

**IMPACT OF HEALTH INSURANCE ON UTILIZATION OF ANTENATAL CARE  
SERVICES IN KENYA.**

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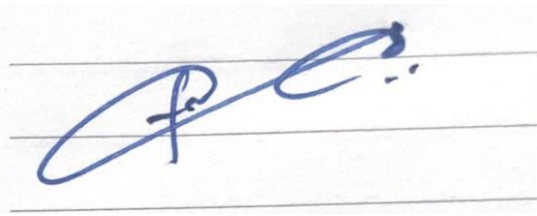
**2023**

## DECLARATION

I affirm that this research project is an original work and has not been submitted, either in part or in full, to any other institution or body to earn a degree.

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## **DEDICATION**

This research is dedicated to the entire family for standing by me throughout my academic life. God bless you so much.

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I am grateful to my supervisor, Prof. Damiano Kulundu Manda, for his encouragement, guidance, and commitment to assisting me through this project and for his invaluable counsel and insight. I am also indebted to my family for the moral support they have given me throughout my academic life. Over and above all is the almighty God through whom all things are possible and have their being.

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## **ABSTRACT**

Maternal, neonatal, and reproductive health remain areas of significant disparities globally, primarily driven by limited access to high-quality care. This study examined how health insurance influences antenatal care (ANC) services in Kenya and offers helpful information for healthcare planners and policymakers. The principal objective of the research was to investigate the complex relationship between the extent of health insurance coverage and its impact on the use of antenatal ANC. Furthermore, a comprehensive investigation was conducted to identify and scrutinize the various demographic and socioeconomic factors that potentially act as mediators within this intricate association. Additionally, the research paper contributed to the literature by focusing on the effect of health insurance on ANC visits after controlling for many other variables. The outcomes gleaned from this extensive analysis revealed a discernible and positive correlation between the extent of health insurance coverage and the frequency of ANC visits in the Republic of Kenya. This compelling discovery underscores and highlights the vital role of financial resources, educational attainment, marital status and the presence of health insurance in shaping and determining the frequency of ANC visits among expectant women residing in Kenya. Our results showed that almost 65% of women receive ANC visits, even though these services are purportedly free in public health facilities and recognized private establishments. Additionally, it is interesting to note a negative correlation between utilization rates and birth order, suggesting that experienced mothers tend to reduce their frequency of ANC visits. Addressing this requires heightened educational efforts and health insurance awareness aimed at expectant mothers to mitigate the risk of maternal and child mortality.



## CHAPTER ONE: INTRODUCTION

### 1.1. Background Information

Globally, there are notable health disparities in maternal, neonatal, and reproductive health. One of the leading causes of these imbalances is the need for greater access to high-quality care in all forms. Many international programs have focused on standards of care for maternity and reproductive health in institutions. Although health insurance plays a pivotal role in influencing the utilization of healthcare services, maintaining person-centred care remains a crucial aspect of enhancing quality in healthcare operations. Individuals covered by health insurance are more inclined to access medical assistance as needed and acquire vital preventive care. This is because health insurance provides financial protection against the cost of medical care, which can be a significant barrier to accessing care for those without insurance (Newhouse et al., 1993; Simon et al., 2017). Studies have shown that uninsured individuals are more likely to delay or forgo the necessary medical care because of cost concerns. This can lead to more serious health problems, as untreated conditions can become more severe and require expensive treatment. In addition, uninsured individuals are less likely to receive preventive care such as screening and immunization, which can help prevent or detect health problems early.

In impoverished nations, mainly in Sub-Saharan Africa, the chance of maternal mortality is estimated to be one in 61, whereas it is around one in 2800 in industrialized nations (WHO, UNICEF, and UNFPA 2004). The most significant cause of mortality and disability among women is complications during pregnancy and childbirth—women in poor nations are sexually active. The World Health Organization (WHO) estimates 529,000 maternal fatalities annually, with poor nations accounting for 99% of these deaths. In 2017, the WHO estimated that over 295,000 women died in 2017 due to difficulties associated with pregnancy and childbirth.

According to Amin et al. (1989), the leading causes of poor health in developing countries are insufficient access to and underuse of modern healthcare services. Most tragic incidents occur in underprivileged regions with limited access to medical resources. One approach to mitigating these deaths is to educate women to identify and address the symptoms of potentially life-threatening conditions (Bhattia & Cleland, 1995). Such education is conducted during antenatal care visits and screening. In 1999, Bloom et al. highlighted the importance of prenatal care (ANC) to guarantee a safe delivery experience. UNICEF (2003a) and the World Health Organization (WHO) emphasized ANC's critical role in delivering health services and information that significantly enhances the well-being of expectant mothers and their unborn children.

Health insurance can increase the utilization of health care services. Insured individuals will likely visit a doctor when sick, receive recommended preventative care, and take prescribed medications. This can improve overall health outcomes, as conditions are diagnosed and treated earlier, and chronic diseases are managed more effectively (Sommers et al., 2018). Several factors, including the type of insurance plan, cost-sharing requirements (such as deductibles and copays), and accessibility of healthcare providers in the patient's neighborhood, affect how health insurance affects healthcare use. Chandra et al. (2014) stated that health insurance is often linked to higher healthcare service utilization and better health outcomes.

Locally, Kenya has a two-tier healthcare system, with public and private healthcare facilities. The public healthcare system needs to be more funded and staffed, leading to longer waiting times and limited access to medical services. However, private healthcare systems are often expensive and out of reach for many Kenyans. Health insurance can address these challenges by providing financial protection against the costs of medical care and increasing access to healthcare services.

Kenya has various health insurance schemes, including governmental, private, and community-based health insurance. However, challenges remain in ensuring health insurance is accessible and affordable for all Kenyans. Many Kenyans still require access to health insurance. They often face high out-of-pocket costs, limited coverage, and challenges accessing healthcare services due to a shortage of healthcare providers in certain areas. ANC offers health education, diagnostic procedures, vaccinations, therapies, and the early identification of pregnancy risks and issues. Systematic reviews and meta-analyses have shown that ANC improves newborn outcomes, decreases maternal mortality, and encourages pregnant women to give birth in medical institutions. It also promotes healthy pregnancy, appropriate physical and social development, self-esteem, competence, and autonomy for all pregnant women. Health insurance can enhance Kenyan access to maternal and overall health. However, there is a need for continued efforts to increase coverage, reduce costs, and improve the quality and availability of healthcare services.

## **1.2. Problem statement**

Health insurance is a potential remedy for enhancing the accessibility and usage of healthcare services, including antenatal care. This is certainly the case where over 295,000 pregnant mothers in developing countries are estimated to die because of the difficulties associated with pregnancy and childbirth. Studies have shown that antenatal care positively correlates with health insurance coverage (Zakaria et al., 2021). Studies conducted by Saksena et al. (2011) and Henderson et al. (2012) show a relationship between health insurance and a higher use of medical services. According to Astutik et al. (2020), health insurance promoted excellent rates of prenatal examinations in Indonesia and advised treatments, including tetanus toxoid vaccinations and iron supplements.

Adedini et al. (2014) reported on a study conducted in Nigeria in 2014 that revealed that women with health insurance had a higher likelihood of seeking prenatal care services than those without. According to a study conducted in Kenya by Were et al. (2020), pregnant women who test positive for HIV are far more likely to use professional birth attendants and institutional delivery services when they have health insurance than if they do not. On the other hand, Gitobu et al. (2018) examined Kenya's free maternal healthcare program but did not particularly investigate how volunteer health insurance affected pregnant women's use of healthcare. Despite previous studies concentrating on free maternity treatments in Kenya, there is a dearth of current research assessing how subscription-based health insurance affects the utilization of antenatal services, particularly in low- and middle-income nations. Further research is necessary to understand the complex relationship between health insurance and prenatal care use.

Interestingly, Aryeetey et al. (2017) discovered that, although health insurance boosted access to prenatal care services, it did not always guarantee better care. Past studies have predominantly concentrated on pinpointing the factors influencing health insurance. This research significantly enriches the current body of literature by investigating how health insurance affects ANC visits and factoring in various other variables. Throughout this analysis, thorough consideration has been given to demographic and socioeconomic elements, with the study's conceptual framework, as detailed in Chapter Three, serving as the guiding structure.

### **1.3. Research Questions**

This study sought to address the following research questions:

- i) To what extent does health insurance influence the utilization of antenatal care services in Kenya?
- ii) What policy implications and insights can be drawn from this study?

#### **1.4. Objectives of the study**

The primary objective of this study was to investigate the impact of health insurance on maternal healthcare utilization in Kenya. The specific objectives were:

- i) To determine the effects of health insurance on the utilization of antenatal care services in Kenya.
- ii) To draw insights and policy implications from the study.

#### **1.5. Significance of the study**

Kenya continues to have one of the lowest rates of antenatal service use in sub-Saharan Africa, making this study crucial. Considering this, this study aims to add to the growing dialogue about the role of health insurance in promoting ANC usage in developing countries. The results of this study will significantly impact healthcare planners and policymakers, and they will be crucial in guiding their decisions about how cost-effective health insurance policies can be designed and targeted in both the short and long term to improve the welfare of pregnant women.

#### **1.6. Organization of the study**

The remainder of this paper is organized as follows. The investigation of the linked theoretical and empirical literature that serves as the basis of this study is presented in Section 2. Section 3 lists the materials and techniques used in the study, and Section 4 summarizes the study's empirical results. The conclusions of the study and the policy recommendations derived from them are summarized in Section 5.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This section critically examines the theoretical and empirical literature about the consequences of health insurance on the utilization of healthcare services, with a particular focus on the determinants of health insurance uptake and their implications for antenatal care usage.

### **2.2 Theoretical Literature**

The idea of health insurance coverage and its links to access, usage, and quality of treatment forms the theoretical foundation for understanding how it affects antenatal care utilization. Several theories have been proposed on the significance of health insurance in antenatal care.

#### **2.2.1 Maternal Role Attainment Theory**

Ramona Mercer's idea of maternal role attainment in nursing offers a framework for providing the appropriate medical care to atypical mothers so they can develop solid maternal identities. The slow growth and interaction process over time are the central tenets of this theory. During this period, the mother forges a bond with the infant, gains expertise in routine babysitting tasks, and eventually learns to express joy and happiness at being a mother. Following the mother's role attainment hypothesis, there are four phases of acquisition in the nursing process: anticipatory, official, informal, and personal. An individual adjusts socially and psychologically to become a mother during the anticipation period. Role-playing may be used, as well as learning expectations. Formal actions refer to the adoption of maternal duties at birth. During this time, the mother's social network or system acts as a model for behavior, and decisions depend on what others say. In the informal period, a woman develops parenting strategies not influenced by the societal structure. She determines what is best for the child and herself. The delight of becoming a mother was a personal experience. During this period, the

mother found balance, composure, and competence in her parental role. In other situations, they discover they are ready for or excited to have another child (Altimier et al., 2011).

### **2.2.2 Bonding and Attachment theory**

Long-term relationships and attachments, such as those between romantic partners, parents, and children, are the subject of the attachment theory. It serves as a psychological defence for people's bonds and connections with one another (Bowlby et al., 1991). This point of view contends that relationships with carers are a natural part of who we are. These early encounters may influence the attachment patterns that develop later in life. An emotional bond with another person is referred to as "attachment". Bowlby thought that young children's interactions with their carers had a lasting impact on them that lasted their entire lives. According to his theory (Bretherton et al., 1992), attachment helps preserve the infant's relationship with the mother and increases the infant's chance of survival. According to Schaffer and Emerson, there are four distinct phases of attachment: the period prior to attachment, unselected attachment, various attachments, and discriminatory attachment.

### **2.2.3 Synactive Theory of Infant Development**

Heidelise Als, an American neuropsychologist in Boston, created the Synactive Development (SDT) model, which offers an alternative method of accessing brain research by observing children's behaviour. In this scenario, preterm newborns and neonates may communicate for the first time through behavior, and by simply observing it, it is feasible to set up sufficient care pathways (Als,1986). Synactive theory establishes development as a collaborative, hierarchical process with five subsystems: nervous and autonomic systems, motor systems, behavioral systems, attention-to-interaction systems, and self-control systems. According to a defined sequence and autonomous development, these systems develop similarly in embryos, fetuses, and newborns. Nevertheless, despite their interdependence, the five systems are

constantly under impact, and their growth involves interaction with the environment. Each system's smooth operation and stability promote its growth, whereas its instability and disarray negatively affect subsequent development (Blickman et al.,1994).

#### **2.2.4 Neonatal Integrative Developmental Care Theory**

The Neonatal Integrative Developmental Care Model, also known as the Newborn Individualized Development Care and Assessment Program (NIDCAP), was developed by an American paediatrician, Dr. Haidialise (1984), to guide caring for babies with complications. This method is used in the Neonatal Intensive Care Units (NICUs) to identify special health requirements of newborn infants and the kind of care that is given to them. Such health requirements include premature babies borne before an average gestation period of 37 weeks, those that are borne critically ill and require special medical attention and those that are borne with organs that are not fully developed. These categories of babies require special medical attention to develop fully to survive in the everyday environment.

The model identifies seven family neuroprotective measures, which are independent of each other during care to ensure the infant's survival. Such measures include preserving sleep, creating a therapeutic environment, reducing pain and discomfort, skin protection, bonding with families, proper posture and handling and optimal nutrition. Skin-to-skin contact (SSC) is the basic primary care in the NICU during the development of infants. Direct contact between the newborn infant and the mother or caregiver helps them to adapt slowly to the everyday environment from that of the womb. The model recognises the use of neuroprotective medicines to protect infants from diseases, build their emotional state, and enhance the development of non-fully developed organs.



## **2.3 Empirical review**

Two dimensions organize the relevant empirical review of research on how health insurance affects the use of antenatal care (ANC) services: demographic and socioeconomic.

### **2.3.1 Demographic factors**

According to multiple research findings, a woman's degree in education significantly impacts how frequently she receives ANC services. The literature highlights that women who have completed more education are more likely to adhere to WHO recommendations regarding the number of prenatal care visits that should be scheduled (Nielsen et al., 2001; Erci, 2003). Furthermore, women who have completed more education are more likely than those who have not started prenatal care visits earlier (Miles-Doan & Brewster, 1998; Matthews et al., 2001). Nisar and White (2003) pointed out that there is no correlation in Pakistan between attending school and using ANC services. With the increasing focus on women's education in qualitative research, there is increasing recognition of the significance of ANC) services, as highlighted by Mumtaz and Salway in 2005.

Similarly, studies have shown that the level of education attained by husbands also significantly impacts whether ANC services are used. According to Navaneetham and Dharmalingam (2002), the educational background of the husband is a statistically significant predictive factor in this context. Interestingly, Miles-Doan and Brewster's 1998 study in the Philippines revealed that the husband's level of education emerged as a more robust predictor than that of the wife.

Subsequent research indicated that a woman's parity—the total number of pregnancies she has—and her utilization of antenatal care (ANC) services are positively correlated. An increasing amount of research indicates that having many pregnancies is a barrier to the effective use of ANC services, as demonstrated by Celik and Hotchkiss (2000), Magadi et al.

(2000), Eric (2003) and Overbosch et al. (2004), Sharma (2004) and Paredes et al. (2005). However, drawing attention to one particular fact about Ethiopia is crucial. According to Mekonnen and Mekonnen (2003), women who have high parity typically use ANC services more frequently than those who are experiencing their first pregnancy.

Similarly, family structure and size significantly determine the frequency women use maternal health services. Research suggests that specific family sizes and structures could be linked to reduced utilization of maternal healthcare services. For instance, a study in India conducted by Stephenson et al. in 2013 discovered that women from larger families were less inclined to seek prenatal care. This reluctance might stem from financial limitations or the need to juggle various responsibilities, making it challenging for larger households to access maternity healthcare services without aid. Similarly, a study in Ethiopia by Tsegay et al. (2013) revealed that women from extended families were less prone to utilizing maternity care facilities. A study conducted in Ethiopia 2013 by Tsegay et al. discovered that women from extended families were less likely to utilize maternity healthcare facilities. Scholars argue that the preference for formal maternal healthcare services could be constrained within extended families, possibly because of a greater reliance on home births or traditional birth attendants and higher levels of social support.

Additionally, the research results demonstrate that pregnant women's intentions significantly impact their propensity to use ANC services. In order to clarify, it was found that pregnant women who felt their pregnancies were "unwanted" tended to put off starting their ANC visits and required fewer appointments overall (McCaw-Binns et al., 1995; Magadi et al., 2000; Erci (2003); Paredes et al., 2005). Thus, this evidence shows that the intention behind pregnancy was a statistically significant factor influencing the utilization of ANC services in several research trials.

Furthermore, marital status affected ANC use. In contrast to single or unmarried women, married women exhibit a higher propensity to initiate antenatal care (ANC) and seek early treatment, as indicated by the research conducted by Gleit et al. in 1995 and 2003. A 2009 study conducted in Nigeria by Erim et al. further underscored that married women are more inclined to access prenatal care and skilled birth attendance services than their single counterparts. The authors proposed that married women may find it more straightforward to acquire maternal healthcare services than single women because they are more likely to have access to financial resources and robust social networks. Similarly, Nketiah-Amponsah et al.'s 2017 study in Ghana found that married women were more likely than single women to seek maternal healthcare facilities. Therefore, married women may have easier access to social support. The authors speculated that their husbands or other family members may be more inclined to encourage them to seek maternal healthcare treatments. In Kenya, unmarried women who began their childbearing journey before the age of 20 years had fewer prenatal appointments than those who started later in life (Magadi et al., 2000).

The age at which a woman enters pregnancy and marriage significantly impacts her utilization of ANC services. Research in rural North India and Nepal identified a substantial connection between women's attendance at ANC services and the age at which they marry and conceive (Pallikadavath et al., 2004; Sharma, 2004). Pallikadavath et al. (2004) noted that women who married at 19 years or beyond exhibited a greater probability of undergoing prenatal tests compared to those married at a younger age. However, Obermeyer and Potter (1991) discovered that Jordan's ANC use was not statistically predicted by age at marriage. Additional findings from several studies highlight that women in their thirties demonstrate a higher propensity compared to their older counterparts to initiate ANC appointments earlier and engage in them more regularly (Bhattia & Cleland, 1995; McCaw-Binns et al., 1995; Miles-Doan & Brewster, 1998; Matthews et al., 2001). Moreover, insights gleaned from research by

Mathole et al. (2004) propose a theory positing that older women in good health exhibit reduced concerns or apprehensions regarding the necessity of frequent clinic visits.

Research conducted by Gage et al. (2012) found that women under 35 preferred regular clinic visits to monitor their infants' development and learn about their progress. However, these women used prenatal care and skilled birth attendance services less frequently than older women did. Specifically, young women aged 15 to 24 in Kenya were found to use these services less frequently than women aged 25 to 34, and women aged 35 to 49 were less likely to use these services than women aged 25 to 34. The authors suggest that younger women may need more knowledge and experience to seek maternal healthcare services. In comparison, older women may no longer require these services as they have already undergone the reproductive process.

Numerous studies have also demonstrated that caste, religion, and ethnicity significantly influence ANC use. In India, women from Scheduled Castes and Tribes are less likely to adopt ANC, as evidenced by the studies conducted by Pallikadavath et al. in 2002 and 2004. Conversely, Bhattia and Cleland (1995) and Pallikadavath et al. (2004) indicated that Muslims in India are more inclined to seek frequent ANC than followers of other religions. In Nigeria, the primary reason for the underutilization of ANC is attributed to the belief in "God's Will," as found in research by Adamu and Salihu in 2002. In Ethiopia, Mekonnen and Mekonnen's 2003 study revealed significant differences in ANC uptake based on religious affiliation. Muslim, Orthodox, and Protestant women tend to use ANC services more frequently than do women belonging to other religious communities. However, according to Overbosch and Dharmalingam's (2002) research, religion does not emerge as a statistically significant predictor of prenatal examinations in Ghana or India.

### **2.3.2 Social-economic factors**

The accessibility of the service, availability of a medical practitioner, and duration of the wait time for services were all associated with using ANC. Moreover, proximity to a village nurse or healthcare provider significantly increases the probability of women receiving timely and essential antenatal care (ANC) sessions, as highlighted in research by Magadi et al. (2000) and Nielsen et al. (2001). Griffith and Stephenson's qualitative study in 2001 also supports this notion, indicating that women seek ANC services more readily when they have convenient access to healthcare providers. Furthermore, studies conducted by Mathole et al. (2004) and Chowdhury et al. (2003) revealed that extended waiting times discourage the utilization of ANC services. The commencement time of ANC services is significant for women residing in urban slums in Bangladesh. The availability of lodging, length of the trip, and accessibility to medical services are all factors that affect the frequency of ANC use. The research results indicated a statistically significant link between residence and outcome.

Obermeyer and Potter (1991). Sharma (2004) and Paredes et al. (2005) reported that urban women utilize ANC services more than rural women. Mekonnen and Mekonnen (2003) found that women in urban Ethiopia were likelier to choose ANC services from medical experts. On the other hand, women in urban Karnataka, India, had a 45% lower chance of receiving ANC than women in rural areas, according to Navaneetham and Dharmalingam (2002).

The cost of services, socioeconomic position or family income, occupation of the woman/husband, and employment are all economic characteristics linked to ANC usage in affordability research. Financial constraints are the main reason why ANC services are not used. According to Adamu and Salihu (2002) and Overbosch et al. (2004), the costs associated with transportation and the necessity of laboratory tests are vital issues that serve as obstacles to service utilization. This discovery is supported and validated by qualitative research done by

Mumtaz and Salway (2004), Mumtaz and Salway (2005), Griffith and Stephenson (2001), and Myer and Harrison (2003). Despite perceiving that private hospitals providing ANC offered superior quality, women refrained from using these services because of their exorbitant costs, as highlighted by Griffith and Stephenson (2001). It was observed that when ANC services are offered at no cost or a substantial discount, women residing in urban slums are more inclined to utilize them, as revealed by Chowdhury et al. (2003).

The financial standing of the household significantly influences ANC service utilization. Findings from multiple studies, including Sharma (2004), Magadi et al. (2000), and Matsumura & Gubhaju (2001), collectively suggest that women from more privileged socioeconomic backgrounds tend to receive appropriate and timely ANC compared to those from less advantaged backgrounds. Furthermore, research indicates that women employed in white-collar or public service professions are more inclined to seek these services compared to unemployed or stay-at-home women, as indicated by studies by Miles-Doan and Brewster (1998) and Kabir et al. (2005). Moreover, employed individuals tend to initiate ANC earlier, as observed in Navaneetham and Dharmalingam (2000) and Navaneetham and Dharmalingam (2002). It is worth noting that there is a significant connection between seeking ANC and being employed outside the home during pregnancy, as emphasized by Eric (2003).

Babalola and Fatusi (2009) state that maternal health service utilization benefits mothers and infants. An examination, part of Nigeria's 2005 National HIV/AIDS and Reproductive Health Survey, involved interviews to analyze factors influencing maternal care service usage among 2148 women who recently gave birth. These factors span individual, household, community, and state aspects. The influences on maternal healthcare utilization differ across various levels—personal, familial, communal, and statewide—and demonstrate differences contingent on the specific aspect of maternal health services under scrutiny.

Research conducted by Comfort and colleagues in 2013 found that having health insurance could influence the quality and quantity of maternal healthcare used, potentially improving the health outcomes of both mothers and infants. The author's extensive review aimed to assess how health insurance influences the utilization and delivery of maternity healthcare and its effects on the health outcomes of expecting mothers and infants in lower- and middle-income countries. The research revealed a positive association between health insurance and the use of maternal health services, aligning with economic theories. However, to quantify the increased service utilization among insured individuals precisely, the authors advocated for more robust causal methodologies. A study by Anderson, Dobkin, and Gross (2012) established similar findings.

Boateng and Flanagan (2008) investigated the accessibility of healthcare for women using the 2009 Ghana Demographic and Health Survey (GDHS). Their analysis, based on data from 2133 female participants, revealed a significant connection between women's education and their access to physical healthcare. However, no notable correlation was found between educational attainment and access to psychological care. Urban residency was identified as positively influencing access to both types of care. Additionally, consistent patterns emerged wherein educational achievement consistently affected physical access, while women's self-determination, encompassing their rights and decision-making, acted as a mediating factor, enhancing the models' explanatory capacity regarding access, mediated by background factors.

In their 2017 study, Nketiah-Amponsah and colleagues examined the socioeconomic and demographic determinants impacting Ghana's utilization of ANC (antenatal care) services. Their analysis highlighted various crucial factors, including birth sequence, economic status, age, possession of health insurance, the woman's highest educational attainment, and the locality of residence. Utilization rates of ANC were higher among individuals with more

incredible wealth. The study further emphasized a significant statistical correlation between the location of residence and the utilization of ANC services, pointing out the differences in their use between rural and urban dwellers in Ghana. Interestingly, the research did not uncover any proof supporting factors indicating financial or physical access.

Simkhada et al. (2008) conducted a systematic review exploring determinants influencing prenatal care (ANC) utilisation in impoverished nations. Research spanning 1990 to 2006, drawn from electronic databases, identified crucial factors impacting ANC uptake. These encompassed obstetric complication history, media exposure, women's employment, accessibility, expenses, marital status, and both maternal and spousal education and marital status. Cultural beliefs concerning pregnancy also influenced ANC utilization. Notably, higher parity negatively affected attendance significantly; increased parity correlated with reduced ANC usage, interacting with age and religion. Limited research exists on how ANC service quality affects utilization, and none established a link between service use and satisfaction levels.

After introducing cost-free obstetric care in Ghana's poorest regions, Mills et al. (2008) investigated the elements linked to utilizing healthcare professionals during childbirth. Employing multilevel logistic regression analysis, the study revealed that women were 4.6 times more inclined to seek medical assistance from professionals if they knew that delivery care was offered without charges.

### **2.3.3 Summary of Literature**

According to the literature, several factors, including demographics, health status, insurance coverage, provider accessibility, cultural and societal considerations, and geographical characteristics, affect the use of health insurance for medical services. To guarantee that people



have access to the treatment they need, these variables must be considered when creating health insurance plans and delivery systems. Healthcare services are typically used more frequently by the elderly than by younger people and women. Racial and ethnic disparities can affect those who have access to and use healthcare services and higher income and educational levels. However, some factors affect health insurance negatively, such as cultural and social factors, such as language barriers, stigma, and cultural beliefs, can affect health insurance utilisation. For instance, individuals from specific cultural backgrounds may be reluctant to seek medical attention because of cultural beliefs, language barriers, or fear of stigma.

Several authors have extensively researched various factors that impact the utilization of ANC services (Warmelink et al., 2023; Tantengco & Ornos, 2023; Merga et al., 2023; Malik & Alemu, 2023; Magadi et al., 2000; Nisar & White, 2003; Overbosch et al., 2004; Sharma, 2004; Alam et al., 2005; Kabir et al., 2005). However, comprehensive data on developing countries still need to be included. Only one review by Sibley et al. (2004) focused on interventions augmenting ANC uptake. Demographic and socioeconomic factors, such as the uptake of health insurance, are the primary categories of variables regarding the impact of health insurance usage on ANC utilization.

This study synthesizes findings from various studies on variables affecting health insurance utilization, encompassing demographic elements, such as age, gender, residence location, and marital status, as well as economic indicators, such as education level, household income, affordability, and accessibility. This study sought to address the disparity between the facilitating and impeding factors of health insurance adoption, particularly concerning maternal

healthcare services. Previous studies have primarily concentrated on determining the factors contributing to acquiring health insurance. This research significantly adds to the expanding collection of literature by examining how health insurance influences the use of ANC visits, alongside incorporating additional control factors.

## CHAPTER THREE: METHODOLOGY

### 3.1 Introduction

This section outlines the theoretical framework and specifications of the econometric model. In addition, the chapter also describes the variables to be used, discusses econometric issues that may arise and how they will be addressed, and explains the sources of data.

### 3.2 Theoretical model

The theory of consumer behavior determines consumer demand for health care. Consumers derive utility from consuming health care services. Utility,  $U$ , is a function of consumption and health.

$$U = f(C, H) \quad (1)$$

The consumer wants to maximize utility subject to budget constraints.

$$Y = (CP_C + HP_h) \quad (2)$$

$P_C$  and  $P_h$  denote the price of consumer goods and health care, respectively.

Moreover, the maximization problem of the consumer is as follows:

$$\max U(C, H)$$

$$\text{subject to } Y = (CP_C + HP_h)$$

Maximizing the utility function subject to budget constraints provides optimal health and consumer-good levels. This involves finding the combination of consumer goods and health care services that provides the highest possible level of utility within their budget constraints.

From Equation (2), healthcare utilization and specifically ANC services depend on the prices of healthcare services, such as healthcare insurance and other demographic variables.

### 3.3 Model specification

The ANC service utilization is assumed to be binary. The individual decides whether to utilise ANC services, and it can be assumed that in deciding to seek ANC services, they compare the expected benefits ( $ANC_A^*$ ) and the expected benefits ( $ANC_N^*$ ) from non-utilisation. An individual decides to seek ANC services if the benefits outweigh the costs of non-utilisation; that is,

$$ANC_i^* = (ANC_A^* - ANC_N^*) > 0 \quad (3)$$

Where  $ANC_i^*$  is an unobservable latent variable. We only can observe if an individual utilises ANC services ( $ANC_i = 1$ ) or otherwise ( $ANC_i = 0$ ).  $M_i^*$  can be expressed as a function of observable characteristics as:

$$ANC_i^* = \delta'Z_i + u_1, \text{ with } ANC_i = 1 \text{ if } [ANC_i^* > 0] \quad (4)$$

Where  $ANC_i = 1$  if an individual seeks ANC services and zero otherwise;  $\delta$  is a vector of parameters to be estimated;  $Z$  is a vector of explanatory variables that ANC services utilisation decision; and  $u_1$  is the error term with mean zero and variance  $\sigma_1^2$ . The probability of ANC service utilization can be specified as follows:

$$Prob(ANC_i = 1) = Prob(ANC_i^* > 0) = Prob(u_1 > -Z_i\delta) = 1 - F(-Z_i\delta) \quad (5)$$

Where  $F$  is the cumulative distribution function for  $u_i$ . As a result, the empirical model to be estimated has the following form.

$$ANC_i = x_i\beta + \varepsilon_i \quad (6)$$

Where  $ANC_i$  denotes the dependent variable, utilisation of ANC services,  $x_i$  are the independent variables,  $\beta$  denotes parameters to be estimated, and  $\varepsilon_i$  denotes the error term and is assumed to be normally distributed. Equation (4) can be further expressed to determine the various determinants of ANC service utilization, as shown in Equation (5).

$$ANC_i = \beta_0 + \beta_1 \text{health insurance} + \beta_2 \text{out of pocket expenditure} + \beta_3 \text{age} + \beta_4 \text{marital status} + \beta_5 \text{residence} + \beta_6 \text{education} + \beta_7 \text{wealth} + \beta_8 \text{household size} + \beta_8 \text{distance} + \varepsilon_i \dots (5)$$

### 3.4 Description of variables

| Variable                        | Description and measurement  | Expected sign        |
|---------------------------------|--|----------------------|
| <b>Dependent variable</b>       |  |                      |
| ANC utilization                 | Binary variable taking the value 1 if the individual sought ANC services and 0 otherwise.    |                      |
| <b>Independent variables</b>    |  |                      |
| Health insurance                | Binary variable taking the value 1 if an individual has insurance coverage and 0 otherwise.  | Positive             |
| Household size                  | The total number of members in a household.  | Negative             |
| Marital status                  | Binary variable taking the value 1 if married and 0 otherwise                                |                      |
| Age                             | Age in number of years for each individual.  | Positive             |
| Residence                       | Binary variable which takes a value of 1 if one resides in an urban area and 0 if otherwise. | Positive             |
| <b>Education</b>                |  |                      |
| No education                    | Binary variable representing 1 for no education and 0 if otherwise.                          | Negative             |
| Primary education               | Binary variable representing 1 for primary education and 0 if otherwise.                     | Positive             |
| Secondary education             | Binary variable representing 1 for secondary education and 0 if otherwise.                   | Positive             |
| Higher education                | Binary variable representing 1 for higher education and 0 if otherwise.                      | Positive             |
| <b>Wealth index<sup>1</sup></b> |  |                      |
| Poor                            | Binary variable representing 1 for poor individual and 0 if otherwise.                       | Positive or negative |
| Poorer                          | Binary variable representing 1 for poorer individual and 0 if otherwise.                     | Positive or negative |
| Middle                          | Binary variable representing 1 for middle individual and 0 if otherwise.                     | Positive or negative |
| Richer                          | Binary variable representing 1 for richer individual and 0 if otherwise.                     | Positive or negative |
| Richest                         | Binary variable representing 1 for richest individual and 0 if otherwise.                    | Positive or negative |
| Distance                        | Distance to the nearest health care facility in minutes                                      | Negative             |

*Source: Literature reviews used in the study*

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<sup>1</sup> Ownership of assets such as bank accounts, vehicles, ACs, TVs, radios, computers, cell phones, farmland, and livestock is used to measure household economic status.

### **3.5 Econometric issues**

#### **3.5.1 Multicollinearity**

The variance inflation factor was used to test for Multicollinearity. High correlations between independent variables are known as Multicollinearity, which can provide unstable and incorrect regression estimates (Wooldridge, 2010). The use of VIF to test for Multicollinearity is widely accepted in econometric research as it provides a quantitative measure to assess the extent to which independent variables are correlated. A correlation matrix is another commonly employed technique for assessing Multicollinearity among independent variables in regression analysis (Greene, 2003). The correlation matrix provides a comprehensive overview of the pairwise correlations between all the independent variables in the model, allowing researchers to identify potentially high correlations that indicate Multicollinearity.

#### **3.5.2 Heteroscedasticity**

In addition to assessing Multicollinearity, it is essential to evaluate Heteroscedasticity in regression analysis. Heteroscedasticity is the term used to describe the situation in a regression model in which the error term, also known as residuals, exhibits varying levels of dispersion across different levels of independent variables (Wooldridge, 2010). Estimating the regression coefficients may be skewed and ineffective because of this breach of homoscedasticity (Green, 2003). A famous statistical test for identifying Heteroscedasticity in regression models is the Breusch-Pagan test.

### **3.6 Data source**

This paper has utilized data collected by the Kenya National Bureau of Statistics (KNBS) — the 2022 Kenya Demographic Health Survey (KDHS). The KDHS aimed to generate statistics for different national, county, and residential factors. This involved selecting 42,300 households in two phases: 1,692 clusters were picked initially, and 25 households were chosen within these clusters. Adjustments were made for clusters with fewer than 25 households, resulting in a final sample size of 42,022 households. The survey gathered data on household traits, such as location, size, and health indicators, alongside individual-level information on out-of-pocket expenses and health insurance coverage.



## **CHAPTER FOUR: EMPIRICAL FINDINGS**

### **4.1 Introduction**

This chapter presents empirical results regarding the impact of health insurance on prenatal care utilization in Kenya. The data analysis, including the interpretation of findings, is also presented in this chapter. The analysis of average marginal effects, correlation analysis, and summary statistics followed the probit model estimation.

### **4.2 Summary statistics**

The fundamental descriptive statistics of the data are summarized in Table 4.1. The minimum and maximum values, standard deviations, number of observations, mean values, and variables are displayed.

The table provides insights into the mean number of antenatal care (ANC) visits, indicating an average utilization rate of 64.5%. Moreover, the data reveal that approximately 26% of women possess health insurance coverage.

Examining educational attainment, the statistics revealed that 11.6% of women lacked formal education, 36.8% completed primary education, and 36.3% attained secondary education. Significantly, 15.3% of the women attained a minimum secondary level of education.

The wealth index, functioning as a substitute for income and spending indicators, showed that approximately 21.6% of the participants belonged to the poorest quintile, whereas 18.2% were categorized in the wealthiest quintile. This wealth index sheds light on the economic standing of individuals in the surveyed population.

Furthermore, family size is a factor that has been found to affect the number of prenatal care visits. There was a significant inverse relationship between the number of ANC visits made by pregnant mothers and those with higher household sizes. This suggests that mothers who had given birth before are likely to want fewer ANC visits, other things being equal.

The findings in Table 4.1 highlight several noteworthy findings. Health insurance coverage is pivotal in increasing ANC utilization, particularly in rural areas.

**Table 4.1 Descriptive Statistics**

| <b>Variable</b>                                  | <b>Obs</b> | <b>Mean</b> | <b>Std. Dev.</b> | <b>Min</b> | <b>Max</b> |
|--|------------|-------------|------------------|------------|------------|
| ANC visits                                       | 9997       | 0.645       |                  | 0          | 1          |
| Health insurance                                 | 16598      | 0.259       |                  | 0          | 1          |
| Household size                                   | 31661      | 5.413       | 2.645            | 1          | 24         |
| Marital status                                   | 31661      | 0.569       |                  | 0          | 1          |
| Age of the household head                        | 31661      | 42.886      | 13.441           | 15         | 95         |
| Place of residence                               | 31661      | 0.387       |                  | 0          | 1          |
| <b>Education</b>                                 |            |             |                  |            |            |
| No education                                     | 31661      | 0.116       |                  | 0          | 1          |
| Primary  | 31661      | 0.368       |                  | 0          | 1          |
| Secondary  | 31661      | 0.363       |                  | 0          | 1          |
| Higher   | 31661      | 0.153       |                  | 0          | 1          |
| <b>Wealth index</b>                              |            |             |                  |            |            |
| Poor   | 31661      | 0.216       |                  | 0          | 1          |
| Poorer   | 31661      | 0.179       |                  | 0          | 1          |
| Middle   | 31661      | 0.198       |                  | 0          | 1          |
| Richer   | 31661      | 0.224       |                  | 0          | 1          |
| Richest  | 31661      | 0.182       |                  | 0          | 1          |
| Distance to the nearest health facility(minutes) | 16598      | 36.927      | 46.235           | 0          | 600        |

*Source: Own computation based on data from KDHS 2022*

### **4.3 Correlation Analysis**

We performed a correlation analysis to assess the relationship between the explanatory variables. Table 4.2 displays the pairwise correlation matrix, while the Variance Inflation Factor (VIF) for the explanatory variables used in this investigation is displayed in Table 4.3.

**Table 4.2: Matrix of Correlations**

| Variables   | (1)    | (2)    | (3)    | (4)    | (5)    | (6)    | (7)    | (8)    | (9)    | (10)   | (11)   | (12)   | (13)   | (14)   | (15)  |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| (1) Health insurance                                  | 1.000  |        |        |        |        |        |        |        |        |        |        |        |        |        |       |
| (2) Household size                                    | -0.132 | 1.000  |        |        |        |        |        |        |        |        |        |        |        |        |       |
| (3) Marital status                                    | 0.112  | -0.054 | 1.000  |        |        |        |        |        |        |        |        |        |        |        |       |
| (4) Age of the household head                         | -0.058 | 0.361  | -0.250 | 1.000  |        |        |        |        |        |        |        |        |        |        |       |
| (5) Place of residence                                | 0.165  | -0.179 | -0.063 | -0.180 | 1.000  |        |        |        |        |        |        |        |        |        |       |
| (6) No education                                      | -0.136 | 0.184  | 0.171  | 0.001  | -0.097 | 1.000  |        |        |        |        |        |        |        |        |       |
| (7) Primary education                                 | -0.183 | 0.059  | 0.077  | 0.027  | -0.148 | -0.280 | 1.000  |        |        |        |        |        |        |        |       |
| (8) Secondary education                               | 0.023  | -0.048 | -0.194 | 0.044  | 0.047  | -0.277 | -0.570 | 1.000  |        |        |        |        |        |        |       |
| (9) Higher education                                  | 0.335  | -0.180 | 0.001  | -0.096 | 0.223  | -0.157 | -0.324 | -0.320 | 1.000  |        |        |        |        |        |       |
| (10) Poor   | -0.231 | 0.177  | 0.069  | 0.021  | -0.350 | 0.423  | 0.074  | -0.203 | -0.210 | 1.000  |        |        |        |        |       |
| (11) Poorer   | -0.135 | 0.086  | -0.017 | 0.081  | -0.262 | -0.074 | 0.140  | 0.019  | -0.145 | -0.245 | 1.000  |        |        |        |       |
| (12) Middle   | -0.031 | 0.034  | -0.018 | 0.088  | -0.139 | -0.094 | 0.064  | 0.064  | -0.086 | -0.262 | -0.229 | 1.000  |        |        |       |
| (13) Rich   | 0.085  | -0.136 | -0.021 | -0.075 | 0.255  | -0.123 | -0.067 | 0.092  | 0.078  | -0.284 | -0.248 | -0.265 | 1.000  |        |       |
| (14) Richest  | 0.319  | -0.162 | -0.015 | -0.111 | 0.500  | -0.149 | -0.211 | 0.034  | 0.371  | -0.252 | -0.220 | -0.235 | -0.255 | 1.000  |       |
| (15) Distance to the nearest health facility(minutes) | -0.145 | 0.089  | 0.054  | 0.034  | -0.212 | 0.272  | 0.036  | -0.102 | -0.157 | 0.323  | 0.031  | -0.037 | -0.138 | -0.189 | 1.000 |

*Source: Own computation based on data from KDHS 2022*

**Table 4.3: Variance inflation factor (VIF)**

|                    | VIF          | 1/VIF    |
|--------------------|--------------|----------|
| Health insurance   | 1.342        | .745     |
| Household size     | 1.418        | .705     |
| Marital status     | 1.157        | .864     |
| Age                | 1.399        | .715     |
| Place of residence | 1.808        | .553     |
| Primary            | 2.231        | .448     |
| Secondary          | 2.749        | .364     |
| Higher             | 2.545        | .393     |
| Poorer             | 1.55         | .645     |
| Middle             | 1.712        | .584     |
| Rich               | 2.374        | .421     |
| Richest            | 3.042        | .329     |
| Distance           | 1.189        | .841     |
| <b>Mean VIF</b>    | <b>1.886</b> | <b>.</b> |

It is evident from both Table 4.2(matrix of correlation) and Table 4.3(VIF) that the explanatory variables display a low level of correlation, indicating the absence of multicollinearity issues.

#### **4.4 Estimation results**

The table of estimations below captures the probability of health insurance on ANC ANC-seeking behavior after controlling for several covariates. The probit model results are shown in the first column, and the average marginal effects are shown in the second column.

**Table 4.4 Probit model regression and the average marginal effects**

|   | Probit Model        | Average marginal effects |
|---|---------------------|--------------------------|
| Health insurance                        | 0.171***<br>(0.051) | 0.061***<br>(0.018)      |
| Household size                          | -0.017**<br>(0.008) | -0.006**<br>(0.003)      |
| Marital status                          | 0.182***<br>(0.050) | 0.065***<br>(0.018)      |
| Age of the household head               | -0.001<br>(0.002)   | -0.000<br>(0.001)        |
| Place of residence                      | 0.040<br>(0.052)    | 0.014<br>(0.018)         |
| Primary education                       | 0.238***<br>(0.055) | 0.090***<br>(0.021)      |
| Secondary education                     | 0.336***<br>(0.063) | 0.126***<br>(0.024)      |
| Higher education                        | 0.591***<br>(0.083) | 0.211***<br>(0.029)      |
| Poorer                                  | 0.175***<br>(0.058) | 0.065***<br>(0.022)      |
| Middle                                  | 0.215***<br>(0.061) | 0.079***<br>(0.022)      |
| Richer                                  | 0.154**<br>(0.069)  | 0.057**<br>(0.026)       |
| Richest                                 | 0.381***<br>(0.090) | 0.135***<br>(0.031)      |
| Distance to the nearest health facility | 0.000<br>(0.000)    | 0.000<br>(0.000)         |
| _cons                                   | -0.122<br>(0.103)   |                          |
| <i>N</i>                                | 5228                | 5228                     |

*Notes: Standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , and the poor and no education categories are the base categories for wealth and education variables, respectively.*

#### **4.5 Discussion and Interpretation of Results**

The findings indicate a meaningful connection between having primary health insurance and increased utilization of ANC services among women. In particular, women possessing health insurance showed a 6.1% higher likelihood of pursuing ANC services, aligning with earlier research by Comfort et al. (2013) and Ranji et al. (2007), which similarly observed increased maternal ANC visits associated with comprehensive health insurance coverage.

This is because health insurance is strongly linked to obtaining prescription medications among adult women, reducing the expenses they bear directly, and highlighting the importance of health insurance in shaping the demand for ANC services among women.

This study revealed a significant negative correlation between household size and ANC visits among expectant mothers. This outcome is not unexpected, as each additional household member reduces the likelihood of ANC visits by 0.6%, and all other factors are held constant. This could be because additional members increase household chores and compromise the time and capacity of the mother to attend ANC visits. These results are supported by other studies, such as Comfort et al., 2013.

The model indicated a positive correlation between marital status and the likelihood of women attending ANC visits. Consequently, married individuals have a higher frequency of ANC visits. Specifically, married women showed an 18.2% higher likelihood of attending ANC visits than unmarried mothers, while the opposite trend was observed for unmarried women. These results correspond with Simkhada et al. (2008), who noted that married individuals tended to have more ANC visits than unmarried individuals. Similarly, Nketiah-Amponsah et al. (2013) found similar patterns in Ghana, emphasizing the higher likelihood of married individuals making more ANC visits than their unmarried counterparts.

From the results, variables such as the location of residence, age, and distance did not show statistical significance. Consequently, these variables do not affect the likelihood of women in Kenya visiting Antenatal Care (ANC). Higher education levels were significantly and positively related to pregnant women's use of prenatal and other healthcare services. Women with only a primary education have a higher likelihood of seeking antenatal care visits, roughly 9% higher than women without formal education. Similarly, women who have completed secondary education demonstrate a notably increased likelihood of seeking ANC visits, around 12.6 %, compared to women lacking educational attainment.

Additionally, pregnant women with higher educational qualifications exhibited a noteworthy 21.1% increase in their inclination to enhance their usage of ANC services compared to those lacking educational qualifications. This indicates that as pregnant women achieve higher educational levels, they tend to become more aware of the importance of accessing healthcare services, such as contraceptives for regulating birth spacing, reducing fertility rates, and notably, seeking antenatal care, which influences different reproductive and child health outcomes. These findings align with the conclusions drawn by Boateng and Constance (2008).

Individuals' wealth status notably and positively influenced the utilization of ANC services. Women of lower socioeconomic status demonstrate a heightened tendency, approximately 6.5% more, to pursue ANC visits compared to their counterparts within the same economic stratum. Conversely, women from the middle-income bracket displayed a 7.9% increased likelihood of seeking ANC visits, in contrast to those in the lower economic category. Furthermore, women classified as wealthiest exhibit a substantially greater inclination (around 13.5 %) to engage in ANC visits than women from the poorest economic background. These findings are consistent with those of Babalola and Fatusi (2009) and Mills et al. (2008).



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

### **5.1 Introduction**

This study is summarized and concluded in this chapter using empirical data. Policy implications also exist for the results and potential study areas.

### **5.2 Summary of empirical findings**

Based on the most recent data from the Kenya Demographic Health Survey (2022), this study investigates the relationship between health insurance coverage and utilization trends of prenatal care (ANC) procedures in Kenya. We seek a thorough understanding of the variables influencing women's attendance during ANC visits using a probit model, an econometric technique. This study stands out for its distinctiveness in utilizing the most recent demographic health census data to scrutinize the variables associated with the extent of ANC utilization in Kenya.

Our analysis highlights the importance of health insurance, financial status, educational background, family size, and marital status in influencing the frequency of ANC visits among pregnant women in Kenya. We found it remarkable that even though these treatments seem accessible in approved private and public health facilities, an average of 65% of the women continued to attend ANC visits. Interestingly, there is an inverse association between birth order and frequency of ANC visits, suggesting that more experienced mothers attend less frequently. This trend poses potential dangers to safe motherhood because of the higher health risks associated with older maternal age. To address this, it is crucial to intensify educational campaigns targeted at expectant mothers to minimize the risks related to maternal and child mortality.

Furthermore, our study showed that the frequency of ANC visits in rural areas settings was insignificant regarding health insurance ownership.

### **5.3 Conclusions and Recommendations**

This study emphasizes the need for increased awareness and enrollment drives for health insurance uptake in Kenya to reduce the disparity in ANC utilization. Additionally, although there is a commendable provision of free maternal healthcare for expectant mothers, our findings suggest that a certain level of household wealth remains influential in encouraging ANC visits. Household wealth continues to play a role even within a system that offers free maternal health services. If policies are fully implemented and effective, several factors related to service provision, such as distance to health facilities, travel expenses, and the potential loss of opportunities, especially for rural farming households, may hinder the desire for maternal health services. For example, incorporating community health promoters into Kenya's Bottom-Up Economic Transformation Agenda (BETA) would notably enhance antenatal care (ANC) visits among pregnant women in Kenya. These promoters, equipped with localized knowledge and embedded within their communities, actively engage and educate mothers about the importance of ANC services.

By providing tailored information, bridging awareness gaps, and fostering community trust, these initiatives will mitigate barriers to accessing ANC, such as a lack of information, cultural beliefs, and logistical challenges. Strengthening the capabilities of these promoters will build a more robust link between healthcare facilities and rural communities, resulting in higher utilization of ANC and ultimately improving health outcomes for mothers and children in these underserved areas. This underscores the importance of a nuanced approach to maternal health policy implementation that considers broader contextual factors beyond costs alone.

#### **5.4 Areas for further research**

Future studies should undertake longitudinal research to track ANC utilization trends over time among different demographic groups. We analyze changes in visit frequencies and identify underlying factors contributing to behaviour shifts, especially concerning health insurance coverage and its evolving impact.

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