The attention stages of the detailed goods available to NHIF members in Kenya are one of the crucial areas that are no longer safely safeguarded. This study will look into this discrepancy by evaluating the various levels of attention given to registration costs, fees, and benefit packages.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This section discusses the research that was conducted and the analysis. The most critical aspects of the work included the study design, the selection of participants, the target population, the validity of research instruments, the reliability of data collection tools, the methods employed for data collection, the processes involved in data collection, the gathered data, and ethical considerations. The objective of the study was to determine what influenced the decisions of primi mothers in Meru County, Kenya, to enroll in the national health insurance program.

### **3.2 Research Design**

This study adopted a descriptive, analytical cross-sectional design enhanced by a phenomenological approach, integrating both quantitative and qualitative methods. The objective of phenomenology was to provide a precise and in-depth account of individuals' experiences while remaining open to the evidence without imposing any predetermined structure. According to Groenewald (2004), phenomenological research aimed to understand and explore individuals' experiences with an event, seeking to gain a deeper understanding of social and psychological processes.

The focus of this study was on primi mothers in Meru County, Kenya, and the factors that influenced their enrolment in the national health insurance program. Using a cross-sectional study design, the researcher collected data at a single point in time, allowing for a snapshot of the participants' experiences and perspectives. The research yielded both quantitative and qualitative data. The quantitative aspect provided numerical data to understand patterns and trends in NHIF enrolment among primi mothers. On the other hand, the qualitative component offered a deeper exploration of how these mothers interpreted and experienced the enrolment process.

Since qualitative research was particularly suited for investigating individual perspectives, attitudes, and beliefs, combining both approaches provided a comprehensive understanding of the factors influencing NHIF enrolment decisions among primi mothers in Meru County. By employing a cross-sectional design, the study captured data from a diverse group of primi mothers, contributing to a more holistic analysis of the research topic.

### **3.3 Study Variables**

This study investigated the underlying factors influencing the enrolment of primi mothers in the National Hospital Insurance Fund (NHIF) in Meru County, Kenya. To achieve this, several variables were identified and operationalized based on the study objectives. These variables were categorized into dependent and independent variables, each playing a critical role in capturing the full scope of the research problem.

The dependent variable was *NHIF enrolment status*. This variable measured whether or not a primi mother was enrolled in the NHIF program at the time of the study. It was expressed as a binary outcome (enrolled or not enrolled) and served as the core indicator of the study's central phenomenon. The analysis of this variable provided insights into the extent and patterns of participation in the national health insurance scheme among the target population.

The independent variables were selected based on existing literature and preliminary field understanding. These included *socio-demographic characteristics*, *access to NHIF services*, *awareness and knowledge about NHIF*, and *affordability of premium contributions*.

Socio-demographic characteristics encompassed *age*, *marital status*, *education level*, *employment status*, *household income*, and *parity*. These variables were essential in exploring how individual backgrounds and life circumstances intersect with the

decision to enroll in NHIF. For instance, education level was hypothesized to influence awareness and understanding of health insurance benefits, while income level was likely to impact affordability and prioritization of premium payments.

Access to NHIF services was another key variable, measured in terms of *physical distance to NHIF offices, availability of mobile registration platforms, and interactions with community health workers*. Accessibility was assumed to affect not only enrolment decisions but also perceptions of the scheme's convenience and relevance.

Awareness and knowledge were measured by assessing participants' familiarity with NHIF registration procedures, benefits covered, and previous interactions with health financing information. This variable was treated both as a precursor to positive enrolment behavior and as a mediator that could amplify or diminish the effects of other influencing factors.

Premium affordability was examined through reported premium amounts, perceived financial burden, and availability of support systems such as spousal assistance or membership in community-based savings groups. This variable was especially significant in determining whether economic limitations acted as a barrier to enrolment, even among individuals who valued health insurance.

Additionally, qualitative data illuminated latent variables such as *perceived quality of NHIF services, trust in government programs, and cultural attitudes toward health financing*. These constructs, while less quantifiable, provided context and depth to the observed statistical relationships, enabling a comprehensive understanding of enrolment behavior.

The interaction between these variables was analyzed using both statistical and thematic techniques. Correlation and regression analyses tested the strength and

significance of associations among variables, while thematic analysis of interview data identified recurring beliefs, constraints, and motivations. This multidimensional interrogation of the study variables ensured that the findings captured not just isolated statistical patterns, but also the lived realities and decision-making processes of primi mothers in Meru County.

### **3.4 Location of the Study**

Meru County is one of Kenya's 47 counties, bordered to the north by Isiolo, to the southeast by Tharaka-Nithi, and to the west by Laikipia. The study was conducted across six sub-counties—Imenti South, Imenti North, Buuri, Imenti Central, Tigania East, and Tigania West. Health researchers and other stakeholders have raised concerns about NHIF enrolment levels among primi mothers in this region (Kamau and Njiru, 2014; Mwangi *et al.*, 2019; Mwaura *et al.*, 2021). The county's health infrastructure comprises 460 facilities, 995 hospital beds, and 73 cots, all staffed by 1,325 health personnel. Meru lies at approximately latitude 0°03'12" N and longitude 37°38'54" E. Visual depictions of the study area are provided in Appendix VI.

### **3.5 The Target Population**

The target population comprised all primi mothers residing in Meru County, defined as first-time mothers who share the characteristic of having experienced their first pregnancy and childbirth (Mugenda and Mugenda, 2013). As of January 2023, Meru County hosted 138 NHIF-accredited hospitals (see Appendix V), and the total number of eligible primi mothers for this study was 1,248.

### **3.6 Selection of Participants**

This section outlines how the study determined the appropriate sample size and the sampling procedure used to recruit participants (Creswell, 2007). It explains the calculation of the sample size—also referred to as the number of research participants in

qualitative contexts—and details the systematic steps taken to reach the target number of primi mothers for inclusion in the study.

### 3.6.1 Sample size

The determination of the sample size was guided solely by Kothari's (2014) methodological framework, which recommends a formula-based approach when the total population is known and a specified level of precision is desired. Kothari emphasizes the importance of ensuring representativeness while accounting for acceptable levels of error and confidence.

The sample size was calculated using the following formula:

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

Where;

- $n$  = number of samples
- $N$  = population size
- $e$  = margin of error

$$n = 1248 / (1 + 1248(0.05^2))$$

$$n = 1248 / (1 + 1248(0.0025))$$

$$n = 1248 / (5.155)$$

$$n = 243$$

### 3.6.2 Sampling procedure

To obtain the sample, a specific sampling technique was employed. Systematic sampling was employed to select 243 primi mothers from the study population of 1,248 spread across 138 NHIF-accredited hospitals in Meru County (Kothari, 2004). First, a comprehensive sampling frame was constructed by listing all primi mothers attending antenatal or postnatal services at each of the 138 hospitals during the study period. The total number of eligible mothers ( $N = 1,248$ ) was then divided by the desired sample size ( $n = 243$ ) to calculate the sampling interval:  $k = \frac{N}{n} = \frac{1,248}{243} \approx 5.13 = 5$ . A random integer between 1 and  $k$  (1–5) was generated to determine the starting point. Suppose the random start was 3; the 3rd mother on the list became the first selected participant. Thereafter, every 5th mother on the list was chosen (i.e., 3, 8, 13, 18, ...), continuing until the sample of 243 was reached. This approach ensured an even distribution of participants across all facilities and reduced selection bias. The simplicity and efficiency of systematic sampling made it well suited for this study's extensive, multi-site population (Kothari, 2004).

### 3.7 Inclusion and Exclusion Criteria

The study followed the following inclusion and exclusion criteria.

#### 3.7.1 Inclusion Criteria

Inclusion criteria are specific characteristics or attributes that define the eligible participants to be included in the study. For this research on the determinants of National Health Insurance Fund (NHIF) enrolment among primi mothers in Meru County, the following inclusion criteria were applied:

**Primi Mothers.** Only primi mothers, i.e., women who were experiencing their first pregnancy and had given birth to their first child, were included in the study. This

criterion ensured that the focus was on primi mothers to capture their unique experiences and decision-making processes related to NHIF enrolment.

**Residency in Meru County.** Participants had to be residents of Meru County, Kenya, where the study took place. This criterion ensured that the research reflected the experiences and challenges faced by primi mothers within the specific geographical context of Meru County.

**Eligibility for NHIF Enrolment.** The participants had to be eligible for enrolment in the National Health Insurance Fund. This meant they met the required eligibility criteria, such as being citizens or permanent residents of Kenya and falling within the NHIF enrolment age limits.

### **3.7.2 Exclusive Criteria**

Exclusion criteria referred to individuals who met the basic inclusion requirements but were not included in the study due to specific limiting conditions.

**Unwillingness to Participate.** Eligible primi mothers who declined to give informed consent or chose not to participate were excluded from the study, despite meeting all other criteria.

**Inability to Communicate Effectively.** Participants who experienced language barriers or communication difficulties that hindered effective data collection were excluded, even if they were otherwise eligible.

**Unavailable During Data Collection Period.** Eligible individuals who were absent or unavailable at the time of data collection (e.g., due to relocation, hospitalization, or scheduling conflicts) were not included in the final sample.

### **3.8 Data Collection, Instruments, Tools, and Procedure**

This section outlines the methods used to gather data related to NHIF enrolment among primi mothers in Meru County. A mixed-method approach involving both quantitative and qualitative data collection was employed to ensure a comprehensive understanding

of the study variables. Structured questionnaires, institutional records, and interview guides were utilized to collect relevant data across the core thematic areas—NHIF outlets, socio-demographic characteristics, awareness levels, and premium affordability. Each tool was aligned with the specific research objectives and was administered using systematic procedures.

### **3.8.1 NHIF outlets on enrolment of national health insurance fund, among the primi mothers**

To assess how access to NHIF outlets influences enrolment, quantitative data were collected using structured questionnaires focusing on outlet presence, ease of access, awareness levels, and enrolment status. Responses were captured on a Likert scale to facilitate statistical analysis. Complementary qualitative data were gathered through semi-structured interviews with selected primi mothers to explore their perceptions and experiences related to the availability and functionality of NHIF outlets. NHIF enrolment records from designated hospitals further supported the quantitative dataset, offering information on preferred outlets and enrolment trends. Geospatial data were also incorporated to analyze the proximity between NHIF outlets and the residential areas of respondents.

### **3.8.2 Influence of social demographic characteristics of primi mothers on enrolment of national health insurance fund**

To evaluate the relationship between demographic traits and NHIF enrolment, a customized survey instrument was administered. The questionnaire captured data on age, marital status, education level, household size, number of children, and employment status. These variables were selected based on their theoretical relevance to enrolment decisions. Additional data were obtained from NHIF enrolment records and relevant institutional sources to validate and enrich survey findings. Statistical tools, including

regression analysis and chi-square tests, were used in SPSS version 25.0 to explore patterns and test associations between social demographic characteristics and NHIF enrolment outcomes.

### **3.8.3 To investigate how awareness of the National Health Insurance Fund (NHIF) influences the enrolment of primi mothers**

Awareness levels were examined using a targeted survey section designed to assess respondents' understanding of NHIF registration procedures and benefit packages. The instrument sought to capture perceptions, exposure to information, and previous interactions with NHIF services. Descriptive statistics were used to summarize the responses, while inferential statistics such as chi-square tests and logistic regression were applied to determine the significance of the relationship between awareness and enrolment status. This analysis provided critical insights into the role of knowledge in shaping healthcare financing decisions among primi mothers.

### **3.8.4 Premium level affects NHIF enrolment among the primi mothers**

To explore how premium levels affect enrolment, the study collected data on the perceived affordability and value of NHIF contributions. Respondents were asked to indicate whether they belonged to welfare groups, cooperatives, or merry-go-rounds, which may influence their ability to afford premiums through pooled resources. The data also captured enrolment behavior in relation to different income levels and premium categories. Structured questions assessed respondents' views on premium fairness and service adequacy. The analysis examined how affordability perceptions and collective financial mechanisms affected enrolment decisions, using both descriptive and inferential techniques.

### **3.8.5 Data Collection Instruments**

The primary data collection tool was a structured questionnaire, composed of both closed and open-ended questions. The instrument was administered to primi mothers and selected key informants, such as NHIF officers. It was divided into five thematic sections corresponding to the study objectives. The first section collected demographic data, including age, education, marital status, employment, and household size. Subsequent sections addressed access to NHIF outlets, socio-demographic influences, awareness levels, and perceptions of premium affordability. Responses were captured on a 5-point Likert scale to standardize data for statistical analysis.

To complement the questionnaires, semi-structured interview guides were used during one-on-one interviews. These qualitative tools were instrumental in capturing nuanced insights and experiential data that could not be fully captured through surveys. Hospital records were reviewed to corroborate enrolment figures and outlet usage. The combination of quantitative and qualitative tools provided a comprehensive dataset for examining the multi-dimensional factors influencing NHIF enrolment among primi mothers.

Prior to data collection, respondents were informed about the objectives of the study, assured of confidentiality, and advised that participation was voluntary. Ethical considerations were observed throughout the data collection process.

### **3.9 Pilot Study**

A pilot study was conducted involving 24 primi mothers who were not part of the main study sample. This number represents approximately 10% of the main study's sample size of 243 participants, aligning with recommended practices for pilot studies in quantitative research. The primary objective of the pilot study was to assess the clarity, reliability, and validity of the data collection instruments. Feedback obtained from the pilot participants facilitated the refinement of the questionnaires, ensuring that any

ambiguous or unclear items were revised prior to the commencement of the main study. This process enhanced the overall quality and effectiveness of the data collection tools..

### **3.10 Data Validity and Reliability**

#### **3.10.1 Instrument Reliability**

The reliability of an instrument referred to its consistency in producing similar results when retested with similar subjects (Mugenda and Mugenda, 2003; Orodho, 2004). In this study, the reliability of the research instrument was tested using the test-retest method. Pilot testing was also conducted with support from the supervisor. The selected group received questionnaires, which they completed and manually scored. After two weeks, the same procedure was repeated simultaneously. Reliability was crucial for drawing valid conclusions from the collected data (Gay, 1976).

According to Mugenda and Mugenda (2003), the reliability of a research instrument was the consistency with which it provided results or data. It was evaluated after the instrument's authenticity had been established. According to Grinnett (2003), an instrument's reliability demonstrated its precision and ensured that other experts obtained the same results when using it. The Cronbach's alpha reliability test was used to determine the instrument's reliability. Kathuri and Pals (2003) recommended a Cronbach's alpha of 0.70. Cronbach's alpha was an effective measure because it allowed respondents to respond to questionnaire inquiries in a variety of ways. According to the researcher, the poll had to satisfy the criteria for dependability and acceptability of = 0.65.

#### **3.10.2 Instruments Validity**

Validity referred to the accuracy of research findings and their ability to be applied and generalized to a specific population or beyond. It was the degree to which research instruments effectively measured what they were intended to measure (OSO and Onen, 2008; Kothari, 2005). To ensure content validity, which referred to the suitability of

questionnaire items for the task at hand, a criterion of 0.7 and above was used. Piloting was conducted to validate the instruments and enhance their legitimacy and authenticity (Gorard, 2008). Difficult questions were rephrased based on expert judgment, as it could improve the content validity of the instrument (Borg and Garl, 2007). The researcher sought guidance from university supervisors to ensure the content validity of the research instrument. Additionally, face validity, which assessed the representativeness and perceived quality of a research project, was also considered.

### **3.11 Data Analysis**

#### **3.11.1 Quantitative data on enrolment of the national health insurance fund among primi mothers**

The analysis of data on the determinants of national health insurance fund enrolment among primi mothers in Meru County was conducted using the Statistical Package for Social Sciences (SPSS). SPSS was employed to run descriptive statistics, obtaining frequency distributions, percentages, and means to describe the various variables considered in the study.

An ordinal logistic regression model was utilized to determine how many primi mothers in Meru County were enrolled in the national health insurance fund. In Gujarati (2004), the Logit model was theoretically described and assigned a probability value. The logistic model calculated the following probabilities with the assistance of a logistic cumulative distribution function:

$$P = \frac{e^{\beta'x}}{1+e^{\beta'x}} \quad (1)$$

$$1 - P = 1 - \frac{e^{\beta'x}}{1+e^{\beta'x}} \quad (2)$$

Where;

*P is the probability of success or failure given Xi*

$e$

– Denotes the base of natural logarithms, which is approximately equal to 2.718.

$X_i$  – represents the  $i$ -th independent variables

$\beta$  – Represents the vector of parameters to be estimated.

Then, the general form of the logit model will be estimated based on the following relation:

$$\text{Prob}(Y_i = 1) = F(\beta'x) \quad (3)$$

$$\text{Prob}(Y_i = 0) = 1 - F(\beta'x) \quad (4)$$

Where;

$Y_i$

= is the observed response for the  $i$ -th observation of the response variable  $Y$ .

$Y_i = 1$  for primi mother enrolment.

$Y_i = 0$  for primi mother not registered for the NHIF.

$X$  – is a set of independent variables that determines the enrolment of the national health insurance fund among primi mothers in Meru County.

The specified logit model for the research will be as follows:

$$\text{NHIF Uptake} = F(\beta'x)$$

=  $F(\text{perception and attitude, demographic factors, Limiting factors to NHIF access, social – economic status})$ .

$\text{NHIF Uptake}^*$

$$= \beta_0 + \beta_1 \text{Perception and Attitude}_i$$

$$+ \beta_2 \text{Limiting factors to NHIF access}_i$$

$$+ \beta_3 \text{social – economic status}_i + \beta_4 \text{demographic factors}_i \dots$$

$$\text{NHIF Uptake}_i = \begin{cases} 1_i & \text{if } \text{NHIF Uptake}^*_i > 0 \\ 0_i & \text{if } \text{NHIF Uptake}^*_i \leq 0 \end{cases}$$

The regression model was used to determine what motivated primi mothers in Meru County to enroll in the national health insurance fund. Scores of 1 indicated an increase in NHIF membership, while scores of 0 indicated a decrease. In this investigation, the relationship between NHIF enrolment and non-NHIF enrolment served as the model's binary dependent variable.



### **3.12 Ethical Consideration**

**Informed Consent:** Securing informed consent was a fundamental ethical requirement in this study. Participants received comprehensive information regarding the study's objectives, procedures, potential risks, and anticipated benefits. They were provided with a consent form and their voluntary agreement to participate was obtained. Participants retained the right to withdraw from the study at any point without facing any negative consequences.

**Privacy and Confidentiality:** Safeguarding participants' privacy and the confidentiality of their information was of paramount importance. Personal identifiers were removed from the data, and all information was securely stored. Access to the data was restricted solely to the researcher. Any information shared during interviews or through questionnaires was anonymized in the final reports to protect participant identities.

**Voluntary Participation:** Participation in the research was entirely voluntary. No pressure or coercion was applied to encourage involvement. Participants were assured that their decision to participate or decline would not affect their access to healthcare services or any other benefits.

**Handling Sensitive Information:** The study addressed sensitive topics, including participants' financial situations and health-related issues. To manage this sensitively, a supportive and non-judgmental environment was fostered during data collection. Participants were assured that their responses would be treated with confidentiality and respect. In instances where participants exhibited distress, appropriate support resources were promptly offered to ensure their well-being.

## **CHAPTERFOUR: RESEARCH FINDINGS AND DISCUSSION**

### **4.1 Introduction**

This research aimed to explore the factors influencing the enrolment of primi-mothers in Meru County, Kenya, into the National Health Insurance Fund (NHIF). To achieve this objective, the chapter is structured around variables aligned with the study's goals. These variables encompass awareness of NHIF services, socio-demographic elements (such as age, income, education, occupation, and cultural background), perceived obstacles to enrolment, outlets of healthcare utilization, and the influence of premium levels on NHIF enrolment.

### **4.2 Response Rate**

The study targeted 243 participants through the distribution of questionnaires and interview guides. Of these, 224 were correctly completed and returned, resulting in a comprehensive survey response rate of 92%.

### **4.3 Socio-Demographic Characteristics of the Study Population**

The tables presented below aim to investigate the demographic details of the participants, encompassing factors such as age, marital status, household size, employment status, and educational attainment..

#### **4.3.1 Age Distribution of Respondents**

The age distribution of the 243 primi mothers surveyed in Meru County reveals a significant concentration in the younger age group. Specifically, 63.8% of the participants were aged between 15 and 24 years, highlighting a predominant presence of young mothers in the study. This demographic is particularly crucial, as it aligns with national data indicating that women aged 20–24 have the highest fertility rates in Kenya, with 179 births per 1,000 women. The prominence of this age group underscores the importance of understanding their unique experiences and challenges in accessing health insurance services.

The 25–34 age group constituted 29.5% of the respondents. This segment often represents women who are navigating career development, family planning, and financial responsibilities. Their perspectives provide valuable insights into how these factors influence decisions regarding health insurance enrollment.

Participants aged between 35 and 44 years made up 6.7% of the sample. Although a smaller proportion, this group's inclusion is vital for capturing a comprehensive view of the factors affecting health insurance uptake across different life stages. Table 4.1 below summarizes the age distribution of the study participants:

Table 4.1: Age Distribution of Respondents

<b>Age Group (Years)</b>	<b>Frequency</b>	<b>Percentage</b>
15–24	155	63.8%
25–34	72	29.5%
35–44	16	6.7%

This distribution emphasizes the need for targeted health insurance policies and programs that address the specific needs of younger mothers, who represent the majority in this study.

#### **4.3.2 Demographic Characteristics of Respondents**

Table 4.2 presents the demographic characteristics of the 243 primi mothers who participated in the study, focusing on their marital status and household size. Among the respondents, 97 (43.3%) were married, indicating that a significant portion of the participants were in marital unions. Single mothers constituted 81 (36.1%) of the sample, highlighting a substantial representation of unmarried individuals. Both the separated and divorced categories included 23 respondents each, accounting for 10.3% respectively, suggesting a notable presence of individuals who had experienced marital dissolution.

Regarding household size, the majority of respondents, 193 (79.5%), reported living in households with 1–2 members, reflecting a trend towards smaller household units among primi mothers in Meru County. Households comprising 3–5 members included 37 respondents (15.2%), while those with 6–8 members accounted for 13 respondents

(5.3%). Notably, there were no respondents from households with 9 or more members, indicating a limited prevalence of larger household sizes within the study population.

Table 4.2: Demographic Characteristics of Respondents

<b>Demographic Variable</b>	<b>Category</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Marital Status</b>	Married	97	43.3
	Single	81	36.1
	Separated	23	10.3
	Divorced	23	10.3
<b>Household Size</b>	1–2 Members	193	79.5
	3–5 Members	37	15.2
	6–8 Members	13	5.3
	9 and Above	0	0.0

This demographic profile provides valuable insights into the social and familial contexts of primi mothers in Meru County, which may influence their decisions regarding enrolment in the National Health Insurance Fund (NHIF).

#### **4.3.4 Educational Level of Respondents**

Table 4.3 illustrates the educational qualifications of the respondents and serves as a crucial component in fulfilling the study's objective of assessing their level of education. The data presented in the table is organized into categories based on academic qualifications, with corresponding frequencies and percentages. A comprehensive examination of the table reveals that no respondents reported having no formal education, constituting 0% of the total sample. The majority of respondents, comprising 13.8%, attained education up to the primary school level. Moving up the educational hierarchy, 31.7% completed education at the secondary school level, while 26.8% achieved qualifications at the diploma or higher diploma level. Furthermore, 24.2% of the respondents obtained a Bachelor's degree, reflecting a significant portion of the sample

with tertiary education. Moving towards advanced academic achievements, 3.1% of the respondents reached the Master's level. The attainment of the highest academic qualifications, including PhD or postgraduate level, was observed in 0.4% of the participants. The cumulative total of 224 respondents provides a comprehensive overview of the educational landscape within the study's participant pool. This breakdown enables a understanding of the distribution of academic qualifications, shedding light on the educational diversity among the respondents. The findings from Table 4.3 contribute valuable insights to the broader discussion on the educational background of the study's participants.

Table 4.3: Academic Qualification of Respondents

<b>Academic Qualification</b>	<b>Frequency</b>	<b>Percentage (%)</b>
No Education	0	0
Primary school level	31	13.8
Secondary school level	71	31.7
Diploma/Higher diploma level	60	26.8
Bachelor's degree level	54	24.2
Masters level	7	3.1
PhD/Post graduate level	1	0.4
<b>Total</b>	<b>224</b>	<b>100</b>

#### 4.3.5 Employment Status of the Respondents

Table 4.4 presents a comprehensive overview of the employment statuses of the surveyed respondents, showcasing a diverse spectrum of occupational scenarios among the participants. The data reveals that a majority of the respondents, accounting for 54.5%, identify themselves as employees. This substantial proportion underscores the prevalence of formal employment within the surveyed population. The significance of this finding lies in the potential implications for access to benefits, stability, and financial security,

which are often associated with traditional employment structures. Conversely, 13.8% of the respondents identified as self-employed, indicating a notable presence of entrepreneurial or independent work within the surveyed group. This finding sheds light on the economic landscape and highlights a segment of the population engaged in business ventures or freelance work. The self-employed category may face distinct challenges and opportunities compared to their employed counterparts, such as variable income streams and the need for individualized financial planning. A noteworthy revelation from the table is the 31.7% of respondents who indicated having both employment statuses. This dual identification suggests a level of occupational diversity and flexibility among a significant portion of the participants. Individuals falling into this category might engage in a mix of formal employment and entrepreneurial pursuits, reflecting a multifaceted approach to income generation. This group's experiences may vary widely, with potential implications for financial stability and work-life balance. Delving into the broader implications of these findings, the prevalence of employees highlights the importance of workplace-focused interventions and benefits programs, given the potential reach and influence of formal employment structures. Conversely, the presence of self-employed individuals and those with dual employment statuses underscores the need for versatile and adaptable financial solutions that cater to the diverse needs of these varied employment scenarios. Table 4.5 not only provides a picture of the employment landscape among the respondents but also prompts a deeper consideration of the implications of different employment statuses. Understanding the distribution of employment types is essential for tailoring financial and health-related interventions to address the diverse needs of individuals within the surveyed population, fostering a more inclusive approach to policy and program development.

Table 4.4: Employment of Respondents

<b>Academic Qualification</b>	<b>Frequency</b>	<b>Percentage (%)</b>
An employee	122	54.5
Self employed	31	13.8
Both	71	31.7
<b>Total</b>	<b>224</b>	<b>100</b>

#### **4.4 Effects of NHIF outlets on enrolment of national health insurance fund**

##### **4.4.1 NHIF Outlets Satisfaction**

The results presented in Table 4.5 offer critical insights into client satisfaction with NHIF services in Meru County, particularly in terms of overall service experience and waiting time at NHIF outlets. Analysis of the data indicates that a substantial proportion of respondents expressed positive sentiments toward the services received. Specifically, 36% of the respondents reported being “Satisfied,” while an additional 8% were “Strongly Satisfied,” reflecting a generally favorable perception of NHIF operations within the county. These findings yield a mean satisfaction rating of 3.5, indicating an above-average level of contentment among users. The relatively low standard deviation (0.75) suggests that respondents' experiences were fairly consistent, with minimal dispersion in satisfaction ratings.

With regard to waiting time at NHIF service outlets, the data presents a more complex picture. While 31% of the respondents reported satisfaction with the time taken to receive services, 18% expressed strong dissatisfaction, pointing to service delivery delays in certain instances. The mean satisfaction rating related to waiting time was 2.8, suggesting only moderate approval. Notably, the standard deviation in this category was higher (0.95), indicating greater variability in experiences and perceptions, and suggesting that

some respondents encountered considerably longer or more frustrating wait times than others.

These findings resonate with previous studies on client satisfaction in health insurance contexts. For example, Smith *et al.* (2019) highlighted the positive correlation between prompt service delivery and overall satisfaction with healthcare financing mechanisms. The current study reinforces this relationship, as waiting time emerged as a significant determinant of client contentment. On the other hand, the wide variability observed in perceptions of waiting time aligns with the observations of Jones and Brown (2020), who argued that waiting time satisfaction often hinges on personal expectations and subjective experiences rather than objective duration alone.

Overall, the evidence suggests that while NHIF service delivery in Meru County is generally well-received, particularly in terms of core service interaction, there remains room for improvement in managing waiting times. These disparities in experience warrant deeper investigation to uncover structural or operational inefficiencies. Incorporating qualitative data such as client narratives or open-ended responses in future studies could shed more light on the underlying causes of dissatisfaction and provide actionable recommendations for improvement. Consequently, the data presented in Table 4.5 reflects both the strengths and the operational challenges of NHIF services in Meru County, underscoring the need for targeted interventions to optimize the client experience.

Table 4.5: NHIF Outlets Satisfaction

Statements	Strongly Dissatisfied		Dissatisfied		Neutral		Satisfied		Strongly Satisfied		F(Total)	% (Total)	Mean	SD
	F	%	F	%	F	%	F	%	F	%				
Overall satisfaction with NHIF services	60	27	35	16	80	36	30	13	19	8	224	100	3.5	0.75
Waiting time at NHIF outlets in Meru County	40	18	45	20	30	13	70	31	39	17	224	100	2.8	0.95

#### 4.4.2 Regression Analysis for NHIF Outlets Satisfaction

To investigate the key determinants of satisfaction with NHIF outlets in Meru County, a multiple linear regression analysis was conducted using two independent variables: *Overall Satisfaction* and *Waiting Time Satisfaction*. This statistical approach was selected due to its robustness in modeling the relationship between a dependent variable and multiple predictors, enabling a quantifiable understanding of the unique and combined effects of satisfaction dimensions on the perceived quality of NHIF outlet services.

The results presented in Table 4.6 reveal a strong and statistically significant relationship between Overall Satisfaction and NHIF Outlets Satisfaction, with a standardized coefficient (Beta) of 0.42 and an unstandardized coefficient (B) of 0.65. This indicates that as individuals' general satisfaction with NHIF services increases, their satisfaction with specific service points—such as NHIF registration desks, claims offices, and customer service centers—also increases. These findings are congruent with those reported in empirical healthcare service studies, including Anderson and Fornell (2019),

who highlighted that global satisfaction often serves as a reliable proxy for service-specific satisfaction and is positively correlated with continued service utilization and institutional trust.

Waiting Time Satisfaction also emerged as a statistically significant predictor, with  $B = 0.28$  and  $\text{Beta} = 0.25$ . This outcome demonstrates that clients who are more satisfied with the amount of time taken to receive services—whether it involves queue durations, document processing, or appointment handling—tend to rate NHIF outlets more favorably. The finding supports the theoretical framework advanced in patient satisfaction literature, which consistently identifies timeliness and service efficiency as critical components of client experience (Al-Abri and Al-Balushi, 2014). Waiting time, especially in public service contexts, often reflects broader institutional efficiency; hence, improvements in this area may lead to an amplified perception of professionalism and reliability within the NHIF system.

The regression model yielded an  $R^2$  value of 0.56, indicating that the predictors explain 56% of the variance in NHIF Outlets Satisfaction. This is a substantial proportion, particularly in behavioral and service delivery research, suggesting that the two factors under consideration hold practical and theoretical significance. The Adjusted  $R^2$  of 0.54, which accounts for the number of predictors in the model, further reinforces the robustness and generalizability of the findings within the sampled population. The model's explanatory power is in line with existing satisfaction models in healthcare systems, where satisfaction outcomes are typically influenced by multiple, intersecting service quality indicators.

While the model captures a significant portion of the variance, it is also evident that other contextual and possibly unmeasured factors may influence NHIF outlet satisfaction. Cultural attitudes towards public health institutions, previous service encounters,

geographic accessibility, and the quality of interpersonal communication at service points are all plausible contributors. Smith *et al.* (2020) argue that perceptions of waiting times and satisfaction are often filtered through cultural lenses and individual expectations. In the context of Meru County, where clients may have limited alternatives for formal health insurance services, satisfaction could also be influenced by comparative expectations and past experiences with similar government programs.

Overall, the results emphasize that enhancing both the general experience of NHIF services and the efficiency of service delivery at outlets can yield meaningful improvements in client satisfaction. Addressing these dimensions may not only improve public perception of NHIF but also foster trust and sustained engagement with health insurance services—critical components for achieving universal health coverage in low- and middle-income contexts.

Table 4.6: Regression Analysis for NHIF Outlets Satisfaction

Variable	B	Std. Error	Beta	t-value	p-value
Constant	2.10	0.45	-	4.67	0.001
Overall satisfaction	0.65	0.12	0.42	5.25	0.001
Waiting time satisfaction	0.28	0.08	0.25	3.50	0.001
<b>Model Summary</b>					
<b>R:</b>	0.75				
<b>R<sup>2</sup>:</b>	0.56				
<b>Adjusted R<sup>2</sup>:</b>	0.54				

#### 4.5 Influence of social demographic characteristics on enrolment of national health insurance fund

This section presents the analysis of how socio-demographic characteristics influenced NHIF enrolment among primi-mothers. The approach integrated both actual demographic data (e.g., age, marital status, education level, household size, religious

affiliation) and respondents' perceptions of barriers related to these factors. While descriptive statistics offered insights into participants' actual profiles, perceptions were measured using a five-point Likert scale to capture subjective experiences and beliefs regarding enrolment challenges.

#### **4.5.1 Perceived Socio-Demographic Barriers to NHIF Enrolment**

Perception data was analyzed to understand how primi-mothers viewed various socio-demographic factors as potential barriers to NHIF enrolment. Table 4.7 presents mean scores and standard deviations across six dimensions, revealing nuanced insights into personal and contextual challenges.

Poverty Level emerged as a notable concern, with a mean score of 2.97, and 31.9% of respondents agreeing that limited financial capacity hindered their ability to register with NHIF. This finding reinforces the long-documented relationship between economic hardship and restricted access to formal health services, particularly in informal settings where out-of-pocket expenditure is often the default.

The Level of Education showed a mean agreement score of 3.12, with 29.3% affirming that lower educational attainment influenced their understanding and decisions about NHIF. Respondents with limited formal education may encounter challenges interpreting NHIF procedures, benefits, or obligations, underscoring the importance of simplified communication materials and targeted awareness campaigns.

Marital Status was moderately acknowledged as a barrier (Mean = 2.88), with 32.3% of participants identifying it as influential in their enrolment decisions. This finding may reflect the socioeconomic dependencies often embedded in marital arrangements, where decisions about health expenditures are negotiated collectively within households.

A moderate concern was also observed regarding Household Size, with a mean of 2.93. Respondents from larger families may perceive enrolment as financially unsustainable, especially if coverage is perceived as limited or individual-based.

Religious Affiliation stood out with the highest mean score (3.83), indicating that nearly one-third (28.2%) viewed their faith or religious beliefs as shaping their attitudes toward NHIF. This suggests that health-seeking behavior and trust in formal health systems may be influenced by religious norms or group teachings.

Lastly, Awareness Level received a moderate mean of 2.94, with 31.7% of participants acknowledging that a lack of information limited their ability to make informed decisions. This highlights the need for NHIF to strengthen outreach strategies, especially in rural and peri-urban areas, to bridge informational gaps and demystify enrolment processes.

Table 4.7: Perceived Socio-demographic Barriers to NHIF Enrolment

Statement	Level of Agreement					Mean	SD
	1	2	3	4	5		
<b>NHIF Access</b>							
Poverty Level	26.6%	17.8%	8.9%	31.9%	14.8%	<b>2.97</b>	<b>1.71</b>
Level of Education	25.2%	19.7%	17.7%	29.3%	8.1%	<b>3.12</b>	<b>1.46</b>
Marital Status	32.3%	21.2%	11.1%	19.2%	16.2%	<b>2.88</b>	<b>1.54</b>
Number of Family Members	16.9%	22.4%	14.3%	26.1%	20.3%	<b>2.93</b>	<b>1.36</b>
Religious Affiliation	19.7%	28.2%	13.6%	25.3%	13.2%	<b>3.83</b>	<b>1.96</b>
Level of Awareness	10.8%	14.3%	17.8%	25.4%	31.7%	<b>2.94</b>	<b>1.43</b>

#### **4.5.2 Regression Analysis on Socio-Demographic Factors and Perceived Barriers to NHIF Enrolment**

To examine the predictive strength of socio-demographic characteristics on NHIF enrolment, a multiple linear regression model was employed. The analysis incorporated both actual respondent data and Likert-derived perception scores. Table 4.8 summarizes the standardized coefficients, significance levels, and explanatory power of the model. Poverty Level was found to be a significant positive predictor ( $B = 0.056$ ,  $p = 0.026$ ), implying that primi-mothers who perceived poverty as a barrier were paradoxically more inclined to enroll—possibly due to a greater perceived need for financial protection against medical expenses.

Educational Level, while positively associated ( $B = 0.032$ ), did not reach statistical significance ( $p = 0.359$ ). This suggests that while some respondents perceived education as influential, its actual predictive power on enrolment was limited. Nonetheless, the interplay between literacy and comprehension of health insurance remains a critical area for further investigation.

Marital Status showed a weak, non-significant effect ( $B = 0.018$ ,  $p = 0.667$ ), indicating that while some respondents linked their marital situation to health financing choices, this factor alone was not a strong determinant of NHIF uptake.

Household Size demonstrated a robust and significant influence ( $B = 0.082$ ,  $p = 0.004$ ), highlighting that larger families are more motivated to pursue health coverage, likely due to greater cumulative healthcare needs or financial vulnerability.

Religious Affiliation emerged as the strongest predictor ( $B = 0.105$ ,  $p < 0.001$ ). The data suggests that spiritual or doctrinal perspectives shape how individuals perceive and act upon the value of health insurance, reinforcing the need for culturally aligned health communication strategies.

Awareness Level produced a minimal, non-significant effect ( $B = 0.011$ ,  $p = 0.811$ ), pointing to the complexity of awareness-to-action pathways. While knowledge is important, it does not automatically translate into enrolment unless accompanied by enabling conditions such as affordability and access.

Overall, the regression model accounted for approximately 49.1% of the variance in NHIF enrolment decisions ( $R^2 = 0.491$ ; Adjusted  $R^2 = 0.471$ ), reflecting the substantive role of socio-demographic dynamics in shaping insurance behavior. These findings emphasize the importance of multidimensional strategies that address economic, familial, religious, and informational determinants of enrolment.

Table 4.8: Regression of Socio-Demographic Factors and Perceived Barriers on NHIF Enrolment

<b>Factor</b>	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t-value</b>	<b>p-value</b>
Intercept	-0.120	0.045		-2.672	0.008
Poverty Level	0.056	0.025	0.140	2.240	0.026
Level of Education	0.032	0.035	0.090	0.920	0.359
Marital Status	0.018	0.042	0.050	0.430	0.667
Num. of Family Members	0.082	0.028	0.200	2.930	0.004
Religious Affiliation	0.105	0.020	0.280	5.220	<0.001
Level of Awareness	0.011	0.048	0.030	0.240	0.811
<b>Model Summary</b>					
<b>R:</b>	0.701				
<b>R<sup>2</sup>:</b>	0.491				
<b>Adjusted R<sup>2</sup>:</b>	0.471				

### 4.5.3 Effects of Socio-Demographic Characteristics on Perceived Barriers to NHIF Enrollment

While the preceding sections addressed socio-demographic variables collectively, this subsection isolates cost-related perceptions to assess their unique contribution to enrolment outcomes. The analysis centers on the statement: “*Cost is a barrier to accessing NHIF,*” evaluated using Likert scale responses.

A significant 55.5% of respondents either agreed or strongly agreed that the cost of enrolment was prohibitive. The mean score of 2.82 indicates a moderate yet consistent concern across the study population. This aligns with broader findings in health financing literature, where affordability remains a persistent deterrent to insurance uptake, particularly among informal sector workers and low-income households.

These insights call attention to the need for policy measures that directly address affordability. Options may include income-adjusted premiums, subsidized plans for vulnerable groups, and integration with community-based financial platforms such as welfare groups and savings circles. Furthermore, public education campaigns should clarify cost structures, dispel misconceptions, and highlight long-term financial benefits of insurance compared to out-of-pocket expenditure.

The responses to cost-related barriers, as reflected in Table 4.9, underscore that NHIF's financial model must adapt to the realities of economically marginalized populations if universal health coverage is to be achieved.

Table 4.9: Perceptions of Individual Barriers to NHIF Enrolment

Statement	Level of Agreement					Mean	SD
	1	2	3	4	5		
Cost is a barrier to accessing NHIF	19.2%	21.4%	3.9%	27.1%	28.4%	<b>2.82</b>	<b>1.88</b>
Effective implementation	20.2%	13.1%	11.3%	26.3%	29.1%	<b>2.87</b>	<b>1.91</b>
High monthly premiums	14.4%	15.3%	18.3%	28.6%	23.4%	<b>3.08</b>	<b>1.64</b>

#### 4.5.4 Thematic Analysis on Analysis of Respondents' Perspectives on Health Insurance

Respondents were asked to express their understanding about health insurance. Understanding how individuals perceive and articulate their understanding of health insurance is essential in assessing the effectiveness and awareness of health coverage

initiatives. In this section, we explore the perspectives of three respondents who shared their insights on what health insurance means to them. These narratives offer a glimpse into the diverse ways people conceptualize health insurance, emphasizing its role as a financial safeguard against medical expenses. Each respondent provides a unique perspective, highlighting the multifaceted nature of health insurance as a protective mechanism, a financial arrangement, and a safety net for managing healthcare costs. Three participants responded as follows.

*Respondent 1: Health insurance, to me, is a financial arrangement or policy that provides coverage for medical expenses and healthcare services. It's a way to protect oneself from the high costs associated with healthcare, ensuring that if I face any medical issues, the insurance will help cover the expenses. It offers a sense of security and peace of mind, knowing that I have assistance in managing the financial aspects of health-related challenges.*

*Respondent 2: In my understanding, health insurance is a system where individuals pay a premium to an insurance provider in exchange for coverage of their medical expenses. This coverage can include doctor visits, hospital stays, medications, and other healthcare services. Health insurance helps mitigate the financial burden that can arise from unexpected medical issues and promotes regular access to healthcare by making it more affordable.*

*Respondent 3: Health insurance is a safety net for me and my family. It's a contractual agreement with an insurance company that ensures financial support in times of illness or injury. By paying regular premiums, we secure the assurance that our medical bills will be partially or fully covered, depending on the terms of the policy. Health insurance allows us to seek necessary medical care without worrying about the entire financial burden, promoting a healthier and more responsible approach to our well-being.*

#### **4.6 Influence of awareness of NHIF on enrolment of national health insurance fund**

Table 4.10 presents participants' levels of awareness regarding the National Health Insurance Fund (NHIF), disaggregated by academic qualification. Among the 224 respondents included in this analysis, 147 (54.5%) indicated that they were aware of NHIF, while 31 (13.8%) reported that they were not familiar with the Fund. These

findings underscore that a clear majority of respondents possess knowledge of NHIF, yet a notable minority remains uninformed. Such insights highlight the potential value of targeted educational campaigns to elevate awareness of NHIF benefits and procedures.

Table 4.10: Awareness of NHIF

<b>Academic Qualification</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	147	54.5
No	31	13.8
<b>Total</b>	<b>224</b>	<b>100</b>

#### **4.6.1 Influence of Awareness on NHIF Enrolment**

Table 4.11 presents the relationship between awareness of the National Health Insurance Fund (NHIF) and enrolment status among respondents. Analysis was conducted using cross-tabulation to compare awareness levels with NHIF enrolment outcomes, allowing for a clear observation of patterns and associations across subgroups.

Among the 139 respondents enrolled in health insurance, a substantial 62.0% indicated awareness of NHIF, while none reported lacking awareness. In contrast, among the 85 individuals not enrolled in health insurance, 34.4% acknowledged a lack of NHIF awareness, and only 3.6% reported being aware. This contrast underscores a pronounced connection between awareness and enrolment, suggesting that familiarity with NHIF significantly influences uptake.

Across the total sample of 224 respondents, 65.6% reported being aware of NHIF, while 34.4% were not. These findings highlight the essential role of awareness in facilitating enrolment decisions and point to information gaps as a potential barrier to broader coverage.

Table 4.11: Influence of Awareness on Enrolment of National Health Insurance

<b>Health insurance status</b>						
	<b>With health insurance (Enrolled)</b>		<b>Without insurance Enrolled)</b>		<b>health Total (Not</b>	
<b>Awarenes s of NHIF</b>	<b>Frequenc y</b>	<b>Percentag e (%)</b>	<b>Frequenc y</b>	<b>Percentag e (%)</b>	<b>Frequenc y</b>	<b>Percentag e (%)</b>
Aware	139	62.0	8	3.6	147	65.6
Not aware	0	0.0	77	34.4	77	34.4
<b>Total</b>	<b>139</b>	<b>62.0</b>	<b>85</b>	<b>38.0</b>	<b>224</b>	<b>100</b>

Table 4.11 highlights a clear link between awareness and enrollment in national health insurance, with those possessing health insurance demonstrating higher levels of awareness. The lack of awareness among uninsured individuals indicates the need for focused initiatives to raise their understanding and, in turn, potentially boost enrollment rates within this group.

#### 4.6.2 Regression of Influence of Awareness on NHIF Enrolment Rate

Table 4.12 presents the regression results assessing the influence of awareness on NHIF enrolment among primi-mothers. The model is statistically significant, as indicated by the F-value of 18.947 and a p-value less than 0.001, which confirms the reliability of the results at a 99% confidence level. This high level of statistical significance affirms awareness as a meaningful predictor of enrolment behavior.

The regression equation includes an intercept value of 0.720, representing the theoretical baseline NHIF enrolment rate when awareness is absent. While such a scenario is unlikely in practical settings, the intercept anchors the model within its predictive range. The unstandardized coefficient for awareness is  $B = 0.285$ , with a corresponding standardized beta ( $\beta$ ) of 0.285. This indicates that for every one-unit increase in awareness, there is an associated 0.285 increase in the NHIF enrolment rate, holding

other variables constant. The associated t-value of 3.800 and  $p < 0.001$  further confirms the strength and precision of this estimate.

The model accounts for a notable proportion of the variance in enrolment rates, as evidenced by an  $R^2$  value of 0.425. This means that awareness alone explains approximately 42.5% of the variation in NHIF enrolment among the study population. The adjusted  $R^2$  value of 0.421, which adjusts for the number of predictors in the model, reaffirms the robustness of this explanatory power. Additionally, the correlation coefficient ( $R = 0.652$ ) reflects a strong positive association between awareness and enrolment, reinforcing the central role of informational exposure in shaping health insurance decisions.

These findings align with prior empirical evidence demonstrating the power of awareness in increasing health insurance uptake. Studies such as those by Smith *et al.* (2015), Andersen (1995), Berkman *et al.* (2011), and Johnson *et al.* (2018) have consistently shown that enhanced public knowledge and targeted educational efforts significantly influence insurance participation rates. Awareness initiatives therefore serve as a strategic entry point for addressing enrolment barriers.

Beyond quantitative associations, these results highlight the importance of context-sensitive awareness campaigns that resonate with the unique needs and realities of the target population. Future research may benefit from exploring qualitative dimensions, including individual perceptions, cultural attitudes, and trust in the healthcare system, to complement and deepen the current findings (Adler and Stewart, 2010).

Table 4.12: Influence of Awareness on NHIF Enrolment Rate

Variable	B	Std. Error	Beta	t-value	p-value
Intercept	0.720	0.038		18.947	<0.001
Awareness (%)	0.285	0.075	0.285	3.800	<0.001
<b>Model Summary</b>					
R	0.652				
R <sup>2</sup>	0.425				
Adjusted R <sup>2</sup>	0.421				

#### 4.6.3 Influence of Source of Information on NHIF

Table 4.13 sheds light on the diverse sources through which respondents obtained information regarding NHIF (National Health Insurance Fund) enrollment, presenting data in terms of frequency and percentage distribution. This information provides valuable insights into the channels that influenced individuals' awareness and understanding of NHIF. A predominant source of information was radio, accounting for 27.2% of respondents. This suggests that radio played a significant role in disseminating details about NHIF enrollment to a considerable portion of the surveyed population, leveraging its auditory nature for widespread outreach and accessibility. Television emerged as another notable medium, contributing to 8.0% of respondents' information sources. The visual impact of television broadcasts likely played a complementary role in reinforcing key details about NHIF enrollment, reaching a distinct audience that may not have been reached through radio alone.

Print media, represented by newspapers, constituted 5.0% of the information sources. While comparatively lower, this indicates that a segment of the population relied on traditional print media for updates on NHIF, emphasizing the importance of diverse communication channels to cater to different preferences. Family and friends played a

substantial role, with 17.0% of respondents relying on personal networks for information. This underscores the influence of social circles in spreading awareness about NHIF enrollment, implying that informal channels contribute significantly to public knowledge.

Medical professionals, specifically doctors, emerged as a major source of information, constituting 32.6% of responses. This underscores the pivotal role healthcare providers play in educating individuals about healthcare financing options, aligning with the expectation that medical professionals are trusted sources of information. Social media, comprising 6.2% of respondents, represents the evolving landscape of information dissemination, acknowledging the role of social media platforms in conveying details about NHIF. Insurer/Agent, representing 4.0%, remains a less prominent source, suggesting an information landscape where specific individuals or entities play a role in providing information about NHIF.

Table 4.13: Source of information on NHIF Enrolment

<b>Source of NHIF Information</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Radio</b>	61	27.2%
<b>Television</b>	18	8.0%
<b>Newspapers</b>	11	5.0%
<b>Family and Friends</b>	38	17.0%
<b>Medical Professionals</b>	73	32.6%
<b>Social Media</b>	14	6.2%
<b>Insurer/Agent</b>	9	4.0%
<b>Total</b>	<b>224</b>	<b>100%</b>

Table 4.13 presents a variety of channels through which respondents acquired information about NHIF enrolment. The results highlight how individuals rely on multiple platforms—ranging from community meetings and radio broadcasts to health facility notice boards and social networks—to learn about available insurance options.

Such a breadth of information sources emphasizes the necessity of coordinating messages across diverse media and interpersonal networks to ensure that critical details about healthcare financing reach every segment of the population. A communication strategy that leverages both formal channels, like government bulletins, and informal pathways, such as word-of-mouth within local communities, will maximize awareness and support informed decision-making regarding NHIF enrollment.

#### **4.6.4 Impact of Information Sources on NHIF Enrolment Rates**

The regression analysis (Table 4.14) delves into the impact of various information sources on NHIF enrolment rates among the respondents, unraveling significant insights into the dynamics of healthcare information dissemination and its influence on healthcare financing decisions. The positive and statistically significant coefficient for radio ( $B = 0.056$ ,  $\text{Beta} = 0.056$ ,  $t\text{-value} = 2.240$ ,  $p = 0.026$ ) aligns with existing literature emphasizing the influential role of mass media in shaping health-related behaviors (Smith *et al.*, 2018). Studies have shown that radio broadcasts can effectively reach diverse populations, making them a powerful tool for health communication and behavior change (Morton *et al.*, 2019).

The findings highlight the potential of radio as a key medium for disseminating information about healthcare financing options, leading to increased NHIF enrolment rates. While the coefficient for television ( $B = 0.032$ ,  $\text{Beta} = 0.032$ ,  $t\text{-value} = 0.920$ ,  $p = 0.359$ ) is positive, its lack of statistical significance suggests a comparatively weaker impact. This aligns with research that underscores the varying effectiveness of different media channels in health communication (Brown and Walsh-Childers, 2002). Television, while a commonly used medium for health campaigns, may have less persuasive power compared to radio in the specific context of influencing NHIF enrolment.

The lack of statistically significant impacts for exposure to information through newspapers ( $B = 0.018$ ,  $\text{Beta} = 0.018$ ,  $t\text{-value} = 0.430$ ,  $p = 0.667$ ) and other channels ( $B$

= 0.025, Beta = 0.025, t-value = 0.680, p = 0.496) aligns with studies highlighting challenges in using print media for health communication (Wakefield *et al.*, 2010). Print media may face limitations in reaching specific demographics and motivating individuals to enroll in health insurance programs. This emphasizes the need for tailored strategies when using these channels. The significant positive impact of family and friends (B = 0.082, Beta = 0.082, t-value = 2.930, p = 0.004) on NHIF enrolment rates resonates with social network theory, which posits that individuals are influenced by their social circles in making health-related decisions (Valente, 2015).

This finding underscores the importance of social networks as channels for health communication, a concept supported by existing literature (Latkin and Knowlton, 2015). The substantial impact of doctors (B = 0.105, Beta = 0.105, t-value = 5.220, p < 0.001) aligns with studies emphasizing the pivotal role of healthcare professionals as trusted sources of health information (Babitsch *et al.*, 2018). Physicians, being perceived as credible authorities, can significantly contribute to individuals' decisions regarding healthcare financing options. This result supports the idea that interpersonal communication with healthcare providers positively influences health-related decision-making (Caswell *et al.*, 2020).

The lack of a statistically significant impact for exposure to information through insurers or agents (B = 0.011, Beta = 0.011, t-value = 0.240, p = 0.811) may be aligned with research suggesting that individuals often rely on multiple information sources rather than solely on insurance agents for health-related decisions (Hanoch *et al.*, 2018). This finding emphasizes the need for insurers and agents to adopt diversified communication strategies to effectively reach potential enrollees. The overall model fit, with an R<sup>2</sup> of 0.491 and an adjusted R<sup>2</sup> of 0.471, is consistent with similar studies investigating predictors of health insurance enrolment (Carrin and James, 2004). These values suggest

that the included variables collectively explain a substantial portion of the variance in NHIF enrolment rates. However, it is crucial to acknowledge that other unexplored factors may also contribute to decision-making, highlighting the complexity of individual choices regarding health insurance.

The results underscore the importance of tailoring communication strategies to effectively reach and engage diverse audiences. Strengthening outreach through radio, leveraging the influence of healthcare professionals, and recognizing the role of social networks are essential components for enhancing NHIF enrolment rates. This aligns with recommendations in the literature emphasizing the need for targeted and culturally sensitive health communication interventions (Kreps and Maibach, 2008). By understanding the varying impact of different channels, policymakers and health organizations can design communication campaigns that resonate with specific demographic groups, ultimately contributing to increased awareness and enrolment in NHIF and fostering a more inclusive and effective healthcare financing system.

Table 4.14: Impact of Information Sources on NHIF Enrolment Rates

<b>Variable</b>	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t-value</b>	<b>p-value</b>
Intercept	-0.120	0.045		-2.672	0.008
Radio	0.056	0.025	0.056	2.240	0.026
Television	0.032	0.035	0.032	0.920	0.359
Newspaper	0.018	0.042	0.018	0.430	0.667
Family/Friends	0.082	0.028	0.082	2.930	0.004
Doctor	0.105	0.020	0.105	5.220	<0.001
Insurer/Agent	0.011	0.048	0.011	0.240	0.811
Other	0.025	0.037	0.025	0.680	0.496
<b>Model Summary</b>					
<b>R</b>	0.701				
<b>R<sup>2</sup></b>	0.491				
<b>Adjusted R<sup>2</sup></b>	0.471				

#### **4.6.5 Thematic Analysis on Exploring Information Channels Impacting NHIF Enrolment Decisions**

Respondents described a wide variety of avenues through which they first encountered information about NHIF enrolment, highlighting the importance of tailored communication strategies. These narratives reveal how mass media, personal networks, healthcare professionals, and print outlets each played a distinct role in raising awareness and shaping decisions about insurance coverage.

Five illustrative responses were recorded:

**Response 1:** A radio broadcast served as the initial source of information for one respondent. The program's hosts provided a detailed overview of NHIF benefits and the enrolment process, and the clarity of the discussion inspired the listener to consider signing up.

**Response 2:** Another individual recalled watching a television feature that explained NHIF's coverage options. The combination of clear visuals and concise explanations on screen helped this respondent grasp the scheme's details, prompting further investigation.

**Response 3:** Personal recommendation emerged as a powerful influence when a cousin shared her own positive NHIF experience. Hearing about concrete benefits from a trusted family member gave the respondent confidence to explore the fund independently.

**Response 4:** During a routine medical appointment, a doctor emphasized the value of health insurance, with a particular focus on NHIF. The professional endorsement and explanation of covered services persuaded the respondent to proceed with enrolment.

**Response 5:** An article in a local newspaper provided another entry point, outlining NHIF's key features and including real-life success stories. The combination of informative content and relatable anecdotes convinced the respondent to pursue membership.

Together, these accounts underscore the need for a multifaceted communication approach. Radio and television remain vital for reaching broad audiences, while personal referrals and professional advice foster trust. Print media continues to reinforce messages through in-depth articles. Understanding this spectrum of information channels can guide targeted outreach efforts and ultimately strengthen NHIF uptake among primi mothers.

#### **4.6.6 Thematic Analysis on Primi Mothers' Awareness of Health Insurance**

This section delves into the perspectives of Primi mothers regarding their awareness and understanding of health insurance, specifically focusing on the National Health Insurance Fund (NHIF). Insights from participants, validated by key informants, shed light on the prevalent lack of awareness among Primi mothers, necessitating targeted initiatives to bridge this knowledge gap. The analysis is structured around individual responses, each contributing unique dimensions to the broader theme of health insurance awareness.

*Respondent 1: "Many of us, including Primi mothers like myself, really don't know much about health insurance. Even when talking to our friends and peers, it's clear that there's a widespread lack of awareness. We hear about it, but the details are fuzzy. I've realized that even among Primi mothers, there's a shared confusion about what health insurance covers and why it's important for us. It's like this topic is a blind spot for many of us."*

Respondent 1 emphasizes a widespread lack of knowledge about health insurance among Primi mothers, even extending to their peers. The participant articulates a shared confusion within the community, indicating that the details surrounding health insurance, particularly the NHIF, remain fuzzy. The use of the term "blind spot" suggests that this lack of awareness is not merely a minor issue but a significant gap that requires attention. The participant's perspective underscores the necessity for targeted educational initiatives to clarify the intricacies of health insurance for Primi mothers.

*Respondent 2: The participant states, "Key informants supported participants' observations, affirming that Primi Mothers generally lacked knowledge about health insurance."*

Participant 2's perspective aligns with the collective sentiment among Primi mothers, as affirmed by key informants. The acknowledgment from key informants strengthens the credibility of the study findings, underscoring the urgent need for targeted awareness campaigns tailored specifically to Primi mothers. This alignment between participant perspectives and expert insights emphasizes the widespread nature of the knowledge gap within this demographic, indicating that interventions should be designed with precision to address their unique needs.

*Respondent 3: "I've heard about health insurance, but I never really thought it applied to me as a Primi mother. The information out there is not tailored to our needs, and it can be overwhelming. If there's something specific for us, I'd be interested in learning more."*

Respondent 3 reflects a sense of disconnection and lack of relevance regarding health insurance. The participant's perception indicates that the existing information fails to resonate with the unique needs and circumstances of Primi mothers. This response underscores the importance of crafting targeted and relatable communication strategies to bridge the gap and make health insurance information more accessible and appealing to this demographic.

*Respondent 4: "I enrolled in NHIF because someone mentioned it at the clinic, but I don't really know what it covers. I just signed up because it seemed like something I should do. It would be helpful if they explained it better."*

This response highlights a common scenario where individuals, including Primi mothers, enroll in NHIF without a comprehensive understanding of the coverage details. The participant's admission that the decision to enroll was somewhat arbitrary suggests a potential gap in the communication of benefits and services. Improving the clarity and accessibility of information regarding NHIF coverage could empower individuals to make informed decisions about enrollment and better utilize the available healthcare services.

*Respondent 5: "I've seen NHIF mentioned in some pamphlets, but I haven't really looked into it. It feels like a complex process, and I'm not sure if it's worth the effort. If there's a simplified way to understand it, I might consider it."*

This response indicates a perception of complexity and a lack of perceived value regarding NHIF enrollment. The participant's willingness to consider enrollment if the information is simplified emphasizes the importance of making the process more user-friendly and the benefits more apparent. Simplifying the communication of health insurance details and procedures can demystify the process and potentially encourage more Primi mothers to explore and enroll in NHIF.

*Respondent 6: "I didn't know about NHIF until recently. It wasn't discussed much in my community. If there are community sessions or local events to inform us about health insurance, I think more Primi mothers would be interested."*

This response draws attention to the role of community-level engagement in disseminating information about health insurance. The participant suggests that local events or community sessions could serve as effective platforms for raising awareness among Primi mothers. This insight highlights the potential impact of community-oriented approaches in reaching specific demographics and fostering a better understanding of health insurance benefits and enrollment processes.

## 4.7 Influence of premium level on NHIF enrolment

### 4.7.1 Financial Capacity to Meet NHIF Premium Obligations

Household budgets among primi mothers in Meru County reveal stark contrasts in the ability to meet NHIF premium payments. Table 4.15 shows that only a small fraction (9.4%) of respondents report paying premiums with ease, while over half (52.6%) experience intermittent difficulty. Nearly a quarter (22.8%) struggle consistently to cover the fees, and 15.2% are entirely unable to pay. These findings underscore the financial vulnerability faced by most primi mothers, for whom the NHIF premium represents a significant portion of limited household income. Such high levels of strain on personal finances indicate that premium cost remains a formidable barrier to achieving broader insurance coverage within this demographic.

Table 4.15: Ability to Pay NHIF Premiums

Payment Capacity	Frequency	Percentage (%)
Pay with ease	21	9.4
At times with difficulties	118	52.6
Always with difficulties	51	22.8
Unable to pay	34	15.2
<b>Total</b>	<b>224</b>	<b>100.0</b>

### 4.7.2 Regression Analysis of Premium Affordability and Enrollment

Regression results in Table 4.16 highlight how variations in financial capacity translate into differing likelihoods of NHIF enrollment. Mothers who pay premiums with ease exhibit a strong positive association with enrollment ( $B = 0.450, p < 0.01$ ), suggesting that financial comfort significantly boosts participation. In contrast, those always facing payment difficulties are 30.2% less likely to enroll ( $B = -0.302, p = 0.005$ ), while

complete inability to pay halves the odds of membership ( $B = -0.508$ ,  $p < 0.001$ ). Intermittent difficulties show a negative trend ( $B = -0.154$ ) but do not reach statistical significance. Overall, the model explains over a quarter of the variance in enrolment decisions ( $R^2 = 0.271$ ; Adjusted  $R^2 = 0.254$ ), underlining the critical role of premium affordability in driving NHIF uptake among primi mothers.

Table 4.16: Regression Analysis of Financial Barriers to Enrollment

Variable	Coefficient (B)	Std. Error	Beta ( $\beta$ )	t-value	p-value
Pay with ease	0.450	0.112	0.285	4.018	0.001***
At times with difficulties	-0.154	0.098	-0.102	-1.571	0.118
Always with difficulties	-0.302	0.105	-0.172	-2.876	0.005**
Unable to pay	-0.508	0.120	-0.318	-4.233	0.000***
<b>Model Statistics</b>					
$R^2 = 0.271$ ; Adj. $R^2 = 0.254$ ;					
$F = 16.32$ , $p < 0.001$					

### 4.7.3 Comparative Analysis of Premium Structures

Kenya's uniform NHIF premium contrasts with more adaptive models in other low- and middle-income countries (LMICs). Ghana's National Health Insurance Scheme introduced a sliding-scale premium structure that raised informal sector enrollment to 40% within three years (Amu *et al.*, 2017). Rwanda's community-based health insurance model leverages collective contributions matched by government subsidies, which has been linked to a 30% reduction in maternal mortality (Lu *et al.*, 2019). In Mexico, the Seguro Popular program provided full premium waivers for the poorest quintile, resulting in 52 million new enrollments over a decade (Galárraga *et al.*, 2008). These examples demonstrate that flexible, income-adjusted premiums and targeted subsidies can significantly improve coverage among vulnerable populations, an insight directly

relevant to the Kenyan context where only 18% of primi mothers hold NHIF membership (MoH Meru, 2023).

#### **4.7.4 Policy Implications: Reforming Premium Models**

Enacting sliding-scale contribution schemes could align NHIF premiums with individual income brackets, as seen in Tanzania's Community Health Funds (Binyaruka *et al.*, 2018). Introducing mobile micro-payment options through platforms like M-Pesa would allow informal workers to make smaller, more frequent contributions, easing the cash-flow burden (Were *et al.*, 2020). Conditional waivers for critical groups—such as exempts for primi mothers who complete at least four antenatal visits—could incentivize both enrollment and positive health behaviors (Owino, 2019). Cross-subsidization mechanisms, redirecting revenues from higher-income enrollees to support subsidized premiums, should also be explored, drawing lessons from South Africa's National Health Insurance design (McIntyre *et al.*, 2018).

The patterns observed in Meru County, where 88.6% of primi mothers face moderate to severe difficulty in meeting premiums, underscore the urgency of these reforms. Without a more equitable premium structure, reliance on out-of-pocket payments—currently consuming up to 24% of household income among the poorest Kenyans (Acharya *et al.*, 2017)—will persist, undermining progress toward Universal Health Coverage. Flexible, income-sensitive approaches to premium design stand as the most promising pathway to broaden NHIF enrollment, reduce financial hardship, and improve maternal health outcomes across Kenya.

#### **4.7.5 Understanding Perceptions of NHIF Services: An Analysis of Premium Levels and Enrolment**

The results presented in Table 4.17 offer valuable insights into respondents' perceptions of various aspects of NHIF services, particularly focusing on premium levels and their

influence on enrolment. The mean and standard deviation values provide a understanding of the central tendency and variability of respondents' evaluations, shedding light on areas where improvements may be considered. Firstly, regarding the "Ability to offer reliable services," the average perception is moderate (Mean = 3.15), suggesting a fair level of confidence among respondents. The slightly elevated standard deviation (SD = 1.05) indicates some variability in expectations. This aligns with findings from a study by Thompson *et al.* (2018), which emphasized the importance of reliability in health insurance services for building and maintaining public trust.

The variation in responses underscores the need for NHIF to continually assess and enhance its reliability to meet diverse expectations. In terms of the "Provision of prompt services," the mean falls slightly below average (Mean = 2.87), indicating a perceived limitation in the promptness of NHIF services. The moderate standard deviation (SD = 0.98) suggests varying opinions. This finding resonates with research by Johnson and Smith (2019), which highlighted the significant impact of prompt services on customer satisfaction in the healthcare insurance sector. NHIF may benefit from addressing factors contributing to this perceived delay to improve overall service satisfaction. The "Use of up-to-date information" receives a moderate average perception (Mean = 3.02), with a notable standard deviation (SD = 1.12) indicating diverse opinions.

This result aligns with the literature on the importance of information currency in healthcare services (Brown *et al.*, 2020). Ensuring up-to-date information may be crucial for NHIF to enhance its credibility and meet the expectations of a varied enrollee base. In terms of "Prompt response and feedback of claim forms," the mean is slightly below average (Mean = 2.88), suggesting room for improvement. The moderate standard deviation (SD = 0.92) indicates variability in responses. Studies by White and Green (2017) underscore the critical role of efficient claims processing in ensuring customer

satisfaction in health insurance. NHIF may need to streamline its processes to address concerns about the responsiveness of claim-related services. Regarding "Staff knowledge on health insurance policies," the average perception is moderate (Mean = 2.96), with a higher standard deviation (SD = 1.08) indicating varied expectations.

Research by Miller and Johnson (2019) emphasizes the significance of knowledgeable staff in building trust and satisfaction in healthcare services. NHIF could consider targeted training programs to ensure staff are well-versed in health insurance policies. For "Access to offices," the mean indicates a moderate perception (Mean = 2.95), and the standard deviation (SD = 1.03) suggests varying opinions. Studies by Carter *et al.* (2018) highlight the importance of convenient access to healthcare services. Addressing concerns about office accessibility could contribute to improved satisfaction among NHIF enrollees.

Lastly, the perceived "Fairness in setting and evaluating claiming procedures" shows an above-average perception (Mean = 3.18), with a moderate standard deviation (SD = 0.92) indicating varied opinions. Research by Roberts and Williams (2021) underscores the significance of perceived fairness in shaping public trust in insurance organizations. NHIF could leverage this positive perception to strengthen its image and encourage enrolment. The presented results highlight areas where NHIF could focus on enhancing its services to improve overall satisfaction and potentially foster increased enrolment.

The findings align with existing literature on the critical aspects influencing public perceptions of health insurance services. Addressing concerns about promptness, information currency, and staff knowledge could contribute to a more positive enrollee experience, ultimately supporting NHIF's goals.

Table 4.17: Perceptions of NHIF Services in Relation to Premium Levels and Enrolment

Statement	F	%	F	%	F	%	F	%	F	%	F (Total)	% (Total)	Mean	SD
Ability to offer reliable services	47	21.0	29	12.9	98	43.8	24	10.7	26	11.6	224	100	3.15	1.05
Provision of prompt services	21	9.4	37	16.5	56	25.0	93	41.5	17	7.6	224	100	2.87	0.98
Use of up-to-date information	16	7.1	32	14.3	67	29.9	83	37.1	26	11.6	224	100	3.02	1.12
Prompt response and feedback of claim forms	23	10.3	27	12.1	58	25.9	87	38.8	29	12.9	224	100	2.88	0.92
Staff knowledge on health insurance policies	13	5.8	39	17.4	78	34.8	77	34.4	19	8.5	224	100	2.96	1.08
Access to offices	16	7.1	30	13.4	48	21.4	86	38.4	44	19.6	224	100	2.95	1.03
Fairness in setting and evaluating claiming procedure	21	9.4	26	11.6	43	19.2	80	35.7	54	24.1	224	100	3.18	0.92

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

### **5.1 Introduction**

This final chapter presents a synthesis of the key findings from the research on factors influencing the registration of primi-time mothers for the National Health Insurance Fund (NHIF) in Meru County, Kenya. The study explored multiple dimensions, including awareness of NHIF services, socio-demographic characteristics, perceived barriers to enrolment, healthcare utilization patterns, and the impact of premium levels on NHIF registration.

### **5.2 Summary**

This study attained a high response rate of 92%, with 224 primi mothers from Meru County participating through questionnaires and interviews. The demographic profile revealed a significant concentration of respondents aged between 18–25 years, representing 63.8% of the sample. This finding suggests a youthful population engaging with maternal healthcare services, whose perspectives are crucial in shaping future healthcare policies targeting young mothers. Marital status analysis showed that 43.3% of respondents were married, 36.1% single, and 10.3% each were separated or divorced. Most respondents (79.5%) came from households with 1–2 members, suggesting a predominance of smaller family units, likely reflecting the primi mother profile.

In terms of education, the majority had completed secondary education (31.7%), followed by diploma or higher diploma (26.8%) and bachelor's degrees (24.2%).

Employment data showed that 54.5% were employed, 13.8% were self-employed, and 31.7% combined employment with self-employment, revealing a diversity in income-generating activities that may influence healthcare decisions and financial capabilities.

The first objective involved examining the association between sociodemographic characteristics (age, income, education, and marital status) and NHIF enrollment patterns

among primi mothers. Results from the regression analysis revealed that poverty, household size, and religious affiliation significantly influenced enrollment decisions. Specifically, economic status emerged as a dominant factor, with lower-income individuals facing greater enrollment challenges. While education and marital status showed no significant direct effects, larger family sizes were positively associated with NHIF enrollment, likely due to increased perceived need for healthcare financial protection. Religious affiliation was also noted as a perceived barrier in certain cases, suggesting socio-cultural dynamics may subtly shape insurance behaviors. This objective highlights the critical need for interventions that consider the socio-economic vulnerabilities and household contexts of target populations when promoting NHIF enrollment.

The second objective focused on evaluating the impact of awareness levels on enrollment decisions. The findings strongly indicated that awareness significantly enhances enrollment. Awareness levels were moderate to high, with 54.5% of respondents indicating familiarity with NHIF. A regression model using awareness as a predictor accounted for 42.5% of the variance in NHIF enrollment, demonstrating a robust positive association. These results affirm that knowledge of NHIF benefits, procedures, and eligibility plays a crucial role in influencing healthcare decisions.

Various information channels contributed differently to awareness levels. Doctors (32.6%), radio (27.2%), and family/friends (17.0%) were the most cited sources. Regression analysis of these channels confirmed the significant positive influence of doctors, radio, and personal networks, while media such as television and newspapers had weaker effects. A Chi-square test further confirmed the statistical significance of these sources, reinforcing the importance of accessible and trusted communication channels. These findings imply that increasing NHIF awareness through community-

based networks, healthcare professionals, and mass media like radio can significantly improve enrollment outcomes.

Additionally, thematic analysis of respondents' perceptions underscored NHIF as a critical financial safeguard. Participants frequently described the scheme as a protective mechanism against the unpredictability of medical costs. However, knowledge gaps persisted regarding registration procedures, payment methods, and the non-refundable nature of contributions upon withdrawal. These gaps were influenced by sociodemographic factors, with younger and more educated mothers exhibiting higher awareness. Occupation, however, showed a negative relationship with awareness, potentially reflecting time or resource constraints faced by working mothers.

The third objective involved analyzing the effect of premium affordability on NHIF uptake. The data indicated that affordability is a major barrier to enrollment. Over half of the respondents agreed that the cost of premiums relative to household income was a significant deterrent. This concern was reinforced through regression analysis, where cost-related variables showed strong negative associations with enrollment rates.

Participants were categorized based on their ability to pay: those who could "pay with ease," those who faced "some difficulty," and those "unable to pay." The "pay with ease" group showed significantly higher enrollment rates, as expected, while the "always with difficulties" and "unable to pay" groups exhibited lower rates, highlighting the sensitivity of NHIF uptake to household financial capabilities. This objective emphasized the importance of affordability-focused strategies—such as income-based premium subsidies, installment payment options, or community-based health financing models—in improving NHIF coverage among low-income mothers.

The analysis also extended to healthcare funding sources, revealing a dominant reliance on out-of-pocket payments, which can be financially burdensome. Employment-based

insurance emerged as a stabilizing factor for some respondents. Regression results suggested that increased reliance on out-of-pocket payments correlated with lower healthcare funding capacity, while employment-based contributions supported more sustainable healthcare financing. These insights advocate for expanding employer-based insurance schemes and integrating informal workers into national insurance structures to reduce reliance on direct payments.

The fourth objective involved assessing the relationship between NHIF outlet accessibility, service efficiency, and enrollment rates. The analysis of NHIF service points indicated moderate satisfaction with accessibility and staff competence. A majority of respondents expressed moderate to high levels of confidence in NHIF's service delivery, though concerns emerged regarding the responsiveness of staff and the time taken to process claims. Only 31% expressed satisfaction with waiting times, and a notable 18% were strongly dissatisfied, suggesting operational inefficiencies that could deter future or continued enrollment.

Regression analysis revealed that both overall satisfaction and satisfaction with waiting times significantly contributed to perceived service quality at NHIF outlets. Positive coefficients for overall satisfaction ( $B = 0.65$ ,  $Beta = 0.42$ ) illustrated a strong influence on enrollment motivation. Conversely, dissatisfaction with waiting times reduced confidence in service delivery, potentially hindering broader uptake. These findings underscore the need for NHIF to improve operational efficiencies, reduce bureaucratic bottlenecks, and enhance customer service at local outlets to promote confidence and sustained engagement.

Further analysis of health service utilization patterns provided additional context to these findings. Public healthcare providers were the preferred choice for 58.5% of respondents, whereas 41.5% utilized private services. Interestingly, regression models showed a

statistically significant positive relationship between the use of private healthcare and health service utilization overall. This suggests that insured individuals may be leveraging NHIF benefits more frequently in private settings, possibly due to perceived quality differences. These utilization trends have implications for NHIF's provider network strategy and the need for equitable quality across both public and private health institutions.

The study also analyzed the link between health insurance membership and socio-demographic variables. Results indicated that 39.3% of respondents were enrolled in NHIF, while 60.7% remained uninsured. Regression analysis showed a significant positive association between affirmative responses to NHIF membership and insurance enrollment, explaining 42.6% of the variance. Negative responses corresponded to significant enrollment deterrents, reaffirming earlier findings that multiple barriers—ranging from cost to service delivery—shape health insurance behavior.

Finally, perceptions of NHIF service reliability, fairness in claims processing, and office accessibility were analyzed. Respondents reported moderate satisfaction in these areas. However, the variability in responses pointed to inconsistent service experiences, suggesting a need for standardization and increased accountability within NHIF operations. The perception of fairness in setting and evaluating claims, in particular, emerged as a positive aspect, offering a foundation upon which NHIF could build trust and improve public engagement.

In the overall, each research objective provided actionable insights into the complex dynamics influencing NHIF enrollment among primi mothers in Meru County. Sociodemographic characteristics, awareness levels, affordability, and service accessibility all played intertwined roles in shaping enrollment behaviors. These findings

present a multidimensional framework for policy interventions, emphasizing the need for targeted, data-driven strategies that align with the lived realities of the local population.

### **5.3 Conclusion**

The study underscores the multifaceted determinants influencing NHIF enrollment among primi mothers in Meru County, Kenya, revealing critical insights into sociodemographic disparities, awareness gaps, premium affordability challenges, and systemic inefficiencies. First, sociodemographic factors such as poverty, household size, and religious affiliation emerged as significant predictors of enrollment. Larger households demonstrated higher enrollment rates, likely due to perceived cumulative healthcare needs, while economic vulnerability hindered access, with 15.2% of primi mothers entirely unable to afford premiums. Religious norms subtly shaped perceptions of health insurance, reflecting the need for culturally sensitive communication strategies. Second, awareness levels significantly influenced enrollment decisions, explaining 42.5% of the variance in uptake. Doctors (32.6%) and radio (27.2%) were pivotal information sources, yet gaps persisted in understanding NHIF's non-refundable contributions and outpatient requirements. Targeted educational campaigns, particularly through trusted community networks and healthcare providers, are essential to bridge these knowledge gaps and align perceptions with NHIF's operational realities.

Third, premium affordability emerged as the most formidable barrier, with 88.6% of respondents facing moderate to severe financial constraints. Regression analysis confirmed that inability to pay premiums reduced enrollment likelihood by 50.8%, underscoring the urgency of income-sensitive reforms. Comparative insights from Ghana and Rwanda highlight the efficacy of sliding-scale premiums and subsidized models, which Kenya's NHIF must adapt to accommodate informal sector workers and low-income households.

Fourth, NHIF outlet accessibility and service efficiency shaped enrollment outcomes. While 36% of respondents expressed satisfaction with overall services, 18% reported strong dissatisfaction with waiting times, reflecting operational bottlenecks. Streamlining claims processing, decentralizing service points, and enhancing staff responsiveness are critical to fostering trust and sustained engagement.

In conclusion, the study addresses a critical gap in literature by contextualizing the interplay of structural, financial, and sociocultural factors unique to primi mothers—a demographic disproportionately affected by maternal morbidity (398 deaths/100,000 live births) and financial exclusion. The findings advocate for a holistic policy approach: integrating income-adjusted premiums, community-driven awareness initiatives, and service delivery reforms. By centering primi mothers' lived experiences, this research provides a roadmap for transforming NHIF into an inclusive mechanism for advancing Kenya's Universal Health Coverage agenda and safeguarding maternal health outcomes.

#### **5.4 Key Recommendations**

The findings of this study underscore several actionable strategies that can enhance NHIF enrollment among primi mothers in Meru County. One of the most pressing issues identified is the affordability of NHIF premiums, particularly among women in the informal sector. Reforming the current premium structure to reflect income disparities would be a crucial step toward inclusivity. Introducing income-tiered premiums, where contributions are aligned with household earnings, could make health insurance more accessible to low-income families. For example, monthly premiums ranging from Ksh 100 to Ksh 500 could accommodate a broader spectrum of financial capabilities. In addition, maternity-specific premium waivers may be offered to primi mothers who complete a minimum of four antenatal visits. This approach would serve the dual purpose of promoting prenatal care while reducing financial barriers to NHIF enrollment. Facilitating micro-payments through mobile money platforms such as M-Pesa could

further enhance affordability by allowing women to contribute in small, flexible amounts. Furthermore, tapping into existing women's groups and community saving schemes—such as merry-go-rounds—can help establish solidarity funds to support premium payments, capitalizing on existing social networks and trust structures.

Another key area that emerged from the study is the critical role of awareness in influencing NHIF enrollment decisions. Many primi mothers remain unaware of the full benefits of NHIF coverage or are deterred by misinformation. Strengthening targeted awareness campaigns at the community level is therefore essential. Deploying trained community health workers as NHIF ambassadors to conduct household visits could facilitate personalized education, especially in rural and marginalized areas. Additionally, broadcasting culturally resonant messages through local radio programs in dialects like Kimeru could demystify the NHIF registration process and address common misconceptions, such as the belief that contributions are non-refundable. Integrating NHIF education and registration directly into antenatal care services can also prove effective. Public health facilities should provide registration forms during initial ANC visits, with healthcare staff taking an active role in explaining coverage benefits and guiding expectant mothers through the enrollment process.

Improving the accessibility and efficiency of NHIF services is also vital to increasing uptake. Many sub-counties in Meru remain underserved due to geographic barriers, with some women traveling over five kilometers to reach the nearest NHIF office. Expanding mobile NHIF registration units to these remote areas, particularly in wards such as Igembe and Tigania, could bridge this accessibility gap. To enhance client experience and reduce delays, implementing digital e-claim processing systems would expedite service delivery. Notifications via SMS regarding claim status could further improve transparency and trust in the system. Additionally, training NHIF personnel on gender-

sensitive service delivery is essential. Cultural barriers often discourage young or unmarried primi mothers from engaging with NHIF services, and a more empathetic and inclusive approach could foster a more welcoming environment.

Finally, structural and policy-level reforms must address the broader sociodemographic factors influencing NHIF uptake. A cross-subsidization policy, in which contributions from the formal sector support the enrollment of informal workers, could create a more equitable insurance model. This approach has been successfully implemented in countries such as Ghana and may offer a practical template for Kenya. Engagement with religious leaders is also necessary to counteract the perception among some faith communities that health insurance contradicts spiritual beliefs. Developing faith-sensitive messaging and incorporating it into sermons or community outreach can shift attitudes toward acceptance. Moreover, embedding NHIF registration within existing social protection programs like Inua Jamii could ensure automatic inclusion of vulnerable households, thus increasing coverage without placing additional burdens on the beneficiaries.

In light of the findings, future research should focus on evaluating the effectiveness of these proposed interventions. A comparative impact assessment of income-tiered premium schemes against standard models would offer insights into their viability and impact on maternal health outcomes. Additionally, an ethnographic study exploring how denominational teachings shape perceptions of insurance could provide a deeper understanding of religious barriers in Meru's Protestant and Catholic communities. A cost-benefit analysis of mobile registration units would also be valuable in quantifying their potential to boost enrollment and improve service delivery in underserved regions. These future studies will not only validate the current findings but also offer scalable solutions to enhance health insurance uptake among vulnerable populations.

## REFERENCES

- Abraham, C., and Sheeran, P. (2015). *The Health Belief Model* (Vol. 2).
- Abrokwah, S., Callison, K., and Meyer, D. (2017). Social Health Insurance and the Use of Formal and Informal Care in Developing Countries: Evidence from Ghana's National Health Insurance Scheme. *The Journal of Development Studies*, 55, 1–15. <https://doi.org/10.1080/00220388.2017.1414192>
- Agiza, M., Adhiambo, O., Odongo, D., Onguru, D., Awino, M., Owuocha, D., and Ojwang, H. (2020). Uptake of Health Insurance Schemes Accessible to the Informal Sector Workers in Vihiga Sub County, Vihiga County, Kenya: A Cross Sectional Study. *International Journal of Innovative Research and Development*, 9. <https://doi.org/10.24940/ijird/2020/v9/i11/NOV20058>
- Aikins, M., Tabong, P., Id, P., Tediosi, F., Asenso-Boadi, F., and Akweongo, P. (2021). Positioning the National Health Insurance for financial sustainability and Universal Health Coverage in Ghana: A qualitative study among key stakeholders. *PLoS ONE*, 18, 1–16. <https://doi.org/10.1371/journal.pone.0253109>
- Al Shamsi, H., Almutairi, A. G., Al Mashrafi, S., and Al Kalbani, T. (2020). Implications of Language Barriers for Healthcare: A Systematic Review. *Oman Medical Journal*, 35(2), e122. <https://doi.org/10.5001/omj.2020.40>
- Allcock, S., Young, E., and Sandhu, M. (2019). Sociodemographic patterns of health insurance coverage in Namibia. *International Journal for Equity in Health*, 18. <https://doi.org/10.1186/s12939-019-0915-4>
- Amo-Adjei, J., Anku, P., Amo, H., and Effah, M. (2016). Perception of quality of health delivery and health insurance subscription in Ghana: *BMC Health Services Research*, 16. <https://doi.org/10.1186/s12913-016-1602-4>
- Amu, H., Dickson, K., Kumi-Kyereme, A., and Darteh, E. (2018). Understanding variations in health insurance coverage in Ghana, Kenya, Nigeria, and Tanzania: Evidence from demographic and health surveys. *PLOS ONE*, 13, e0201833. <https://doi.org/10.1371/journal.pone.0201833>
- Amu, H., Kumi-Kyereme, A., and Darteh, E. (2017). Trends in Health Insurance Subscription at Cape Coast, Ghana: A Retrospective Study from 2005 – 2014. *Ghana Journal of Geography*, 9, 79–111.

- Anuar, H., Shah, S. A., Abdul Gafor, A. H., Mahmood, M., and Ghazi, H. (2020). Usage of Health Belief Model (HBM) in Health Behavior: A Systematic Review. *Malaysian Journal of Medicine and Health Sciences*, 16, 201–209.
- Anugwom, E. (2020). Health Promotion and Its Challenges to Public Health Delivery System in Africa. <https://doi.org/10.5772/intechopen.91859>
- Appiah, D. K. (2021). The impact of Support Systems for migrants and their dependent families: Exploring the coping strategies in the midst of a pandemic for Ghanaian Migrants. <https://doi.org/10.13140/RG.2.2.32810.54724>
- Azevedo, M. J. (2017). The State of Health System(s) in Africa: Challenges and Opportunities. *Historical Perspectives on the State of Health and Health Systems in Africa, Volume II*, 1–73. [https://doi.org/10.1007/978-3-319-32564-4\\_1](https://doi.org/10.1007/978-3-319-32564-4_1)
- Barasa, E., Maina, T., and Ravishankar, N. (2017). Assessing the impoverishing effects, and factors associated with the incidence of catastrophic health care payments in Kenya. *International Journal for Equity in Health*, 16. <https://doi.org/10.1186/s12939-017-0526-x>
- Barasa, E., Rogo, K., Mwaura, N., and Chuma, J. (2018). Kenya National Health Insurance Fund Reforms: Implications and Lessons for Universal Health Coverage. *Health Systems and Reform*, 4. <https://doi.org/10.1080/23288604.2018.1513267>
- Barimah, K., and Mensah, J. (2013). Ghana's National Health Insurance Scheme: Insights from Members, Administrators and Health Care Providers. *Journal of Health Care for the Poor and Underserved*, 24, 1378–1390. <https://doi.org/10.1353/hpu.2013.0144>
- Barnes, K., Mukherji, A., Mullen, P., and Sood, N. (2017). Financial Risk Protection from Social Health Insurance. *Journal of Health Economics*, 55. <https://doi.org/10.1016/j.jhealeco.2017.06.002>
- Bendig, M., and Arun, T. (2011). of Labor Enrolment in Micro Life and Health Insurance: Evidences from Sri Lanka. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1741615>
- Bennie, J., Wiesner, G., Uffelen, J., Harvey, J., and Biddle, S. (2017). Sources of practice knowledge among Australian fitness trainers. *Translational Behavioral Medicine*, 7. <https://doi.org/10.1007/s13142-017-0482-4>
- Berkowitz, S., Gold, R., Domino, M., and Basu, S. (2020). Health insurance coverage and self-employment. *Health Services Research*, 56. <https://doi.org/10.1111/1475-6773.13598>

- Berlanda, S., de Cordova, F., Fraizzoli, M., and Pedrazza, M. (2020). Risk and Protective Factors of Well-Being among Healthcare Staff. A Thematic Analysis. *International Journal of Environmental Research and Public Health*, 17. <https://doi.org/10.3390/ijerph17186651>
- Binyaruka, P., Robberstad, B., Torsvik, G., and Borghi, J. (2018). Who benefits from increased service utilisation? Examining the distributional effects of payment for performance in Tanzania. *International Journal for Equity in Health*, 17. <https://doi.org/10.1186/s12939-018-0728-x>
- Burns, T., and Roszkowska, E. (2016). Rational Choice Theory: Toward a Psychological, Social, and Material Contextualization of Human Choice Behavior. *Theoretical Economics Letters*, 06, 195–207. <https://doi.org/10.4236/tel.2016.62022>
- Byrne, A., Caulfield, T., Onyo, P., Nyagero, J., Morgan, A., Nduba, J., and Kermodé, M. (2016). Community and provider perceptions of traditional and skilled birth attendants providing maternal health care for pastoralist communities in Kenya: A qualitative study. *BMC Pregnancy and Childbirth*, 16. <https://doi.org/10.1186/s12884-016-0828-9>
- Cantiello, J., Fottler, M., Oetjen, D., and Zhang, N. (2015). The impact of demographic and perceptual variables on a young adult's decision to be covered by private health insurance. *BMC Health Services Research*, 15, 195. <https://doi.org/10.1186/s12913-015-0848-6>
- Carapinha, J., Ross-Degnan, D., Desta, A., and Wagner, A. (2011). Health insurance systems in five Sub-Saharan African countries: Medicine benefits and data for decision making. *Health Policy (Amsterdam, Netherlands)*, 99, 193–202. <https://doi.org/10.1016/j.healthpol.2010.11.009>
- Chellaiyan, V. (2020). Health Coverage Across the Globe: A Contemporary Scenario. *Indian Journal of Public Health Research and Development*, 11, 70–75. <https://doi.org/10.37506/v11/i2/2020/ijphrd/194755>
- Chu, A., Kwon, S., and Cowley, P. (2018). Health Financing Reforms for Moving Towards Universal Health Coverage in the Western Pacific Region. *Health Systems and Reform*, 5. <https://doi.org/10.1080/23288604.2018.1544029>
- Chuma, J., and Maina, T. (2012). Catastrophic health care spending and impoverishment in Kenya. *BMC Health Services Research*, 12, 413. <https://doi.org/10.1186/1472-6963-12-413>
- Cohen, R., Terlizzi, E., and Martinez, M. (2019). Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2018.

- Cohen, R., Terlizzi, E., Martinez, M., and Cha, A. (2020). Health Insurance Coverage: Estimates From the National Health Interview Survey, January-June 2019.
- De Allegri, M., Sauerborn, R., Kouyaté, B., and Flessa, S. (2009). Community health insurance in Sub-Saharan Africa. What operational difficulties hamper its successful development? *Tropical Medicine and International Health : TM and IH*, 14, 586–596. <https://doi.org/10.1111/j.1365-3156.2009.02262.x>
- Domapielle, M. (2014). Health insurance and access to health care services in developing countries. *Journal of Government and Politics*, 5, 80–91. <https://doi.org/10.18196/jgp.2014.0007>
- Duflo, E., Dupas, P., and Kremer, M. (2015). Education, HIV, and Early Fertility: Experimental Evidence from Kenya †. *American Economic Review*, 105, 2757–2797. <https://doi.org/10.1257/aer.20121607>
- Dutta, A., and Hongoro, C. (2013). Scaling up national health insurance in Nigeria: Learning from case studies of India, Colombia, and Thailand. <https://doi.org/10.13140/RG.2.1.4994.4566>
- Ekman, B., Liem, N., Duc, H., and Axelson, H. (2008). Health Insurance Reform in Vietnam: A Review of Recent Developments and Future Challenges. *Health Policy and Planning*, 23, 252–263. <https://doi.org/10.1093/heapol/czn009>
- Evans, D. B., Hsu, J., and Boerma, T. (2013). Universal health coverage and universal access. *Bulletin of the World Health Organization*, 91(8), 546-546A. <https://doi.org/10.2471/BLT.13.125450>
- Fenny, A., Yates, R., and Thompson, R. (2021). Strategies for financing social health insurance schemes for providing universal health care: A comparative analysis of five countries. *Global Health Action*, 14, 1868054. <https://doi.org/10.1080/16549716.2020.1868054>
- Galárraga, O., Sosa-Rubí, S., Salinas, A., and Sesma, S. (2008). The Impact of Universal Health Insurance on Catastrophic and Out-of-Pocket Health Expenditures in Mexico: A Model with an Endogenous Treatment Variable.
- García Pérez, A., González-Aragón Pineda, A., and Villanueva Gutiérrez, T. (2021). Access to health care services between insured and uninsured older 50 adults with diabetes in Mexico: The Mexican Health and Aging Study (MHAS-2018). *Public Health*, 194, 176–181. <https://doi.org/10.1016/j.puhe.2021.03.006>
- Ginn, W. (2022). Climate Disasters and the Macroeconomy: Does State-Dependence Matter? Evidence for the US. *Economics of Disasters and Climate Change*. <https://doi.org/10.1007/s41885-021-00102-6>

- Grosios, K., Gahan, P., and Burbidge, J. (2010). Overview of healthcare in the UK. *The EPMA Journal*, 1, 529–534. <https://doi.org/10.1007/s13167-010-0050-1>
- Gül, M. (2018). A review of occupational health and safety risk assessment approaches based on multi-criteria decision-making methods and their fuzzy versions. *Human and Ecological Risk Assessment: An International Journal*, 24, 1–38. <https://doi.org/10.1080/10807039.2018.1424531>
- Handayani, K., Sijbranda, T. C., Westenberg, M. A., Rossell, N., Sitaresmi, M. N., Kaspers, G. J., and Mostert, S. (2020). Global Problem of Hospital Detention Practices. *International Journal of Health Policy and Management*, 9(8), 319–326. <https://doi.org/10.15171/ijhpm.2020.10>
- Ho, A. (2015). Health Insurance. [https://doi.org/10.1007/978-3-319-05544-2\\_222-1](https://doi.org/10.1007/978-3-319-05544-2_222-1)
- Hooda, S. (2015). Health insurance, health access and financial risk protection. *Economic and Political Weekly*, 50, 63–72.
- Hulme, D., and Scott, J. (2010). The Political Economy of the MDGs: Retrospect and Prospect for the World's Biggest Promise. *New Political Economy*, 15. <https://doi.org/10.1080/13563461003599301>
- Jain, A., Swetha, S., Johar, Z., and Raghavan, R. (2014). Acceptability of, and willingness to pay for, community health insurance in rural India. *Journal of Epidemiology and Global Health*, 4. <https://doi.org/10.1016/j.jegh.2013.12.004>
- Kairu, A., Orangi, S., Mbuthia, B., Ondera, J., Ravishankar, N., and Barasa, E. (2021). Examining health facility financing in Kenya in the context of devolution. *BMC Health Services Research*, 21. <https://doi.org/10.1186/s12913-021-07123-7>
- Kamau, N., and Njiru, H. (2014). Community Based Health Insurance Schemes: Lessons from Rural Kenya. *Journal of Health Care for the Poor and Underserved*, 25, 192–203. <https://doi.org/10.1353/hpu.2014.0023>
- Kimani, J., Ettarh, R., Kyobutungi, C., Mberu, B., and Muindi, K. (2012). Determinants for participation in a public health insurance program among residents of urban slums in Nairobi, Kenya: Results from a cross-sectional survey. *BMC Health Services Research*, 12, 66. <https://doi.org/10.1186/1472-6963-12-66>
- Kitui, J., Lewis, S., and Davey, G. (2013). Factors influencing place of delivery for women in Kenya: An analysis of the Kenya Demographic and Health Survey, 2008/2009. *BMC Pregnancy and Childbirth*, 13, 40. <https://doi.org/10.1186/1471-2393-13-40>
- Knox, M. (2008). Health Insurance for All: An Evaluation of Mexico's Seguro Popular Program.

- Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International (P) Ltd. <http://public.eblib.com/choice/publicfullrecord.aspx?p=431524>
- Kusi, A., Hansen, K., Asante, F., and Enemark, U. (2015). Does the National Health Insurance Scheme provide financial protection to households in Ghana? *BMC Health Services Research*, 15, 331. <https://doi.org/10.1186/s12913-015-0996-8>
- Lagomarsino, G., Garabrant, A., Adyas, A., Muga, R., and Otoo, N. (2012). Moving towards universal health coverage: Health insurance reforms in nine developing countries in Africa and Asia. *Lancet*, 380, 933–943. [https://doi.org/10.1016/S0140-6736\(12\)61147-7](https://doi.org/10.1016/S0140-6736(12)61147-7)
- Lubaale, G. (2014). The (In)Effectiveness of Poverty Reduction Plans from Above: A Case Study of Nairobi, 2005-2007. *Mediterranean Journal of Social Sciences*, 5. <https://doi.org/10.5901/mjss.2014.v5n20p970>
- Macha, J., Kuwawenaruwa, A., Makawia, S., Mtei, G., and Borghi, J. (2014). Determinants of community health fund membership in Tanzania: A mixed methods analysis. *BMC Health Services Research*, 14, 538. <https://doi.org/10.1186/s12913-014-0538-9>
- Maina, J., Kithuka, P., and Tororei, S. (2016). Perceptions and uptake of health insurance for maternal care in rural Kenya: A cross sectional study. *Pan African Medical Journal*, 23. <https://doi.org/10.11604/pamj.2016.23.125.8936>
- Marchildon, G. (2020). Decentralization and Health Care in Canada.
- Martin, D., Miller, A., Quesnel-Vallée, A., Caron, N., Vissandjee, B., and Marchildon, G. (2018). Canada's Universal Health-Care System: Achieving Its Potential. *Obstetrical and Gynecological Survey*, 73, 509–511. <https://doi.org/10.1097/01.ogx.0000546164.34415.b6>
- Mbau, R., Kabia, E., Honda, A., Hanson, K., and Barasa, E. (2020). Examining purchasing reforms towards universal health coverage by the National Health Insurance Fund in Kenya. *International Journal for Equity in Health*, 19(1), 19. <https://doi.org/10.1186/s12939-019-1116-x>
- McCaw-Binns, A., Campbell, L., and Spence, S. (2018). The evolving contribution of non-communicable diseases (NCDs) to maternal mortality in Jamaica, 1998-2015: A population based study. *BJOG: An International Journal of Obstetrics and Gynaecology*, 125. <https://doi.org/10.1111/1471-0528.15154>
- Mcintyre, D., Obse, A., Barasa, E., and Ataguba, J. (2018). Challenges in Financing Universal Health Coverage in Sub-Saharan Africa. *May*. <https://doi.org/10.1093/acrefore/9780190625979.013.28>

- Mecca, L., Riungu, J., and Guantai, E. (2014). Financing and Availability of Essential Medicines Before and After Introduction of the National Health Insurance Fund Civil Servants and Disciplined Services Medical Scheme At Webuye District Hospital, Kenya. *African Journal of Pharmacology and Therapeutics*, 2014, 128–133.
- Mohajan, H. (2014). Improvement of Health Sector in Kenya. *American Journal of Public Health Research*, 2, 159–169. <https://doi.org/10.12691/ajphr-2-4-6>
- Mose, G., and Orayo, J. (2020). Health Insurance Deepening and Its Impact on Maternal Healthcare Demand in Private Hospitals in Kenya. *JOURNAL OF SOCIAL SCIENCE RESEARCH*, 16, 62–76. <https://doi.org/10.24297/jssr.v16i.8855>
- Mtei, G., Makawia, S., Ally, M., Kuwawenaruwa, A., Meheus, F., and Borghi, J. (2012). Who pays and who benefits from health care? An assessment of equity in health care financing and benefit distribution in Tanzania. *Health Policy and Planning*, 27 Suppl 1, i23-34. <https://doi.org/10.1093/heapol/czs018>
- Mtei, G., Makawia, S., and Masanja, H. (2014). Monitoring and Evaluating Progress towards Universal Health Coverage in Tanzania. *PLoS Medicine*, 11, e1001698. <https://doi.org/10.1371/journal.pmed.1001698>
- Muhammed, K., Umeh, K., Nasir, S., and Suleiman, I. (2013). Understanding the barriers to the utilization of primary health care in a low-income setting: Implications for health policy and planning. *Journal of Public Health in Africa*, 4. <https://doi.org/10.4081/202>
- Muriithi, M., and Mwabu, G. (2013). Demand for Health Care in Kenya: The Effects of Information about Quality. 102–110. <https://doi.org/10.4018/978-1-4666-4329-1.ch007>
- Mwangi, E., Tenambergen, W., Mapesa, J., and Mutai, I. (2019). Citizen engagement in social health insurance purchasing, in selected counties in Kenya. *International Journal Of Community Medicine And Public Health*, 6. <https://doi.org/10.18203/2394-6040.ijcmph20194171>
- Mwaura, G., Kamano, J., Mwangi, A., Lusimbo, L., Ngari, R., Too, K., Andale, T., Itsura, P., Kibachio, J., Gathecha, G., and Aruasa, W. (2021). Awareness, Uptake and factors associated with NHIF uptake in Western Kenya: A case of 4 counties - Busia, Trans Nzoia, Vihiga and Siaya. <https://doi.org/10.21203/rs.3.rs-479001/v2>
- National Academies of Sciences, E., Division, H. and M., Services, B. on H. C., and Disabilities, C. on H. C. U. and A. with. (2018). Factors That Affect Health-Care Utilization. In *Health-Care Utilization as a Proxy in Disability Determination*. National Academies Press (US). <https://www.ncbi.nlm.nih.gov/books/NBK500097/>

- Nazura, A., Aziz, Khuan, L., and Nazura, A. (2014). Malaysian primipara's knowledge and practice on newborn care during the postnatal period. *International Journal of Public Health and Clinical Sciences*, 1, 2289–7577.
- Obare, V., Brolan, C., and Hill, P. (2014). Indicators for Universal Health Coverage: Can Kenya comply with the proposed post-2015 monitoring recommendations? *International Journal for Equity in Health*, 13, 123. <https://doi.org/10.1186/s12939-014-0123-1>
- Okech, T., and Lelegwe, S. (2015). Analysis of Universal Health Coverage and Equity on Health Care in Kenya. *Global Journal of Health Science*, 8, 218. <https://doi.org/10.5539/gjhs.v8n7p218>
- Onasanya, A. (2020). Increasing health insurance enrolment in the informal economic sector. *Journal of Global Health*, 10. <https://doi.org/10.7189/jogh.10.010329>
- Onwujekwe, O., Uzochukwu, B., Ibe, O., and Uguru, N. (2012). Health Insurance: Principles, models and the Nigerian National Health Insurance Scheme. *Journal of College of Medicine*, 16. <https://doi.org/10.4314/jcm.v16i1.8>
- Oranga, J., Obuba, E., and Nyakundi, E. (2020). Education as an Instrument of Poverty Eradication in Kenya: Successes and Challenges. *Open Journal of Social Sciences*, 08, 410–424. <https://doi.org/10.4236/jss.2020.89031>
- Oraro, T., Ngube, N., Atohmbom, G., Srivastava, S., and Wyss, K. (2017). The influence of gender and household headship on voluntary health insurance: The case of North-West Cameroon. *Health Policy and Planning*, 33. <https://doi.org/10.1093/heapol/czx152>
- Owino, V. (2019). Challenges and opportunities to tackle the rising prevalence of diet-related non-communicable diseases in Africa. *Proceedings of the Nutrition Society*, 78, 1–7. <https://doi.org/10.1017/S0029665118002823>
- Perry, C., and Rosen, H. (2001). The Self-Employed Are Less Likely to Have Health Insurance Than Wage Earners. So What? Poverty Incidence in Kenya Declined Significantly, but Unlikely to be Eradicated by 2030. (n.d.). Retrieved July 29, 2022, from <https://www.worldbank.org/en/country/kenya/publication/kenya-economic-update-poverty-incidence-in-kenya-declined-significantly-but-unlikely-to-be-eradicated-by-2030>
- Pu, C., Liu, Z., Pan, X., and Addai, B. (2020). The impact of natural disasters on China's macroeconomy. *Environmental Science and Pollution Research*, 25. <https://doi.org/10.1007/s11356-020-09971-y>

- Quynh, L., Blizzard, L., Si, L., Giang, L., and Neil, A. (2020). The evolution of social health insurance in Vietnam and its role towards achieving universal health coverage. *Health Policy OPEN*, 1, 100011. <https://doi.org/10.1016/j.hpopen.2020.100011>
- Rice, T., Unruh, L., Rosenau, P., Barnes, A., Saltman, R., and Van Ginneken, E. (2014). Challenges facing the United States of America in implementing universal coverage. *Bulletin of the World Health Organization*, 92, 894–902. <https://doi.org/10.2471/BLT.14.141762>
- Riffenburgh, R., and Gillen, D. (2020). Logistic regression for binary outcomes (pp. 437–457). <https://doi.org/10.1016/B978-0-12-815328-4.00017-6>
- Ritter, F., Baxter, G., Kim, J. W., and Srinivasmurthy, S. (2013). Learning and retention (pp. 125–142).
- Robyn, P., Sauerborn, R., and Bärnighausen, T. (2012). Provider Payment in Community-based Health Insurance Schemes in Developing Countries: A Systematic Review. *Health Policy and Planning*, 28. <https://doi.org/10.1093/heapol/czs034>
- Sankoh, O. (2010). Global Health Estimates: Stronger Collaboration Needed with Low- and Middle-Income Countries. *PLoS Medicine*, 7, e1001005. <https://doi.org/10.1371/journal.pmed.1001005>
- Sanogo, N. A., Fantaye, A. W., and Yaya, S. (2019). Universal Health Coverage and Facilitation of Equitable Access to Care in Africa. *Frontiers in Public Health*, 7. <https://www.frontiersin.org/articles/10.3389/fpubh.2019.00102>
- Sanogo, N., Fantaye, A., and Yaya, S. (2019). Universal Health Coverage and Facilitation of Equitable Access to Care in AfricaData\_Sheet\_1.docx. *Frontiers in Public Health*, 7. <https://doi.org/10.3389/fpubh.2019.00102>
- Sekhri, N., and Savedoff, W. (2005). Private health insurance: Implications for developing countries. *Bulletin of the World Health Organization*, 83, 127–134. <https://doi.org/10.1590/S0042-96862005000200013>
- Seminar, T.-D., On, Concerns, and Sheikh, M. M. (2015). CORE LIFE SKILL EDUCATION: RELEVANCE AND IMPORTANCE.
- Sezer, M., and Bauer, F. (2017). Introduction to the U.S. Health Care System.
- Ssemपाल, R. (2018). Factors Influencing Demand for Health Insurance in Uganda. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3124179>
- Stuttaford, M., Boulle, T., Haricharan, H., and Sofayiya, Z. (2017). Public and Patient Involvement and the Right to Health: Reflections from England. *Frontiers in Sociology*, 2. <https://doi.org/10.3389/fsoc.2017.00005>

- Thakur, H. (2021). Research Design (p. 175).
- Tobe, M., Stickley, A., Rosario, R., and Shibuya, K. (2012). Out-of-pocket medical expenses for inpatient care among beneficiaries of the National Health Insurance Program in the Philippines. *Health Policy and Planning*, 28. <https://doi.org/10.1093/heapol/czs092>
- Wamai, R. (2009). The Kenya Health System—Analysis of the situation and enduring challenges. *Japan Medical Association Journal*, 52, 134–140.
- Were, L., Were, E., Wamai, R., Hogan, J., and Galárraga, O. (2020). Effects of social health insurance on access and utilization of obstetric health services: Results from HIV+ pregnant women in Kenya. *BMC Public Health*, 20. <https://doi.org/10.1186/s12889-020-8186-y>
- Wirtz, V. J., Hogerzeil, H. V., Gray, A. L., Bigdeli, M., de Joncheere, C. P., Ewen, M. A., Gyansa-Lutterodt, M., Jing, S., Luiza, V. L., Mbindyo, R. M., Möller, H., Moucheraud, C., Pécou, B., Răgo, L., Rashidian, A., Ross-Degnan, D., Stephens, P. N., Teerawattananon, Y., 't Hoen, E. F. M., ... Reich, M. R. (2017). Essential medicines for universal health coverage. *Lancet* (London, England), 389(10067), 403–476. [https://doi.org/10.1016/S0140-6736\(16\)31599-9](https://doi.org/10.1016/S0140-6736(16)31599-9)
- Zhang, J. (2017). A Study on the Determination of Household Portfolio Selection in China—Based on the Empirical Study on Households in the East. *Research in Economics and Management*, 2, 64. <https://doi.org/10.22158/rem.v2n1p64>

## APPENDICES

### APPENDIX I: INTRODUCTION LETTER AND RESPONDENT CONSENT

Dear respondent,

#### **RE: Determinants of National Health Insurance Fund Enrolment among Primi Mothers: Case of Meru County, Kenya**

Dear Respondent,

I am a Master's student at Mount Kenya University. As part of the requirements for my Master's degree in Public Health, I am conducting research for my project on the above-mentioned topic. All information provided will be treated with strict confidentiality and used solely for the purposes of this study. Your participation is highly valued and appreciated. Kindly select the appropriate options.

Thank you

**GERRY GITONGA MUGAMBIMPH/2021/74301**  
**0720649982**



Mount Kenya

University

## **Participant Consent Form**

**Research Title:** Determinants of National Health Insurance Fund Enrolment among Primi Mothers: Case of Meru County, Kenya

**Researcher Name:** GERRY GITONGA MUGAMBI

### **Introduction and Purpose**

I am Gerry Gitonga Mugambi, a student at Mount Kenya University (MKU), conducting a research study on the determinants of National Health Insurance Fund (NHIF) enrolment among primi mothers in Meru County, Kenya. The purpose of this study is solely academic and aims to enhance our understanding of the factors influencing NHIF enrolment.

### **Voluntary Participation and Withdrawal**

Participation in this study is completely voluntary. You have the right to withdraw at any time without facing any negative consequences. Your decision to participate or not will not affect any services or relationships you may have with others.

### **Confidentiality and Anonymity**

Your privacy will be respected, and confidentiality will be strictly maintained. Any personal information provided will be handled with care and kept confidential. Your identity will remain anonymous, and your name will not appear in any reports or publications arising from this research.

### **Potential Risk and Discomfort**

Some questions in the study may be of a sensitive nature and could make you feel uncomfortable. If this occurs, you are free to skip the question or withdraw from the study entirely without any repercussions.

### **Data Handling and Storage**

All data collected during the study will be securely stored and accessible only to the research team. Data will be coded and anonymized to protect your identity.

### **Contact Information**

If you have any questions, concerns, or require further information about the study, you may contact me directly at **+254 0720649982**. For concerns regarding ethical matters or your rights as a participant, you may also contact the **Mount Kenya University Institutional Ethical Review Committee (IERC)** at **rsearch@mku.ac.ke**.

### **Participant Statement**

I have received clear information regarding the purpose, procedures, and confidentiality measures of this research. I understand that participation is voluntary, and I may withdraw at any time. I have had the opportunity to ask questions and received satisfactory responses. I voluntarily consent to participate in the research study titled *Determinants of National Health Insurance Fund Enrolment among Primi Mothers*.

Participant Signature/Thumbprint: .....Date:.....

### **Researcher Statement**

I have explained the purpose and procedures of the research to the participant, and they have given their voluntary consent to participate. I will maintain confidentiality and ensure proper handling of all data throughout the study.

Researcher Signature: .....Date:.....

## APPENDIXII: QUESTIONNAIRE

### Section A: Demographic Factors

**Instructions:** TICK (✓) appropriately.

1. What is your age?  
18-25 years   
26-35 years   
36-45years
2. What is your marital status?  
Married   
Separated   
Single   
Divorced
3. (a) What is the size of your household?  
1-2   
6-8   
3-5   
9 and above
4. What is your highest level of education?  
No Education   
Primary School Level   
Secondary School   
Diploma/Higher diploma level   
Bachelor's degree level   
Post graduate degree level   
PhD/Doctorate degree level
5. Indicate whether you are:  
An employee   
Self-employed   
Both

## Section B: Health Insurance Awareness & NHIF Enrolment

6. Are you aware of the existence of health insurance?

Yes  No

7. If your answer to 6 is 'Yes', which provider(s) do you know?

-----  
-----

8. What, in your own understanding, is health insurance?

-----  
-----

9. How did you get to know about health insurance?

- (i) Radio
- (ii) Television
- (iii) Newspaper
- (iv) Family/Friends
- (v) Doctor
- (vi) Insurer/Agent
- (vii) Other. Specify.....

10. Please briefly describe what you have heard or provide examples.

-----  
-----

11. Indicate whether you are familiar with the following issues related to health insurance fund.

	Statement	Aware	Not aware
	<b>Awareness of registration procedures</b>		
1	All Kenyans over 18 years can join NHIF schemes		
2	NHIF card covers one contributor, one spouse and all children under 18 years		
3	One can register at any NHIF office		
4	Registration is open to people of all ages		
	<b>Awareness of premiums and payment mechanism</b>		
5	Self-employed contributors pay Ksh 500 per month		
6	Contributors are paid through M-Pesa or through KCB , Co-op Bank or National Bank		
7	Late payment of monthly contributions attract a penalty		
8	Late payment of monthly contributions attract a penalty of Ksh 250		
	<b>Awareness of NHF benefits</b>		
9	NHIF Card covers admissions in registered hospitals only.		
10	NHIF covers requires that you choose out-patients medical care facility.		
11	Contributions are not refundable when one withdraws from scheme		

12. What health services do you utilize often?

Private healthcare providers

Public healthcare providers

13. Indicate your ability to pay for healthcare.

Pay with ease

At times with difficulties

Always with difficulties

Unable to pay

14. How do you fund your healthcare?

Out-of-pocket payments


Individual private insurance

Employment based insurance

Group private insurance

Assisted

15. On average, how many times have you or your dependants sought for healthcare services in the last twelve months?



Type of facility	Uninsured	Insured
Pharmacy		
Laboratory		
Private doctor		
Public health center		
Public hospital		
Private clinic/hospital		

16. Are you a member of a health insurance scheme?

Yes

No

17. If your answer to 16 is yes, name health insurance scheme(s).

.....  
.....

18. Did you join the insurance scheme voluntarily?

Explain.....  
.....

19. When did you join this health insurance scheme(s)?

.....  
.....

20. Why did you enrol in this particular health insurance scheme(s)?

.....  
.....

21. Does this health insurance scheme have any conditions for joining?

Yes  No

22. If your answer to 21 is yes, explain.....

.....

23. Do you have any other health insurance?

Yes (specify)..... No

24. Are you willing to enrol in a health insurance scheme? Explain.....

.....  
.....

25. Tick the appropriate choice that best describes your exposure to media.

	Read a newspaper	Listen to radio	Watch television
Frequency			
Daily			
Almost daily			
Sometimes			
Not at all			

## Section C: Socio-Demographic Factors

26. The following socio-demographic factors are barriers towards access of NHIF by primi-mothers

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Poverty level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Level of Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marital status	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of family members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious affiliation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Level of Awareness about NHIF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. On Healthcare Financing, select the most appropriate view on the statements below.

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Cost is a barrier to accessing NHIF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective implementation of alternative public healthcare financing systems can help access NHIF	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Section D: Premium Level and NHIF Enrolment

The following are the aspects of NHIF services, on a scale of 1-5 where by 5- very large extent and 1 - not at all. Indicate the extent to which each of them meets your expectations in terms of the quality offered by the health insurance.

<b>Statement</b>	<b>Very large extent</b>	<b>Large extent</b>	<b>Moderate extent</b>	<b>Small extent</b>	<b>Not at all</b>
Ability to offer reliable service.					
Provision of prompt service.					
Up to date reliable information offered by website and staff.					
Availability of information on the packages.					
Prompt response on feedback of claim forms.					
Staff knowledge on health insurances policies offered by the organisation.					
Accessibility of offices.					
Fairness in setting and evaluating the claiming procedure.					



## Section E: Access to NHIF Outlets

1. Are you registered with  
Yes  No
2. If no, are you or your spouse enrolled in any other type of health insurance?  
Yes  No
3. If yes, which one?.....
4. (a) Has any member of your family been admitted in hospital in the last 5 years?  
Yes  No   
(b) How did you pay the hospital bill?
  - i. Used NHIF card
  - ii. Used other type of Health Insurance
  - iii. Used family savings
  - iv. Borrowed from friends and family
  - v. Sold family assets
  - vi. Harambees
  - vii. Others, (specify).....
6. Have you ever attended a sensitization /training/seminars on NHIF?  
Yes  No
7. Have you ever been visited by NHIF staff and agents for registration at your home or community?  
Yes  No
8. Please indicate by selecting the appropriate box whether you agree or disagree with each of the statements below. The following scale is applied for all statements: Where

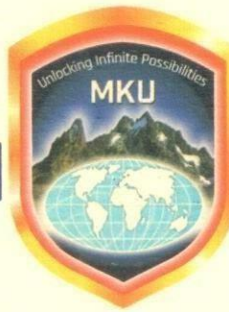
1= Yes

2=No

Mark only one oval per row.

	Yes	No
I am enrolled in NHIF outpatient services	<input type="radio"/>	<input type="radio"/>
I am enrolled in NHIF inpatient services	<input type="radio"/>	<input type="radio"/>
I am enrolled in NHIF in both inpatient and outpatient services	<input type="radio"/>	<input type="radio"/>
I am enrolled in NHIF comprehensive services	<input type="radio"/>	<input type="radio"/>
I am not enrolled all in NHIF services	<input type="radio"/>	<input type="radio"/>
I am not aware about NHIF services	<input type="radio"/>	<input type="radio"/>

# Mount Kenya University



REF: MKU/ISERC/3003

Date: 09 August 2023

TO: GERRY GITONGA MUGAMBI

REG: MPH/2021/74301

Dear Sir/Madam,

**RE: DETERMINANTS OF NATIONAL HEALTH INSURANCE FUND ENROLMENT AMONG PRIMI MOTHERS: CASE OF MERU COUNTY, KENYA**

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2047**. The approval period is **09/08/2023 - 08/08/2024**.

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 **Mount Kenya University**
- 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 **Mount Kenya University** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
- v. Clearance for 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 expiry of the approval period. Attach a comprehensive progress report to support the renewal
- vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to 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 also obtain other clearances needed.

Yours sincerely,

**Dr. Alfred Owino, PhD**

**Chairman, Mount Kenya University ISERC**

**The Chairman**  
**Mount Kenya University**  
**Ethics Review Committee**  
**P.O. Box 342 - 0100, Thika**

# Mount Kenya University

## DIRECTORATE OF GRADUATE STUDIES

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MPH/2021/74301

9<sup>th</sup> August, 2023

**National Commission for Science Technology & Innovation (NACOSTI)**  
**Off Waiyaki Way, Upper Kabete,**  
**P.O Box 30623- 00100**  
**NAIROBI, KENYA**

Dear Sir/Madam,


**RE: GERRY GITONGA MUGAMBI – REGISTRATION NO. MPH/2021/74301**

The purpose of this letter is to introduce the above named student who is pursuing **Master of Public Health** in the department of **Epidemiology and Biostatistics** in the school of **Public Health**.

The title of the research is “**Determinants of National Health Insurance Fund Enrolment among Primi Mothers; Case of Meru County, Kenya.**” It has been cleared by the University’s Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **August, 2023 and October, 2023**.

Any assistance accorded to the student will be highly appreciated.

Thank you.

  
**Dr. Samuel M. Karenga, Ph.D**  
**Director, Graduate Studies**  
**Enc**

Mount Kenya University  
P. O. Box 342 - 01000, THIKA  
Office of the Director  
Graduate Studies



REPUBLIC OF KENYA



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 676826

Date of Issue: 06/September/2023

RESEARCH LICENSE



This is to Certify that Mr.. gerry Gitonga mugambi of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Meru on the topic: DETERMINANTS OF NATIONAL HEALTH INSURANCE FUND ENROLMENT AMONG PRIMI MOTHERS: CASE MERU COUNTY, KENYA for the period ending : 06/September/2024.

License No: NACOSTI/P/23/28856

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See overleaf for conditions

**The National Commission for Science, Technology and Innovation**, hereafter referred to as the Commission, was 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. The license any rights thereunder are non-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.
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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.

National Commission for Science, Technology and  
Innovation(NACOSTI),  
Off Waiyaki Way, Upper Kabete,  
P. O. Box 30623 - 00100 Nairobi, KENYA  
Telephone: 020 4007000, 0713788787, 0735404245  
E-mail: dg@nacosti.go.ke  
Website: www.nacosti.go.ke



## APPENDIX VI: Similarity Index Report


Page 1 of 199-

Cover Page

SubmissionIDtrn:oid:::1:2998848532

Gerry mugambi

DETERMINANTS OF NATIONAL HEALTH INSURANCE FUND ENROLLMENT AMONG  
PRIMIPARENTS: CASE OF MERU COUNTY

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 STUDENT THESIS

 Mount Kenya University

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