ASSESSING MATERNAL HEALTH OUTCOMES OF GHANA'S FREE MATERNAL HEALTH CARE POLICY (FMHCP) UNDER THE NATIONAL HEALTH INSURANCE SCHEME

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DOCTOR OF PHILOSOPHY (PHD) IN DEVELOPMENT STUDIES

INSTITUTE OF STATISTICAL, SOCIAL AND ECONOMIC RESEARCH (ISSER)

2021

DECLARATION

I declare that apart from references cited in the study, which have been duly acknowledged, this thesis titled ASSESSING MATERNAL HEALTH OUTCOMES OF THE FREE MATERNAL HEALTH CARE POLICY UNDER THE NATIONAL HEALTH INSURANCE SCHEME OF GHANA was done by me under the supervision of Prof. Felix Ankomah Asante, Prof. Charles Godfred Ackah and Dr. Ama Pokuaa Fenny, for the award of the Doctor of Philosophy in Development Studies and submitted to the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana. This work has neither in whole nor part been presented anywhere for any degree.

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DEDICATION

I dedicate this work to the Almighty God, for making me the woman I am today, and to my parents, Mr Michael Kwasi Anyamesem and Mrs Janet Anyamesem for the great confidence they had in me, especially in those moments when I had lost every confidence in myself. My parents always had utmost interest in my education and welfare, even till this time. God bless you Mum and Dad, I am very grateful.

I also dedicate this work to my beloved husband, Mr Jonathan Odame, whose immense support, both spiritually, emotionally and financially have brought me this far. God bless you my dear.

To my adorable son Michael Kwasi *Anyamesem* Odame Junior, let this thesis serve as an inspiration for greater academic heights, and a reminder that nothing can be impossible with God.

ACKNOWLEDGEMENT

'My flesh and my heart may fail, but God is the strength of my heart, and my portion forever' (Psalm 73:26). I give my greatest appreciation to the Almighty God, my creator and the creator of the entire universe for bringing me this far. Truly, great is Thy faithfulness oh Lord unto me. My PhD journey has indeed been a life – changing experience for me. It would not have been possible without the support of the very special personalities God brought to my path.

First and foremost, I would like to express my profound gratitude to Professor Felix Ankomah Asante, my Lead Supervisor. I am grateful to Prof Asante for his immense support, guidance and mentorship through my entire doctoral program. I am as well grateful to him for his comments and guidance for my thesis writing. My work would not have been successful without his patience, motivation and guidance. Prof. Felix Ankomah Asante, may the good Lord bless you in all your endeavours.

I would like to acknowledge Prof. Charles Ackah, my Second Supervisor, who gave me very useful suggestions that helped to enrich this research. Also to my Third Supervisor, Dr. Ama Pokuaa Fenny, I am very grateful for your insightful comments for this thesis. I am very grateful to you, and I wish you God's blessings.

A warm gratitude also goes to all the other research fellows of ISSER, and all the other staff of the institute for their ideas and various forms of support during the course of my studies at the institute. I am very grateful to you all.

I cannot forget the priceless support and assistance from my dear husband, Dr Jonathan Odame, who stood firmly behind me, encouraging me to work harder at every stage of my work. Always insisting that I take some time away from home to be able to give maximum

concentration to my wok. God richly bless you. To my son Michael, whom I mostly deprived of motherly attention, from as early as three months, God bless you.

ABSTRACT

Maternal health is a key indicator of human development since it translates into the wellbeing of the entire household. For this reason, issues about maternal health and its outcomes remain a critical topic in development discussions. Ghana like many other Sub-Saharan African countries, encounters persistent maternal health challenges, with very slow progress towards improved outcomes. Most of these challenges are as a result of delayed or poor management of complications that come up during pregnancy, delivery or the postnatal period. For this reason, investing into strategies to increase access to care and the quality of care has been explained as a major step in improving overall postpartum outcomes.

In 2008, the government of Ghana instituted the Free Maternal Health Care Policy (FMHCP) under the National Health Insurance Scheme (NHIS). The FMHCP was aimed at increasing and improving access to maternal health services, by exempting pregnant women from paying the insurance premium for the NHIS. The overall objective of the policy was to improve maternal health outcomes in Ghana. Though several studies have shown the impact of the policy on the economic and neonatal outcomes in Ghana, there is very little information on the outcome of the FMHCP on quality of care as well as health outcomes of women. To fill this gap, this study set out to assess the maternal health outcomes of the FMHCP by assessing the effect of the FMHCP on quality antenatal care in Ghana, examining the effect of the FMHCP on maternal postpartum outcomes, and lastly to examine and describe the experiences and perspectives of beneficiaries on the effect of the FMHCP on their health outcomes. The study was guided by a mixed method approach with data from the Ghana Demographic and Health Survey (GDHS) and qualitative data from interviews. Logistic regression models were used for the quantitative analysis, and a thematic analysis approach for the qualitative study.

The results from the study showed significant improvements in access to quality ANC in Ghana after the implementation of the FMHCP, but at the same time revealed that there are still inequities in access to quality ANC which are fuelled by the underlying socioeconomic characteristics of individuals, specifically women. The study again showed that progress to reduce delivery and postpartum complications have remained insignificant because despite the operations of the FMHCP, there are some 21.42% women who still deliver at home without skilled care. Also, beneficiaries recounted improvements in their health outcomes and attributed this to the increase in access to quality care. Respondents however confirmed that though the FMHCP has eliminated direct cost of care, there are other indirect costs associated with maternal health care that create inequalities in access and utilisation.

An important recommendation from this study is that maternal health interventions should not only focus on eliminating direct cost of maternal health services, but should also seek to address indirect costs and also socioeconomic and demographic characteristics that contribute to inequities in access and utilisation of maternal health services. This approach may yield better outcomes because factors that affect maternal health are multifaceted and any effective intervention should target each of these factors be it individual, community or institutional. Again, the study recommends that evaluation of maternal health policies should look beyond the policy variable to include all other factors that are likely to affect access and utilisation. Inclusion of relevant variables that affect access and utilisation of healthcare will give a comprehensive picture about the effect of the policy in different conditions.

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LIST OF ABBREVIATIONS

ANC	Antenatal Care
CCHSA	Canadian Council on Health Services Accreditation
CHPS	Community-based Health Planning Services
DFEP	Delivery Fee Exemption Policy
EPMM	Ending Preventable Maternal Mortality
FEP	Fee Exemption Policies
FMHCP	Free Maternal Health Care Policy
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GMHS	Ghana Maternal Health Survey
GSS	Ghana Statistical Service
HBM	Health Belief Model
HIPC	Highly Indebted Poor Country
HIRD	High Impact Rapid Delivery
ISSER	Institute of Statistical, Social and Economic Research
JCAHO	Joint Commission on Accreditation of Health care Organisations
LMIC	Low-Middle-Income-Countries
MAS	Miscarriage, Abortion and Still-birth
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MMWG	Maternal Morbidity Working Group
MOH	Ministry of Health
NHIS	National Health Insurance Scheme
NICU	Neonatal Intensive Care Unit
OLS	Ordinary Least Squares
PNC	Postnatal Care
RLNP	Regenerative Lifestyle and Nutrition Program
SDG	Sustainable Development Goals
SMI	Safe Motherhood Initiative
SSA	Sub Saharan African
TBA	Traditional Birth Attendant
UHC	Universal Health Coverage
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION

1.1 Background

A healthy population provides the required human resource base for economic development. This makes good health a priceless asset for every nation and for this reason, one critical goal for every state is to have a healthy and productive population that is capable of reproducing itself safely. Likewise, maternal health is also an important indicator of human development because it translates into the wellbeing of the members of an entire household (Ministry of Health [MOH], 2007).

According to the World Health Organisation [WHO] (2020), maternal health refers to the health of a woman during pregnancy, child birth and the postpartum period. It encompasses various health care dimensions that work together to improve and provide optimum health for the woman after delivery. These health dimensions include family planning, prenatal care and postnatal care, and they all work together to facilitate a positive and fulfilling pregnancy experience for the woman. In recent times however, maternal health has been broadened to encompass all the personal, physical, social and cultural factors, as well as policies and even collective and subjective circumstances that enable a woman to emerge safely out of pregnancy. In this regard, keeping a pregnant woman healthy means supporting her to access every component necessary to keep her body well.

Among all things, optimum maternal health outcomes are important to nation building and improving the socioeconomic status of a country because they are directly linked to poverty reduction. This is because poor maternal health impacts negatively on a woman's productive energy and income earning capacity and this can be catastrophic for any nation because research has shown that, women's income contribution is critical to the family, community, and a nation as a whole (Malapit, Kadiyala, Quisumbing, Cunningham, & Tyagi, 2015).

Literature reviewed have proved that women are more likely to invest their incomes and earnings in the wellbeing of the family than their male counterparts (Elliott, Powell & Brenton, 2015). In this regard, the survival of a woman is very crucial to the wellbeing of every household and nation.

This notwithstanding, maternal health specifically remains a frightening and persistent public health challenge, especially in less - developed countries. From the United Nations 2015 report, it is estimated that about one thousand (1,000) women die daily, the causes of which have been attributed to pregnancy and childbirth complications with about ninety-nine percent (99%) of these deaths occurring in sub-Saharan Africa (Way, 2015). Postpartum haemorrhage is also known to account for about 27% of all maternal mortality cases. Sepsis and infections are also postpartum complications and account for about 11% of all maternal mortality cases. The estimated lifetime risk for maternal mortality in developed countries is 1 in 3,400 births, compared to 1 in 52 births in low - income countries.

According to a report by the African Union [AU], Africa specifically suffers an estimated lifetime risk of maternal death of 1 in every 38 women, with about 530,000 reported maternal mortality cases every year. Among other causes, limited availability, access and utilisation of basic and quality maternal health services have been listed as the major causes to this adverse outcome (AU, 2014).

The expected desirable outcome of every pregnancy is to have a healthy baby and a healthy mother, but the adverse maternal health outcomes far outweigh the desired outcomes (Adatara, Afaya, Baku, Salia & Asempah, 2018). Furthermore, maternal health complications have been proven as the leading cause of maternal mortality and disability in developing countries. For this reason, maternal health care interventions have become

critical especially in developing countries, with governments and international bodies having keen interest in discussions about maternal health because it depicts the effectiveness and efficiency of the health system of a country, as well as the country's human development (Tilton, 2019).

Evidence shows that most maternal mortality cases are preventable. This is because there are well known solutions and preventive measures in the form of maternal health services and interventions, that can effectively manage, control and avoid the pregnancy-related complications. Maternal health services include all the necessary care provided to a woman right from conception, delivery, and the period after delivery. Timely and quality care during pregnancy (antenatal care) for instance offers the opportunity for early detection and management of possible pregnancy complications such as high blood pressure and pre-eclampsia among many others (Benova, Tuncalp, Moran & Campbell, 2018). Skilled assistance at birth is also another maternal health care service very crucial to the health of the expectant mother. Assisted delivery helps to reduce maternal mortality and morbidity through identification and swift management of delivery complications. Furthermore, access to adequate and effective medical attention in a hygienic environment during delivery can reduce the risk of birth complications and infections for both the mother and the baby (Akowuah, Agyei-Baffour & Awunyo-Vitor, 2018)

Care after delivery, termed as Postnatal Care (PNC), is also a critical service required for optimum health outcomes, as about 60% of all maternal deaths occur during the postpartum period (WHO, 2020). PNC helps to identify and manage life-threatening complications that occur after delivery. The process grants opportunities for the mother to be monitored for possible postpartum complications such as bleeding, bowel and bladder malfunctioning, as well as care of the baby. For this reason, skilled care at delivery as well as postnatal care are

very critical since complications at these stages are usually recorded 24 hours after delivery (Kim, Singh, Speizer, Angeles & Weiss, 2019).

Achieving maternal health goals requires the provision of timely, adequate and quality maternal health care during pregnancy, childbirth and the period after childbirth. In this vein, almost all countries depend on prompt access and effective utilisation of maternal health care services as the most critical actions to reduce the maternal mortality menace. The fifth Millennium Development Goal (MDG 5) encouraged most countries to put in extra efforts towards reducing maternal mortality. Though many countries worked towards achieving the MDG 5 goal of reducing maternal mortality by two thirds, as well as ensuring universal access to reproductive health, maternal health remains a serious concern because of the high numbers of negative outcomes; morbidity and mortality (Hagey, Rulisa & Perez-Escamilla, 2014). For this reason, maternal heath has been reemphasised in the Sustainable Development Goals (SDG). The third SDG (SDG – 3) generally focuses on good health and wellbeing, but specifically targets to reducing the global maternal mortality ratio to 70 per every 100,000 births.

Significant strategies that can reduce maternal mortality and improve maternal health outcomes should aim at increasing access to skilled care during the entire period of pregnancy, delivery and the postpartum, as well as ensuring availability of emergency obstetric care. These strategies are however difficult to implement due to barriers such as income inequalities, lack of proximity to health facilities, poor health and referral systems, and unfavourable cultural practices.

Though the Millennium Development Goals (MDG) era recorded an unprecedented decline in maternal deaths, most countries, especially Sub-Saharan African countries, could not meet the set target. In fact, global Maternal Mortality Ratio (MMR) reduced to 44% instead

of the set target of 75% by 2015 (WHO, 2015a). For this reason, maternal health remains an issue of concern and this has been reflected in the Sustainable Development Goals (SDG). The SDG 3 targets to ensure healthy lives and promote wellbeing for all, at all ages, with the first target aiming to reduce global MMR to less the 70 per 100,000 live births.

In hope of meeting the SDG target, the World Health Organisation (WHO) has published its strategies for Ending Preventable Maternal Mortality (EPMM). This strategy document outlines global targets and strategies to reduce maternal mortality, towards achieving SDG 3.1 (To reduce global maternal mortality to less than 70 per 100,000 live births by 2030). These targets and strategies are grounded in human rights approaches to maternal health and seek to eliminate existing inequalities that lead to disproportions in access, quality and outcome to health care. In achieving this target, there is need for continued global investments in maternal health issues; maternal health research, programmes and policy, as well as specific actions at national levels (WHO, 2015b).

Based on the WHO recommendations, many countries are pushing toward strategies to ensure Universal Health Coverage (UHC) because it is deemed the most powerful concept that public health can offer to achieve improved and proportional maternal health outcomes. UHC ensures preventive, curative, rehabilitative and palliative health care services for all people without any form of discrimination, be it financial or whatever. In this regard, health financing and health investment policies have been identified as sustainable solutions to health care crises, especially in the Sub Saharan African (SSA) region by mainly eliminating financial discrimination to accessing health care (WHO, 2017).

Ghana has witnessed some form of political commitments toward ensuring UHC in the area of maternal health. In 1998, the government of Ghana launched the Safe Motherhood Programme. This programme was to provide free Antenatal Care (ANC) and emergency

obstetric care for pregnant women. In 2003, the Free Maternal Delivery Policy was initiated. The aim of this policy was to eliminate the financial burden of pregnant women who utilise accredited health facilities. These included both normal deliveries and caesarean deliveries. Until 2005, the policy was piloted in the four most deprived regions in Ghana (Northern, Upper East, Upper West and the Central). This programme was funded by international bodies and so at a point, implementation was difficult due to lack of financial inflow. The policy was then absorbed by the National Health Insurance Scheme (NHIS) in 2007. This required pregnant women to enrol onto the scheme by paying a premium to ensure eligibility to the benefits of the Free Maternal Delivery Policy (Singh et al., 2015).

In 2008, the government of Ghana implemented the Free Maternal Health Care Policy (FMHCP) under the NHIS. As part of the benefits of the policy, pregnant women were exempted from paying the required insurance premium. The benefits also included free ANC, free delivery services including caesarean and emergency obstetric care, as well as free PNC for the woman and new-born baby. Irrespective of these benefits, the nation has not recorded the targeted improvements in maternal health care. Apart from maternal mortality remaining high at a ratio of 319 per 100 000 births ("The DHS Program: Dataset", 2016), there are still existing inequalities because women are required to make payments during antenatal, delivery and referrals, regardless of the policy. Women who do not have enough savings to pay the bills sell their assets to be able to meet the bills (Dalinjong, Wang & Homer, 2018b).

Evaluations of the performance of maternal health policies usually dwell on utilisation as the indicator to measure effectiveness of the policies. Even though studies have confirmed that maternal health polices increase utilisation, other studies also confirm persistent unfavourable health outcomes. Further, there is evidence of how individual and community characteristics influence utilisation of maternal health services and thier outcomes.

Understanding the interaction between policy and existing constraints therefore remains a major gap in attempts to establish the effectiveness of maternal health policies.

This study adopted the Donabedian (2002) quality of care model to fill this gap by assessing maternal health outcomes of the FMHCP in the midst of existing individual, community and facility-based constraints. The study utilises a nationally representative data that reports on individual, community and facility characteristics to assess maternal health outcomes before and after the implementation of the FMHCP. Subjective experiences of beneficiaries of the policies are also investigated.

While providing information about health outcomes of the FMHCP, the study as well provides an understanding of the performance of the policy in the midst of existing constraints. Again, this study will contribute to existing empirical literature regarding fee exemption policies.

1.2 Problem Statement

Timely and quality maternal health care translate to other aspects of human development, including neonatal and child health. Poor maternal health, for instance, does not only affect the woman but the unborn baby by contributing to low birth weights and stillbirths (Browne et al., 2016). Maternal healthcare, which comprises of antenatal or prenatal care, delivery and postpartum care, is therefore deemed very important for ensuring improved maternal health outcomes. Each of these components of care is important because there are specific risks associated with the various stages of pregnancy that demand the care and attention of a skilled health professional. In this regard, investments to deliver timely and quality maternal health care services can be the most effective means of improving maternal health outcomes and reducing mortality rates.

The aim of the FMHCP was to eliminate out of pocket payment as a means to increase access to maternal health services in Ghana. Moyer, Benyas & Rominski (2016) however show in their study that contacts and interactions between health care providers and pregnant women through improved access to maternal health care services have not been consistently linked to decrease in maternal morbidity and mortality. Benova, Tunçalp, Moran & Campbell (2018) confirm and bring to attention that the focus for ANC for instance, should be extended from number of contacts for ANC to the content of care received during every ANC visit. This is because ANC attendance in itself cannot guarantee improved outcomes without ensuring quality. Further, it is not enough to capture contact with care providers as the indicator for coverage of care. Rather, the indicator should focus on content of care to be able to assess the quality of care that women receive during the visits.

The outline of literature so far reveals that the previous indicator of using number of contacts to measure quality of maternal health care is inadequate as it does not give the full overview of maternal health care services. To address this inadequacy, the WHO expanded its guidelines for assessment of maternal health care services. The expansion included new indicators specifically to evaluate content of care. The goal for establishing these new guidelines was to consolidate all interventions that are effective in reducing global maternal infections and complications, and also to specify the interventions that a pregnant woman should receive during ANC. This was done by presenting evidence-based recommendations on interventions for preventing and treating complications during pregnancy, delivery and the postpartum period. This included specific interventions such as measurement of blood pressure, administration of food supplements like iron, as well as the administration of oxytocin during the postnatal period, among many others (WHO, 2015b).

In Ghana, Fenny, Asuman, Crenstil & Odame (2018) show that one major outcome of the FMHCP is increase in contacts between pregnant women and maternal health service

providers. There is however little information regarding the impact of the FMHCP on improvements in quality of care. This study therefore sets out to ascertain if the increased access to maternal health care in Ghana is matching up with the quality of services needed for optimum maternal health outcomes. The study will achieve this by evaluating the content of antenatal visits under the FMHCP, based on the recent WHO recommended guidelines on routine antenatal care.

Some studies have suggested that, apart from ANC interventions, there are also factors that affect a woman's receptiveness and utilisation of recommended interventions and services. Some of these factors may include cost of care, household income, maternal education, previous birth experience, culture, and many others (Hirai et al., 2020). These factors are found to breed various levels of inequalities in accessing and utilising maternal health outcomes. Other studies also confirmed that these inequalities are pro rich, giving those in the higher wealth quintiles a better chance of accessing and utilising maternal health care services compared to women in the lower quintiles (Brugiavini & Pace, 2016; Ebu & Gross, 2015). With this in mind, the main objective for the implementation of the FMHCP in Ghana was to provide financial protection to users by eliminating out-of-pocket payments and ensuring equity in access to maternal health care. The elimination of out-of-pocket payments was expected to create an increase in demand for maternal health services, which would eventually improve maternal health outcomes. There is however a missing link between accesses to maternal health care and improved maternal health outcomes, which this study seeks to bridge.

The level and quality of care received during antenatal period increases the chances for the use of skilled birth attendant during delivery, which further increases the chances of positive postpartum outcomes. One of the postpartum outcomes of the policy that have been studied extensively is neonatal health outcomes, but there have been very little studies on maternal

postpartum outcomes. Asante, Chikwama, Daniels & Armar-Klemesu (2007) as well as Brugiavini & Pace (2016) evaluated the outcomes of the policy, but focused on economic outcomes. Dalinjong, Wang, & Homer (2019) in their study also examined the impact of the policy on antenatal patronage but not on specific health outcomes. This study sets out to assess the impact of the policy on maternal postpartum health outcomes.

The implementation of the FMHCP is in accordance with other international strategies to reduce maternal and neonatal mortality. As much as this strategy is important, it will be of no value if it is not able to realise its objective of improving maternal health and reducing maternal morbidity and mortality. Though some studies in Ghana have focused on the interplay of factors that impact on the success and failure of the NHIS, this study sets to specifically understand the perspectives and experiences of beneficiaries about the effect of the policy on their health and wellbeing. Thus, the question the study seeks to address is, "What is the effect of the FMHCP intervention under the NHIS on the quality of maternal health service and maternal postpartum outcomes?"

1.3 Research Question and Objectives

As stated in the section above, the research question for this study is "What is the effect of the FMHCP intervention under the NHIS on the quality of maternal health service and maternal postpartum outcomes?"

The main objective of this study is to examine the maternal health outcomes of Ghana's Free Maternal Health Care Policy (FMHCP) under the National Health Insurance Scheme (NHIS). This will be achieved through three specific objectives which have been outlined below.

1. To assess the effect of the FMHCP on quality of antenatal care (ANC) in Ghana.
2. To examine the effect of FMHCP on maternal postpartum outcomes.

3. To appraise the experiences of beneficiaries about the effect of the FMHCP on their health outcomes.

1.4 Justification of the Study

This thesis is timely and important because of its significant implication on health policy formulation and implementation, especially for maternal health and improved postpartum outcomes.

Good health is an asset for every nation because a healthy population provides the required human resource base for economic development (WHO, 2004). Reducing morbidity and mortality rates for instance increases labour supply and savings, especially in developing countries. This is because individuals in good health can dedicate more of their time and energies to productive work and other income-generating activities, instead of staying in a sick bed (Stoddart & Evans, 2005). In the same vein good health allows for increase in investments into productive ventures like education, instead of diverting incomes into cost of medical bills.

Targeting the improvement of maternal health through increased and effective utilisation of maternal health services has become critical for many countries, including Ghana. Reducing maternal morbidity and mortality has become a public health issue of global concern. In line with this, the government of Ghana has instituted and implemented several policies aimed at addressing situations that challenge women's access to maternal health services. The most recent of these policies is the FMHCP of the NHIS, which is aimed at providing pregnant women with free antenatal and postnatal care, as a measure to reduce maternal morbidity and mortality. A study of this nature is therefore very relevant as it helps to shed light on the effectiveness of the policy in providing improved maternal health outcomes through improved health, and reduces mortalities. The outcomes of this study will serve as an

informative tool for policy implementers and service providers about innovative and evidence-based approaches for health policy implementation and health care delivery.

There have been several studies in Ghana on various aspects of maternal health. Majority of these studies have focused on access, equity and utilisation (Addai, 2000; Dixon, Tenkorang, & Luginaah, 2013; Atuoye et al., 2015; Fenny et al., 2018). Other studies have also focused on the outcomes of the FMHCP (Asante et al., 2007; Masiye, Kaonga, & Kirigia, 2016; Dalinjong et al., 2018b). Most of the studies however, mainly focus on economic outcomes and not specifically on postpartum outcomes and content of care. This study will help fill the existing gap in literature about the postpartum health outcomes of the FMHCP. The findings from this study will inform policy planners and implementers about the deficiencies in the implementation process and provide possible solutions to improve on these deficiencies. This will facilitate provision of effective and efficient health policies and improve on existing policies.

This study will also contribute to research and knowledge in health systems and maternal health delivery specifically. The findings from this research will supplement the limited existing literature about quality maternal health care in Ghana, especially on ANC.

1.5 Structure of the thesis

The thesis is organised into eight chapters. Chapter One gives an introduction and background to the study as well as the entire research process. The chapter covers the research problem, research objectives and justification of the study.

Chapter Two gives an overview on maternal health situation in Ghana, outlining maternal health reforms and the resulting changes in trends of the various maternal health interventions and indicators.

Chapter Three presents a review of related literature on maternal health interventions and maternal health outcomes. The chapter presents the theoretical and conceptual framework for the study. The fourth chapter presents a description of the study area, the data analysis process including sampling design and methods of analysis.

Chapter Five presents the evidence on the effect of the FMHCP on quality ANC in Ghana. Chapters Six and Seven present findings on the effects of the FMHCP on maternal postpartum outcomes and perceptions of beneficiaries about the effect of the FMHCP respectively. Finally, Chapter Eight provides discussions on key findings of the study, and policy recommendations.

1.6 Operational Definition of terms

For the purposes of clarity, the key terms in this study have been defined as follows:

Maternal mortality: the death of a woman while pregnant, or within 42 days of termination of the pregnancy, irrespective of the duration of the pregnancy, from any cause related to, or aggravated by the pregnancy or its management but not from accidental causes.

Maternal health: the wellbeing of a woman during pregnancy, childbirth and the postpartum (WHO, 2011).

Maternal health care: those interventions and services provided to promote maternal health, to prevent or eliminate poor health among expectant mothers. This care includes antenatal or prenatal care, delivery and postnatal care.

Antenatal or prenatal care: the care a woman receives from the hospital while pregnant.

Delivery care: skilled birth assistance during delivery.

Postpartum/postnatal care: care received after delivery.

Maternal Mortality Ratio (MMR): it is the number of women who die per every 100,000 births in a given time period.

CHAPTER TWO

MATERNAL HEALTH IN GHANA

2.1 Introduction

This section situates the study within the Ghanaian context by providing an overview of the economic setting, the health system structure, as well as the current maternal and neonatal health situation in Ghana. The section also provides a background to key maternal health policies and interventions in the country.

2.2 Health structure and health financing reforms in Ghana

Prior to colonialism, indigenous and traditional healers were the main health practitioners in Ghana. Modern health care systems developed through different historical, political and economic and systems (Baidoo, 2009). Christian missionaries and missionary societies were the first to introduce western medicine into the then Gold Coast. These missionaries remained the sole providers of modern and western medicine until after the first world war (Tonsuglo et al., 2014).

Since independence in 1957, successive governments in Ghana have worked to provide good health care services to the entire population. Immediately after independence, the government launched the "Accelerated Development Plan". Under the health component of this plan, more health care centres and training of health personnel were institutes as a measure to strengthen the health system (Kunnibe & Dary, 2012).

Since then, Ghana's health system has gone through several reforms and several health financing strategies, including the NHIS. The aim of these reforms and financing strategies was to improve health care and health provision in Ghana.

There are two main institutions that manage health care and health service deliveries in Ghana. The first is the Ministry of Health (MOH). The MOH is responsible for managing

the general health system of the nation. This includes the formulation of health policies, mobilising health resources and generally monitoring of the entire health system. By the passage of Act 525 in 1996, the government of Ghana instituted the Ghana Health Service (GHS) to be responsible for implementing health service delivery. Under this institution, health priorities are identified at the national level and disseminated to regional, district, sub-district and community' levels for delivery. The Act as well strengthened other health regulatory bodies including the Nurses and Midwives Council and the Private and Maternity Homes Board.

Health care and delivery in Ghana is categorised into two main systems; the formal and the informal health delivery systems. Formal health care delivery is disseminated through the hospitals and clinics. The informal form of health delivery includes herbalists with the use of herbal and plant medicine.

Ghana has undergone different stages of health financing reforms since independence in 1957. The country had a free universal health care delivery as of 1957. However, due to economic instability in the mid 1960's, the country shifted from the free universal health delivery to the user fee system, popularly referred to as the 'cash and carry' system in 1985. This system required full payment of all health services (including maternal health services) as a prerequisite of access to health care. Because of the financial demand of this system, it created a huge barrier for many who needed health care (Mills, 1998).

Meanwhile, the government of Ghana had launched the National Health Insurance Scheme (NHIS) in 2003 through an Act of parliament (Act 640). At the time Ghana was the first SSA country to institute a national health insurance scheme. To benefit from this scheme, individuals were required to enrol by payment of a registration fee and a premium. Apart from the premiums paid by citizens, the scheme was financed through a national insurance

fund. This fund is sourced from the National Health Insurance Levy (NHIL) which is 2.5% of tax, as well as 2.5% of the Social Security National Insurance Trust (SSNIT). The insurance covered common illnesses like malaria, respiratory tract infections and diarrhoea. The insurance also covered medical emergencies like road accidents (Alhassan, Nketiah-Amponsah, & Arhinful, 2016).

An evaluation of the scheme in 2009 revealed that the NHIS yielded a significant increase in utilisation of health services for general illnesses as well as a significant decrease in self-treatment and self-medication. The evaluation also showed that there has been a major decrease in out-of-pocket payments, for both in-patient and out-patient care.

2.3 Maternal health care interventions in Ghana

Apart from the fee exemption policies outlined above, there are other strategies within the Ghana health sector to improve maternal health and generally to promote a healthy lifestyle. These strategies include the Regenerative Lifestyle and Nutrition Program (RLNP), High Impact Rapid Delivery (HIRD) and the Community-based Health Planning Services (CHPS), popularly referred to as the CHPS compound. Other interventions included the Focused-ANC (FANC) programme, which aimed at improving the quality of maternal health services by ensuring a range of practices including provision of comprehensive and individualised care, critical focus on birth preparedness and complications readiness, as well as promotion of partner support (Asante, Chikwama, Daniels, & Armar-Klemesu, 2007).

The implementation of these interventions were largely based on global insights and best practices capable of yielding improved maternal health outcomes and reduced mortality cases. These best practices largely focused on investing in family planning to prevent unwanted pregnancies, skilled care during pregnancy and delivery (including emergency

obstetric care) to prevent avoidable birth complications, and PNC to prevent and manage complications that occur after childbirth (Sakeah et al., 2018).

Dominant among these strategies is the CHPS, which was adopted in 1999. CHPS works to break geographical barriers to maternal and primary health care by moving health care to remote and underserved communities through community mobilisation (Awoonor Williams, Phillips & Bawah, 2019). Community leaders and members mobilise labour and resources for a simple structure popularly referred to as the CHPS compound. This facility consists of a space for a clinic, and a simple apartment for the health service staff.

As a measure to reduce the financial barrier to maternal health care, the Ghana Health Service and the Ministry of Health launched the Safe Motherhood Initiative in 1998 by making antenatal care free in all public health facilities (Ministry of Health, 2004).

In 2003, the government of Ghana implemented the Delivery Fee Exemption Policy (DFEP) to help increase access to skilled care at delivery. This was a Highly Indebted Poor Country (HIPC) funded programme to absorb the cost of delivery at health facilities, including complicated surgical procedures (Ministry of Health, 2004). Until 2005, the DFEP was piloted in the Northern, Upper East, Upper West and Central regions of Ghana (Ministry of Health, 2004).

Apart from increasing facility-based deliveries (Dzakpasu et al., 2012), the policy also had a pro-poor effect on the Ghanaian population. The policy resulted in the reduction of out-of-pocket payments for normal and surgical deliveries, especially among the poor (Asante et al., 2007). Though the policy helped to reduce Maternal Mortality Ratio (MMR), the reduction was only observed in two regions. Again, there was an observed decline in direct maternal deaths, but no observed decline in indirect maternal deaths as well as postpartum complications. The policy was expanded to cover the remaining six regions of Ghana in

2005, but started encountering challenges with funding by late 2007 and this led to an observed decline in facility-based deliveries (Dzakpasu et al., 2012).

With the introduction of the NHIS in 2003, pregnant women were entitled to free maternity and delivery services by payment of a premium. An evaluation of the NHIS policy revealed that the scheme did not yield any increase in utilisation of maternal health services (Chankova et al., 2009). Seddoh, Adjei, and Nazzar (2011) also confirmed that the NHIS had a negative effect on facility-based delivery, the cause of which was attributed to the premium required for membership onto the scheme.

The government of Ghana again initiated the National Health Insurance Scheme in 2003 to cover out of pocket medical bills by payment of a premium. Because funding for the free delivery policy was running out, women who had not registered for the NHIS had to pay for maternity care (Dzakpasu et al., 2012). This was identified to have caused a decrease in facility-based delivery between 2006 and 2007 (Agyepong & Adjei, 2008). Studies have confirmed that cost of maternity care has a negative correlation with utilisation (Fenny et al., 2018). Further, women who did not access maternity care during pregnancy are not likely to deliver in a health facility, thus the decrease in facility-based deliveries (Manzi et al., 2018). In response, the government of Ghana introduced the Free Maternal Health Care Policy (FMHCP) in July 2008. The main objective for the implementation was to facilitate easy access to maternity care, thereby reducing the national maternal and neonatal mortality rates, and consequently improving health outcomes. To benefit from the policy, a woman needed a pregnancy confirmation note from a medical officer, midwife or a nurse. Once the confirmation note is presented at any NHIS office, the woman is exempted from paying the NHIS premium and registration fee, and she would be given an NHIS membership card for free. In addition, the six months waiting period between registration and access to NHIS services is waived. All pregnant women who attended antenatal at any accredited facility

was automatically enrolled on to the NHIS. The benefits of the policy include free health care and medications during pregnancy and, free medical services and medicines for the baby (first ninety days), and lastly free medical services and medicines for twelve weeks postpartum (Adu-Gyamfi, Brenya, & Adjei, 2015). The benefit as well includes receival of all the ANC interventions and care for all other pregnancy complications, caesarean sections, management and treatment of all delivery complications.

Records show that, the interventions have yielded some favourable outcomes. This is evident in improvements in ANC utilisation, skilled care at delivery and utilisation of postnatal care. Also, fertility rates are seen to have declined over the last two decades (GSS et. al., 2009). Penfold et. al. (2007) evaluated the DFEP, as well as the preliminary assessment of the FMHCP and found positive outcomes with respect to the number of supervised births. Several other studies have evaluated the FMHCP and found improvement in utilisation of maternal health interventions.

Despite these success stories, many challenges still mitigate the strife to achieve improved maternal health outcomes. Equal access and utilisation of quality maternal health care for instance remains an important concern for successful maternal health care in Ghana. Though there has been a general trend of increase in utilisation of ANC, there are existing regional as well as rural-urban differences in access. Male dominance still outweighs a woman's ability to freely and confidently make health choices for herself. In most households, decisions about health care and allocation of household income are made solely by the husband.

2.4 Trend in Access to MHC in Ghana

It can be argued that though Ghana has not much commendable achievements in maternal health outcomes (Dalinjong, Wang, & Homer, 2018c), there has been some progress in

access and utilisation of the key maternal health interventions (antenatal, delivery and postnatal care). The progress can be attributed to the various maternal health reforms which are mainly targeted at increasing access to care by removal of existing financial barriers. This section provides an overview of the trend in outcomes of the various maternal health interventions in Ghana.

2.4.1 Trends in utilisation of Antenatal Care (ANC)

ANC is a core component of the comprehensive health care services provided to pregnant women. It consists of a set of skilled services and interventions during the gestational period such as screening for complications and other laboratory tests. These services are generally provided by medical doctors, nurses and midwives, and are all targeted at ensuring the optimum wellbeing of the woman.

The government of Ghana has instituted and embarked on several interventions to increase the utilisation of ANC services. These interventions include the CHPS compound in 1998, NHIS in 2003, and the recent FMHCP (within the NHIS) in 2008. There is evidence of an increasing trend in the utilisation of ANC services. The 2014 Ghana Demographic and Health Survey (GDHS) report revealed that about ninety-seven percent (97%) of women utilised ANC services. Similarly, the 2017 Ghana Maternal Health Survey (GMHS) report indicated a further increase to ninety-eight percent (98%). Though the evidence shows a general improvement in utilisation, there still exist some disparities and inequities in access based on some personal and household characteristics such as age at birth, educational level, place and region of residence, and socioeconomic status (Fenny et al., 2018). The GDHS survey revealed that about ninety-eight percent of women in urban areas utilise ANC services, compared to ninety-six percent in rural areas. Again, despite the large number that access ANC services, the number of women who take up the WHO-recommended visits of four and more is lower at eighty-seven percent.

There are several factors that account for women's inaccessibility to maternal health care services in Ghana. Among these factors include cost, location, quality and dignity of care, level of education, autonomy of the woman, cultural norms and religious beliefs (Fenny et al., 2018). In this regard, WHO has placed emphasis on the need for multifaceted maternal health interventions that can address the different barriers to accessing maternal health care (WHO, 2015b).

2.4.2 Trend in utilisation of skilled care at delivery

Complications at childbirth and during pregnancy remain the leading cause of morbidity and mortality of women in Ghana. As at 2015, maternal mortality remained at a high ratio of 358 per every 100,000 births, with half of all deliveries not assisted by a skilled attendant, (Fenny et al., 2018). This situation has urged Ghana to again embark on several interventions to encourage facility-based deliveries including training and recruitment of more midwives, upgrade of health assistance schools to midwifery schools. Other reforms include the Free Delivery Policy, the Safe Motherhood Initiative (SMI), the High Impact Rapid Delivery (HIRD), the Community Health Planning Services, popularly called the CHPS compound, National Health Insurance Scheme (NHIS) and the Free Maternal Health Care Policy (FMHCP).

Prior to the FMHCP, the CHPS concept remained one of the key interventions in Ghana to increase facility-based deliveries. The CHPS compound is usually made up of a clinic space and accommodation facility for a community health nurse with midwifery skills or a midwife. The resident health provider provides clinical services including ANC and delivery services, but make referrals when complications arise. They also undertake community outreach visits for family planning services, general health education and child immunisation.

With the introduction of the FMHC policy in 2008, facility-based deliveries have increased significantly from 47% in 2003 to 59% in 2008, and a further increase to seventy-four percent according to the 2014 GDHS survey (Dankwah, Zeng, Feng, Kirychuk, & Farag, 2019). The recent Ghana Maternal Health Survey however reveals that there is still a significant number of women (about twenty-one percent) who still do not access skilled care at delivery due to factors such as maternal age, education and economic status, place of residence, marital status and parity. These births that do not occur at the health facilities are suspected to occur at home, mostly with the assistance of a Traditional Birth Attendant (TBA) or sometimes a relative or elderly woman in the community (Aziato & Omenyo, 2018).

2..3 Trends in utilisation of Postnatal Care (PNC)

PNC is the care given to the mother and her new-born right after delivery, stretching to the first six weeks after the delivery. PNC is particularly important because it is the period to detect life-threatening complications that could lead to the death of the mother or new born. It is recommended to receive the first PNC check the first day after delivery because most deaths occur around this time (Say et al., 2014). Recognising the crucial role of PNC to both mother and baby, the WHO has recommended at least 3 PNC visits to ensure optimum maternal and neonatal health.

Following this directive, the Safe Mother Service protocol in Ghana requires mothers and new-borns to attend at least 3 PNC visits for uncomplicated deliveries, and more for complicated deliveries (8). Again, the benefits of the FMHCP are extended to the 6 week PNC period. According to the 2003 GDHS survey data, only 47% of women received PNC checks in their last birth five years preceding the survey. With the introduction of the FMHCP in 2008, utilisation of PNC services increased from 35% in 2007 to 85% in 2014. This improvement notwithstanding, there are still some 12% percent of Ghanaian women

not receiving PNC according to the 2017 GMHS report. Apart from financial barriers, other factors that contribute to poor utilisation of PNC services have been listed as birth rank, parity, gravida as well as education and economic status among many others.

2.5.4 Informal maternal health care – Traditional Birth Attendants (TBAs)

TBAs are individuals who provide assistance and support to pregnant women during their period of pregnancy, delivery, and the postpartum period (WHO, 1992). The services of TBAs have been in existence for over 2000 years, but until MMR rates began to increase in the 1950s it had not been given much attention (Shamsu-Deen, 2013). TBAs are generally elderly women, usually above forty years, who live in the same communities as their clients. The skill is usually inherited from an older relative, through sacred calling or apprenticeship (Amina, 2017). By the nature of their initiation, they usually have no formal education and acquisition of the skill is based on know-how, personal experience and informal apprenticeship (Adu-Gyamfi, Gyasi, & Poku, 2018).

This practice is most popular in rural communities in developing countries. In Ghana specifically, the lack of health facilities and health professionals in rural and remote settlements as well as the cost of care increases the bid for the services of TBAs (Aziato & Omenyo, 2018). The practice is seen to have the potential of contributing to maternal health care and reduction of maternal mortality, especially in developing countries if combined with modern health practices. Nevertheless, this practice remains a challenge because of the lack of formal training of the attendants, lack of waiting rooms at their places of practice, and poor transportation systems.

Adatara et al. (2018) argues that, since Ghana and many other developing countries have not been able to provide health facilities in most rural and remote communities, it is best to integrate them into the formal maternal health system by equipping and empowering them

with the relevant training, monitoring and supervision rather than victimising them. Research has proven that maternal health policies that neglect the impact of TBAs will be ineffective, especially in SSA because, apart from women preferring the service, the lack of appropriate health facilities, and existing barriers to the appropriate health facilities leave the women with no other option (Adu-Gyamfi et al., 2018).

2.5 Status of maternal health in Ghana

In Low-Middle-Income-Countries (LMIC) like Ghana, the major barrier of access to health care is poverty and for that reason, strategies to ensure UHC are mainly focused on financial interventions. Currently, the FMHCP is the key strategy in Ghana towards achieving the SDG targets on maternal health. The MMR for Ghana has reduced from 760 to 320 per 100,000 births in 1990 and 2015 respectively (WHO, 2015c). The Table below presents the historical trends of Ghana's MMR from 2000 to 2017.

Table 2. 1: Historical trends of Ghana's MMR

Year	Deaths per 100,000 births	Annual % change
2000	284.00	
2001	445.00	-8.06
2002	415.00	-6.74
2003	398.00	-4.10
2004	384.00	-3.52
2005	371.00	-3.39
2006	359.00	-3.23
2007	349.00	-2.79
2008	342.00	-2.01
2009	339.00	-0.88
2010	339.00	0.00
2011	339.00	0.00
2012	336.00	-0.88
2013	331.00	-1.49
2014	325.00	-1.81
2015	320.00	-1.54
2016	314.00	-1.88
2017	308.00	-1.91

Source: (World Bank, 2020)

From the Table above, Ghana still has very high MMR. Obviously, Ghana has not achieved maternal health targets yet, and at this pace of decline, it remains unclear if the policy can achieve its objective, nor the assurance of aiding Ghana to achieve the SDG target of 70 per 100,000 live births by 2030.

Evidence from similar resource-constrained countries have shown that policies fail to achieve set goals and objectives due to factors such as poor planning, inadequate

infrastructure, mismanagement and unavailability of resources including workforce and funds (Dalinjong, Wang & Homer, 2018c). According to Ritchie et al. (2016), access and utilisation of health care services is complex and multidimensional, and is determined by not only health system factors but also individual, household and community characteristics which affect the use and provision of health care services and are key in ensuring successful implementation of interventions. These combined characteristics and dimensions can be classified as affordability, availability, acceptability and quality of care.

Evidence on the benefits of the FMHCP as significantly improving access and utilisation of MHC services has been consistent with that of other LMICs, especially amongst populations in the lowest quintiles. This notwithstanding, research evidence shows that the policy has failed to fully achieve its objectives of improving comprehensive maternal health outcomes in Ghana. The failure has been attributed to a lack of integration of the dimensions of health care utilisation (affordability, availability, acceptability and quality of care) into the implementation process of the FMHCP. This is evident in the vulnerability of the health system as women still make Out of Pocket (OOP) payments, poorly-resourced health facilities and low quality of care due to lack of essential inputs (Apanga & Awoonor-Williams, 2018).

CHAPTER THREE

LITERATURE REVIEW, THEORETICAL AND CONCEPTUAL PERSPECTIVES ON MATERNAL HEALTH CARE

3.1 Introduction

Maternal postpartum health outcomes are a critical indicator for human development because it directly affects the productivity of individuals and societies. Due to its relevance to development, any discourse about the drivers that determine these outcomes is considered very important. Without an understanding of the drivers that determine these health outcomes, it will be impossible to develop effective and relevant interventions that can yield desired outcomes.

The purpose of maternal health policies and interventions is to optimise maternal and neonatal health outcomes and thereby reduce morbidity and mortality rates. Specifically, these are insurance and other fee exemption policies aimed at reducing and eliminating financial barriers to accessing skilled care during pregnancy and delivery (Yip et al., 2020), eventually to enable more women to access maternal health care services. This section of the thesis will investigate how maternal health interventions impact on the process and quality of care, and further, how it affects maternal health outcomes.

The chapter begins with a review of the trends of maternal health outcomes at global, regional and local levels. The chapter also provides insight into maternal health policies and interventions in Sub Saharan Africa and Ghana. The chapter gives the theoretical foundation for the study, as well as the conceptual framework that drives the study. The chapter ends with a highlight of the gaps identified in the literature, to demonstrate the relevance of this study.

3.2 Definition of maternal health outcomes

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. Maternal health outcomes could be positive or negative. Positive maternal health outcomes include live births, survival of the woman and good postpartum health. Negative health outcomes on the other hand include still births, maternal mortality and maternal morbidity. Issues about the status of maternal health is of critical importance to every nation because it is a reflection of the status of UHC of a country, as well as effectiveness of the health care system. Further, maternal health indicators reflect the status of socioeconomic development of a country and general wellbeing (Benova, Moller & Moran, 2019).

Determining maternal health outcomes begins with pregnancy, through to childbirth and the postpartum. It includes all complications and ill health (maternal morbidity), as well as related fatalities (maternal mortality). Maternal morbidity can take various forms and could involve severe ailments, disabilities or physical damages and mental health challenges caused by pregnancy-related complications. Examples of maternal morbidity include haemorrhage, pre-eclampsia, anaemia, prolapsed uterus, depression and ectopic etc. Other adverse outcomes include miscarriages, spontaneous abortions and stillbirths. The normal expectation is that every wanted pregnancy ends in the birth of a healthy baby, and a resulting healthy mother (WHO, 2014). However, some pregnancies end in miscarriages, stillbirths, spontaneous abortions, poor health outcomes of the woman, and even death.

The ultimate indicator for maternal health outcomes is maternal survival or maternal death. Maternal death is the death of a pregnant woman, or the death of a woman forty-two (42) days after delivery or termination of the pregnancy, irrespective of the duration of the pregnancy. The death could be due to pregnancy-related causes or could have been aggravated by the pregnancy or its management, but not due to incidental or accidental

causes. This is suggestive that there could be direct and indirect causes of maternal mortality. Direct maternal deaths are those resulting from direct pregnancy complications, administration of wrong interventions, omissions, or incorrect treatments. Indirect causes on the other hand refers to death resulting from pre-existing health conditions which were aggravated by the pregnancy (Mekonnen & Gebremariam, 2018).

3.3 Trends in Maternal Health Outcomes (MHO)

Maternal health issues remain a leading global public health challenge, with a global consensus that maternal health should be given high priority. Though there have been improvements in maternal health outcomes, the progress remains insignificant, especially in SSA, as well as Southern and Central Asia (Boerma, Victora, & Abouzahr, 2018). Studies confirm that about 99% of global maternal deaths are recorded in developing countries, 66% of which are recorded in SSA. The records in developing countries are twenty times higher than in developed countries (WHO & Unicef, 2019). The gap in improvement records is caused by lack of access to quality maternal health care services, which is aggravated by economic inequalities.

After the enactment of the MDGs in 2000, many stakeholders exhibited commitment towards maternal health issues. It sprouted a new era of increased attention and focus on maternal health. This was evident in the allocation of funds for strategies aimed at curbing maternal mortality. The declaration was ratified by 189 countries, and this served as a motivation to push efforts and strategies to improve maternal health and reduce mortality and morbidity cases (WHO, 2016a). Estimates from the United Nations Population Fund show that, out of the 189 countries that ratified the declaration, only 9 countries achieved the MDG 5 target of greater than 75% reduction in MMR, 39 countries made some progress by achieving greater than 50% reduction. Further, 21 countries made insufficient progress by achieving just about 25% reduction, while 26 countries made no progress at all (Alkema

et al., 2016). Global maternal deaths decreased from 385,000 in 1990 to 216,000 in 2015, indicating a 44% reduction. Further down to 2017, estimates show that least-developed countries recorded the highest MMR at 415 per every 100,000 live births, which is about 40 times higher than the MMR of developed countries. SSA alone recorded an MMR of 542 per 100,000 births, with a lifetime risk of maternal death estimated at 1 in 37, compared to 1 in 7800 in Australia and New Zealand. With these figures, SSA accounted for about 66% of the global maternal deaths in 2017 (Nsor-Anabiah & Amalba, 2019). A summary of regional MMR is shown in Table 3.1 below.

Table 3.1: Regional comparison of MMR between 2000 and 2017

SDG Region	2000		2017	
	MMR	Number of maternal deaths	MMR	Number of maternal deaths
World	342	451,000	211	295,000
SSA	878	234,000	542	196,000
Northern Africa and Western Asia	158	15,000	84	9,700
Central and Southern Asia	375	153,000	151	58,000
Latin America and Caribbean	96	11,000	74	7,800
Oceania	106	590	60	400
Europe	17	2,000	12	1,500

Source: (World Health Organization, 2019b)

The unrealised goals of MDG 5 urged the United Nations to re-emphasised maternal health priorities in the SDGs. The SDGs presented a redefined list of priorities for improved maternal health based on the shortfalls of the MDGs. The maternal health targets in the SDGs, which were developed to build on the MDGs, aimed at reducing maternal mortality ratio to less than 70 per 100,000 live births by the end of 2030 (WHO, 2015a). Attaining this target requires mechanisms that can increase the rate of decline, especially in SSA. There is urgent need for strategies, programmes and activities that can achieve SDG 3.1 at the set time. Some drivers for success have been listed as making improvements at provider

and health system level, and implementing strategies that aim at reducing social and structural barriers (WHO, 2015b).

Key mechanisms that can be effective in reducing the mortality records have been listed as ensuring access and utilisation of maternal health services throughout pregnancy, skilled care at birth, and utilising postnatal care. It is critical for states in this agenda to realise that there must be mechanisms to provide skilled competent care to women at all levels. Strategies and mechanisms should be targeted at eliminating inequalities and disparities and making way for UHC. This is because maternal health must be readily available, easily accessible and of optimum quality.

UHC ensures affordable and equal access to health care at all levels (prevention, promotion, curative, rehabilitation and palliative care) (Ginsburg et al., 2017). Recent studies have established a direct link between UHC and improved maternal health outcomes because all citizens (the rich, the poor, vulnerable and excluded) have access to affordable, timely and quality health care (Koblinsky et al., 2016). Most maternal deaths in SSA are caused by preventable and treatable complications such as high blood pressure, severe bleeding and infections, which can be avoided by enforcing UHC.

3.4 The utilisation of maternal health care services in developing countries

Manzi et al., (2018) suggest that about 88% of pregnancy-related deaths could have been prevented through proper utilisation of quality antenatal health care services, assistance of skilled professional care at birth and postnatal care follow ups. Further, because the mother's health is closely connected to the neonate's health, proper utilisation of postnatal care follow ups is seen to improve neonatal health as well. Unfortunately, only 40% of women in SSA get access to the suggested categories of care.

According to Gee, Vargas, and Foster (2018), many women forgo maternity care services due to lack of access, cultural barriers or their social networks. Several studies have also provided evidence of the impact of economic and geographic barriers in access to maternal health care, as well as the possibility of lower delivery costs yielding increased utilisation (Adedini, Odimegwu, Bamiwuye, Fadeyibi, & Wet, 2014; Atuoye et al., 2015). Also, distance to a health facility is identified as having an influence on utilisation. Fenny et al. (2018) for instance showed in their study that the likelihood of accessing care at a medical facility diminishes with the increase in distance. Further, a woman's educational level and her likelihood of access to information influences utilisation of maternal health services. A woman's level of educational attainment is identified to have a direct correlation with her health-seeking behaviour because she is able to make an informed judgement about her health condition. Women with higher education have increased access to a better source of income and are more likely to access maternal health care service (Ganle, Afriyie, & Segbefia, 2015).

Filby, McConville, and Portela (2016) revealed from their study that religion and culture are strong determinants of maternal health-seeking behaviour. Women are unlikely to utilise health care practices that conflict with their cultural and religious beliefs. For this reason, some women do not utilise maternal health care services until the last trimester of their pregnancy (Ganle, Otupiri, Parker, & Fitzpatrick, 2015). In South Africa for instance, it is believed that revealing pregnancy too early can lead to stillbirth, for this reason, women do not visit any doctor until the last trimester of their pregnancy (Kerber et al., 2015). This has been confirmed in other places like Mozambique (Munguambe et al., 2016). In some parts of Ghana, nulliparous women show reluctance in utilising maternal health care services because of the emphasis on keeping the pregnancy from public view until certain rites are performed. In other instances, pregnancy and childbirth are considered a test for the

endurance of physical pain, and so a woman who delivers in a health facility is considered as "not woman enough" (Ganle, Otupiri, et al., 2015, p. 11). Women caught up in this belief will therefore prefer to give birth at home, to prove their ability to endure physical pain, rather than going to a health facility.

Barriers to maternal health care utilisation motivated the implementation of policies and interventions in countries like Ghana, Nigeria, Benin, Kenya and Burkina Faso. In Ghana, a lot of studies have linked the recent increase in maternal health services to the FMHCP of the NHIS in 2008 (Alhassan, Nketiah-Amponsah & Arhinful, 2016).

3.5 Recommended interventions to improve maternal health outcomes

In 1987, a Safe Motherhood Initiative was inaugurated in Kenya. This inauguration marked the beginning of global efforts to address adverse maternal health outcomes (Okaro, 2001). Under this initiative, the “four pillars” of safe motherhood were identified and these pillars were described as strategic interventions to reduce maternal mortality and generally improve maternal health outcomes. These pillars include family planning, antenatal care, clean and safe delivery, and lastly, access to essential obstetric care. Though family planning is proven to improve maternal health, it is usually not considered a maternal health intervention because it is administered before pregnancy and for this reason, will not be discussed in this thesis.

3.5.1 Antenatal care

Even though ANC has been a longstanding recommended approach for improved maternal health, its effectiveness has been challenged. Earlier approaches to ANC were based on a risk approach, which only identified risk issues to a woman and delivered care based on the identified needs. Evaluation of this approach however revealed that the risk factor approach is neither effective in improving maternal health nor efficient use of resources. Makanga,

Schuurman, von Dadelszen, & Firoz (2016) explained that the risk factor is not effective because pregnancy situations are highly unpredictable, conducting risk assessments therefore can yield too many false positives as well as false negatives.

Specific ANC interventions however have been identified to be effective in securing the health and safety of both mother and baby. These interventions include blood pressure monitoring, anti-tetanus immunisation, malaria treatment, iron supplementation etc. Further, ANC presents an opportunity to educate pregnant women on pregnancy complications and how to identify them, as well as taking expectant mothers through a birth preparedness plan (Campbell & Graham, 2006).

Earlier research about the effectiveness of ANC in improving maternal health outcomes in developing countries revealed timing and frequency of ANC as a major cause of ineffectiveness of ANC in yielding improved health outcomes. This resulted in a heightened attention for ANC, where women were required to attend ANC several times during the course of pregnancy. Later studies however revealed that increased number of visits cannot yield desired outcomes without the right content. This has led to increased attention about content of ANC care (WHO 2002; WHO, 2016).

3.5.2 Skilled attendance at delivery and postnatal care

It is estimated that about 40% of all pregnancies may have one complication or the other, with about 15% requiring emergency obstetric care. For this reason, skilled attendance at birth is considered as a critical intervention to reduce the incidence of maternal morbidity and mortality (WHO 2013). Most maternal adverse outcomes are known to occur either during labour, delivery or the first 24 hours after delivery. Again, evidence shows that delivery complications are highly unpredictable and can occur at a very fast rate, even in pregnancies that had no complications at all (Ritchie et al, 2016). These factors require the

services of skilled personnel who can effectively manage complications and provide basic care and appropriate referral services.

The emphasis here is on "skilled" attendant and not just a trained attendant. While "trained" birth attendant simply implies the acquisition of knowledge, a "skilled" attendant guarantees the competent use of the acquired knowledge. The literature goes further to stress that the process must occur in an enabling environment with adequate infrastructure, supplies and equipment as well as effective and efficient communication systems that can facilitate swift referrals (Graham et al., 2001). Some studies have shown that the mere presence of a skilled attendant is enough to reduce maternal mortality cases. However, further studies have proved that the effects are higher when care is provided in an enabling health system (World Health Organisation, 2019a).

Postnatal care and skilled care at delivery move hand in hand. Early postnatal care is identified to be highly associated to skilled care at delivery. In this regard, women who do not access skilled care during delivery are highly unlikely to seek postnatal care. This further gives reason for the advocacy of skilled care at delivery (Peahl et al., 2020).

Effective and efficient ANC, delivery and PNC is essential for improved outcomes for both the mother and the baby (Abegaz & Habtewold, 2019; Akowuah et al., 2018). Unfortunately, many developing countries are faced with the daunting challenge of low coverage of maternal health care services. Apart from the challenge of low coverage, quality of maternal health care has not been a focus, with indicators based only on coverage. Several studies have examined effects of interventions on coverage and utilisation of maternal health care, but only a handful has researched the impact on quality of care.

3.11 Theoretical models

3.11.1 Health Belief Model

Many theories have been used to explain health intervention and utilisation. The Health Belief Model (HBM) was developed by Ivan Rosenstock in 1966 and is one of the commonly used theories in health promotion (Bowling, 2014). The underlying concept of the model is that the likelihood of an individual accepting a health intervention or a preventive action depends on the individual's perception of vulnerability to the condition (Hochbaum, Rosenstock, & Kegels, 1952). The model explains further that, the health behaviour of an individual is determined by personal beliefs and perceptions of the health condition. These personal beliefs and perceptions are determined by intrapersonal factors. The HBM addresses four major components for compliance with recommended health action; perceived barriers for recommended health action, perceived benefits of recommended health action, perceived susceptibility of the health condition, and perceived severity of the health condition.

Perceived barrier is the individual's evaluation of the obstacles in the attempt to adopt the new behaviour or intervention. Perceived benefit is an individual's opinion of the usefulness of the new behaviour or health intervention in decreasing the risk of poor health. Perceived susceptibility is the risk that the individual attaches to the health condition. Perceived severity refers to an individual's belief or perception about the seriousness or severity of a health condition.

This model has proved useful in understanding health behaviour and possible reasons for non-compliance with recommended health action (Eldredge et al., 2016). It can provide guidelines for programme development, allowing planners and implementers to understand and address the reasons for non-compliance. These four main components are modified by individual characteristics (modifying variables) that can affect health behaviour and

compliance with a health intervention. These modifying factors include media, health professionals, personal relationships, incentives, culture, skill and motivation and self-efficacy of the recommended health action or intervention. For instance, a woman's decision to attend antenatal care or not may depend on the experience of her past pregnancies. Again, one's decision to deliver at a hospital may depend on her cultural beliefs and cultural system.

Apart from the four main components and the modifying variables, the model also suggests that human behaviour is influenced by cues to actions. According to Burner, Menchine, Kubicek, Robles, and Arora (2014), cues to actions are events, people or things that motivate individuals to change their behaviour. This may include advice from friends and relatives, media and health campaigns. Knowledge of a woman who died from birth complications is a significant cue for another pregnant woman to attend antenatal and delivery at a health facility. The HBM places emphases on disease prevention and not maximising health outcomes, which is the focus of this study. The HBM is therefore not suitable for this study.

3.11.2 The three delays model

This model is a very popular model used in explaining determinants, utilisation, and maternal health outcomes. The model was developed by Thaddeus and Maine (1994), and was deduced from the work of Prevention of Maternal Mortality. The work formed part of a collaborative effort by the Columbia University Center for Population and Family Health, with contributions from a multidisciplinary team of researchers from Ghana, Nigeria, and Sierra Leone (Thaddeus & Maine, 1994). The three-delays model posits that there are three major delays that cause maternal mortality. The model focuses on the potential factors that affect the period between the start of a pregnancy complication and its outcome. The justification on focusing on this period was that, about 75% of all maternal deaths result from direct obstetric complications, which can be highly unpredictable, can occur in women

with no history of complications at all, with no available technologies to treat these complications.

The main argument by this model is that, prompt adequate treatment will result in satisfactory outcomes, while delayed treatment will yield adverse outcomes. The model further points to three phases of delay that contribute to adverse pregnancy outcomes. The delays are outlined sequentially as the delay in deciding to seek care, delay in reaching an appropriate health facility and delay in receiving adequate care at the health facility. According to the model, these three delays are interconnected because one directly feeds into the other. For instance, delay in deciding to seek care implies the high likelihood that there will be a delay in reaching the health facility, and further receiving the appropriate care. Each of the three delays is enabled by factors which could be socioeconomic or cultural factors, accessibility of health facilities, and quality of care.

Assessing and responding to the factors that determine the three delays is seen as an effective tool in eliminating barriers to accessing maternal health care. Responding to these factors is important because they are identified as key determinants of maternal death.

3.11.3 Health Behaviour Model

The Andersen's 1960 Health Behaviour Model is another popular theory used to measure health care utilisation and health outcomes. The model was initially developed with three main aims; to understand people's perception of choice of health care services, to measure access to health care and lastly to assist in the development of health care policies that can yield improved health outcomes (Andersen, 1995). The main proposition of the model is that there are a wide range of variables that affect health care utilisation. These variables may be demographic (example gender, age, household size, household location) and socioeconomic (example occupation, income, level of education). There may also be other

factors including culture, access to knowledge, information and perception. The model grouped all these variables into three main factors; predisposing characteristics, enabling resources and need factors. Due to several criticisms, the model has undergone several phases of revision and modification.

The fourth phase of the model introduced a feedback component, explaining that health outcomes can subsequently influence an individual's perception of the use of a health service. The fourth phase has four main components. The first component is the environmental characteristics. This component referred to the health system and community characteristics. The second component is the population or individual characteristics (predisposing and enabling factors). The third component is the health behaviour (personal health practices and health services). Lastly, the fourth component of the model is health outcomes (expected health status, consumer satisfaction).

In this revised model, the focus goes beyond the utilisation of health care to include health outcomes as the endpoint of interest. This additional focus brings to attention that all components of health care should work together to improve outcomes. Avis Donabedian developed the framework for quality health care capable of achieving improved outcomes. He developed a three-structure framework for improved healthcare; structure, process and outcomes (Donabedian, 1988, 2002; Ghaffari, Jahani Shourab, Jafarnejad, & Esmaily, 2014).

3.11.4 The Donabedian Model

The Donabedian framework postulates that there is a relationship between structure, process and health outcomes. The model describes "structure" as the professional and organisational context associated with the provision of healthcare. This element makes reference to the political, legal, professional, and organisational resources needed to ensure that quality care

is provided at all levels of the health care process (Austin et al., 2014). This includes the availability of medicine, hospital equipment, as well as the training of health personnel. Process in this model is linked to performance and refers to the specific categories of actions by practitioners as well as patients for improved health care (example taking medical records and making necessary referrals). Process also represents factors that facilitate the interaction between patients and health care providers. Outcomes refer to the expected results of the care given to the patient (Donabedian, 1988). Apart from the traditional health outcome of improved health status, the model introduces another outcome element that focuses on positive user experience which in effect can yield increase demand of health care and timely utilisation of health care (Dogba & Fournier, 2009).

According to the Donabedian model, quality of care, which is a key component of improved maternal health outcomes, can only be achieved through interdependence of the structure, process and the resulting outcomes. The idea behind this framework is that, a good structure produces a good process, and that in turn produces improved and desired health outcomes (Øvretveit, 2004).

3.6 Determinants of utilisation of maternal health services

The review revealed several factors that determine utilisation of maternal health care services, especially in SSA. The literature put the determinants into categories, based on the factors that drive them.

3.6.1 Socioeconomic factors

Socioeconomic factors are mainly defined by education, economic status, and women's status in the household. In almost all related studies, a woman's educational status is strongly associated with utilisation of maternal health services. Especially in SSA, a mere primary level education increases the chances of utilisation compared to no education at all,

with the likelihood improving with increasing levels of education (Okonofua et al., 2018). Another study further confirms that, even a husband's educational status is also positively correlated to the woman's utilisation of maternal health care services (Jungari & Paswan, 2019).

A woman's economic status is also found to have a correlation with utilisation of maternal health services. Though some studies find no association, other studies find that higher economic status is found to be associated with frequent and timely utilisation of maternal health services (Dimbuene et al., 2018). Studies that focus on wealth quintiles find a positive correlation between wealth quintiles and higher utilisation of maternal health services (Kumar et al., 2019; Singh et al., 2019; Yaya, 2020). Though some studies find no correlation between occupation and utilisation of maternal health services, other studies find contradictory conclusions about the correlation between formal and informal sectors of employment and utilisation of maternal health services. While some studies have argued that women in informal sectors are less likely to utilise maternal health services, others also argue that women in the formal sector are less likely to utilise care compared to their counterparts in the formal sector. Proponents of the latter argue that, though women in the formal sector may have the financial means to access maternal health services, they may be constrained with time and for that reason may not be able to access care. The differences in the findings are mainly attributed to the interaction of economic status with other household and individual characteristics. Again, economic status may not have a significant impact in contexts where maternal health services are free (Agbanyo, 2020; Dalinjong et al., 2018b).

Women's status in the household and autonomy plays a critical role in utilisation of care. Women's autonomy in the household are examined with variables such as women's decision-making power in the household, freedom of movement, control over income earnings, social interaction, distribution of household chores, sex of household head and

presence of mothers-in-law in the household. Many studies suggest that lack of decision making power of women, especially in rural households leads to low utilisation of maternal health services (Koblinsky et al., 2016; Moyer et al., 2016). Studies conducted in SSA region confirm instances where women are unable to seek maternal health care without permission from their husbands, even in cases where there is obvious need for health care (Aborigo, Reidpath, Oduro, & Allotey, 2018; Ghose et al., 2017).

3.6.2 Accessibility

Inadequate finances appear in almost all related studies as a major barrier in accessing maternal health care. The literature explains that access and utilisation increase once there is a cost-sharing mechanism in place, and on the other hand with user fee requirements (Anafi et al., 2018; Masiye et al., 2016). All these outcomes suggest that cost is an important factor in determining access and utilisation of maternal health care services.

Apart from cost, physical accessibility also acts as a significant barrier. Indicators usually used to measure physical accessibility include place of residence, access to transport, and road accessibility. Studies consistently confirm that women who live in urban areas have better access, and are more likely to utilise care than women living in rural communities (Agunwa et al., 2017; Akowuah et al., 2018; Apanga & Awoonor-Williams, 2018). Other literature however caution that, using place of residence as a measure for accessibility may yield inaccurate results because there may be other confounding variables such as education, parity, religion/ethnicity, information availability and quality of service (Addai 2000). Place of residence therefore reflects other contextual factors than just access. Distance to health facility and access to transport are however found to have a direct link with access. Almost all studies that have examined effect of distance on access and utilisation report that increase in distance of health facility yields less utilisation (Kim et al., 2019; Tanou & Kamiya, 2019).

3.6.3 Quality of care

Quality of care is consistently mentioned as an important factor in determining utilisation of maternal health care services. Many women have reported their preference for home birth compared to facility birth, attributing the reason to the rude, arrogant and neglectful behaviour of nurses and other health care providers (Ansu-Mensah, Mohammed, Udoh, Bawontuo, & Kuupiel, 2019). In other studies, women have reported health facilities being unattractive due to poor hygiene, unavailability of necessary medications and too early caesarean sections (Das, Gopalan, & Chandramohan, 2016).

3.6.4 Previous encounter with health facility

A majority of quantitative studies reviewed generally concluded that there is a significant positive association between previous and current utilisation of care (Sebbani, Adarmouch, Amine, & Cherkaoui, 2020). Other studies also suggest that women are more likely to deliver with the same health care provider if they were satisfied with the previous experience. On the other hand, if there was no satisfaction with thier previous experience, they are less likely to repeat utilisation (Hyzam et al., 2020).

Other researchers caution that, previous experience can be very heterogeneous because it can be confounded by other variables such as availability of supplies and equipment, accessibility, familiarity (John, Mkoka, Frumence, & Goicolea, 2018; Tuyisenge, 2020). Experience of ANC specifically is identified as having a high association with repetition of care. This is so because ANC presents an opportunity for promotion and education about the need for utilisation of maternal health care services. Women also tend to gain information about the status of their pregnancy, which in turn informs their decision about repetition of care. Andrew et al., (2014) however warn that ANC can discourage repetition of care once risk assessment reveals that the pregnancy has no complications.

3.6.5 Sociocultural factors

Examining the impact of sociocultural factors on utilisation of maternal health care has proved challenging because of lack of appropriate indicators. Most studies have had to rely on proxies such as use family planning, sex preference, and use of traditional medicines as a measure of sociocultural beliefs. Commonly used indicators however are ethnicity and religion, which are not very good proxies because of the misleading results it can give (Gyimah et al. 2006).

Many qualitative studies identify beliefs about pregnancy complications as determinants of maternal health utilisation. For instance, in societies where labour is seen as a sign of endurance, with facility delivery signifying weakness, women will be less likely to utilise care (Mekonnen, Dune & Perz, 2019).

Other unclassified factors that determine access and utilisation of maternal health services can be the awareness of potential complications. Some studies find that previous pregnancy and birth complications are important determinants of utilisation of maternal health care services (Singh et al., 2019). Also, being told about pregnancy complications increases the likelihood of delivering in a health facility.

3.7 Existing maternal health care interventions

Maternal health and its related health outcomes gained immense global attention after Alan Rosenfield and Deborah Main's 1985 publication. In that publication, they drew global attention to the neglect of maternal health issues, and the sole emphasis on neonatal and child health (Maine & Rosenfield, 1999). The paper concluded with a call to multilateral agencies like the World Bank to prioritise maternity care and the general health of women. The paper further recommended that these multilateral agencies should invest in reducing maternal morbidity and mortality, as well as encouraging contraceptive use.

Again in 1985, the maiden International Decade for Women was celebrated. During the celebration, a lot of emphases was placed on maternal health, including estimates of the number of women who die annually from obstetric complications (WHO, 1999). Experts are of the view that the discourse and field of maternal health and its related issues were firmly established in the year 1987 (Thomas, 2013). This is because the period witnessed a lot of policies, interventions and funding towards improving maternal health. In fact, the five direct causes of maternal deaths were first established during this period in 1987 (Fathalla, 1987). The causes were identified as post-partum haemorrhage, sepsis, pre-eclampsia and post-eclampsia, obstructed labour and unsafe abortions. Later in 1994, delays that lead to maternal deaths were further established (Thaddeus & Maine, 1994); delay in the decision to seek care, delay in arriving at the health facility and delay in the provision of adequate care.

One of the popular strategies of increasing access to maternal health care has been the creation of alternative financing options in the form of cash transfers and fee exemptions, especially in SSA (Ridde, Yaogo, Zongo, Somé, & Turcotte-Tremblay, 2018). This is because direct and indirect costs were seen as one of the major barriers to accessing maternal health care (Shaw, 2018).

Fee exemption policies is a popular maternal health initiative in Africa. Some countries that have implemented fee exemption policies include Kenya, Zambia, Burkina Faso, Burundi and Ghana. In 2006, Burkina Faso and Burundi introduced free delivery policy (Witter, Boukhalfa, & Filippi, 2014), Burkina Faso then started a free maternal policy in 2014. Kenya and Niger also introduced a free delivery policy in 2007 and 2008 respectively (Ngabo et al., 2012). Since 2003, Ghana has implemented several fee-exemption policies, the most recent being the FMHCP in 2008.

3.8 Effect of maternal health interventions on health outcomes

Numerous studies have been conducted to show the impact of maternal health interventions. An evaluation of the safe motherhood intervention in India for instance showed a consistent increase in facility-based deliveries because of cash assistance provided to pregnant women (Powell-Jackson, Mazumdar, & Mills, 2015). A propensity score matching approach was used to assess another fee exemption policy in Nepal and it reported that the policy increased the chances of women delivering in a health facility (Powell-Jackson & Hanson, 2012). A similar study also showed that provision of voucher and other health equity schemes increased facility-based delivery in Cambodia (Ensor, Chhun, Kimsun, McPake, & Edoka, 2017; Van de Poel, Flores, Ir, & Van Doorslaer, 2014). Murray, Hunter, Bisht, Ensor, and Bick (2014) also proved in their study that voucher schemes increased antenatal and facility-based deliveries in Bangladesh. Engineer et al. (2016) however provided a contradictory result in Afghanistan by revealing from their study that fee exemption policies had no effect on increased access to maternal health care and health outcomes for that matter.

Results from studies in SSA are consistent with the findings from other regions, showing that fee exemption policies generally have a positive impact on maternal health outcomes. Kanya et al. (2014) identified that women in Kenya were more likely to deliver in a health facility after the roll out of their fee exemption policy than before. Still, in Kenya, Kanya et al. (2014) identified that women who reside within the intervention areas were more likely to deliver in a health facility than women outside the intervention areas. Contrary to this finding, Rudasingwa, Soeters, and Bossuyt (2015) found that in Burkina Faso, women outside intervention areas are more likely to deliver in a health facility than those within the intervention areas. This confirms the assertion by Schoetzau et al. (2002) that some interventions may be deemed effective but may not be acceptable by the user.

Regarding Fee Exemption Policies (FEP) specifically, there is a wide range of evidence about effects on maternal and neonatal outcomes. This is because of the different dimensions of outcomes and health indicators that can be measured (Das et al., 2016). These dimensions and schemes of measurement range from content of care, qualifications of the service providers (Menotti & Farrell, 2016), and quality and availability of equipment and supplies for maternal and neonatal health care. There have been several studies to provide evidence of the impact of FEP on maternal health specifically. In Nicaragua, Meuwissen, Gorter, and Knottnerus (2006) revealed that beneficiaries of the national fee exemption policy were more satisfied with the care received compared to non-beneficiaries. Also in Mexico, beneficiaries of the fee exemption policy received better prenatal care than non-beneficiaries (Barber & Gertler, 2008).

In India, Lim et al. (2010) found that the Janani Suraksha Yojana programme had a generally positive impact on neonatal outcomes. On the contrary, an assessment of the same programme in 2014 showed no effect on either neonatal health outcomes or postpartum complications (Mohanan et al., 2013). There have been other recent studies whose results are consistent with the latter (Powell-Jackson et al., 2015). Similarly in Cambodia, though the voucher scheme helped to increase facility-based deliveries, it had no significant positive impact on neonatal mortality (Van de Poel, Flores, & O'donnell, 2016).

In many developing and less developed countries, the dominant conclusion was that, though FEPs increased demand for prenatal care, the positive impact of the policy on general maternal and neonatal health outcomes has been insignificant. There have been several studies in different parts of Africa (Labrecque, 2017; Lannes et al., 2016; Rudasingwa et al., 2015), with each measuring a specific indicator of maternal health outcome. A study in Rwanda for instance assessed compliance of benefits in the policy to the prenatal care protocol (Lannes et al., 2016), the study in Burundi reported the composite quality score for

health care facilities (Rudasingwa et al., 2015), while the study in Tanzania assessed facility-based deliveries (Labrecque, 2017).

Evaluation of maternal health outcomes based on the quality and quantity of equipment however has given mixed results. In Tanzania for instance, while Labrecque et al., (2017) demonstrated that the policy had a positive impact on the provision of care, there was a negative impact on the availability and quality of functional maternal health equipment. Though the study revealed a significant improvement in satisfaction on interpersonal care from health providers, there was no improvement in other targeted care like prenatal care. The study, however, revealed that the policy does not provide any financial protection for the beneficiaries because there were bills patients still had to offset for services. A similar study in Rwanda revealed that there were improvements in only 4 out of 14 targeted services (Lannes et al., 2016).

Although some studies have reported on the effect of FEP on targeted care like ANC and facility-based delivery, relatively few studies have reported on effects on quality and process of care (Lannes et al., 2016) despite the growing recognition of the importance of quality in the care process (Downe, Finlayson, Tuncalp, & Metin Gülmezoglu, 2016). Recent studies have demonstrated that neonatal and maternal health outcomes are better in settings with quality facilities than in settings with poor quality facilities (Chari & Okeke, 2014). This finding gives clarification to some extent that, the observed insignificant improvement in maternal and neonatal health outcomes amidst increased utilisation of maternal health care could be due to a lack of quality in the care process.

3.9 Evaluation of health interventions

Intervention refers to a combination of programmes and strategies with a primary purpose of producing good health (WHO, 2000). Health intervention is an integral part of the main

health system and for this reason, the components that are used to measure the performance of a health system can be used to measure the performance of a health intervention, as has been demonstrated by (Handler, Issel, & Turnock, 2001; WHO, 2000).

Measurement of health interventions is complex because the measurement must be based on multidimensional factors made up of the health system, individual, household and community (Jacobs et al., 2011). Klazinga (2010) adds that health interventions are difficult to measure because unlike an industry setting, health systems have patient-oriented obligations and are high value oriented with unknown causalities. To effectively measure health interventions therefore, there should be a performance framework that specifically considers the various performance components (Dalinjong, Wang, & Homer, 2017). The literature has classified these components into four main categories as; effectiveness, equity and quality (Berman & Bitran, 2011; Canadian Institute for Health Information, 2013; Smith, Mossialos, Leatherman, & Papanicolas, 2009; WHO, 2000).

3.9.1 Effectiveness

The effectiveness of an intervention is defined as a measure of the extent to which a particular intervention or procedure performs the purpose for which it was deployed for the given population. There are different dimensions for the indicators of effectiveness, and these dimensions have intermediate interactions (Andersen, Davidson, & Baumeister, 2014). Requejo et al. (2015) propose three indicators for effectiveness: availability, affordability and acceptability.

Availability is defined as the presence of good health services within reasonable reach of those in need of the service (Ginter, Duncan, & Swayne, 2018). Affordability refers to an individual's ability to pay for health services without financial constraints (Drummond, Sculpher, Claxton, Stoddart, & Torrance, 2015). This does not only include the cost of the

health service, but also direct and indirect costs associated with obtaining the service (Osborn, Squires, Doty, Sarnak, & Schneider, 2016). Acceptability also refers to the people's willingness to seek and utilise the available health service (Drummond et al., 2015). Acceptability can be influenced by social and cultural factors, the perception of service effectiveness and quality (Downe, Finlayson, Tunçalp, & Gülmezoglu, 2017).

3.9.2 Equity

Equity is the absence of differences among groups of people in seeking health care (Edelman, Mandle, & Kudzma, 2017). Health inequalities are considered unfair because they are determined by circumstances that are beyond the individual's control (Brunori, Palmisano, & Peragine, 2016; O'Neill et al., 2014). Unlike inequalities shaped by biological and genetic factors, those shaped by political and social factors can, and should be avoided. Politically and socially determined inequalities can be avoided with the implementation of policies (Hurst, Gibbon, & Nurse, 2016). Policies will allow equal access to health care for both disadvantaged and advantaged social groups. Nonetheless, the bulk of literature report existence of inequalities in access to health care (Alam, Hajizadeh, Dumont, & Fournier, 2015; Aryeetey et al., 2009; Poeran, Denktas, Birnie, Bonsel, & Steegers, 2011; Veugelers & Yip, 2003).

Equity of maternal health care is measured in terms of the rate of access to maternal health services based on some socioeconomic characteristics of women like education, economic status and area of residence (Fenny et al., 2018). Numerous studies have demonstrated that fee exemption policies have a high likelihood of increasing demand for maternal health services because of its ability to eliminate inequalities (Anastasi et al., 2015; Tangcharoensathien et al., 2015).

Some studies in Africa, however, reveal contrasting results. Priedeman Skiles, Curtis, Basinga, and Angeles (2012) revealed from their study that a fee exemption policy in Rwanda had no pro-poor effect on the intended population. A similar study in Burundi by Rudasingwa et al. (2015) however revealed pro-rich results. Fenny et al (2018) as well revealed that the fee exemption policy in Ghana has increased utilisation but has not yielded any pro-poor effects. Priedeman Skiles et al. (2012) therefore argue that fee exemption policies by themselves may not be adequate to overcome existing socioeconomic barriers in accessing maternal health care. Though the policy may be capable of increasing utilisation, it must be combined with effective and quality treatment options, especially for the poor (Kruk et al., 2018).

3.9.3 Quality

The WHO defines quality health care as "the extent to which health care services provided to individuals and patient populations improve desired health outcomes" (WHO, 2000). This definition places emphasis on safety, effectiveness, timeliness, efficiency, and equity as well as people-centeredness of the care (WHO, 2016a). In addition to improving desired outcomes, the American Institute of Medicine adds that quality care must be consistent with current professional knowledge (Sherwood & Barnsteiner, 2017).

Donabedian (2002) gives a broader definition of quality of care with three key dimensions; structure, process and outcomes. The structural dimension refers to the means of health production; services, staff, medication and supplies. Process refers to how care is delivered, including all actions related to health care delivery. Outcomes are the effects and results of the care delivered. The three components of health care discussed above work together to provide improved healthcare. However, for the purpose of this study, the focus will be on quality.

3.10 Measurement of quality of care

A sustainable approach to improving maternal health outcomes is by ensuring universal access to maternal health care (Chemouni, 2018). This has placed a huge emphasis on access to maternity care services, especially in SSA, where most mortalities are recorded. Recent debates have however argued that strategising to merely increase access cannot reduce mortality or yield significantly improved outcomes. According to Marchant et al. (2015) increased access to care cannot have significant positive effects on health outcomes if it is not combined with improved quality processes. Rosen et al. (2015) have also established that when the quality of care is poor, women are less likely to utilise it, even if it is made available.

Global MMR reduced to forty-four per cent (44%) from 1990 to 2015, representing mortality count of 303,000 over the period (Alkema et al., 2016). Within the same period in LMICs, antenatal coverage increased from thirty-five per cent (35%) to fifty-two per cent (52%), facility-based delivery also increased from fifty-seven per cent (57%) to seventy per cent (70%) (United Nations, 2015). Irrespective of the recorded increments in access and utilisation, there has not been a corresponding increase in improved outcomes. This has been attributed to poor quality in maternal health care (Victora et al., 2016).

The concept of quality assurance in health care was first introduced in the late 20th Century (Akachi & Kruk, 2017). The initial definitions of quality of care focused on biomedical outcomes; the application of medical science and technology in a manner that maximises its benefits to health without correspondingly increasing risks (Donabedian, 1980). Roemer and Montoya-Aguilar (1988) proposed a new definition that brings a distinction between quality of the process of care and quality of the expected outcome. The Institute of medicine further proposed that quality of care is the means of closing the gap between desired and actual health outcomes (Chassin & Galvin, 1998).

Defining the quality of maternal health care is complex because there are more dimensions and dynamics that need to be considered (Linard et al., 2018). Quality of maternal health care has therefore been defined in the context of the provision of care and the quality of care as perceived by the user. Some health interventions may be deemed effective but may not be acceptable to the specific user (woman) at the time, and vice versa. Quality maternal health care, therefore, should be able to respond to the different needs and dynamics of the user.

Over the years, quality has been measured based on aspects of health care infrastructure; availability of human resources, equipment and supplies and coverage of health care (UNICEF, 2015). This method of measuring quality has however created a gap in the measurement of the care process as recommended in the Donabedian framework (Berman & Bossert, 2000). It has been argued that in order to bridge the existing gap different approaches should be adapted to measure quality (Rios-Zertuche et al., 2018). Kerr and Fleming (2007) suggest that, instead of only focusing on health care infrastructure as a measure of quality, auditing medical records can be a useful tool to provide information with the quality of care process. Medical records can be used to identify compliance to already defined protocols and guidelines (indicators) in the care process.

Indicators for health care are usually developed through the adoption of significant clinical guidelines by an expert panel. The process through which indicators are selected ensures that they capture essential elements of the care process. This makes the indicators applicable to all patients (Jencks et al., 2000).

Different authors have given various definitions to clinical indicators. Mainze (2003) defines it as a set of measures to assess a health care process or outcome. Another definition by the Joint Commission on Accreditation of Health care Organisations (JCAHO) refer to

clinical indicators as quantitative measures that can be used to monitor and evaluate the governance, management, clinical and support functions that affect patient outcomes (Hovey, 2000). Again, the Canadian Council on Health Services Accreditation (CCHSA) defines them as measurement tools that serve as a guide to monitor, evaluate and improve the quality of patient care, clinical support services and organisational function that affect patient outcomes (Arah, Westert, Hurst, & Klazinga, 2006). From observation, a common trend in all the definitions by the different authors is that, clinical indicators provide an evident-based criterion to measure and improve on clinical practices, patient care and health outcomes.

Benova et al. (2018) in a study to examine the content and use of ANC in LMICs operationalised quality of care based on WHO's recommended indicators for maternal health care (WHO, 2016b). The study determined women who receive quality ANC by estimating the percentage of women who receive each of the eight indicators, as well as the percentage that receive all the eight indicators. Likewise, Kyei, Chansa, and Gabrysch (2012) assessed the quality of ANC in Zambia by operationalising quality ANC based on predefined indicators. Categories of quality were further created by grouping the indicators as high quality and moderate quality.

3.12 Conceptual Framework

While the HBM is most appropriate in measuring user acceptability and utilisation of the health interventions, the three delays model is best at examining absolute maternal health outcomes. Though the Health Behaviour Model examines health care utilisation and health outcomes, it does not give a specific focus to health utilisation and outcomes of health interventions.

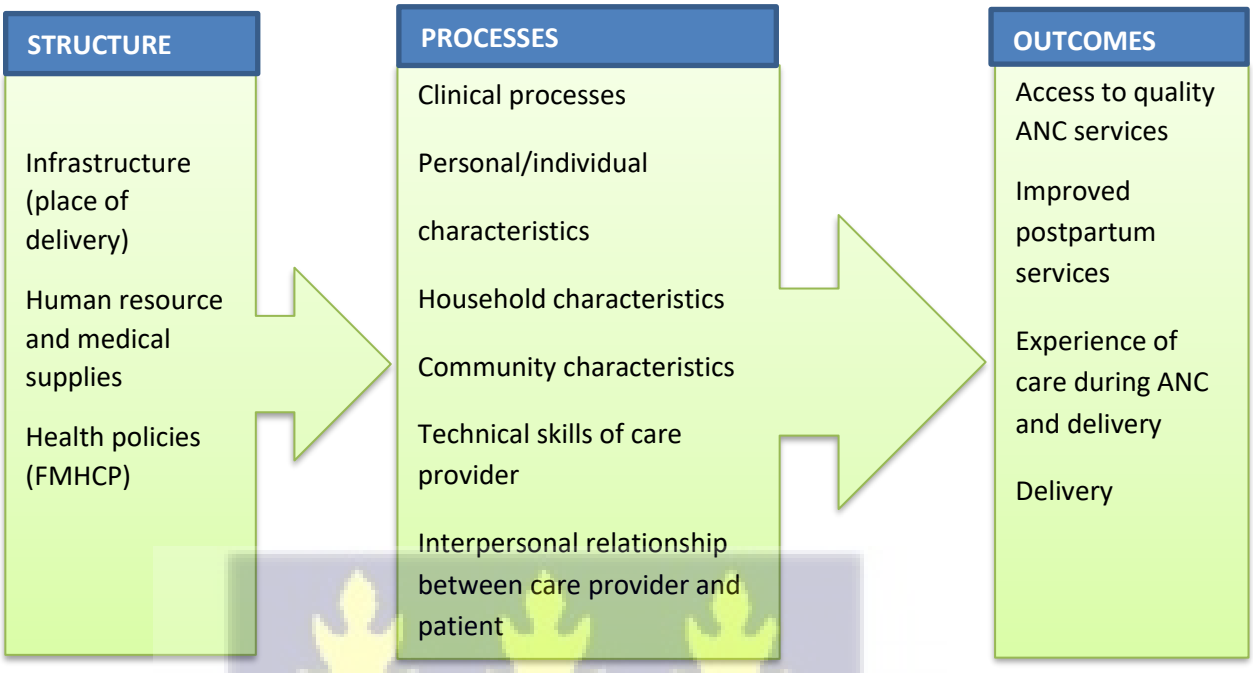
Given that the focus of this study is an evaluation of the FMHCP on maternal health outcomes in Ghana, the conceptual framework is guided by the Donabedian Model of quality of care. WHO has recommended the Donabedian Model as an appropriate framework for assessing health care and health care interventions. The model is found to be the most comprehensive and appropriate (Simbar, Nahidi, & Akbarzadeh, 2010) because it pays particular attention to client awareness and satisfaction of outcomes. Further, the Donabedian Model has been widely accepted because of its "simplicity and flexibility" (Ghaffari et al., 2014).

Several studies have used the Donabedian Model to evaluate health outcomes. The model has been applied in India and Kenya to assess the quality of prenatal care where both studies reported considerable lower quality of care than expected (Agha & Do, 2009; Rani, Bonu, & Harvey, 2007). Boller, Wyss, Mtasiwa, & Tanner (2003) and Naariyong et al., (2012) also applied the model to study the structure, process and outcome of prenatal care in Kenya and Ghana respectively. The outcome of their study showed that though there is a general improvement in structural attributes of quality of care in both public and private health facilities, private facilities have a comparable quality advantage over public facilities. This difference was attributed to the higher cost of care in private facilities. Simbar et al. (2010) again applied the model to study the structure, process and outcome of quality of care before delivery. The study reported that though there is a desirable quality in structure, quality of the process of care had not been desirable.

The framework for this study as adopted from the Donabedian framework explains that the FMHCP cannot yield the expected outcomes if it is not implemented in the appropriate environment by linking factors that are related to the health structure, health delivery process and expected outcomes. The components of the various themes in the framework for this study are guided by the WHO domains of quality of care (WHO, 2016a). WHO released

forty-nine recommendations to serve as guidelines for routine ANC for pregnant women. These recommendations include fourteen nutritional interventions, eight maternal and foetal assessments, five preventive measures, six interventions for common physiological symptoms, six health system interventions, and ten routine recommendations from other WHO guidelines. For the aim of this study, the focus will be on the eight maternal assessments during pregnancy. These eight maternal assessments include blood sample being taken, urine sample being taken, blood pressure being checked, receiving antimalarial medication, immunisation against tetanus infection, receiving iron supplements, height being measured and lastly, weight being measured.

Figure 3.1: Conceptual framework for improved maternal health outcomes



Source: Adapted from Donabedian (1988, 2002); (WHO, UNICEF, & Mathers, 2016)

The framework is organised based on Donabedian broad themes for improved health outcomes, structure, process and outcomes. The WHO domains of quality of care and improved outcomes informed the components of the various themes.

In this framework, structure basically refers to the context in which care is delivered. It refers to the characteristics of the health facility that gives it the ability to meet health care needs. It describes the type, quantity and amount of resources utilised by the health facility to deliver health care (Mainz, 2003). For this study, the components that measured the structure were infrastructure, human resource, and health policies.

Existing literature points infrastructure as a typical domain for health structure. Health infrastructure refers to physical structures like hospital buildings with well-fitted delivery rooms, theatre and consultation rooms, as well as well-arranged water and electricity

facilities to enhance the provision of care. Apart from the physical building, it also refers to all other supporting elements that are integrated to run the hospital. The supporting elements include equipment, access, systems and processes, information technology and staff. These supporting elements should be well coordinated to provide a seamless access to health care for all patients irrespective of their age, gender, disorder, physiological or social circumstance (Luxon, 2015). In this regard, health infrastructure must aim at promoting improved standards of health care to yield improved health outcomes.

Infrastructure also includes availability of medical and non-medical equipment and supplies that facilitate delivery of healthcare services. Health facilities, be it community clinics, referral centres or teaching hospitals must be easy to reach, and well-integrated into the community. Users should have easy access to transport to reach these hospitals. The hospital should also be fitted with appropriate medical equipment to ensure delivery of high-quality clinical services. There should equally be easy access to information, irrespective of age, gender, or physiological state.

Adequate and appropriate health infrastructure have been identified as a vital component for improved health outcomes as it yields easy access to quality and adequate healthcare. A study by Gosh & Dinda (2018) revealed that availability and easy access to hospitals, as well as increase in hospital beds contributed to reduced cases of infant mortality, and increased life expectancy of new mothers. Apart from contributing to poor health outcomes, inadequate health infrastructure increases household expenditure because households tend to spend more money to access healthcare from private providers (Varkey, Joy & Panda, 2020).

Distance to health facility remain a critical factor to utilisation of maternal health services. This has been confirmed in countries like Nepal, Uganda, Guatemala, India and Ghana. The

negative association between distance and utilization of health care has been attributed to time of travel, cost of travel, poor road networks and difficulty in accessing transport services. A study in Nepal for instance revealed that, there is risk of significant increase in home deliveries if travel time exceeds one hour (Devkota, Murray, Kett, & Groce, 2018).

Studies have suggested that governments can embark on increasing maternal health centres as a means to increase utilization of maternal health care services. This notwithstanding, other studies have also revealed that, providing increasing health care centres alone is not enough to promote utilization of maternal health services. The literature suggests that, attention must as well be given to the elements that ensure quality of care such as availability of quality water, constant electricity supply, hospital equipment required for care services and qualified health personnel (Machira & Palamuleni, 2018).

As at 2012, health surveys of five SSA countries (Ghana, Kenya, Tanzania. Uganda and Rwanda) revealed that only 20% – 40% of health facilities had reliable supply of quality water and electricity (Hsia, Mbembati, Macfarlane & Kruk, 2012). By 2015, 19% of health facilities in LMIC did not have good sanitation, with 38% of them not having access to quality water supply (WHO, 2015c). Again, 50% of health facilities in SSA do not have access to quality water. Another study further revealed that, 26% of health facilities in SSA countries did not have access to electricity, including referral hospitals (Sarkodie & Adams, 2020). The situation is even worse in rural health facilities compared to urban health facilities.

These inadequacies hamper the provision and utilization of maternal health services. In Tanzania for instance, lack of reliable water, supply of essential drugs and hospital equipment negatively impacted on child delivery services (Banchani & Tenkorang, 2014). Further in Ethiopia, lack of privacy in health facilities caused an increase in home deliveries

because women were not motivated to patronize facility-based services (Kasaye, Gudayu & Desta, 2017).

Quality maternal health services require a holistic and optimum care of the woman throughout pregnancy, delivery, and the postpartum period. This includes services such as nutritional counselling, multivitamin supplements, adequate visits to skilled personnel, laboratory examination (blood and urine tests) antibiotics, tetanus toxoid injection, health education (especially on danger signs during pregnancy) among others. Some recommended service during labour includes respectful care, clear communication, presence of skilled attendant, appropriate pain relief strategies, choice of birth position, adequate and appropriate and care in the facility for a minimum of 24 hours. Likewise, recommended postpartum care includes at least three postnatal visits within 42 days after delivery, prophylactic antibiotics for the mother and health education for maternal and new born care (Okonofua et al., 2017).

According to WHO, all these categories of care must be safe, effective, efficient, timely, equitable and client centred (WHO, 2016). By ensuring safe care, care should be void of risk and harm as much as possible, as well as avoiding preventable injuries and medical errors. Effective care refers to providing scientific and evidence-based care, while timely care avoids unnecessary delays in the care process. Efficient care aims at maximizing resources and avoiding wastage. Equitable care is void of discrimination based on personal and socioeconomic characteristics. People centred care on the other hand considers personal desires, culture, values and aspirations of the woman (Ndwiga et al., 2017).

In effect, quality maternal health services capable of improving maternal health outcomes require well trained, competent and motivated health care personnel. Another requirement for quality maternal health care is a well-equipped health facility, with adequate supply of

medical supplies and equipment. In Ghana and many other African countries, there is chronic shortage of health personnel with unequal geographical distribution of health care staff. The situation is aggravated by poor remuneration, which leads to low motivation (Mensah, Akuoko & Ellis, 2016).

Improving the capacity of health care workers is a vital component to improve maternal health outcomes. This can be achieved through in-service training, staff supervision, adequate medical and equipment supply, effective team work and better incentive packages. Lassi et al., (2016) for instance confirm that training of TBAs improved maternal health outcomes through timely detection and referral of women with obstetric complications.

Process indicators refer to the specific services that patients receive from health providers. Clinical process refers to adherence to the standard operating procedures, which in this study is guided by the WHO standards for providing quality care to pregnant women during ANC visits. Process indicators may also include all others factors that are included in the care process to facilitate optimum care for the patient. This may include ensuring safety of the patient, providing adequate information, providing emotional support and ensuring respect in the care process. Patient safety refers to providing safe healthcare, with minimal risk of harm to the pregnant woman. Information sharing is the exchange of information between the health provider and the pregnant woman for the purposes of diagnosis, treatment and counselling. Emotional support refers to social and emotional support from her social support network and psychological support given by the care provider. Respectful care refers to the way the provider treats the client throughout the care process.

Outcome refers to the state of health aftercare. Basically, it refers to the expected results of the care being provided by the health personnel. It describes the effect of structure and process on the maternal and neonatal health (Ameh et al., 2017). This includes

improvements in the actual state of health of the patient as well as improvements in the knowledge and their behaviour about their state of health. To conclude, the assumption of this framework is that structures allow for good processes, and good processes are likely to generate desired outcomes.

As seen in the Figure 3.1, there can be different dimensions to measure the quality of maternal healthcare, depending on the aspect of care being assessed. Health outcomes in the Donabedian framework is categorised into two main types. One category is the technical outcomes. This refers to the physical and tangible health outcomes such as absence of complications, reduction in diseases and infections, reduction in morbidity and mortality cases. The other category is the interpersonal outcome and this deals more with outcomes such as patient's satisfaction with care and patient's perception of the quality of care being given by the health provider (Donabedian, 1988).

This study utilised the maternal healthcare clinical processes outlined by the WHO framework that describe specific clinical protocols to ensure that processes and interactions during maternal health care and ANC visits are quality assured. The WHO indicators allow for quantifiable improvements in quality in the care process. It also allows for benchmarking over time and between different facilities, as well as setting and establishing priority areas in maternal health care.

In addition to the clinical processes, the study as well examined how certain category of individual and household characteristics interact with the health care process, and the corresponding effect on maternal health outcomes. As shown in the framework, these characteristics include personal and individual characteristics such as age, educational level, marital status, employment status, parity, social interaction and access to media. Also included are household characteristics such as place of residence and status of woman in the

household. The outcomes being measured are the woman's experience of care, access to quality ANC and the general postpartum health outcome of the woman.

3.13 Gap in literature on the effect of fee exemption policies on maternal health outcomes

As noted earlier, the most common barrier of access and utilisation of maternal health services are socioeconomic factors, with most studies arguing the need for interventions to eliminate cost burden and all other socioeconomic factors that act as barriers. Further studies are however needed to examine how other factors interact with such interventions, and their effect on health outcomes. A study in rural Zambia for instance found that, despite existence of a fee exemption policy, the effect of distance significantly negative impact on utilisation (Ensor et al, 2013). Again, Kumar, Dansereau, & Murray, (2014). in Uganda found that, living more than 5km away from the health facility decreased the chances of facility-based delivery.

In addition, though studies have shown quality as an important determinant of utilisation of maternal health care, there is need for further investigation. There should be further studies to specifically determine the effect of quality on utilisation. A major gap in the literature is to explore how other personal and social factors interact with maternal health interventions to impact on utilisation of maternal health services. For instance, there is need to understand how education and economic status interact with cost (as well as the elimination of the cost component) and the impact of the interaction of maternal health outcomes. A study in Bangladesh for instance found that, among women living about an hour travel time away from health facility, employed women were still more likely to seek and utilise care than unemployed women. There was however no difference by employment status for women living within one-hour travel time to health facility (Panciera et al., 2016). This finding

suggests that employed women are better equipped to overcome physical access barriers than unemployed women.

Finally, there is the uncertainty of whether utilisation of care indeed guarantees improved outcomes in all settings. Attention has been drawn to examine quality of care as increased of coverage in most SSA countries have been inconsistent with improved outcomes. A recent WHO study found that high coverage for essential interventions within health facilities cannot be associated with reduced institutional maternal mortality cases, calling for a move beyond essential interventions (Sk, Paswan, Anand, & Mondal, (2019).

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

This chapter provides a general idea of the research design and process, systematically outlining the data collection and analysis process. The research methodology gave a systematic and scientific way of providing valid and reliable answer and outcomes to the research question objectives respectively. This chapter provides a detailed description of the various steps and strategies that were followed in probing into the research problem identified. The chapter discusses the research design, sampling techniques, data collection procedures and pilot study discoveries among others.

4.2 Research Design

This study had three objectives which were geared toward assessing the maternal health outcomes of the free maternal health care policy in Ghana, with a specific focus on postpartum health outcomes and quality of maternal health care. The study adopted a mixed method approach to arrive at its objectives.

The mixed method approach was particularly appropriate for this study because it gives the ability to address a wide range of maternal health issues due of the different methods that are employed. The use of the mixed method approach was again appropriate since it allows each of the objectives of the study to be addressed with the most appropriate method (whether quantitative or qualitative).

The explanatory sequential mixed method approach was used, with an initial quantitative analysis, and explained in more detail through a qualitative inquiry. A quantitative analysis was first conducted, to examine the quality of ANC women received, and the impact on their postpartum health outcomes. A qualitative study was then conducted to validate and

gain a deeper understanding of the results and findings of the quantitative analysis. The qualitative data and analysis were used to understand the perspectives of women about their health outcomes. The perspectives that were generated from the qualitative study was also used to validate outcomes from the quantitative analysis.

The rational for using the explanatory sequential mixed method approach was to enable cross validation and triangulation of the findings from the quantitative and qualitative analysis (Kettles, Creswell & Zhang, 2011).

4.2 Study Area

This study is a mixed method with specific study areas for each of the methods. This section gives a description of the study areas for the study and further describes the selection process for the various study areas.

4.2.1 Study area for quantitative study

The quantitative study utilises a national survey data which is representative of the entire Ghanaian population. Ghana spans a land mass of about 238,535km square and is bordered to the west by Cote d'Ivoire, to the north by Burkina Faso and to the east by Togo. The Gulf of Guinea and the Atlantic Ocean lie to the south. Ghana has an estimated population of about 29 million people, with about 49.1% being female. The country has sixteen regions with the most populated being the Ashanti region. In general, the population is concentrated in the southern half of the country, with about half of the population living in the Ashanti, Eastern and Greater Accra regions. The capital and largest city of Ghana is Accra, and it has an urban population of about 2.27 million. Ghana has a population growth rate of about 2.2%, birth rate of about 30.5 per every 1000 population and a fertility rate of four children per woman (Obirikorang, Wongnaa, Nkrumah, & Ansong, 2018). Ghana has a Gross

Domestic Product (GDP) of USD 47.33 billion, and a per capita income of USD 1,820 and on that ground classified as LMIC per the World Bank classifications.

Demographic information about citizens of Ghana is generated from periodic censuses, surveys and administrative data. Since independence in 1957, Ghana has embarked on six censuses, which serve as the main medium for generating demographic data. From the last census in 2010, the country recorded a growth rate of 2.5%, with urban population increasing from 23% in 1960 to 51% in 2010. Within the same period, life expectancy at birth has also increased from 38 years to 60 years and 43 years to 63 years among males and females respectively.

4.2.2 Study area for the qualitative study

Two study areas were selected for the qualitative study, which aimed at investigating and understanding the experiences and perceptions of the beneficiaries of the FMHCP on how the policy had influenced their health outcomes. The 2018 MMR district League Table from the Ghana Health Service was used as a guide in selecting the study areas. The League Table presents the best and worst performing districts of MMR in Ghana.

In the selection process, all districts that scored 0 MMR (best performing districts) were listed, written on pieces of paper and placed in a bowl. Listing of the districts became necessary because the districts that had scored 0 for MMR were more than one. A research assistant was made to randomly pick one of the folded sheets and the Asante Akyim South district was picked from the list of best performing districts.

For the worst performing district, there was no need for listing and random selection because there were specific MMR scores for each district on the League Table. The district that scored the highest MMR was the Kumasi Metro, also in the Ashanti Region. Because the best performing district had already been selected from the Ashanti Region, the Accra

Metro district was selected, which had the next worst MMR score after Kumasi Metro district.

In total, three government facilities were conveniently sampled from the two sampled districts, two from the Asante Akyim South district and one from the Accra Metro district. Sampling of the facilities was based on proximity, easy accessibility to the facilities, easy accessibility to the beneficiaries of the FMHCP and level of health facility. The two government health facilities that were selected in the Asante Akyim South district were the Bompata Health Center and the Juaso District Hospital. The Greater Accra Regional Hospital was selected from the Accra Metro district.

Though the selected health facilities belonged to different levels of health facilities (health center, district hospital and regional hospital), it was still useful because it gave a better understanding about health experiences at the various levels of health service facilities

Asante Akyim South forms part of the twenty-seven districts in the Ashanti Region of Ghana with Juaso as the district capital. It covers a total land size of about 1217.7 square kilometres, forming about 5% of the total land size of the Ashanti region. The Bompata Health Center is a clinic with six health service providers made up of a medical doctor, a resident midwife, two nurses, a technician and a medicine dispenser. The clinic provides antenatal services, delivery, postpartum care and child health assessment as well as general healthcare. Major health issues and pregnancy complications are referred to the Juaso District Hospital. The Juaso District Hospital is the district hospital of the Asante Akyim South District and serves as the referral centre for all major health cases within the district, including pregnancy and birth complications.

The Greater Accra Regional Hospital, formerly known as the Ridge Hospital, is situated in the Osu Klottey sub metro of the Accra Metropolitan Area. As the regional hospital of the

Greater Accra Region, it is the major referral center for the entire region, serving a population of about 4,671,363 (Ghana Statistical Service, 2013). The hospital is fitted

a comprehensive diagnostic block, obstetrics and gynaecology unit, accident and emergency center, Neonatal Intensive Care Unit (NICU), intensive care unit among others. The hospital also houses a pharmacy, laboratory, central sterilisation technical rooms, among others.

4.3 Method of data collection

This study adopted the mixed method approach and as such, utilised both quantitative and qualitative data. The use of both the quantitative and qualitative methodologies helped to reduce research bias as well as enhancing the validity and credibility of the research. For the quantitative data, the Ghana Demographic and Health Survey data was used. Primary data was also collected through interviews.

4.3.1 Ghana Demographic and Health Survey (GDHS) data

The Ghana Demographic and Health Survey (GDHS) serves as a nationally representative population-based survey and is implemented by the Ghana Statistical Service (GSS), Ghana Health Service (GHS) and the National Public Health Reference Laboratory of the GHS. The survey generates reliable information on both individual and household levels in areas like fertility, mortality, health, and nutrition (GSS, 2015). The data is a representative of all women aged 15 – 49 years in Ghana. There have been six rounds of the GDHS dataset; 1988, 1993, 1998, 2003, 2008, and 2014. For the purposes of this study, the various rounds of the survey that were utilised were those collected in 2003 and 2014, (the fourth and sixth rounds respectively) with 2003 as the baseline. The 2003 data was employed to help assess the state of maternal health outcomes in Ghana before the implementation (2008), while the

2014 data helped to examine the impact of the policy on maternal health outcomes after the implementation of the policy.

Though Ghana currently has sixteen Regions, as at 2014 the country had ten regions. The discussion of this study therefore will be based on the ten Regions.

4.3.1.1 GDHS sampling procedure

The GDHS follows a two-stage sample design and has estimates of the key indicators at both national and regional levels of all the then ten regions of Ghana at the time. The first stage involves selecting sample points (clusters). The clusters consist of Enumeration Areas (EA), made up of an average of 145 households within a geographic area. The second stage involves a systematic listing of the households. A predetermined number of households are randomly selected from the cluster to make up the total sample size of households for the survey. For each selected household, eligible respondents for the interview are women of reproductive age (aged between 15 - 49 years) and men aged between 15 – 59 years.

This data set is ideal because it captures the specific measures of quality of care and postpartum outcomes that are being studied. The data set also contains extensive variables of the socio-demographic characteristics of individuals and households that will be very useful for the study. The GDHS contains measures for essential services for quality of prenatal care as per WHO standards.

The FMHCP was introduced in 2008 as a fee exemption policy to improve maternal health outcomes. As such, the specific rounds of the survey selected for this study are ideal to determine the actual impact of the policy on maternal health outcomes since there is a round before the introduction of the policy (the fourth round), and another round concurrent with the introduction of the policy (fifth round). In order to effectively determine the outcome of an intervention, there should be a comparison group, which should be selected before the

implementation or rolling out of the project. Again, an effective evaluation should be planned after there has been enough time to address all operational challenges of the interventions. The specific rounds of the GDHS data selected for this study satisfy these key conditions that ensure effective assessment of an intervention.

In the fourth round of the survey, 6,251 and 5,961 households and women were interviewed respectively. Likewise, in the sixth round, 11,855 and 9,396 households and women respectively. For this study, the analysis was restricted to women who had given birth in the last five years preceding the survey and attended ANC. For women who had multiple births within the five-year period, the most recent birth was selected for the analysis. This brought the sample size for the analysis for the first objective (effect of the FMHCP on quality ANC in Ghana) to 2,777 and 4,294 in the fourth and sixth rounds respectively. For the second objective that focused on the effect of the policy on postpartum health outcomes, the sample size was 2,516, and 4,145 respectively.

4.3.2 Data collection for qualitative study

In total, thirty participants were sampled. Ten (10) from the Juaso District Hospital, five (5) from the Bompata Health Centre and fifteen (15) from the Greater Accra Regional Hospital. The number of participants from each of the facilities varied because of the sizes of the facilities. The Greater Accra Regional Hospital was the largest facility, serving a population of about 4,671,363 per year. Initially, the study estimated to interview about fifty respondents, however, the researcher noticed saturation during the course of the exercise, and so there was not much need for further interviews since the same responses kept coming up. This is what brought the total number of interviews to thirty.

Respondents for the study were selected through the purposive sampling technique. In the purposive sampling technique, participants are selected based on a predefined criterion.

Predefining the criteria for selection helps to ensure that only samples with information about the phenomena under study are selected as participants for the study (Moser & Korstjens, 2018). The participants for this objective consisted of postnatal women who were presenting their babies for the routine child assessment, popularly referred to as "weighing".

At the various facilities, the medical officer in charge first introduced the researcher to the nurses and other health personnel on duty, and then to the women present at the time for "weighing". Respondents who could qualify as participant for the study were required to satisfy some specific criteria. Because the study did not involve minors, participants were required to be mothers who were eighteen years and above. Again, only mothers who possessed and used the NHIS card during pregnancy were selected since the focus of the study was on utilisation of the FMHCP. Further, participants must have received ANC and delivery services from the sampled health facilities. Any other respondent who did not fall with these criteria was automatically excluded from the sample. The inclusion and exclusion criteria for selection of the participants is summarised in Table 4.1

Table 4. 1: Inclusion and Exclusion Criteria for the qualitative study

Inclusion Criteria	Exclusion criteria
Mothers who are eighteen years and above	Mothers below the age of eighteen years
Mothers who possess and utilised the NHIS card when they were pregnant	Mother who do not have and did not use the NHIS card during pregnancy
Mothers who attended ANC and had their deliveries in the selected health facilities	

4.3.3 Data collection tools

A semi structured interview guide was designed and used for the primary data collection based on the objective of the study. The interview guide was taken through two refinery processes. First, pilot interviews were conducted to give insight, and also to test if the guide was capable of eliciting the right responses. Secondly, the guide was translated from English to Twi since Twi was the common language for almost all the participants. Translating the instrument into Twi helped to choose the most appropriate words that would reflect the closest meaning in English.

The interview guide was segmented into specific themes according to the objective. The guide began with questions about the background information about the participant (age, marital status, educational level attained, employment status, religious affiliation, and number of children), followed by their experience with the FMHCP, the quality of care they received, their view about their health outcome, and lastly, recommendations for improving the FMHCP. The first section of the guide captured respondents' sociodemographic characteristics. This included age, marital status, educational level, employment status, religion and parity.

The second section focused on respondents' experience with utilisation of the FMHCP. Respondents were asked about their ANC experience, services they received and which

services they were required to pay for. Respondents were also asked about their delivery experiences and payments made during delivery.

In the third section, respondents' perceptions about the quality of ANC they received were captured. This focused on the general process of ANC, availability of equipment and supplies as well as attitude of health care providers. Respondents were asked about their view on ANC received, the satisfaction of care received. Suggestions and recommendations of how the policy can be improved were captured in the fourth section of the instrument, which is the last section.

Four research assistants were trained to assist in the data collection. The training of the research assistants lasted for two days. On the first day, the training focused on getting the research assistants to be familiar with the interview guide, understanding of the objective the guide is attempting to achieve. On the second day, the training centred on pre-testing of the interview guide with the research assistants. In this session the guide was also translated into 'twi' to ensure familiarity and clarity of the questions to obtain as much accurate information from respondents as possible. Before the actual pretesting took place, research assistants were finally made to take turns in interviewing each other in the presence of the researcher.

The pretesting of the instrument was done at the Atomic Energy Clinic. This clinic was purposefully selected based on proximity. The exercise included three participants who were mothers presenting their babies for routine child assessment. The researcher also ensured to select one person each from the three main languages that would be used to conduct the interview; English, Twi and Ga. This helped to ascertain that the respondents are deducing the right meanings from the questions that are being asked.

Because respondents were women, all the research assistants were females. This was to ensure that the respondents felt comfortable as much as possible in the interview process. Three of the research assistants were fluent in English and Twi, with one being fluent in English, Twi and Ga. Fluency in the two local dialects was to ensure that language would not be a barrier in the data collection process.

4.3.3.1 Pretesting of data collection tool

Pretesting research instruments is an important activity to ensure reliability, validity and suitability of the instrument (Sileyew, 2019). In this regard, a pre-test was conducted to at the Atomic Energy Clinic in Accra to identify possible errors and limitations of the interview guide. The aim of the pre-test was to help the researcher establish if the items on the interview guide were properly worded, had no misleading or ambiguous questions and also to determine the time that will be spent in conducting each interview. Further, the pre-test helped to figure out if the sections of the guide needed rearrangement. Apart from the official English language, the pilot was intentionally conducted in the local languages of the sample area (Twi and Ga). This was to help identify and resolve any possible language inconsistencies.

The outcome of the pilot study showed that some of the questions on the guide required modification to give better clarity. Some questions were also eliminated from the guide as they were found to be repetitive. Overall, the pre-test study helped to test the reliability of the guide, as well as discovering weaknesses and other inadequacies in the instrument. Finally, apart from familiarisation with the study area, the pre-test offered an opportunity for the research team to practice the actual interview before commencement of the actual study.

4.3.3.2 Data collection process

In total, data collection lasted for 4 weeks, starting from 4th November 2019, and ending on 30th November 2019. A clearance letter as well as an introductory letter was obtained from the University of Ghana and the Institute of Statistical, Social and Economic Research (ISSER) respectively. These letters were presented to the directors at the various health facilities as part of the penetration process. Data collection started only after permission to commence had been granted by the district health directors of each of the districts. Interactive sessions were conducted with the medical officers in charge. The interactive sessions helped the medical officers in charge of the facilities understand the aims of the study. The session also gave room for discussions about ethical issues, as well as measures that the researcher had put in place to minimise possible harm to the respondents as much as possible.

Before any interview started, the researcher explained the purpose of the interview to the respondents, and sought the consent of participants to record the interview. Each interview lasted for about thirty minutes. All the data collected were transcribed and stored with unique identifiers to safeguard the interest of the participant.

Field notes were also taken to help with clarification of the interviews. The field notes were taken from the interview site and included all gestures and action that can influence the interaction between the health providers and the women.

4.3.3.3 Data collection challenges

To begin with, the interview process was very slow because of the interview setting, the category of respondents involved, and the issues being discussed. Each of the respondents had to complete their “weighing” and counselling before interview could commence. Also,

because the interview setting was an open area, there were a lot of distractions and noise. In instances when the baby of a respondent was crying, we had to break the interview and continue after the baby had calmed down.

4.3.4 Quality assurance for qualitative data

To ensure qualitative rigor in the data collected, the data was carefully recorded (both in writing and audio). Field notes were also taken with regard to the location where the interview was taken, the hospital infrastructure and other things that could have influence on the experiences of the mothers. Rose & Johnson (2020) advices that, the taking of field notes assists in arriving at a credible research.

In ensuring high standard and credibility in qualitative research, it is recommended that it is made to be as close to positivistic research processes as possible (Bansal, Smith & Vaara, 2018). The key emphasis in positivism is empiricism and objectivity. Empiricism is the notion that true knowledge is that which can be experienced through the five senses. The more empirical the data and the findings of the research, the more credible the research is perceived to be. In the same way, the more objective the research findings are, the more credible it is perceived to be. Objectivity refers to the degree to which the research findings is not adulterated by any other biases apart from the data collected.

In order to ensure quality, I applied certain concepts which have been outlined by Tracy (2019). One of those concepts is rich rigor. The richness of any research work refers to the ability of the researcher to adopt tools that are complex enough to be able to grasp and bring out the complexities in the data being collected. This was achieved by being abreast with existing theories that explained maternal health concepts, patient satisfaction and insurance policies. This enabled me to develop data collection instruments that brought out as much information as possible from the respondents.

In order for the research to be fitting enough, I devoted maximum time to transcribing and translation to help bring out the rigor in the work. Again to ensure rigor, I applied data triangulation techniques to ensure that the data is consistent.

One other concept I adopted was "thick description" (Tracy, 2010:843). This concept was very necessary to ensure quality, as well as credibility. In order to achieve this, I gave very detailed description of the experiences that were given by the respondents, at the same time, being mindful of the context.

The different methods of data collection I employed were also a means of ensuring methodological triangulation as directed by Baxter and Eyles, (1997). I used these methods to complement each other, so that I can capture as much data as possible, without leaving any loopholes. The triangulated methodology again increased the validity of the study itself (Olsen, 2004). It helped to attain different views from different perspectives.

In the process of data collection, I settled for theoretical saturation only at a stage where all the themes had been duly captured and no new information was being added (Nascimento, 2018). These themes were consistent with existing literature, and provided some sense of trustworthiness and credibility of the work.

Because the position of a researcher directly affects the research work (Holmes, 2020), the researcher's position must be realized throughout the entire research process and bracketed so as not to affect and distort the research findings. As a middle class woman who has also encountered the experience of child birth, antenatal visits to the hospital, I paid close attention to my own personal experiences and the tendency of these experiences affecting the final outcome of the research.

Further, it was my responsibility as a researcher to be attentive to the power relations that were involved, especially in the case of reporting on behalf of the respondents. The findings

that have been reported has not been biased by my personal knowledge and experience due to my position as the reporter. I ensured to respect their view point and report their experiences just as they present it.

The application of these concepts and practices made the work authentic and useful for policy purposes.

4.5 Method of data analysis

In this study, the unit of analysis was the individual woman aged between 15–49 years and who had information on access and utilisation of maternal health services in her last birth preceding the survey. This age group is most appropriate for the study because first of all this category of women are in their child-bearing age. Again, this study dwells on the most recent birth because information about the most recent birth is most likely to be more accurate than previous ones.

4.5.1 Measurement of maternal health outcomes

Maternal mortality is considered one of the main indicators of maternal health outcomes. In this sense, a reduction in maternal mortality cases is translated as an improvement in maternal health outcomes. This notwithstanding, research has proved that maternal mortality represents only a fraction of the health problems and risks that women encounter during pregnancy, childbirth and postpartum.

Maternal morbidity therefore forms the base of all maternal health problems and complications. Empirical evidence shows that for every woman who dies of maternal-related complications, there are about 20 or 30 others who experience morbidity challenges (Woldeyes, Asefa & Muleta, 2018). These morbidity conditions affect women's physical, mental, sexual and emotional wellbeing, as well as their economic and social status and

wellbeing. Then again, just like maternal mortality, maternal morbidity rates are highest in SSA countries, especially among women belonging to lower quintiles (Ushie, Udoh & Ajayi, 2019).

According to the WHO, maternal mortality can be measured as a spectrum, ranging from "near miss" situations to non-life-threatening situations. The WHO conceptualises maternal "near miss" situations as pregnancy and childbirth complications that have the potential of resulting in the death of the women, while non-life-threatening situations are conceptualised as normal and mild health complains during pregnancy and childbirth (Herklots et al., 2019). These concepts notwithstanding, there are still a lot of variations in definition based on factors such as time frame within which the condition occurred, underlying health conditions of the woman, etc.

In attempting to address the existing inconsistencies in the definition and measurement of maternal morbidity, the WHO together with other related United Nations organisations initiated a four-year project to improve the scientific basis for defining and measuring maternal morbidity as an indicator for maternal health outcome. The project was carried out by technical experts and Maternal Morbidity Working Group (MMWG), made up of obstetrics, physicians, midwives, medical anthropologists, public health professionals, and patient advocates from both high-, middle- and low-income countries. The project had five specific aims which included constructing a definition and identification criteria for maternal morbidity, as well as developing an assessment tool for measuring maternal morbidity. The outcome of the project yielded a definition of maternal morbidity as any health condition attributed to, and or aggravated by pregnancy and childbirth, which has negative impact on the woman's wellbeing (Ushie, Udoh & Ajayi, 2019).

In line with this insight, this study focused on maternal morbidity as the indicator for maternal health outcomes. The study adopted incidence of Miscarriage, Abortion and Still-birth (M.A.S.) as a proxy for maternal morbidity. Selecting this as an indicator for maternal morbidity was based on the fact that these are situations that are caused by maternal health conditions and morbidity situations. Most common maternal morbidity cases that can result in M.A.S. are pre-eclampsia and chronic high blood pressure, which occur around the second and the third trimester. Another established cause of M.A.S. is lack of access and utilisation of ANC services, which obviously does not allow for early detection and management of maternal health complications.

The study utilised the maternal morbidity indicators as defined by the GDHS which is the data source for this study. The study examined the impact of the implementation of the FMHCP on these indicators. The study went further to examine the impact of other demographic, socioeconomic and facility-based factors on these indicators

4.5.2 Analysis of objectives 1 and 2

The quantitative data was analysed at univariate, bivariate and multivariate levels. At the univariate level, frequencies, percentages, and mean distribution were used to describe the data. Further, cross tabulations and chi-square tests were used to examine and describe the dependent and independent variables. Lastly, the binary logistic regression approach was employed to measure the relationship between the dependent and independent variable. Since the dependent variable takes a binary form, the logistic regression approach was found to be most appropriate because it states the relationship between the binary dependent variable and a vector of explanatory variables (Mustapha, Mohammed, & Abukari, 2017).

4.5.3 Logistic Regression

Access to quality ANC is influenced by several factors which could be individual, institutional, environmental, etc., and can further impact on postpartum outcomes. The aims of objectives 1 and 2 are to examine the effect of the policy on quality ANC and maternal postpartum outcomes respectively. For each of the objectives, the dependent variable was treated as binary variables, and regressed against a vector of explanatory variables, using the logit regression technique.

There are several approaches and techniques for studying binary outcomes, but the logit regression technique was chosen for this study. The logit regression technique was chosen because of its effectiveness in examining the relationship between the binary dependent variable and the explanatory variables. Due to its effectiveness, it is the most widely used technique for analysing binary data (Nkonki-Mandleni & Anim, 2014). The traditional Ordinary Least Squares (OLS) cannot be appropriate for this model because, the probability that an individual receives quality ANC cannot be linear, as the OLS assumes. Again, the OLS yields outcome probability values outside the (0,1) range due to the assumption of strict linear relationship between the explanatory variables and probability values. The logit model resolves these challenges by correctly predicting the probability values outside the (0,1) range.

The logit model explicitly states the relationship between a binary dependent variable and a vector of explanatory variables (Salifu & Salifu, 2015), and predicts the logit of the dependent variables for the explanatory variables. The model specifically predicts the logit of the dependent variable from the explanatory variables and specifies it in favour of the probability that a population receives quality ANC which is given in the model below as

$$\Pr(Y_i = 1|X_1) = P\left(\frac{-\beta_1 X_1}{\sigma}\right) \quad (1)$$

The study denotes the probability of a woman receiving quality ANC (receiving all the six ANC interventions) as *P* and *1-P* as the probability of a woman not receiving quality ANC (not receiving any of the six ANC interventions), which is given as

$$\Pr(Y_i = 0 \mid X_1) = 1 - P\ (-\frac{\beta^1 X_1}{\sigma}) \quad (2)$$

In the logistic regression context, it is assumed that there are a set of predictor variables X_1, X_2, … X_k, that are related to Y, and therefore provide additional information in predicting Y where the Y is a dummy variable (that is 1 represent the occurrence whereas 0 represent non-occurrence).

$$\log(\frac{Y_i}{1-Y_i}) = \beta_o + \beta_i \sum_{i=1}^{n} X_i + \varepsilon_i \quad (3)$$

Where;

$$Y_i = \frac{1}{1+e^{-\beta_o + \beta_i \sum_{i=1}^{n} X_i}}$$

β_o : the model constant

β_i : the parameter estimates for the independent variable

X_i : the set of independent variables (i= 1, 2, 3,…,11)

Y_i : the probability of access to quality care, ranging from 0 to1

The general logistic regression model with multiple covariates is therefore given as;

$$\log(\frac{Y_i}{1-Y_i}) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots\dots\dots + \beta_{11} X_{11} + \varepsilon_i \quad (4)$$

In the empirical model, the likelihood of a woman receiving quality ANC is estimated as;

$$\log\left(\frac{ANC_i}{1-ANC_i}\right) = \beta_0 + \beta_1 PResidence_i + \beta_2 educat_i + \beta_3 MStatus_i + \beta_4 media_i + \beta_5 Empstatus_i + \beta_6 caregiver_i + \beta_7 numbirth_i + \beta_8 bage_i + \beta_9 SocialInt_i + \beta_{10} status_i + \beta_{11} Year_i + \varepsilon_i \quad (5)$$

In this empirical model, $QANC$ refers to quality ANC and is represented by a dummy variable, which is measured as "1" if a woman has received four and six of this recommended ANC interventions which was selected for this study and "0" if she received between three and none. $PResidence$ refers to the type of place of residence (rural or urban), $educat$ is the educational status of the woman, $MStatus$ refers to the marital status of the woman, $media$ is measuring the woman's exposure to media, $Empstatus$ refers to the employment status of the woman and $caregiver$ is the type of health professional present during ANC care. $Numbirth$ captures the number of children ever born to the woman, $bage$ is age of the woman at the time of the woman's most recent birth, $SocialInt$ refers to interaction the woman has with other women while $status$ is the status of the woman in the household (the relationship of the woman with the household head). $Year$ is a dummy variable which indicates whether the woman received quality ANC before or after the intervention in 2003 and 2014 respectively. Finally, ε is the error term which captures the effect of all omitted variables that are likely to influence a woman's access to quality ANC.

Since the logit regression technique will again be used to determine the impact of the FMHCP on postpartum outcomes, Model 5 above will be repeated and specified as;

$$\log\left(\frac{DelPbm_i}{1-DelPbm}\right) = \beta_0 + \beta_1 PDelivery_i + \beta_2 educat_i + \beta_3 union_i + \beta_4 media_i + \beta_5 Empstatus_i + \beta_6 caregiver_i + \beta_7 numbirth_i + \beta_8 bage_i + \beta_9 SocialInt_i + \beta_{10} status_i + \beta_{11} Year_i + \varepsilon_i \quad (6)$$

Again in this model, $DelPbm$ refers to health complications after delivery, and is also a dummy (0 if woman did not complain of any complications post-delivery, 1 if woman complained of complications after delivery). Unlike Model 5, $PDelivery$ in this model refers to the location where the woman delivered, either in a rural or urban community and finally $Year_i$ is to determine if the woman delivered before or after the FMHCP in 2003 and 2014 respectively. ε is the error term which captures the effect of all other extraneous variables.

The study assessed the efficacy of the logistics regression model using Pearson Chi-square test and Hosmer and Lemeshow test. The study employed the Pearson Chi-square test to test the accuracy of the logistics model. Thus, the Chi-square test goodness of fit established whether an observed frequency distribution differs from a theoretical distribution. The Hosmer–Lemeshow test is a statistical test for goodness of fit for logistic regression models. It is used frequently in risk prediction models. The test assesses whether or not the observed event rates match expected event rates in subgroups of the model population (Paul, Pennell, & Lemeshow, 2013).

4.5.4 Qualitative data analysis – third objective

The thematic analysis was used in analysing the third objective. The thematic analysis is a method of identifying, analysing and describing important patterns or themes within data (Castleberry & Nolen, 2018). The thematic analytic approach helps the researcher to simplify complex and large amounts of qualitative data into themes and patterns for easy interpretation. The patterns are identified through a rigorous process of data familiarisation, data coding, and theme development. The themes were captured to reflect the information of data gathered about the question under study.

After each interview I transcribed the data and read through the transcription to get an in-depth understanding of the interviewee said. By so doing, I was able to identify the emerging themes and concepts. Interviews and analysis was done simultaneously to help keep track of saturation.

The transcripts for the interviews, participant observation together with field notes were printed in hard copy for a thorough study. The analysis started with the creation of an interviewee matrix. The interview matrix was a chart which contained all of the relevant information that was given by the respondents. I then began a first cycle coding process, which helped me to identify particular words, and phrases that indicated concepts and themes that spoke to the research question.

The field notes and the transcribed audio-recorded data entered and secured onto a computer with a password known only to the researcher. The data was further sorted and organised into patterns to develop a coding frame. The coding frame was developed, and was made up of themes, sub-themes, specific definitions and direct quotes which were generated from recurrent words and concepts from the data. In the coding process, specific attention was paid to areas of consensus and conflicts in the narratives.

Through the coding process, an analytical framework was developed, showing the pathways of women's perception about how the FMHCP has influenced their postpartum health outcomes. The framework was linked to the conceptual framework for the study, which was adopted from the Donabedian quality of care model. The model presents key issues in maternal health care to optimise health outcomes. The model explains the relationship between the structure and process of healthcare, and how this relationship impacts on health outcomes. Table 4. 2 shows a summary of the data analysis process.

Table 4. 2: Summary of qualitative data analysis

No	Phase	Description

1	Data familiarisation	This involved thorough reading of the data and listening of the audio recorded data, transcribing and taking notes of initial ideas.
2	Generating initial codes	Coding interesting features of the data in a systematic order and collating data relevant to each code.
3	Searching for themes	Gathering codes into potential themes.
4	Reviewing themes	Reviewing of themes to match up with the codes and coming up with a thematic map.
5	Defining and naming themes	Describing the overall story by generating clear definitions and names for each theme supported with direct quotes.

4.6 Operationalising of variables

The choice of variables for the study was informed by literature, based on factors that affect maternal health outcomes.

4.6.1 Dependent variables

In this study, ANC and postpartum outcomes are used as the endogenous variables. Quality ANC was defined as the extent to which ANC services are provided in conformity with the quality ANC indicators outlined in the WHO framework (blood sample being taken, urine sample, blood pressure, receiving anti malaria medication, immunisation against tetanus infection, iron supplement, height being measured, and weight being measured). The approach to measuring quality ANC in this study, therefore, focused on service provision within the process of ANC care.

A composite index was created for quality ANC, based on six of the eight ANC interventions outlined in the WHO framework. Measurement of height and weight of the woman was dropped from the final analysis because the survey did not collect any data for these variables. Though the survey captured information about the height and weight of women for women aged between 15 – 49 years, it did not capture information about measurement of height and weight for pregnant women during ANC. This could be a major

limitation for the study because it does not give the chance to examine its contribution to the quality of ANC process.

The quality ANC was determined by whether a pregnant woman received all the six interventions or not and was coded as 1 if the woman received all six interventions, and 0 if she missed any of the interventions.

Postpartum health outcome was the dependent variable for the second objective and was measured by the complaints of complications that women reported after delivery. The variable was a dummy variable that measured whether a woman complained of any health problem after delivery or not.

4.6.2 Independent variables

A set of demographic, household and facility characteristics were introduced as explanatory or Independent Variables (IV) to gain an understanding of how other factors affect utilisation of maternal health services and access to quality ANC. Some demographic and socioeconomic characteristics of the woman that were employed included age of the woman at birth, years of education, marital status, access to media, working status and the status of the woman in the household.

The study set to establish utilisation patterns between rural and urban dwellers. Research shows that there is better access and utilisation of maternal health interventions in urban communities than rural communities. Urban communities are known to have better and well-equipped infrastructure, including hospitals, clinics and other health facilities, making access and utilisation much easier. Rural communities on the other hand usually have fewer health facilities, thereby making access and utilisation difficult and unattractive.

Utilisation of maternal health services is found to be lower among women with lower levels of education and those with no education at all. This is because education enables the

individual to access and process information better. Educated women therefore have better access to information about available interventions. They also appreciate and process information better and are more likely to utilise maternal health information. Further with regards to education, educated women are more likely to utilise maternal health interventions because, due to their higher chances of having access to income, they are able to afford the direct and indirect financial demands associated with utilisation of maternal health care services. Though there may be interventions to provide free maternal health services and interventions, there may be other indirect costs that the individual may need to bear. Some of these may include cost of transportation.

The study assumes that households arrive at health decisions through discussions and bargaining between both spouses. Decision to utilise maternal health intervention therefore may vary depending on the marital status of the woman. Married women may find it easier to visit maternal health centres and may therefore tend to utilise maternal health interventions more than unmarried women. Again, due to the disapproval and stigma associated with pregnancies out of wedlock, unmarried women may be less likely to access and utilise maternal health interventions.

Income is a significant determinant of utilisation of health care services. Due to the indirect costs associated with access to maternal health care, women who have access to income are more likely to access and utilise care compared to women with no income.

Research shows that women who have two or more children are less likely to utilise maternal health services and other related interventions than first time mothers (Khan et al., 2019). Multiparous women tend to rely on previous experiences and are therefore more prone to self-care at home instead of utilising maternal health interventions. Reason could be that women accumulate knowledge and experience from maternal health providers from

previous births they therefore tend to rely on this accumulated knowledge instead of visiting the health facility. Moshokwa (2018) also finds that older women who are multiparous are less likely to experience disrespect at health facilities and are therefore more likely to utilise maternal health care services than younger women. Again, multiple births may signify larger households and for that matter higher pressure on household income. The woman may therefore choose other household needs over health.

Age is found to have a significant influence on maternal health utilisation patterns. Research has found a positive association between age and utilisation of maternal health services. Particularly in traditional societies, pregnancy at a young age attracts a number of social and cultural stigma and this acts as a barrier in accessing and utilising maternal health services (Beaverson, 2018). On the other hand, because pregnancy in old age is associated with a lot of risks, older women tend to utilise maternal health services more, and remain in constant touch with their caregivers as much as possible.

Social interaction is known to play a vital role in access and utilisation of health care services. Particularly in Ghana, the communal nature of living makes exchange of information among social groups very common (Gyasi, Phillips, & Amoah, 2020). In this regard, women are likely to receive information about pregnancy experiences and maternal health utilisation which may or may not influence their decision to patronise maternal health service or not.

Existing literature on utilisation of maternal health services in SSA has showed the significant role of media on access and utilisation of maternal health care services and interventions. These sources may include television, radio, and interactions with other women. Women's exposure to information through such informal means is found to have a positive association with utilisation of maternal health interventions.

This study assumes that women who are heads in their household stand a better chance of utilising maternal health services and interventions than their counterpart who are not. This is because in such households, decisions rest entirely with the woman.

In this study, *year* is a dummy variable indicating whether a woman utilised the maternal health services before or after the implementation of the FMHCP in 2008. This will test changes in the pattern of the utilisation of maternal health care interventions.

4.7 Ethical consideration

Ethical consideration is necessary in any research study because it helps to ensure that research participants are optimally protected, and also to promote the confidentiality of the research and guard against misconduct by the research team especially towards respondents.

Ethical clearance was obtained from the Ethical Clearance for the Humanities (ECH) at the University of Ghana, with serial number ECH 120/18-19. The ECH is an institutional body which provides ethical approval for all social science research and ensures the adherence to all ethical guidelines and regulations for social science research.

Also, approval was obtained from the health directors of Juaso district and the Greater Accra Region since the selected facilities were from their jurisdiction.

The interview transcripts were saved with unique identification numbers to conceal participants' identity. Study participants were given a full description of the purpose of the study and assured full confidentiality of their responses. Although respondents were selected from different areas, preference was not made to any particular area or health facility. All respondents were treated equally.

All journals, books and materials used for this research were duly acknowledged and referenced according to the American Psychological Association (APA) referencing style.

Further, it was ensured that the research conclusions are accurate and honest representations of the procedures outlined in the study.

CHAPTER FIVE

EFFECTS OF THE FMHCP ON QUALITY OF ANTENATAL CARE (ANC)

5.1 Introduction

Timely ANC is important for every pregnant woman because it provides an opportunity to detect for possible pregnancy complications and intervene. ANC again improves birth preparedness because of the counselling and advice the woman receives during the sessions. A lot of emphasis has been placed on effective provision of ANC interventions as part of attempts to improve postpartum outcomes and eliminating maternal mortalities. ANC interventions play an important role, not only for improved maternal outcomes, but fetal and neonatal health as well (Lassi, Mansoor, Salam, Das, & Bhutta, 2014). Maternal infections and chronic diseases pose a high risk for poor postpartum outcomes and mortalities which can be eliminated by consistent maternal screening through timely and quality ANC.

The number of contacts is usually the indicator adopted to measure the effectiveness of ANC. However, since contact alone cannot guarantee quality care, assessing the effectiveness of ANC cannot only be measured by the number of contacts (Marchant et al., 2015). According to Nguhiu, Barasa, & Chuma (2017), effective measurement of ANC should comprise of contact and content. The standard ANC content includes a set of interventions that a woman receives during contact with the health professional. The interventions includes screenings, tests and counselling at various stages of the pregnancy (Austin et al., 2014). The WHO has published recommendations for ANC interventions which specify the content of care during ANC visits based on evidence of effectiveness which most LMIC have adopted (WHO, 2016).

This chapter aims to assess the effect of the FMHCP on quality ANC in Ghana. In this analysis, quality ANC is defined as the extent to which ANC services are utilised in

conformity to the recommended ANC interventions outlined in the WHO framework ; blood sample being taken, urine sample being taken, blood pressure checked, receiving anti malaria medication, immunisation against tetanus infection, receiving iron supplement, height being measured, and weight being measured (WHO, 2016). Height and weight measurements were eliminated from the analysis because the GDHS data has no information on these specific interventions. The approach to measuring quality ANC in this study therefore, focuses on access to the remaining six recommended ANC interventions within the care process.

5.2 Background characteristics of respondents

Information about the background characteristics of respondents in this study included status of the woman in the household, employment status, type of place of residence, level of education and marital status in 2003 and 2014. In all, 4,294 and 2,777 respondents were sampled from the 2014 and 2003 surveys respectively.

As shown in Table 5.1, education remains a challenge in Ghana as a large number of the population (over a third of the population) have no formal education. Specifically, approximately 46% (n=1,272) had no formal education in 2003. In 2014, the percentage dropped to 33.05% (n=1,419). In 2003, about one in five (21%, n= 577) of the sample population had their basic education, where as in 2014, approximately the same percentage had obtained their basic education. In the case of the secondary education, slightly above one third (32.3%, n= 897) and two fifth (42.78%, n= 1837) of respondents had obtained their senior secondary education for 2003 and 2014 respectively. As at 2014, more than two fifth (42.78%, n=1,837) of the population had completed secondary education, with just 3.94% (n=169) completing tertiary education. Despite improvements in female education, there still remain an urgent need to enact policies targeted at promoting and improving female education in Ghana.

Table 5.1: Background characteristics of respondents

Socio-Demographic	2003 Frequency (%)	2014 Frequency (%)
Status of woman in household		
Other	2,336 (84.12)	3,546 (82.58)
Head	441 (15.88)	748 (17.42)
Employment status of woman		
Not employed	309 (11.13)	767 (17.86)
Employed	2,468 (88.87)	3527 (82.14)
Type of Place of residence		
Urban	817 (29.42)	1778 (41.41)
Rural	1,960 (70.58)	2516 (58.59)
Educational level		
No education	1,272 (45.80)	1419 (33.05)
Primary	577 (20.78)	869 (20.24)
Secondary	897 (32.30)	1837 (42.78)
Higher	31 (1.12)	169 (3.94)
Marital status of union		
Single	268 (9.65)	663 (15.44)
Married	2,509 (90.35)	3,631 (84.56)

Source: GDHS, 2003 and 2014

The status of a woman in the household has an influence on her health outcomes. Women who are heads of their households may have autonomy and are likely to be better placed at making decisions that improve their health than the situation where the decision-making power rests with another person (for instance in the case of a wife, or sister of the household head). Based on the 2003 dataset, the outcome portrays that most of the women living within the household are not heads. Only about 15% (n= 441) of the women were household heads in 2003. However, in 2014, it increased slightly to 17.2% (n=748). Hence we can infer that, most of the household heads are not women.

The result shows a decrease in women's economic engagement across the years. The 88.87% (n=2468) of women who were engaged in economic activities in 2003 decreased to 82.14% (3527) in 2014. This finding confirms findings by Ayentimi, Abadi, Adjei, & Burgess (2020) who assert that, Ghana lags behind other SSA countries in the area of

women's economic participation. They explained that, though there have been improvements in gender recognition in areas such as public policy formulation, female participation in economic and income-generating activities remains a major challenge in Ghana. The report stated that this is evident in the low enrollment and participation of females in tertiary level education, as well as other professional and technical jobs.

The result also shows an increasing proportion of the sample residing in rural areas than in urban areas. The share of the sample residing in urban areas increased from 29.42% (n=817) in 2003 to 41.41% (n=1778) in 2014. This confirms existing evidence of increasing urban population in Ghana. The GSS confirms from the 2010 Housing and Population Census that over half of the Ghanaian population reside in urban areas. Causes for the increase in urbanisation have been given as the natural interplay between birth and death in urban regions, internal migration and unequal distribution of economic opportunities that place urban dwellers at an advantage over rural dwellers (GSS, 2015). This notwithstanding, the result of this study shows that majority of the sample still reside in rural areas (70.58% in 2003 and 58.59% in 2014).

Regarding marital status, the result shows a decreasing trend in marital unions across the period. The study outcome reveals that in 2003, approximately 90.4% (n=2509) were in marital unions, but this decreased to 84.6% (n= 3631) in 2014. The results here confirm the findings by Obeng-Hinneh (2019), who explained from her study that, the recent surge in cohabitation in Ghana can be attributed to economic hardships that confront women, especially migrant women. Co-habiting was found in her study as a strategy by most women to overcome accommodation challenges, as well as serving as a means to deal with financial challenges. Above all, many women are found to co-habitate with the hopes that it would eventually end in a legalised marriage.

5.3 Importance of the ANC interventions

All interventions given during ANC are recommended actions to improve the health outcomes of both the mother and the unborn child. The interventions include screening, medications and injections. Iron deficiency during pregnancy for instance is very common and results in a weak immune system, thereby making the pregnant woman prone to infections (Eshag & Lindow, 2018). Sole dependence on diet however cannot satisfy the high levels of iron needed during pregnancy. This makes iron supplementation during pregnancy very vital in maintaining the desired iron levels. Finkelstein, Herman, Guetterman, Peña-Rosas & Mehta (2018) confirmed that iron supplementation during pregnancy reduces maternal anaemia by 70%, and iron deficiency at term by 57%.

Tetanus immunisation during pregnancy is also very vital for the prevention of both maternal and neonatal tetanus infection. The high fatality rates of tetanus infection make its preventive measures more critical than the curative. Effective utilisation of the tetanus toxoid vaccination during pregnancy is substantial in reducing mortalities and improving outcomes because it prevents tetanus infection to both mother and baby (Sood, 2019).

Further, malaria prevention during pregnancy is also very important in improving health outcomes. In this regard, it has been highly recommended to administer anti-malaria medication during pregnancy, as a means of preventing malaria in pregnancy. Studies show that women who receive anti-malaria medication during pregnancy have a lower risk of maternal and placental malaria (Bauserman et al., 2019; Desai et al., 2018).

Prevention and management of Sexually Transmitted Diseases (STDs) such as syphilis and HIV are also important in improving health outcomes (Assefa et al., 2019). These infections are tested by examinations of blood samples taken during ANC visits. Detection and management of STDs have proved to reduce preterm deliveries and thier related

complications. Effective management of HIV during pregnancy is found to reduce mother to child transmission, especially in developed countries where highly active retroviral therapies are administered (De Vincenzi, 2009).

Hypertension and its associated complications like pre-eclampsia are major causes of maternal mortality and morbidity in both developed and under developed countries (Madsen et al., 2018). Managing hypertension therefore, by measuring blood pressure (BP) at every ANC visit is very critical. Controlling hypertension can reduce preterm delivery and placental abruption, which can lead to death (Chahine & Sibai, 2019; Khan, Jadoon, & Akhtar, 2018).

5.3.1 Utilisation of the ANC interventions

As shown in Table 5.2, the period between 2003 and 2014 saw a general improvement in access to ANC interventions in Ghana. Thus, for iron supplement, it increased from 77% in 2003 to 92% in 2014, malaria medication during pregnancy dropped from 99% in 2003 to 15% in 2014. Urine test rose from 74% in 2003 to 93% in 2014. Also, there was a surge in tetanus treatment. In 2003, only half of the sample population received it, whiles in 2014 it increased by 5%.

Table 5.2: Access to ANC interventions

ANC intervention	2003 Frequency	2014 Frequency
Blood pressure was taken		
No	329 (11.85)	193 (4.49)
Yes	2448 (88.15)	4101 (95.51)
HIV test was taken		
No	645 (23.23)	223 (5.19)
Yes	2132 (76.77)	4071 (94.81)
Received iron supplement during pregnancy		
No	645 (23.23)	357 (8.31)
Yes	2132 (76.77)	3937 (91.69)
Received tetanus		
No	1398 (50.34)	1923 (44.78)
Yes	1379 (49.66)	2371 (55.22)
Urine sample test		
No	709 (25.53)	282 (6.57)
Yes	2068 (74.47)	4012 (93.43)
Malaria medication during pregnancy		
No	2745 (98.85)	661 (15.39)
Yes	32 (1.15)	3633 (84.61)

Source: GDHS, 2003 and 2014

The poor utilisation of tetanus immunisation is confirmed by Demicheli, Barale, and Rivetti (2015) that though there has been significant progress in utilisation of maternal health services, maternal and neonatal tetanus remain a major problem, especially in SSA. Merten et al., (2015) bring to notice the fact that women's social, educational and economic status have a positive correlation to vaccine utilisation. Low level of education and economic status result in lack of autonomy and poor decision-making power, and hence poor utilisation of vaccination. Drawing from the conclusion of Merten et al. (2015), lack of higher educational qualifications could be an explanatory factor to why tetanus immunisation remains the least utilised among all the ANC interventions as just about 3.94% (n=169) of women received tertiary education as at 2014.

The multiple roles that women play (maternal, social and productive) may also affect their health care habits. Women are almost always responsible for the upkeep of the home (food

preparation, caring for children, fetching of water, gathering fuel, etc.) and are mostly the sole bearers of the opportunity cost of these activities. The tetanus vaccine, like many other vaccines is accompanied by general side effects like nausea, muscle aches, and general ill health (Flock & Naturopathy, 2018). Women's multiple roles, coupled with thier being the sole bearer of the opportunity cost of such roles, any competing demand may become a significant barrier to the health care needs of the woman.

5.4 Linkage between demographic characteristics and access to quality ANC between 2003 and 2014

In determining the effect of the independent variable on quality ANC, it is important to first establish the association between the demographic characteristics and access to quality ANC across the period. In this section, the study adopted the chi-square test of association to ascertain the association between the periods (2003 and 2014) and women's access to quality ANC. In 2003, the number of women who reported receiving quality ANC was approximately two thirds (59.74%, n=1283) of the sample population whilst in 2014 there was a surge in access to quality ANC. More than three fourths (76.47%, n=3265) of the sample population in 2014 alluded to the fact that they received quality ANC. This implies access to quality ANC has improved over the years. Also, the chi-square test shows a test value (184.75) and a p value (0.000) which indicate that there exist an association between the periods (2003 and 2014) and women's access to quality ANC.

This outcome may be attributed to the FMHCP, which made all ANC services free for beneficiaries, including ANC interventions. Again, the increase in access to ANC visits as a result of the introduction of the FMHCP could contribute to this significant shift. Research has shows that presenting oneself for ANC increases the likelihood of accessing any of the ANC interventions for quality care (Choko et al., 2019). Venkateswaran et al. (2019) also

confirmed that the odds of a woman receiving all the ANC interventions were higher among women who attended the prescribed number of ANC visits.

Table 5.3: Demographic characteristics and access to quality ANC

Cross tabulation	Quality ANC					
	2003			2014		
	No (%)	Yes (%)	Chi-square	No (%)	Yes (%)	Chi-square
Status of woman in household			27.6436***			23.3874***
Head	53.97	46.03		50.23	49.77	
Other	53.97	33.01		55.00	45.00	
Highest education			142.3017***			50.8827***
No education	76.49	23.51		60.25	39.75	
Primary	58.41	41.59		57.65	42.35	
Secondary	53.18	46.82		48.56	51.44	
Higher	51.61	48.39		48.52	51.48	
Type of place of residence			69.3775***			9.5819**
Urban	53.24	46.76		51.46	48.54	
Rural	69.80	30.20		56.24	43.76	
Marital status of union			3.0660*			5.1449*
Single	60.07	39.93		50.23	49.77	
Married	65.44	34.56		55.00	45.00	
Access to Mass media			39.479***			79.9311***
No access	77.73	22.27		72.55	27.45	
Access	62.40	37.60		51.74	48.26	
Employment status of woman			3.7816***			1.4032
Not Employed	69.90	30.10		56.19	43.81	
Working	64.93	35.70		53.84	46.16	
Ever given birth			8.7931**			8.101**
No	59.69	40.31		50.16	49.84	
Yes	66.30	33.70		55.40	44.60	

Percentage in parenthesis; *** p<0.01, ** p<0.05, * p<0.10
Source: GDHS, 2003 and 2014

The result in Table 5.3 suggests that there is a significant relationship between education and access to quality ANC. The result confirms that a woman's access to quality ANC increases with increasing level of education (p-value of Pearson chi-square test = 0.000) as

women with higher education were more likely to receive quality ANC than those with lower education in both 2003 and 2014.

In 2003, the proportion of women who received quality ANC increased from 23.51% among women with no education, to 41.59% among women with primary education, 46.82% among women with secondary education and further to 48.39% among women with tertiary education. Likewise, in 2014, though the gap was closer than in 2003, access to quality ANC increased from 39.75% among women with no education, compared to 51.48% among women with tertiary education. Studies have shown that women with higher education are more likely to receive quality health care than women with lower or no education (Fenny et al., 2019). Due to the exposure that comes along with education (Ahmed, Creanga, Gillespie, & Tsui, 2010), educated women may be better informed about where and how to access health care information, be it curative or preventive care. Also, women who are educated have better access to employment, which provides income to be able to deal with the direct and indirect cost of health care. If quality ANC is a key to improved postpartum outcomes, the educated women are more likely to access quality ANC and thereby putting them in a better position to enjoy improved postpartum health outcomes.

The result also shows a significant association between the status of a woman in the household and access to quality ANC. The results show that in both years, women who are heads of households are more likely to receive quality ANC than those who are not. In 2003 for instance, 46.03% of women household heads received quality ANC, compared to 33.01% who were not household heads. Again in 2014, 49.77% of women who received quality ANC were household heads, compared to 45.00% who were not household heads.

Like other literatures, the result shown in Table 5.3 confirms the inequities in access and utilisation of health care services between rural and urban dwellers. Women who reside in

urban areas are more likely to receive quality ANC than their counterparts in rural areas. In 2014, 48.54% of women in urban areas received quality ANC as compared to 46.76% in 2003.

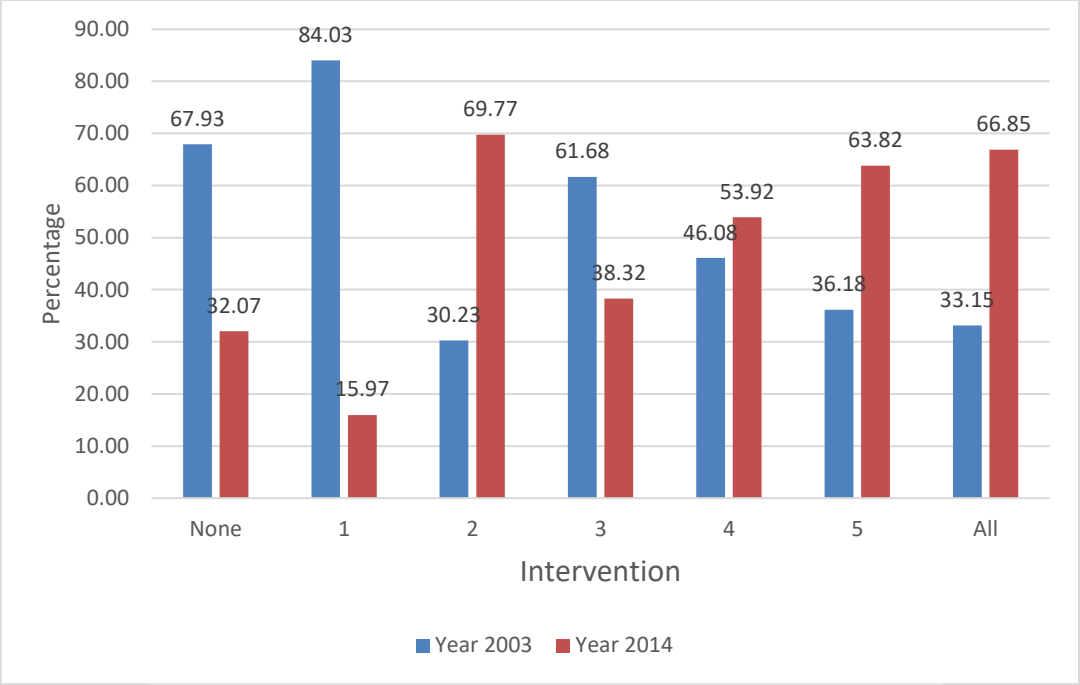
Working status is an economic factor considered to have a positive relationship with access to health care and hence, a woman's access to quality ANC. The result shows a significant positive association between working status and access to quality ANC in 2003 (Chi-square = 35.2651, p value = 0.000). However, in 2014, the implementation of the FMHCP eliminates the inequality because the variations become insignificant.

Also, there is a significant association between women who have ever given birth and access to quality ANC with their respective p value = 0.000 for both years. The percentage for those who have ever given birth in 2003 increased from 33.7% to 44.6% in 2014. The finding here depicts that, women with multiple births are more likely to access quality ANC than nulliparous women. Though some studies warn that women with multiple births may rely on their previous experiences and therefore skip maternal health services (Fenny et. al., 2019), the positive association from this study may signal that the existence of the FMHCP and knowledge about existing interventions from previous pregnancies encourages these categories of women to access quality ANC.

5.5 Utilisation of ANC services

In order to realise the benefit of the ANC interventions, it is important that pregnant women access the interventions available at ANC. This is because each intervention serves a specific purpose in identifying and managing possible risks and complications during pregnancy and delivery (Muchie, 2017). In Figure 5.1, the study presents a comparison of the number of interventions accessed by pregnant women between 2003 and 2014.

Figure 5.1: Utilisation of ANC services between 2003 and 2014



Source: GDHS, 2003 and 2014

Figure 5.1 shows that generally, the number of interventions that are utilised increased in 2014 as compared to 2003. The number of women who could not access any intervention at all reduced from 67.93% in 2003 to 32.07% in 2014. On the other hand, the number of women who accessed all interventions increased from 33.15% in 2003 to 66.85% in 2014. Those who accessed five interventions also increased from 36.18% in 2003 to 63.82% in 2014.

The result shown in Figure 5.1 indicates a significant positive effect of the FMHCP on access to quality ANC in Ghana. According to Comfort, Peterson & Hatt (2013), health insurance interventions can be effective strategies to improve quality of care through different pathways. One of such pathways is competition among service providers to attract more insured patients as a means of revenue generation for the facility. In this regard, health facilities invest in quality improvements to generate more revenue by attracting more insured patients. The finding here is consistent with evidence from other areas.

There have however been other contradictory findings from other parts of the world, showing that insurance policies have no positive effect on access to quality maternal healthcare, with negative correlations in some instances. In Brazil for instance, the literature shows that privately insured women are more likely to receive quality ANC (urine testing, vitamin and iron supplements, blood testing) than their publicly insured counterparts (Victora et al., 2010). Reasons that have been given to explain this situation include increased workload on health personnel that might have come about as a result of increased utilisation due to the insurance programme (Renaudin et al., 2007). Though the differences in evidence across studies and geographical areas leave an inconclusive relationship between health insurance and quality ANC, the findings from this study show a positive relationship between health insurance and access to quality ANC.

5.6 Effect of FMHCP on quality ANC

Access to quality ANC is a key determinant for improved postpartum outcomes. As presented in Table 5.4, the study utilises the logit regression technique to compare the likelihood of a woman receiving quality ANC between 2003 and 2014 in models 2 and 3 respectively. Following from Venkateswaran et. al., (2019), quality ANC, which is the dependent variable is defined as receiving between four and six of the recommended ANC interventions which was selected for this study. Quality ANC is therefore coded as three or less intervention = "0", not quality and four or more = "1", quality.

This analysis was a multivariate logistic regression, showing the influence of social and economic characteristics on access to quality ANC in the two time trends (2003 and 2014). In Model 1, the sample for the 2003 and 2014 are combined, with an introduction of the policy variable. The policy variable is coded "1" for all respondents in the 2014 survey and "0" for all respondents in the 2003 survey. This allows the researcher to estimate the effect of the introduction of the FMHCP in the year 2014.

The study adopted the likelihood ratio chi-square and Hosmer-Lemeshow as diagnostic test. The likelihood ratio Chi-square test (LR-chi-square) shows that there is a relationship between the significant socioeconomic variable and quality of ANC since the p-value (0.00; LR-chi-square value =195.26) is less than 0.05. Additionally, the Hosmer and Lemeshow test show that the logistic regression model is a good fit since the p-value (0.7262; chi-square = 5.29) exceeds 0.05.

The result of the regression as presented in Table 5.4 shows that there has been a general improvement in access to quality ANC from 2003 to 2014. The odds ratio for the policy variable in Model 1 shows that the odds of receiving quality ANC in 2014 was 1.4351 (p-value = 0.000) times higher than in 2003. Hence, the likelihood of a woman receiving quality ANC was higher in 2014 than in 2003.

It was observed that most of the socio-economic and demographic factors under investigation showed significance to access to quality ANC. The significant variables include status of woman in the household, place of residence, access to media, employment status and fee exemption policies, in this case FMHCP.

The status of a woman in a household is important in explaining access to quality care. In this instance, the researcher finds that, household headship is positively and significantly related to access to quality ANC. Specifically, a woman who is head of the household is 1.34 times more likely to receive quality ANC than her counterparts who are not household heads. In addition, women who reside in urban areas are 0.85 (p-value = 0.000) times more likely to receive quality ANC than women who reside in rural areas. Furthermore, women who have access to media are 1.82 times (p-value = 0.000) more likely to receive quality ANC than woman without access to media. Likewise, women who are employed are 1.24

times (p-value = 0.00) more likely to receive quality ANC than women who are not employed.

Table 5.4: Effect of FMHCP on access to quality ANC in Ghana (2003 and 2014)

	Combined (Model 1)		2003 (Model 2)		2014 (Model 3)	
Quality ANC	**Odds Ratio**	**std. Err.**	**Odds Ratio**	**std. Err.**	**Odds Ratio**	**std. Err.**
Status of woman in household						
Ref (Other)						
Head	1.3979***	0.0997	1.3754***	0.1578	1.3841***	0.1239
Place of residence						
Ref (Rural)						
Urban	0.8463***	0.0476	0.6540***	0.0610	0.9959	0.0668
Educational level						
Ref(No education)						
Primary	1.3709	0.1002	1.9974***	0.2250	0.9537	0.0871
Secondary	1.6591	0.1086	2.2580***	0.2374	1.3012***	0.104
Tertiary	1.4162	0.2295	2.0027*	0.7515	1.2272	0.2116
Marital status						
Ref(Single)						
Married / consensual union	1.0173	0.0835	1.0479	0.1515	0.9804	0.0967
Access to media						
Ref(No)						
Yes	1.8215***	0.1538	1.3809	0.1780	2.1929***	0.2362
Employment status						
Ref(Not employed)						
Employed	1.2395**	0.0928	1.4751***	0.2074	1.1512*	0.0975
Ever given birth						
Ref (No)						
Yes	0.9067	0.0685	0.863	0.1056	0.8917	0.0816
Age at birth	0.9988	0.0044	1.0029	0.0071	0.9979	0.0055
Social Interaction	0.9554	0.0351	0.945	0.0517	0.9396	0.0455
FMHCP	1.4351***	0.0768				
_Cons	0.2494***	0.042	0.2397***	0.0644	0.3825***	0.0769
Sample	7,071		2,777		4,294	
LR-chi-square	195.26***		133.55***		195.26***	
(p-Value)	0		0		0	
Hosmer-Lemeshow	5.29		7.68		5.29	
(p-value)	-0.7262		-0.4655		-0.7262	

Log likelihood	1701.5964	2893.9842	4320.2159

*** p<0.01, ** p<0.05, * p<0.10

Source: GDHS, 2003 and 2014

The positive influence of women's autonomy on their health outcomes in this study is consistent with other studies in SSA and other geographical areas like Asia. A study in Bangladesh by Haider, Kureshi & Khan (2017), showed that women who had higher autonomy were more likely to access quality ANC than women with less autonomy. A woman's autonomy is affected by a host of factors including age, economic status, as well as social and cultural factors. Other factors include education and religion. The varied factors affecting women's autonomy may explain why even with the existence of the FMHCP, decision-making power plays such a significant role in access to quality ANC.

Though some studies have suggested that women involved in economic activities may be less likely to access ANC due to time constraints (Kuzara et al., 2018), other studies confirm the finding from this study that women who earn some personal income by engaging in economic activities are more likely to access quality ANC, even in the face of policies that eliminate direct cost of maternal health care like the FMHCP. An explanation to the positive relationship between women's working status and access to quality ANC may be their ability to pay for the indirect cost of health care due to income earnings. A woman's ability to pay for indirect cost of health care like transportation and opportunity cost of time is an important determinant of access and utilisation of quality care (Arthur, 2012; Kotoh & Boah, 2019; Lemma, Girma, Alemayehu, & Gatellier, 2018). Though maternal health care services are supposed to be free in Ghana because of the FMHCP, pregnant women are still constrained because some health care costs are not absorbed by the policy. Hence, the ability of women with income earnings to access quality ANC than women with no income earnings.

Another contributing factor to the positive relationship may be due to the fact that women engaged in economic activities are better exposed to health information than their unemployed counterparts (Bouyou-Akotet, Mawili-Mboumba, & Kombila, 2013). The exposure to information comes about as a result of the frequent interaction with other women specifically at the workplace, who equally have access to viable information. Further, income earnings enable this group of women to acquire mediums to access mass media like television and radio, which women of no working status may not be able to acquire.

Apart from formal education, women also gain information through informal means such as the mass media, particularly radio and television. Women acquire information through the health authority and government-sponsored sensitisation exercises through radio and television announcements. In this study, access to media was classified as having access to newspapers, television or radio. The results revealed especially in 2014, women's access to mass media significantly increased the chances of receiving quality ANC. According to the results, women who had access to any of these media platforms were more likely to receive quality ANC than those who did not. The period following the implementation of the FMHCP saw a proliferation of sensitisation programme and adverts on radio stations and the television about the existence of the programme and the benefits it provides to Ghanaian women. Access to media (especially radio) therefore, may improve the level of awareness about necessary and available interventions needed to improve health outcomes. Awareness creation creates behaviour changes, especially among rural dwellers because they are better informed about appropriate interventions to improve their health outcome (Abegaz & Habtewold, 2019).

Most importantly, the results show a significant positive effect of the FMHCP on access to quality ANC, as women had better access to quality ANC in 2014 compared to 2003. From

Model 1 in Table 5.4, the odds of a woman receiving quality ANC in 2014 is 1.43 times (p value = 0.000) higher than in 2003.

The chapter analysed the effect of the FMHCP on access to quality ANC among women between 2003 and 2014. The chapter concluded that there has been a positive effect of the FMHCP on quality ANC, revealing more women having access to quality care in 2014 than in 2003.

CHAPTER SIX

EFFECTS OF FMHCP ON MATERNAL POSTPARTUM HEALTH OUTCOMES

6.1 Introduction

Postpartum outcomes refer to the health status of both mother and baby after delivery. These outcomes are influenced by several factors including the health of the mother, access and utilisation of quality and adequate obstetric care, as well as availability of qualified health personnel. These factors outlined above, coupled with the physiological changes of the woman due to the pregnancy can cause adverse postpartum outcomes. In effect, accessing and utilising maternal health services has become a key recommendation in order to achieve improved and favourable postpartum outcomes. Several countries have instituted policies to eliminate barriers to maternal health care services, especially ANC, assisted delivery by skilled personnel, and postpartum care.

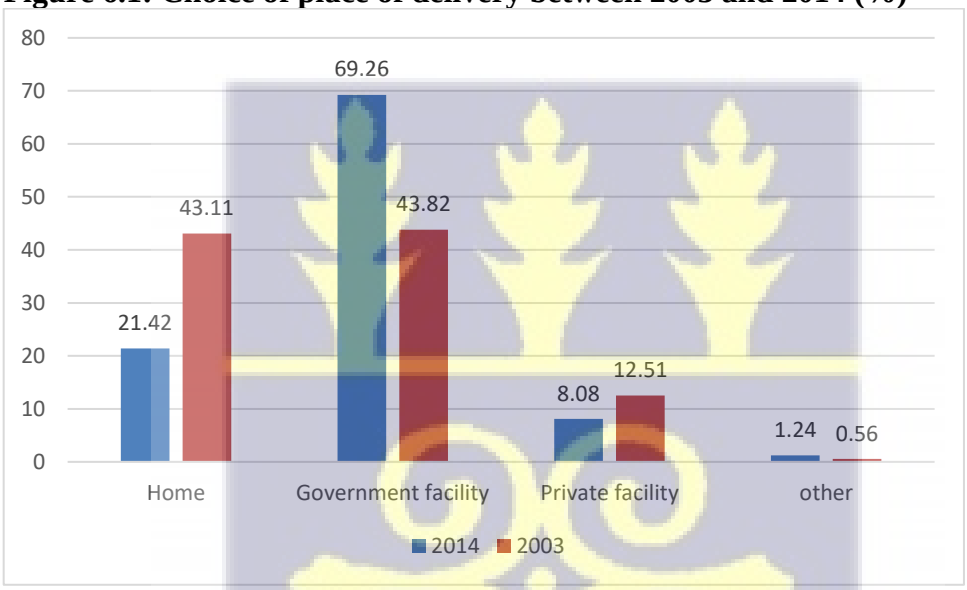
Ghana like many other African countries has direct and indirect costs to maternal health care that act as major barriers to utilisation of maternal health care services. In response to this, the government has instituted several fee exemption policies which aim to eliminate the financial burden associated with maternal health services, the most recent of which is the FMHCP in 2008.

For this objective, the study utilised the logit regression model to examine the effects of the FMHCP on postpartum health outcomes. The study found that, though there has been a general improvement in postpartum health outcomes following the implementation of the FMHCP, there were persistent effects of demographic and socioeconomic characteristics of women on their postpartum health outcomes. In some cases, these characteristics seem to override the intent and impact of the FMHCP on the postpartum health of women. The details of the findings are discussed in the subsequent sections of the chapter.

6.2 Trend in choice of place of delivery between 2003 and 2014

Records show that the majority of maternal deaths and unfavourable pregnancy outcomes are a result of lack of skilled birth attendants, and the absence of emergency services and referral systems. Again, financial barriers have been mentioned as the major reason why many women are not able to access skilled care. Other reasons include cultural and religious demands. This study finds a significant increase in utilisation of facility-based delivery between 2003 and 2014. In 2014, utilisation of skilled care increased to 77.34% (government and private facilities) from 56.33% in 2003.

Figure 6.1: Choice of place of delivery between 2003 and 2014 (%)



The FMHCP seems to have a positive effect on utilisation of delivery services, as home deliveries reduced from 43.11% in 2003 to 21.42% in 2014. Utilisation of skilled care at government facilities specifically, increased to 69.29% in 2014 from 43.82% in 2003.

6.3 Association between women's demographic characteristics and incidence of Miscarriage, Abortion or Still birth (M.A.S.)

In determining the effect of the independent variable on M.A.S., it is important to first establish the association between the demographic characteristics and the dependent variable (M.A.S.) across the period. In this section, the study adopted the chi-square test of

association to ascertain the association between women's demographic characteristics and the incidence of M.A.S. across the periods (2003 and 2014).

Table 6.1: Demographic characteristics and incidence of miscarriage, abortion or still birth

Cross tabulation	Incidence of MAS					
	2003			2014		
	No (%)	Yes (%)	Chi-square	No (%)	Yes (%)	Chi-square
Status of woman in household			4.03**			1.0117
Head	83.52	16.48		77.89	22.11	
Other	53.97	33.01		55.00	45.00	
Highest education			52.2185***			38.48***
No education	67.42	32.58		82.95	17.05	
Primary	83.88	16.12		87.10	12.90	
Secondary	76.48	23.52		78.87	21.13	
Higher	64.52	35.8		75.74	24.26	
Place of Delivery			30.88***			38.4851***
Urban	80.46	19.54		87.12	12.88	
Rural	76.32	23.68		80.76	19.24	
Marital status of union			0.5039			3.9152*
Single	81.34	18.66		80.84	19.46	
Married	83.06	16.94		77.06	22.94	
Access to Mass media			24.3518***			10.3656***
No access	90.83	9.17		83.11	16.89	
Access	81.33	18.67		76.84	23.16	
Employment status of woman			5.6663**			3.9631*
Not Employed	87.70	12.30		80.31	19.69	
Working	82.39	17.61		77.01	22.99	
Ever given birth			4.9183**			6.3753**
No	85.99	14.01		80.64	19.36	
Yes	82.08	17.92		76.75	23.25	
Antenatal facility			0.1699			17.3926**
Private	81.85	18.15		68.91	31.09	
Public	82.79	17.21		78.24	22.63	

*** p<0.01, ** p<0.05, * p<0.10

Source: GDHS, 2003 and 2014

Almost all studies that have focused on maternal and postpartum health outcomes show a positive association between women's educational status and their postpartum health outcomes. Women's education alters the decision making in the family positively, thereby distributing the decision-making responsibility to both the man and the woman. Again, women's education improves her ability to comprehend health care information, this

improves her ability to utilise health care interventions and health care services. Further, education modifies a woman's beliefs and cultural orientations, which result in changes in her health care practices by increasing the demand she places on good health.

The findings from this study is consistent with findings from other related studies in Africa and other geographic areas, showing that educated women are less likely to encounter negative postpartum health outcomes such as terminated pregnancies compared to women with no education at all. In both years (2003 and 2014) educated women reported fewer terminated pregnancy incidences as compared to women with no education with significant p value (p value = 0.000). In 2003, 32.58% of women with no education reported having their pregnancies terminated as compared to 16.12% of women with at least primary education. Likewise, in 2014, 17.05% of non-educated women recounted having terminated pregnancy, as against 12.90% of women with primary education as shown in Table 6.1.

The result also shows a significant association between the status of a woman in the household and the incidence of M.A.S. The results show that in both years (2003 and 2014), women who are heads of households are less likely to encounter M.A.S. compared to women of other statuses in the household. In 2003 for instance, 83.52% of women household heads reported not having any incidence of M.A.S., compared to 16.48% who were not household heads. Again in 2014, 77.89% of women who reported not having any incidence of M.A.S. were household heads, compared to 22.11% who were not household heads.

The rural urban disparities in health outcomes are still pronounced in this study, like many other studies, especially in Africa (Addai, 2000; Fenny et al., 2019; Liu, Cook, & Lu, 2019). In both 2003 and 2014, women who utilised facilities in rural areas reported more of having M.A.S. In 2003, 23.68% of women who delivered in rural facilities reported encountering

an incidence of M.A.S. Though there was an improvement in 2014, 19.24% of women who reported encountering delivery problems were women from rural facilities.

Birth experience is an important factor in determining pregnancy outcomes. Research has shown that, first-time mothers stand a greater risk of developing birth complications and poor delivery outcomes (Kifle et al. 2018). Though the results show that there was generally a high incidence of M.A.S. in 2003 than in 2014, first-time mother recorded the worst outcomes (85.99%% and 80.64%% respectively). In 2014, there was a general improvement in postpartum outcomes as reported cases of terminated pregnancies reduced across both women who had given birth before, and those who were experiencing it for the first time. This could be attributed to the implementation of the FMHCP in 2008. This notwithstanding, women who have no previous pregnancy experience may stand a higher risk because they have no previous experience to rely on. Women with previous birth experience on the other hand may be quick to detect complications because they might have experienced it before, thereby reporting at a health facility earlier than a first timer might have done.

6.4 FMHCP on Maternal health postpartum outcomes

In this section, the logit regression technique was again adopted, to compare the likelihood of a woman encountering MAS or not between 2003 and 2014 as shown in Table 6.2. In Model 1, the 2003 and 2014 samples were combined to determine the impact of the policy (measured as "0" = 2003 and "1" = 2014). This was to help determine the impact of the FMHCP on maternal postpartum outcomes.

Table 6. 2: Effect of the FMHCP on postpartum outcomes

	Model 1 (combined; 2003 & 2014 data		Model 2 (2003)		Model 3 (2014)	
Incidence of M.A.S.	**Odds Ratio**	**Std. Err.**	**Odds Ratio**	**Std. Err.**	**Odds Ratio**	**Std Err.**
Status of woman in household, ref (Not head)						
Head	0.9653	0.0844	0.9799	0.1436	0.9953	0.1065
Place of residence, ref (Urban)						
Rural	0.723***	0.0495	0.6709**	0.0793	0.7424***	0.0596
Educational level ref(No education)						
Primary	1.4554***	0.1383	1.1918	0.1874	1.4409**	0.1641
Secondary	1.8025***	0.1512	1.9234***	0.2634	1.6464***	0.1646
Higher	1.6072*	0.3021	3.0353**	1.2305	1.2787	0.2636
Marital status ref(Single)						
Married/ Consensual	0.9976	0.1042	0.8444	0.1609	1.0685	0.1326
Access to media ref(No)						
Yes	1.3944**	0.161	1.7398**	0.3476	1.2398	0.1695
Employment status ref(Not employed)						
Employed	1.2200*	0.1169	1.3829*	0.268	1.1806	0.1249
Quality ANC ref(No)						
Yes	0.8364**	0.0547	0.9068	0.102	0.7980**	0.0611
Ever given birth ref(No)						
Yes	1.2197	0.1167	1.2516	0.2073	1.2610*	0.1419
Age at birth	1.0197***	0.0057	1.0254**	0.0094	1.0149*	0.0067
Social interaction	0.8807*	0.0434	0.8323	0.0636	0.8749*	0.056
Place of delivery ref(Private)						
Public	0.8231*	0.0812	1.129	0.1837	0.7198**	0.0872
After FMHCP	1.3068***	0.0892				
_cons	0.0770***	0.0182	0.0429***	0.0171	0.1434***	0.0401
Sample	6,661		2,516		4,145	
LR-chi-square	203.80***		107.99***		95.97***	
(p-value)	0		0			
Hosmer-Lemeshow	7.25		8.34		12.26	
(p-value)	-0.5099		-0.14		-0.407	

Log likelihood	3065.758	1112.0587	2162.5988

*** p<0.01, ** p<0.05, * p<0.10
Source: GDHS, 2003 and 2014

Overall, the results, as shown in Table 6.2 revealed that the FMHCP has improved postpartum outcomes by reducing the incidence of M.A.S. in 2014 as compared to 2003. According to the results, the odds of a woman experiencing M.A.S. was 1.3068 (p value = 0.000) times higher in 2003 than in 2014. In other words, there was a higher risk of experiencing adverse postpartum outcomes in 2003 than in 2014.

This could be as a result of the increased access to ANC services in 2014 due to the elimination of the cost component by the introduction of the FMHCP in 2008. ANC care creates opportunities for early detection and management of possible complications during pregnancy and delivery. Interventions that increase ANC services are therefore highly instrumental in improving maternal health outcomes. Further, research has demonstrated that, women who utilise ANC services are more likely to utilise institutional care at delivery than those who do not. Ensuring access to ANC care therefore increases the chances of a woman accessing institutionalised care at delivery. The presence of a skilled birth attendant during delivery is critical in order to curb possible complications while also ensuring prompt referrals.

The results from this study revealed that, even with the introduction of the FMHCP, education still plays a significant role in determining postpartum outcomes. As shown in Model 1 in Table 6.2, the odds of a woman with at least primary education not encountering an incidence of M.A.S. was 1.4554 (p value = 0.000) times higher in 2003 than in 2014. Likewise, the odds of a woman with secondary education not having a terminated pregnancy was 1.8025 (p value = 0.000) times higher in 2014 than in 2003.

The findings from this study confirms existing literature that women who are educated can access information and comprehend it better than their counterparts who cannot read and write. Thus, they can make informed decisions that result in improved health outcomes. Ability to make informed decisions enables educated women to rise above unhealthy socio-cultural practices. Education widens inequities in health outcomes. Lack of education has been identified as a stressor in pregnancy, and a potential for yielding poor maternal health outcomes. Jonas (2019) also confirms that maternal mortality is more common among women with little education than women with higher education.

Female education has both personal and societal benefits. Apart from being able to make informed decisions about thier health, educated women are also able to educate their fellow women on critical issues that affect their health such as existing interventions and recommended health care practices (Altman et. al., 2019). Research evidence attests that this externality effect of education is higher among females than males (Hong, Kim, Park & Sim, 2019).

The study further assessed the impact of access to information through mass media on maternal postpartum outcomes. The result revealed that access to media platforms contributed to improved postpartum outcomes as women who had access to media were 1.3944 (p value = 0.00) times less likely to encounter MAS in 2014 than in 2003. The influence of mass media on postpartum outcomes may be as a result of media campaigns and education on maternal health issues as well as informative sessions of existing maternal health interventions in Ghana. Such targeted campaigns can lead to improved knowledge and awareness that can eventually increase utilisation of maternal health services and its related desired outcomes.

In assessing the effect of quality ANC on postpartum outcomes, the study showed consistency with other related researches, showing reduced incidence of adverse postpartum outcomes in 2014 compared to 2003. As shown in Table 6.2, women who had access to quality ANC were 0.8364 (p – value = 0.00) times less likely to encounter incidents of terminated pregnancy in 2014 than in 2003. Quality ANC, which is characterised by regular ANC visits allows for appropriate check-ups during pregnancy, which have shown to be very effective in the detection, management and prevention of adverse postpartum outcomes.

The findings from this study again shows the significant role that age plays in maternal postpartum outcomes. Compared to younger women, older women seem more likely to encounter delivery problems and adverse postpartum outcomes. Childbirth at an older age compared to a younger age is associated with several complications. Some of these complications include eclampsia, postpartum haemorrhage, high blood pressure, gestational diabetes, and even maternal mortality. Research has evidenced however that these complications are reduced significantly by frequent utilisation of ANC services, as well as delivery in a health facility as this allows for early detection and management of possible risks and complications (Saaka & Akuamoah-Boateng, 2020). Women, and in this case older women are therefore advised to be in close contact with their health care providers to ensure optimum health outcomes. During ANC, several blood tests and physical examinations are conducted as a measure to reduce birth complications and increase the chances of optimum health outcomes.

The choice of place of delivery also plays a significant role in delivery outcomes. Delivery place options that women utilise are put under two main categories. These are the formal and informal facilities. Formal facilities constitute all private and public health facilities where skilled care is provided. Informal facilities include residential homes, TBAs, and all

other places that are not institutionalised. As shown in Table 6.2, women who delivered in formal institutions were 0.8231 times less likely to encounter incidences of M.A.S. in 2003 than in 2014. Home births are usually not assisted by any health personnel but instead by an elderly woman in the house, or community. These elderly women usually take very little money, or in some cases will not take any money at all due to familiarity (Adatara et al., 2018). This serves as a motivation for some women to choose the informal places of delivery over the formal ones. This is especially so for women in rural communities, and others who earn little or no income, and do not have easy access to health facilities.

Research has established that most often, women who deliver at home are women who did not visit any health facility for ANC. They are therefore at a higher risk of developing complications before, during or after delivery (Adu-Gyamfi, Gyasi & Poku, 2018). Again, these women who assist deliveries at home have no formal training and therefore may not be able to detect complications early enough, or even provide guidance on birth complications. The findings further revealed that, though delivery in formal institutions generally yielded improved outcomes in both years, there was much significant improvement in 2014 compared to 2003. This confirms the finding by Adu-Gyamfi et al. (2018) and attributes the significant improvement in health outcomes to the FMHCP that enables more women to access ANC and formalised delivery services.

CHAPTER SEVEN

EXPERIENCES AND PERSPECTIVES OF BENEFICIARIES ABOUT THE EFFECTS OF THE FMHCP ON THEIR HEALTH OUTCOMES

7.1 Introduction

The objective under study in this chapter sought to understand the experiences of beneficiaries of the FMHCP, and how the policy has influenced their health outcome. In total, 30 women who had their most recent deliveries under the FMHCP were interviewed. With the help of the 2018 District MMR Ghana League Table obtained from the GHS, 15 respondents were each selected from the best performing and worst performing districts. The participants were interviewed about their antenatal and delivery experience and how it influenced their health outcome. Using the thematic analysis approach, five main themes were identified; experience of care, payments made during health visits, impressions about quality of care, influence of FMHCP on health outcome and lastly participants' perspectives about how health outcomes can be improved.

The chapter begins with the background characteristics of the respondents, then followed with a detailed discussion on the themes that emerged.

7.2 Socio-demographic and background characteristics of respondents

This section presents the socio-demographic and background characteristics of the respondents for the qualitative study. The researcher was able to complete the interview with each of the respondents and this could be because the interview lasted for a relatively shorter time (between thirty to forty minutes).

Out of the thirty respondents, fifteen were aged between 20 and 29 while three were aged between 30 and 39. Women aged 40 and above were 12 in number.

Table 7.1: Background characteristics of respondents

Variable	Frequency	Percentage
Age of respondents (years)		
20 -29	15	50
30 – 39	12	40
40 – 49	3	10
Educational Level		
None	10	33
Primary	2	7
Secondary	13	43
Tertiary	5	17
Employment Status		
Employed	14	46
No Employment	16	54
Parity		
1	10	33
2	8	26
3	6	20
4 and above	6	21
Religious affiliation		
No Religion	2	6
Islam	8	27
Christian	20	67

Source; field data, 2019

7.3 Background characteristics of respondents

Age is an important factor in maternal health service utilisation because it is one of the critical factors that determine maternal-health-seeking behaviours. Hagey et al., (2014) for instance attest that younger women are more likely to utilise skilled care at health facilities, both for antenatal and postnatal services, explaining that, older women (40-49) rely on previous knowledge and experience in the care of their children, since a majority of them have had previous births. In this study, like other related studies, age was critical in determining the health seeking behaviours of women. From Table 7.1, 50% of the respondents were between the ages of 20 to 29 years, whereas only 10% were between 40 – 49 years.

The distribution, as shown in the Table 7.1 above revealed that, a greater proportion of the respondents had received some form of formal education. The highest level of education received was secondary education at 43%. Seventeen present (17%) of the respondents had received tertiary education, with 7% having just primary education. A significant number still had no formal education at 33%. Only 46% of the participants were gainfully employed. The remaining 54% either had no employment at all, or were only engaged in subsistence farming, which yielded no income. The data also shows that majority of the respondents (33%) had experienced childbirth, with 21% of them having more than four children.

The dominating religion of the respondents was the Christian religion. As shown in Table 7.1, 67% of the respondents were Christians compared to 27% who belonged to the Islamic religion. 6% of the respondents however did not have any religious affiliation.

Regarding parity, ten out of the thirty had only one child. The remaining had two or more children, with seven having four or more children. The dominating religions of the respondents were the Christian and the Islamic religions. Twenty of the respondents were Christians, eight were Muslims and 2 did not belong to any religion.

7.4. Experience of care

One of the aims of this objective was to understand the experiences of women who utilised the FMHCP. In this regard respondents were asked to describe their antenatal and delivery experiences. The experiences described by the participants were put into two main categories; experiences about interpersonal relationships with health providers and experiences about services received.

7.4.1 Interpersonal relationship with health workers

Interpersonal relationship during ANC is fundamental to the quality of care, delivery and postpartum outcome. Several studies have highlighted the importance of positive

interpersonal relationship between health providers and pregnant women in yielding positive and favourable health outcomes in both present and subsequent births (Chang et al., 2018; Tunçalp et al., 2017; Danzima et al., 2021).

Out of the thirty women who were interviewed, 22 of them described that the health personnel maintained a good interpersonal relationship with them during the antenatal and delivery process, emphasising that the nurses were patient with them during the entire care process. Respondents described that nurses talked to them with smiles and would be patient to answer all their questions and also resolve all their doubts. Below is an account of one respondent about the relationship that nurses had with her;

> *"Oh, it was fine. When we go they treat us well, as for the care, they care for us well" (Respondent BHC1).*

Another set of respondents however gave the impression that, receiving good interpersonal relationship from health care providers was conditioned to whether you obeyed all instructions or not. These category of respondents revealed that, health care providers will be nice to you so long as they perceived you were doing the right thing, and following all instructions. In other words, pregnant women who did not follow the instructions from the health care providers were given poor reception, compared to others who were careful to follow all instructions and directions provided by the health care providers;

> *"It depends, if they give you instructions and you follow, they won't have a problem with you, but if you don't follow the instructions, then they will start shouting at you" (Respondent GAH8).*

Positive interpersonal relationship from health professionals is necessary for effective communication for women to better understand issues relating to their health. Respondents from this study described that the good interpersonal relationship that nurses had with them during ANC enabled them to ask questions freely and discuss their health challenges easily;

> *"They used to smile with us a lot, so when something is wrong with me I easily tell them. If I did not feel right about something, I was able to tell them and they would talk to me and teach me, that is what I can say" (Respondent JDH4).*

Again, ensuring positive interpersonal relationship is important in establishing trust, in order to make the woman confident that the health provider understands her unique case. Good interpersonal relationship has been identified as one of best ways to ensuring a positive birth experience. This is because a positive relationship yields trust and psychological confidence, which is an important emotional support for the woman during childbirth. The findings from this study confirmed that women freely discussed health challenges because of the warm reception they received from the nurses.

7.4.2 Services received

As part of the experience of care received, respondents outlined and described the services they received during ANC and during their contact with health care providers. All the women interviewed confirmed receiving the WHO recommended ANC interventions including blood pressure, weight measurement, anti-malaria medication and tetanus injection. They also confirmed receiving physical and laboratory examinations including scans, and labs. The services and care a woman receives during ANC is important in ensuring the optimal wellbeing of the mother and unborn baby. All the respondents confirmed receiving all the eight WHO recommended ANC interventions, including anti tetanus injection. For some interventions, though respondents could not tell what exactly it was, they were able to give a vivid description of the process but not the exact name, and in some cases it's importance;

> *"I don't know but they used their ear and a certain gadget, they would place it on my stomach, sometimes she will press this part (points to a place on her stomach), yes that is what they used to do" (Respondent BHC4).*

> *"They took care of me, and sometimes they would let me go and do a scan to see how the baby is doing, they check all that. They also checked at my blood and my urine, sometimes they give me medicine, and injections too" (Respondent JDH 5).*

Respondents as well described their ANC experience as informative and knowledgeable because they received a lot of counselling, guidance and knowledge during ANC. Respondents asserted that counselling exposed them to a lot of information that was helpful in improving their health. Counselling during ANC has been identified to help women in early detection and timely management of possible complications. The respondents also expressed that counselling helped them to deal with challenges that confronted their health by guiding them on what to do. Respondents testified to being asked about health challenges, and situations that posed risks to them. This they described, granted opportunity for them to receive guidance for dealing with the challenging health issues;

> *"As for the antenatal experience, they counsel us a lot, and I realise it helped us. When you come they teach you how to go about a lot of things, me for instance I had problem with my blood, so they were advising me to eat more kontomire and those iron foods that will make the blood levels go up" (Respondent GAH3).*

> *"When I go they explain things to me very well, they teach me things I should do to help the baby grow well" (Respondent JDH 10).*

The counselling process guided women to pay attention to things they might not have been doing right which can affect their health as well as the health of the baby. This could include eating habits, essential foods to enhance their health, and general lifestyle. The process also created opportunity for women to be advised on practices that could be detrimental to their health;

> *"So I realise that the when you attend the antenatal they make you understand a lot of things that you may just be home and not doing right, they used to advise us not to use the local herbs because these days the use a lot of chemicals to spraying them'' (Respondent GAH13).*

The counselling process also enabled health providers to identify conditions that needed to be referred. In instances where clients discussed challenging health conditions, they were made to undergo laboratory examinations and based on the results, they were referred to see a medical doctor or to go to a higher health facility. Though in some cases women were not told details of their lab results, in cases where there was need for technical attention, proper referral protocols were followed.

> *"In my previous pregnancy I lost the baby, no one knows what happened, but I just lost the baby in the 9th month. So when I discussed this with the midwife, she suggested that she will refer me to the district hospital, so that the gynaecologist there would take care of me, and it was very good suggestion for me" (Respondent BHC5).*

7.5 Payment for ANC and delivery services

The FMHCP entitles women to free ANC, including all services and interventions, free delivery, free postnatal care, and free care for the baby for the first six months. Though empirical evidence shows a strong positive relationship between the FMHCP and ANC utilisation (Dzakpasu et al., 2012), the findings from this this study confirms the uncertainty of whether it has truly eliminated out-of-pocket payments totally. All women who were interviewed confirmed paying varying amounts of money for various ANC and delivery services. Some of the issues that emerged from this theme were a description of the services that were paid for, points of payments and purpose of payment.

Findings from the interview confirmed that irrespective of the benefits that the FMHCP has listed, none of the services were entirely free. All the respondents confirmed a cost reduction in ANC services, but quickly disputed the notion that ANC care is entirely free. They all said that they paid some amount of money for services that they received, either during ANC or during delivery. No respondent testified to receiving an entirely free ANC or delivery care.

"Oh, as for money we always paid something, something small. When I go and do my labs, I pay something, when I do the scan too I pay, and even when I came to deliver too, I paid. I did not pay a lot of money, but I paid something" (Respondent JDH 10).

"The cost is not as much as when you go to the private, but you still pay something small, and especially the medicines, if they don't have some here and they write it for you to go and buy, you definitely by with money" (Respondent BHC4).

"Like right now, if you go and do lab you pay, if you go and do scan too you pay, I could have used that money for something else. So if the insurance pays for all that it will be very good" (Respondent JHC2).

"…But it doesn't cover o, the insurance, I think it's only for the cost of service, like the cost of the doctor checking you and taking care of you, just that, apart from that it doesn't cover anything else" (Respondent GAH14).

All respondents testified to paying an amount of money for laboratory examinations that were conducted for them, both blood and urine tests. It was deduced that the payments were basically for supplies that were used to collect lab specimens (blood and urine samples). This finding confirms evidence that despite the benefits of the FMHCP, women make direct out-of-pocket payments especially for labs and medications. According to Dalinjong, Wang & Homer (2018), women incur a mean total cost of 18.00gh and 16.50gh for direct and in-direct maternal health expenses respectively.

"I used to pay for urine, and blood tests, and when I go and do a scan too I pay, but when I was pregnant and I was going to do the pregnant women's insurance, that one they did not take money, yes, I was paying GH1.00 for it every month, but the blood they take GH15.00, and the scan too I used to pay GH15.00, but as for the scan it was not every month" (Respondent JDH1).

The respondents explained that they had to make full payments for scans because the health facility did not have an ultra-sound scan machine, so they had to go to a private facility to get it done. What was baffling was that, women who attended ANC at facilities that had the

ultra-sound scan machine were equally required to make payments, some of which were even higher than those at private facilities.

> *"They don't have some of the scan machine at Bompata here, so I go to Konongo, there I used to pay GH20.00, but as for Agogo Hospital they have some of the machine there, so I did it there, but that place I paid 25.00gh" (Respondent BHC3).*

One observable effect of these payments is that, some women were not utilising the services they could not pay for, especially the scans. There were women who testified to not having any scan at all during pregnancy, even though they were referred to go and do it. Accounts from the interviews suggest that existing costs associated with ANC were still a significant barrier in accessing maternal health care services.

> *"When I was about four months, the nurse asked me to go and do the scan, but I did not go (giggles) I have given birth before so I can tell if something is wrong with me" (Respondent JDH 9).*

Though some of those who never had any scan gave no specific reason, it can be inferred that the failure to get the scan done was due to the associated financial cost. Majority of the respondents were unemployed or on subsistence farming and obviously could not afford the payments. This notwithstanding, most of the women were enthused about the benefits of the FMHCP, explaining the fact that they would have paid more money than they actually paid if they did not have the insurance card.

7.5.2 Facility points where payments were made

Respondents recounted that they made payments at both the primary facilities as well as referral hospitals. Payments made at primary facilities were mainly for labs and deliveries, with costs at the primary facilities relatively lower than referral facilities.

> *"I paid for all the labs I did, I did it all here in this hospital. I always paid something little, for the lab" (Respondent JDH 2).*

"I did all the labs here and I paid, when I finished delivering too, I paid something, I paid GH180.00" (Respondent GAH6).

Apart from the primary points, women also made payments for services at referral points. Services paid for at referral points included scans, labs and deliveries. Cost of deliveries however varied depending on the level of complications

"I paid GH120.00 when I delivered, thank God I went home that same day, and otherwise maybe I would have paid more. They made me come here at dawn, around 3am and I delivered around 7am, in the evening around 5pm I was fine and the baby was fine too, so they made us go home" (Respondent BHC1).

"I paid GH380.00, my vagina tore and so they took me to the theatre, so maybe that is why I had to pay so much money" (Respondent JDH5).

In addition to payments made for services, the cost of transportation from the primary facility to the referral facility was also borne by the women. This further increased the cost of access to health healthcare.

"We had to go to Agogo ourselves, my husband went to the roadside to get a taxi, and I was not the only person, when we were going another person was coming" (Respondent BHC2).

7.5.3 Purpose of payment

Payments were made for different purposes of the ANC and delivery care. From the interviews however no payment was made for direct ANC service. Payments were made for lab supplies, unavailability of equipment at primary facilities, deliveries and birthing essentials.

All the respondents attested to the fact that there was no direct cost associated to deliveries and midwifery care. Respondents explained that once a pregnant woman possessed the NHIS card, she automatically qualified for free delivery. According to the respondents, there

were instances where women who did not even have the NHIS enjoyed the free delivery package.

> *"Oh, as for the delivery, if you have the card and you go, they will not give you any bill for the delivery, you just deliver and go" (Respondent BHC3).*

> *"Now it's different, if you deliver you won't be kept in the hospital because you have not been able to settle your bills, ones you deliver and your baby is fine, you will be allowed to go home, and it is very good for us" (Respondent JDH7).*

Respondents however expressed great concern about the indirect costs associated with the preparation for delivery. Respondents confirmed that payments were made for purchases of birthing essentials. Usually, women are given a list of essential items to bring for delivery. These items include disinfectants, soaps, sanitary pads and clothing for the new-born. Women who are not able to present any of these items for delivery are required to pay for them at the hospital;

> *"Yes I paid a little, the nurses who helped me deliver, and also soap and dettol and other things that I did not take along, that is what they took the money for, so I paid GH300.00" (Respondent GAH12).*

> *"I did not pay any money, apart from the things I was asked to buy that I did not buy, it was those things I had to pay for" (Respondent JHC5).*

These essential items are not covered by the insurance and therefore women are required to pay once it is provided for them. Others also testified that payments were made for extra services and medications as a result of complications than came up during delivery;

> *"Yes when I gave birth my vagina tore, so I bled, so they took me to the theatre to stitch it, so I just assumed may be that was why I was paying the money" (Respondent JDH6).*

This is consistent with other studies in Ghana, where women are required to pay for drugs, supplies and other services necessary for delivery even after the implementation of the insurance policy (Anafi et al., 2018). In this case, women who are not able to meet these

demands may resort to other channels like the TBA where they will not be required to provide any birthing essentials. Participants actually expressed concern about this situation, explaining that a lot of women are not able to save enough money to meet these demands. In effect, though they may attend ANC, they will still go to the TBAs to deliver.

Turcotte-Tremblay (2020) confirmed that out-of-pocket payments is an indication of inadequate budgetary allocations by governments as well shortage of drugs and supplies at health facilities. Consequently, prescriptions are given to women to purchase drugs outside the health facilities. This was confirmed in this study, where women testified that in some instances, they are given prescriptions to purchase their own medications because there is a shortage at the health facilities;

> "*Sometimes when they give me the medicines, then they will write vitamin c, and ask me to go and buy it, then I go and buy" (Respondent GAH5).*

The respondents confirmed that in other instances they are given prescription for the drugs because it is expensive and for that matter cannot be distributed by the facility;

> *"The medicines, it was the totema that was expensive so that one they write for me to go and buy, but as for the rest they just supplied it to me" (Respondent GAH3).*

7.6 Impression about quality of care

This described women's general satisfaction with the quality of services they received under the FMHCP. Several issues emerged including attitude and competence of staff, satisfaction with care received, and issues regarding referrals.

7.6.1 Attitude and competence of staff

Respondents described that staff were very approachable and had positive attitude towards them. They said that they provided services in a caring, respectful, patient and empathetic manner, and would not shout or insult them. They described the nurses as being patient in teaching them and explaining things to them and this made them very comfortable.

> *"Oh when we go they teach us things, they have conversations with us; food to eat to make our babies strong, food that if a pregnant you must eat to be strong, you must eat before you take your medication, immediately you eat you must take your medication" (Respondent GAH12).*

> *"Yes, I came in the evening and delivered around 3am, no one shouted at me, they were always coming to the room to check on me" (Respondent JHC2).*

Respondents further described receiving good counselling from the nurses, which was very helpful. Antenatal counselling is very important because it provides women with essential information to improve and maintain their health and the health of the unborn baby.

> *"They thought us not to do strenuous work, and we should eat a lot of fruits, we should not lift heavy things, and also we should not sleep on our backs" (Respondent JDH10).*

Findings from this study confirms existing evidence that effective antenatal counselling increases utilisation of ANC services because it builds trust and boosts the confidence of the women.

> *"As for my clinic, I always came, and I used to come very early. If something was wrong with me I came immediately, because the nurse was very nice, she had a clear face all the time and I knew when I come she will be patient to discuss things with me, so as for the clinic, I came very well" (Respondent BHC4).*

Though there have been long-standing evidence of patient dissatisfaction with the attitude of health workers (d'Ambruoso, Abbey & Hussein, 2005; Maseko & Harris, 2018; Ajayi, 2020), the findings from this study confirms emerging evidence about the changing trends in attitudes of health workers towards pregnant women (Dalinjong et al., 2018). Health workers and midwives are now showing positive attitudes in caring for their clients. Size of the health facility has also been identified to affect attitude of health workers. Health workers and midwives in bigger facilities with higher workloads are more likely to exhibit negative attitudes than their counterparts in smaller facilities

7.6.2 Satisfaction with care

Respondents expressed that they were satisfied with the care they received, describing that the care received is comparable to that given at private hospitals;

> *"When you go to private hospitals, the attention they will give you it's the same attention you will receive here" (Respondent JDH3).*

Respondents further said that they are satisfied with the care they receive because it comes at a cheaper cost than the private hospitals

> *"The medicine they gave them at private hospital, the folic acid and all, sometimes if you ask someone, they take about GH50.00, but here you get it for free" (Respondent JDH8).*

Despite the satisfaction with care, there were instances where respondent's felt they could have received better skilled care than they received. In this regard, though respondents testified that the health professionals showed a positive attitude towards work, and empathised with them, they had expected to receive better skilled care. Respondents felt that caregivers did not demonstrate adequate skilled care;

> *"I was expecting them to help me do something to stabilise my blood, but it looked like they couldn't, so it was when I went to Agogo Hospital that one doctor told me that if I eat too much of banku I should stop" (Respondent BHC3).*

The pregnant women also expected to receive some level of basic care from the primary facility which they did not receive;

> *"Yes, when I was pregnant I used to take a lot of salt, not knowing it was not good for me but no one told me anything, it was when I was almost due to deliver, that when I came one nurse I don't even know, looked at my lab result, and asked me why I eat salt like that, but no one told me" (Respondent JDH4).*

Though respondents were enthused about antenatal counselling sessions because of the knowledge they gained, they expected higher skilled clinical care and counselling.

Respondents also said that they would have been more satisfied with the quality of care received if the health facility had been better equipped to avoid unnecessary referrals. Availability of essential equipment is identified to be very significantly correlated to customer satisfaction of care. There was evidence of lack of essential hospital equipment, mainly the ultrasound scanning machine in the health centre. For this reason, almost all the women who attended ANC were required to have their scan with a private facility. At bigger hospitals where there were scanning machines, women still had to pay for the services. The reason could be that, though the equipment is within the hospital facility, it is owned and managed by a private entity, hence the need for women to pay for its services. Again, inefficient facility management also yielded dissatisfaction from clients with respect to care received;

> *"Then the midwife told us we did not bring anything, we did not bring torch, we went prepared though, but it was light off, and there was no fuel in their generator, so she had to make me go to Agogo Hospital" (Respondent BHC4).*

Another major finding was that, respondents did not receive any explanation for the payments they were making. Respondents expressed that they did not receive any explanation about why they were making payments for services which were supposed to be free per the benefits of the FMHCP. Respondents accounted that, in instances where they demanded explanations for the payments, it turned in to a confrontation;

> *"My mother attempted to ask questions, and it looked as if it was turning into an argument, so I just told her to forget about it" (Respondent GAH6).*

7.7 Effect of FMHCP on maternal health outcomes

Evidence shows that user fees and OOP payments for maternal health care services are major impediments to maternal health care utilisation, especially among the poor (Fenny, Kusi, Arhinful, & Asante, 2016). Demand for user fees may divert health care utilisation to other sources including TBAs, and reliance on former experience, which may negatively

affect maternal health outcomes. In attempt to improve maternal health outcomes, the FMHCP aimed to increase utilisation of skilled care during pregnancy and delivery, by eliminating user fee and other out-of-pocket payments. This section sought the perspectives of women about the influence of the FMHCP on their health outcomes.

7.7.1 Increased access to healthcare

The findings that this objective provided, like other findings, revealed that the FMHCP has increased women's health outcomes because of easy accessibility to health care services. Frequent utilisation of maternal health services enhanced detection and management of situations that could have caused complications and adverse outcomes during delivery. Though the findings showed that care was not entirely free, women were still motivated to patronise skilled acre services because payments were mush lesser. Some multiparous women reported that they did not utilise skilled care in earlier births when the FMHCP had not been initiated but reported on utilising care in subsequent births;

> *"It is this (points to baby on her lap) and his elder sibling that I delivered at the hospital, as for the preceding two I gave birth to them at home" (Respondent GAH1).*

> *"Sometimes I fall sick but may not have money on me, but because I had the insurance, I could always come to the hospital, and they will care for me and give me medicine as well" (Respondent JHC 5).*

Increased access to skilled care led to early detection and management of situations that could have caused complications and adverse outcomes during delivery and the postpartum.

> *"When I was pregnant my stomach was very big, and felt very bloated, so when I came the nurse wrote a letter for me to take to Agogo. When I went there the doctor asked me to go and do a scan, then he said there is water surrounding the baby, so he gave me medicine for it" (Respondent JDH 6).*

> *"Nobody asked me to go there oo, but when I came and they said the stomach is too big than the normal size, my man advised me that we should go to Agogo and check.*

So me I was going for normal check-up, but when I got there they said they will induce me" (Respondent BHC3).

7.7.2 Reduced financial burden

Respondents testified that though the policy had not fully absorbed all maternal health expenses, it had lifted the burden of cost of health care partially. Respondents explained that not only did they not make payment for fewer services and supplies, but also paid a lesser amount than would have been required of them. Prior to the implementation of NHIS, Ghana had the cash and carry system, where payment was required of every patient before health care delivery is carried out. With the implementation of the NHIS, women were entitled to free health care services upon enrolment onto the policy by payment of a premium. Subsequently in 2008, women were entitled to free maternity services by just testing positive to a pregnancy test, without having to pay any premium at all.

Participants described that the policy has helped by partially lifting off the financial burden of maternal health care, compared to the cash and carry era. Women described that they are only required to make payments for certain supplies and services but not the entire health care service and this has partially lifted the health care burden;

"Had it not been the insurance, the money that would be spent would have been more, we that we are pregnant, having the insurance helps us in some ways, it is better than someone who is not holding the insurance at all" (Respondent GAH13).

"You see that when you are going to collect medicine you pay money, when going to the lab you pay money, during my delivery, they did not take as much money as they would have taken" (Respondent JHC 4).

7.8 Perspectives on improving health outcomes

From the qualitative data, the study attempted to get narratives from women about their perspectives on how their postpartum health outcomes can be improved. Though general wellbeing and optimum health is key for every society, women's health particularly is seen

to be critical because it impacts on the wellbeing and productivity of not only the woman, but the entire household and community at large. This discussion is also necessary due to records of poor outcomes even amidst various health interventions, specifically to maternal health. There are records of mortalities even in the wake of increased ANC utilisation. From the data that was collected, there were three main categories of perspectives on how maternal health could be improved.

7.8.1 Government Responsibilities

Respondents expressed that, though the government has instituted the FMHCP, women are still required to make payments at health facilities. This they explained as due to lack of monitoring and unavailability of equipment. Respondents described that, often, especially during delivery, they are required to bring along certain items for the delivery of the baby. Some of these items include toilet soaps, detergents, etc. The respondents believe that the government should monitor the health facilities and put a stop to these requirements that create added indirect costs. This they describe is necessary because it sometimes deters women from going to deliver at the hospital since you will be required to make actual payment if you fail to present these items.

Governments also have a responsibility to provide hospitals with all necessary equipments so that women will not need to go to other private facilities for laboratory and physical examinations, especially ultrasound scanning machines. Almost all the respondents expressed that they had to make payment for ultrasound scans, mainly because the facilities did not have the equipment. The absence of ultrasound scanning machines and the additional cost it adds to delivery is a possible factor to deter women from utilising health care services. This is because, the inability of women to produce scan reports will prevent them from subsequent use of the health facility for fear of being reprimanded by the health professional.

"In fact, I told myself I won't deliver at the hospital, because I can't go and do the scan. I was taking care of myself, and the scan too was expensive, so me I decided not to go. But when I was in labour, my sister was here so she forced me and took me to the hospital. Had it not been her, I would have gone to the woman, she is good, and she has helped deliver a lot of babies in this town" (Respondent. JDH9).

7.8.2 Instituting an effective and efficient referral system

According to the narratives, women expect government to put effective and efficient referral systems in place. These include transportation and availability of services at the referral facilities. Almost all respondents reported that they had to find transportation by themselves to the referral facilities because the hospitals had no transportation facilities. There is need for a transportation facility, purposefully for referral cases.

Using mainly qualitative information, this chapter has presented information that could help to improve on maternal health interventions, based on the user's perspectives. It also provides information about users' perspectives on ANC and delivery care, which are essential services for improving maternal health outcomes. To ensure optimum outcomes, there should be improvements in the implementation and benefits of the FMHCP, as these were the main factors hindering progress to improved health outcomes in the care process.

CHAPTER EIGHT

SUMMARY, CONCLUSIONS AND RECOMMENDATATIONS

8.1 Introduction

Ensuring effective utilisation of maternal health services is instrumental in reducing adverse maternal postpartum outcomes. Again, effective utilisation of maternal health services is equally critical in improving maternal postpartum health. Considerable evidence from different geographic locations shows that utilisation of maternal health care services is significantly linked to improved health outcomes of both mother and baby. In effect, Ghana, like many other countries instituted the FMHCP to eliminate inequalities in access to maternal health care services, and to increase utilisation of maternal health care services including ANC, delivery and PNC. There is however limited data to establish the link between content of care and eventual outcomes. Although a few studies have examined the effects of the FMHCP on utilisation of maternal services, there is very limited evidence to establish the link between the policy, content of care and postpartum outcomes.

Over the years, there has been a lot of emphasis and evidence to support that provision and implementation of fee exemption policies that are targeted at increasing utilisation of maternal health care services is instrumental in reducing adverse maternal health outcomes. However, in less developed countries like Ghana, where several other factors contribute to health outcomes other than just utilisation of health care services, a single focus on fee exemption policies may not be enough to improve maternal health outcomes. There is need for a comprehensive approach to improving health outcomes other than focusing on increased utilisation alone.

The consequences of not having such comprehensive health policies result in persistent adverse outcomes irrespective of existing policies to boost access and utilisation. This is because apart from access and utilisation, there are individual and social circumstances that

yield poor health outcomes, with or without utilisation. For instance, cultural beliefs may play a major role in an individual's decision to choose where to deliver; either at a health facility, with a TBA or at home. In this regard, though access may be enabled, the effect of societal demands and cultural beliefs may far supersede institutional support systems like fee-exemption policies. To record optimum impacts, there is need for comprehensive interventions that do not only target one aspect of health, but also to change unfavourable social and economic conditions. This requires a multidisciplinary research, that gives insight to the interplay of factors that affect maternal health outcomes in the face of enabled access and utilisation.

Employing data from the GDHS, this thesis examined the effect of the FMHCP on maternal health outcomes in Ghana, and further identified how certain explanatory variables also affect maternal health outcomes. Specifically, the study examined the effect of the policy on quality ANC in Ghana, the effect of the policy on postpartum outcomes and lastly explored the perspectives of beneficiaries of the FMHCP about the effect of the policy on their health outcomes. This study was guided by a mixed method approach, and utilised both secondary and primary data. Secondary data was obtained from 2003 and 2014 rounds of the GDHS for the quantitative approaches. Thirty participants were interviewed to make up the data for the qualitative data. Thematic and logistic regression analyses were employed for the qualitative and quantitative analysis respectively.

The subsequent sections of this chapter describe the major findings of this study, the theoretical implications, and recommendations for future research.

8.2 Summary of findings

8.2.1 Effects of the FMHCP on quality ANC

The general findings from this study about the effects of the FMHCP on quality ANC gives indication of significant improvement in access to quality ANC in Ghana subsequent to the implementation of the FMHCP. There was significant increase in the number of women who received quality ANC in 2014 compared to 2003. The increase could be attributed mainly to factors related to the FMHCP. One of which could be the elimination of the cost burden of ANC by the policy. Another contributing factor could also be the increase in attendance of ANC clinics as a result of the elimination of the cost burden by the FMHCP.

The study also showed that there has been improvement in utilisation of ANC interventions over the period. With ANC interventions playing an important role in ensuring optimum health outcomes for mother and baby, ensuring effective access and efficient utilisation of the recommended interventions cannot be compromised. Results from this study show that subsequent to the introduction of the FMHCP in 2008, women utilised majority of the recommended interventions, unlike 2003 when women accessed only few of the interventions, with most women not accessing any interventions at all.

Worthy to note from this study is that, though there has been improvement in access to quality ANC after implementation of the FMHCP, there are still certain socio-economic as well as demographic factors that place some categories of women at an advantage than others. Some of these factors include access to income earnings, reliance on previous experience and educational qualification.

8.2.2 Effect of the FMHCP on maternal postpartum outcomes

This study found that there are still a lot more home deliveries even with the implementation of the FMHCP. Though the period between 2003 and 2014 saw a lot of improvements in

facility-based deliveries, there are still some women who deliver at home with the help of elderly female relatives or neighbours. There are also others who delivered at other places apart from health facilities such as the homes of traditional birth attendance.

Though there has been a decrease in recorded cases of M.A.S., there are still more women who encounter health problems and complications either during or after delivery. To optimise maternal health outcomes, there must be comprehensive interventions geared at addressing all maternal health challenges at all levels.

Changing social trends such as pursuance of educational and career goals, delayed marriage and even advancements in reproductive technologies have resulted in increase in late child birth, which has been technically termed as "advanced maternal age" (Marozio et al., 2019). In Ghana and other SSA countries, advanced maternal age is very common due to ineffective and poor patronage family planning methods (mostly due to poverty), desire for large family sizes, and the preference for a male child. Due to the higher risk of complications associated with these categories of women, they are more prone to caesarean sections, which also increases their risk of adverse outcomes.

The findings in this study however confirm existing literature that irrespective of the risk of complications, access to supervised care during pregnancy and delivery is an effective measure to reduce adverse outcomes. This was shown in the decrease in reported cases of M.A.S. in 2014 following the implementation of the FMHCP

8.2.3 Experiences and perspectives of beneficiaries about the effect of the FMHCP on their health outcome

The study deduced four categories of perceptions that women have about the FMHCP based on the interviews conducted. These included perception about experience of care, cost of

maternal healthcare, quality of care received, and finally the effect of the policy on their health outcome.

Apart from enjoying positive and cordial interpersonal relationship with health care providers, majority of women received all the recommended interventions for ANC and delivery once they present themselves at the health facility. These interventions included physical examination of the pregnant woman (weight checks, BP measurements etc.) as well as the unborn baby (checking of heartbeat etc.). Respondents also recounted receiving counselling and guidance on specific situations and challenges. The counselling process created some level of confidence and awareness for pregnant women because the information and guidance they received put them in a better position to oversee their health and wellbeing.

The findings from this study revealed that though direct cost of maternal health care services have been eliminated, women still bore some indirect costs even with the existence of the policy. The elimination of the total cost burden associated with maternal health care by the FMHCP therefore could not be established as all women confirmed paying some amount of money at both ANC and delivery. The payments were for provision of ANC services, medications and acquisition of birthing essentials demanded by the nurses and midwives. Some of these birthing essentials include items like detergent, cot sheet, soap, diaper among many others.

Previous studies have identified similar gaps in the FMHCP and in effect, demonstrating its inability in increasing access and utilisation of maternal health care services (Agbanyo, 2020; Ansu-Mensah et al., 2019). Studies point out that lack of funding is a major factor to explain inefficiencies in fee exemption policies. In the case of the FMHCP, funding is only

received from the NHIS internal funds and government subsidies, which have proved insufficient.

Major outcomes of the FMHCP that were listed by respondents included increased access to health care services and reduction in cost of health care which has in effect increased the desired postpartum outcomes (improved postpartum health of mother and baby as well as reduced mortalities).

8.3 Conclusions

In this thesis, the Donabedian health outcome model was employed to explain and examine the impact of health system interventions on health outcomes. This study has demonstrated and confirmed the effectiveness of fee exemption policies in improving maternal health outcomes. The study found that health system interventions that address barriers to access and utilisation of maternal health care services can have positive impact on maternal health outcomes. The improvements in outcomes are made possible by the increase and easy accessibility of maternal health services due to the relative reduction of direct costs associated to maternal health care.

An important awareness that this study brings to light however is that, apart from fee exemption policies, there are individual, household and facility level factors that determine the utilisation of maternal health services and maternal health outcomes. From the analysis of this study, factors that had significant association with access and utilisation of maternal health services included educational level, qualification of the caregiver, status of the woman in the household and place of residence of the woman. Fee exemption policies and health interventions are effective in increasing access. However, beyond access, the interaction between individual personal characteristics and the environment greatly affects

health outcomes. This is so because the nature and outcomes of a woman's interactions affects her decisions and healthcare choices. For instance, societal view about age at conception may influence utilisation of ANC services. In this vein, in a society where teenage pregnancy is frowned upon, a pregnant teenage girl may not utilise ANC services to avoid stigma and reproach from society. Again, in a society where womanhood is defined by ability to deliver naturally, and in some cases at home, women are forced to resist medical interventions so as to prove their womanhood to society.

These are multidimensional factors that can impact on different aspects of a woman's health needs, as well as her household needs. Education for instance may prevent early marriage, teenage pregnancy and its associated complications as women may be required to spend a better part of their teenage and youthful years in school. It may also prevent late pregnancies due to knowledge awareness about pregnancy complications in late adulthood. Education can as well improve employment opportunities and income-earning capacity as well as increased autonomy. Availability of a skilled health giver does not only ensure quality maternal healthcare, but also presents an opportunity to receive appropriate information on pregnancy complications and family planning.

In conclusion, fee exemption policies alone cannot achieve appreciable levels of improved health outcomes without emphasis on the recommended interventions to ensure quality ANC. In addition to fee exemption policies like the FMHCP, there should be additional interventions targeted at improving women's economic status and autonomy, as well as mechanisms to guide women's health care decision making and health lifestyle.

8.4 Recommendations

As the results show, apart from fee exemption policies, other socioeconomic factors contribute to improving quality ANC. Significant improvements will be recorded if

limitations by socioeconomic factors are eliminated. It is therefore recommended that in addition to the FMHCP, additional interventions should be introduced to improve women's decision-making power and ability through improved education and creation of economic opportunities. Women's health care habits and decision making should also be guided by appropriate and adequate information. This can be made possible by providing adequate information on available ANC interventions and their importance, possibly through media and other forms of education. Provision of such information can encourage pregnant women to utilise the needed ANC interventions in order to avoid possible complications and mortalities. Maternal health interventions should be targeted at vulnerable individuals and communities. There cannot be significant improved outcomes unless there is equity in access, which will target disadvantaged women and communities.

An important recommendation from this study is that maternal health care interventions should be comprehensive and holistic. Factors that affect maternal health outcomes are multifaceted and for that matter any effective intervention should target each of these factors, be it individual, community or institutional. Such comprehensive interventions should target uneducated women, as well as those who live in rural and disadvantaged communities. Improved maternal health outcomes cannot be realised until women have imbibed the necessary awareness of the importance of the available interventions. Educated women for instance will appreciate the services of a skilled birth attendance better than an uneducated woman who believes that the strength of a woman lies on her ability to deliver at home with no skilled assistance. Government and donor agencies that embark of maternal health policies should be mindful to create and implement such holistic policies.

The outcome of this study brings to awareness the need to look beyond the policy variable in health policy evaluations. There are many other variables that affect health care utilisation

and health care habits that go beyond financial demands. In order to get the full picture, it is important to include these variables. Including these variables in the analysis will give a better understanding of how the policy plays out in different conditions.

Increasing women's access to education is very instrumental in ensuring improved maternal health outcomes as this study finds education to be significantly associated to improved maternal health outcomes. Further, the government can employ informal sources as a means to mass education on utilisation of maternal health services and the importance of maternal health intervention, as the study finds a close link between informal sources of information (co-resident women and media) as closely linked to improved maternal health outcomes.

The findings from this thesis brings to attention increasing coverage of maternal health services should equally be backed by an emphasis to provide necessary infrastructure and equipment to optimise quality of care. Utilisation of maternal health services will not yield desired outcomes if it is not complimented with quality care. It is therefore very important to optimise the quality-of-care women receive during pregnancy. Apart from quality of care yielding significant improved postpartum outcomes, it also has the tendency of encouraging future utilisation of care.

Several bodies within government and society may be responsible in pushing these recommendations. However, specific key actors may include Government agencies such as the Ghana Health Service, Ministry of Health, the Informal Sector of the Ghana Education Service as well as Private organisations and Non – Governmental - Organisations among many others .

8.5 Contribution of the thesis

The main aim of this study was to examine the health impact of fee-exemption interventions on maternal health outcomes. The primary objective was to examine the effect of the FMHCP on maternal postpartum outcomes in Ghana, specifically health problems before, during or after delivery. Majority of the literature about the effect of the FMHCP in Ghana focuses on mortality and neonatal outcomes. The finding of this study therefore contributes to the growing body of knowledge on maternal health care interventions, utilisation of maternal health care interventions and specific health outcomes. The findings from this thesis could also be used by policy makers to enhance access and utilisation of maternal health interventions.

The novelty of this study is in its focus on the impact of the health intervention and how it is influenced by other demographic characteristics of the individual. The study did not only investigate the postpartum health outcomes of the FMHCP, but also access to quality ANC and women's perception about their health outcomes under the implementation of the FMHCP. The major finding of this study is that though maternal health interventions influence maternal health outcomes, certain demographic and socioeconomic characteristics of the individual also influence maternal health outcomes.

The researcher therefore proposes that maternal health interventions targeted at improving maternal health outcomes should not merely focus on increasing access and utilisation, but rather to adopt holistic approaches that not only increase utilisation, but improves individual social and economic capital. Improving women's economic and social wellbeing will enhance decision making on access and utilisation. Policy makers need to ensure that maternal health interventions adopt holistic approaches that tackle existing barriers to access and utilisation of maternal health care services, as well as focusing on improving social and economic capital of women.

REFERENCES

"The DHS Program: Dataset". (2016). The Demographic and Health Retrieved from https://dhsprogram.com/Who-We-Are/Contact-Us.cfm

Abegaz, K. H., & Habtewold, E. M. (2019). Trend and barriers of antenatal care utilization from 2000 to 2016 Ethiopian DHS: A data mining approach. *Scientific African*, *3*, e00063.

Abegaz, K. H., & Habtewold, E. M. (2019). Trend and barriers of antenatal care utilization from 2000 to 2016 Ethiopian DHS: A data mining approach. *Scientific African*, *3*, e00063.

Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of traditional birth attendants on their experiences and roles in maternal health Care in Rural Areas of northern Ghana. *International journal of reproductive medicine*, *2018*.

Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of traditional birth attendants on their experiences and roles in maternal health Care in Rural Areas of northern Ghana. *International journal of reproductive medicine*, *2018*.

Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of traditional birth attendants on their experiences and roles in maternal health Care in Rural Areas of northern Ghana. *International journal of reproductive medicine*, *2018*.

Addai, I. (2000). Determinants of use of maternal–child health services in rural Ghana. *Journal of biosocial science*, *32*(1), 1-15.

Adedini, S. A., Odimegwu, C., Bamiwuye, O., Fadeyibi, O., & Wet, N. D. (2014). Barriers to accessing health care in Nigeria: implications for child survival. *Global health action*, *7*(1), 23499.

Adu-Gyamfi, S., Brenya, E., & Adjei, G. N. (2015). National health insurance and free maternal health care in Ghana: responses from women and health workers in Akropong. *Modern Research Studies: An International Journal of Humanities and Social Sciences*, *2*(4), 696-737.

Adu-Gyamfi, S., Gyasi, R. M., & Poku, B. A. (2018). Women Assisting Women in a Village in Ghana: The Role of Traditional Birth Attendants in Wurubegu-Anansu. *International Journal of Body, Mind and Culture*, 46-60.

Agbanyo, R. (2020). Ghana's national health insurance, free maternal health care and facility-based delivery services. *African Development Review*, *32*(1), 27-41.

Agha, S., & Do, M. (2009). The quality of family planning services and client satisfaction in the public and private sectors in Kenya. *International journal for quality in health care*, *21*(2), 87-96.

Agunwa, C. C., Obi, I. E., Ndu, A. C., Omotowo, I. B., Idoko, C. A., Umeobieri, A. K., & Aniwada, E. C. (2017). Determinants of patterns of maternal and child health service utilization in a rural community in south eastern Nigeria. *BMC Health Services Research*, *17*(1), 1-8.

Agyepong, I. A., & Adjei, S. (2008). Public social policy development and implementation: a case study of the Ghana National Health Insurance scheme. *Health policy and planning*, *23*(2), 150-160.

Ahmed, S., Creanga, A. A., Gillespie, D. G., & Tsui, A. O. (2010). Economic status, education and empowerment: implications for maternal health service utilization in developing countries. *PloS one*, *5*(6), e11190.

Ajayi, A. I. (2019). "I am alive; my baby is alive": Understanding reasons for satisfaction and dissatisfaction with maternal health care services in the context of user fee removal policy in Nigeria. *PloS one*, *14*(12), e0227010.

Akachi, Y., & Kruk, M. E. (2017). Quality of care: measuring a neglected driver of improved health. *Bulletin of the World Health Organization*, *95*(6), 465.

Akowuah, J. A., Agyei-Baffour, P., & Awunyo-Vitor, D. (2018). Determinants of antenatal health care utilisation by pregnant women in third trimester in peri-urban Ghana. *Journal of tropical medicine*, *2018*.

Alam, N., Hajizadeh, M., Dumont, A., & Fournier, P. (2015). Inequalities in maternal health care utilization in sub-Saharan African countries: a multiyear and multi-country analysis. *PloS one*, *10*(4), e0120922.

Alhassan, R. K., Nketiah-Amponsah, E., & Arhinful, D. K. (2016). A review of the National Health Insurance Scheme in Ghana: what are the sustainability threats and prospects?. *PloS one*, *11*(11), e0165151.

Alkema, L., Chou, D., Hogan, D., Zhang, S., Moller, A. B., Gemmill, A., ... & Inter, U. N. M. M. E. (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *The Lancet*, *387*(10017), 462-474.

Alkema, L., Chou, D., Hogan, D., Zhang, S., Moller, A. B., Gemmill, A., ... & Inter, U. N. M. M. E. (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a

systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *The Lancet*, *387*(10017), 462-474.

Altman, M. R., Oseguera, T., McLemore, M. R., Kantrowitz-Gordon, I., Franck, L. S., & Lyndon, A. (2019). Information and power: women of color's experiences interacting with health care providers in pregnancy and birth. *Social science & medicine*, *238*, 112491.

Ameh, S., Gómez-Olivé, F. X., Kahn, K., Tollman, S. M., & Klipstein-Grobusch, K. (2017). Relationships between structure, process and outcome to assess quality of integrated chronic disease management in a rural South African setting: applying a structural equation model. *BMC health services research*, *17*(1), 1-15.

Amina, R. (2017). *Traditional Birth Attendants' Knowledge, Beliefs and Practices in Maternal and Infant Health Care Services in Selected Local Government Areas in Ibadan Oyo State, Nigeria* (Doctoral dissertation).

Anafi, P., Mprah, W. K., Jackson, A. M., Jacobson, J. J., Torres, C. M., Crow, B. M., & O'Rourke, K. M. (2018). Implementation of fee-free maternal health-care policy in Ghana: perspectives of users of antenatal and delivery care services from public health-care facilities in Accra. *International quarterly of community health education*, *38*(4), 259-267.

Anastasi, E., Borchert, M., Campbell, O. M., Sondorp, E., Kaducu, F., Hill, O., ... & Lange, I. L. (2015). Losing women along the path to safe motherhood: why is there such a gap between women's use of antenatal care and skilled birth attendance? A mixed methods study in northern Uganda. *BMC pregnancy and childbirth*, *15*(1), 1-15.

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter?. *Journal of health and social behavior*, 1-10.

Andersen, R. M., Rice, T. H., & Kominski, G. F. (2011). *Changing the US Health Care System, CafeScribe: Key Issues in Health Services Policy and Management*. John Wiley & Sons.

Andrew, E. V., Pell, C., Angwin, A., Auwun, A., Daniels, J., Mueller, I., ... & Pool, R. (2014). Factors affecting attendance at and timing of formal antenatal care: results from a qualitative study in Madang, Papua New Guinea. *PloS one*, *9*(5), e93025.

Ansu-Mensah, M., Mohammed, T., Udoh, R. H., Bawontuo, V., & Kuupiel, D. (2019). Mapping evidence of free maternal health care financing and quality of care in sub-Saharan Africa: a systematic scoping review protocol. *Health research policy and systems*, *17*(1), 1-6.

Apanga, P. A., & Awoonor-Williams, J. K. (2018). Maternal death in rural Ghana: a case study in the upper East Region of Ghana. *Frontiers in public health*, *6*, 101.

Arah, O. A., Westert, G. P., Hurst, J., & Klazinga, N. S. (2006). A conceptual framework for the OECD health care quality indicators project. *International Journal for Quality in Health Care*, *18*(suppl_1), 5-13.

Arthur, E. (2012). Wealth and antenatal care use: implications for maternal health care utilisation in Ghana. *Health economics review*, *2*(1), 1-8.

Asante, F. A., Chikwama, C., Daniels, A., & Armar-Klemesu, M. (2007). Evaluating the economic outcomes of the policy of fee exemption for maternal delivery care in Ghana. *Ghana medical journal*, *41*(3).

Assefa, Y., Gilks, C. F., Dean, J., Tekle, B., Lera, M., Balcha, T. T., ... & Hill, P. S. (2019). Towards achieving the fast-track targets and ending the epidemic of HIV/AIDS in Ethiopia: Successes and challenges. *International Journal of Infectious Diseases*, *78*, 57-64.

Atuoye, K. N., Dixon, J., Rishworth, A., Galaa, S. Z., Boamah, S. A., & Luginaah, I. (2015). Can she make it? Transportation barriers to accessing maternal and child health care services in rural Ghana. *BMC health services research*, *15*(1), 1-10.

Austin, A., Langer, A., Salam, R. A., Lassi, Z. S., Das, J. K., & Bhutta, Z. A. (2014). Approaches to improve the quality of maternal and newborn health care: an overview of the evidence. *Reproductive health*, *11*(2), 1-9.

Awoonor Williams, J. K., Phillips, J. F., & Bawah, A. A. (2019). Scaling down to scale-up: a strategy for accelerating community-based health service coverage in Ghana. *Journal of Global Health Science*, *1*(1).

Ayentimi, D. T., Abadi, H. A., Adjei, B., & Burgess, J. (2020). Gender equity and inclusion in Ghana; good intentions, uneven progress. *Labour & Industry: a journal of the social and economic relations of work*, *30*(1), 66-84.

Aziato, L., & Omenyo, C. N. (2018). Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. *BMC pregnancy and childbirth*, *18*(1), 1-10.

Baidoo, R. (2009). *Toward a comprehensive health care system in Ghana* (Doctoral dissertation, Ohio University).

Banchani, E., & Tenkorang, E. Y. (2014). Implementation challenges of maternal health care in Ghana: the case of health care providers in the Tamale Metropolis. *BMC health services research*, *14*(1), 1-10.

Barber, S. L., & Gertler, P. J. (2009). Empowering women to obtain high quality care: evidence from an evaluation of Mexico's conditional cash transfer programme. *Health Policy and Planning*, *24*(1), 18-25.

Bauserman, M., Conroy, A. L., North, K., Patterson, J., Bose, C., & Meshnick, S. (2019, August). An overview of malaria in pregnancy. In *Seminars in perinatology* (Vol. 43, No. 5, pp. 282-290). WB Saunders.

Beaverson, S. (2018). *Investigation of Factors Impacting Underutilization of Family Planning in Léogâne, Haiti* (Doctoral dissertation, Duke University).

Benova, L., Moller, A. B., & Moran, A. C. (2019). "What gets measured better gets done better": The landscape of validation of global maternal and newborn health indicators through key informant interviews. *PloS one*, *14*(11), e0224746.

Benova, L., Tunçalp, Ö., Moran, A. C., & Campbell, O. M. R. (2018). Not just a number: examining coverage and content of antenatal care in low-income and middle-income countries. *BMJ global health*, *3*(2).

Berman, P., & Bitran, R. (2011). Health systems analysis for better health system strengthening.

Berman, P., & Bossert, T. (2000). A decade of health sector reform in developing countries: what have we learned. *Washington, UNAID*.

Boerma, T., Victora, C., & Abouzahr, C. (2018). Monitoring country progress and achievements by making global predictions: is the tail wagging the dog?. *The Lancet*, *392*(10147), 607-609.

Boller, C., Wyss, K., Mtasiwa, D., & Tanner, M. (2003). Quality and comparison of antenatal care in public and private providers in the United Republic of Tanzania. *Bulletin of the World Health Organization*, *81*, 116-122.

Bouyou-Akotet, M. K., Mawili-Mboumba, D. P., & Kombila, M. (2013). Antenatal care visit attendance, intermittent preventive treatment and bed net use during pregnancy in Gabon. *BMC Pregnancy and Childbirth*, *13*(1), 1-6.

Bowling, A. (2014). *Research methods in health: investigating health and health services*. McGraw-hill education (UK).

Browne, J. L., Kayode, G. A., Arhinful, D., Fidder, S. A., Grobbee, D. E., & Klipstein-Grobusch, K. (2016). Health insurance determines antenatal, delivery and postnatal care utilisation: evidence from the Ghana Demographic and Health Surveillance data. *BMJ open*, *6*(3), e008175.

Brugiavini, A., & Pace, N. (2016). Extending health insurance in Ghana: effects of the National Health Insurance Scheme on maternity care. *Health economics review*, *6*(1), 1-10.

Brunori, P., Palmisano, F., & Peragine, V. (2019). Inequality of opportunity in sub-Saharan Africa. *Applied Economics*, *51*(60), 6428-6458.

Burner, E. R., Menchine, M. D., Kubicek, K., Robles, M., & Arora, S. (2014). Perceptions of successful cues to action and opportunities to augment behavioral triggers in diabetes self-management: qualitative analysis of a mobile intervention for low-income Latinos with diabetes. *Journal of medical Internet research*, *16*(1), e25.

Canadian Institute for Health Information. (2013). *A Performance Measurement Framework for the Canadian Health System (Updated November 2013)*. Canadian Institute for Health Information.

Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds?. *Currents in Pharmacy Teaching and Learning*, *10*(6), 807-815.

Chahine, K. M., & Sibai, B. M. (2019). Chronic hypertension in pregnancy: new concepts for classification and management. *American journal of perinatology*, *36*(02), 161-168.

Chang, Y. S., Coxon, K., Portela, A. G., Furuta, M., & Bick, D. (2018). Interventions to support effective communication between maternity care staff and women in labour: A mixed-methods systematic review. *Midwifery*, *59*, 4-16.

Chankova, S., Sulzbach, S., Hatt, L., Snider, J., Garshong, B., Gyapong, J., & Doamekpor, L. (2009). An evaluation of the effects of the National Health Insurance Scheme in Ghana. *Bethesda, MD: Abt Associates Inc*.

Chari, A. N., & Okeke, E. N. (2014). Can institutional deliveries reduce neonatal mortality?. *Rand Labor and Population, Working Paper-1072. Santa Monica, CA: Rand Cooperation*.

Chassin, M. R., & Galvin, R. W. (1998). The urgent need to improve health care quality: Institute of Medicine National Roundtable on Health Care Quality. *Jama*, *280*(11), 1000-1005.

Chemouni, B. (2018). The political path to universal health coverage: Power, ideas and community-based health insurance in Rwanda. *World Development*, *106*, 87-98.

Choko, A. T., Corbett, E. L., Stallard, N., Maheswaran, H., Lepine, A., Johnson, C. C., ... & Fielding, K. (2019). HIV self-testing alone or with additional interventions, including financial incentives, and linkage to care or prevention among male partners of antenatal care clinic attendees in Malawi: an adaptive multi-arm, multi-stage cluster randomised trial. *PLoS medicine*, *16*(1), e1002719.

Comfort, A. B., Peterson, L. A., & Hatt, L. E. (2013). Effect of health insurance on the use and provision of maternal health services and maternal and neonatal health

outcomes: a systematic review. *Journal of health, population, and nutrition*, *31*(4 Suppl 2), S81.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2017). The operations of the free maternal care policy and out of pocket payments during childbirth in rural Northern Ghana. *Health Economics Review*, *7*(1), 1-9.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2018). Are health facilities well equipped to provide basic quality childbirth services under the free maternal health policy? Findings from rural northern Ghana. *BMC health services research*, *18*(1), 1-9.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2018). Has the free maternal health policy eliminated out of pocket payments for maternal health services? Views of women, health providers and insurance managers in northern Ghana. *PLoS One*, *13*(2), e0184830.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2018). The implementation of the free maternal health policy in rural Northern Ghana: Synthesised results and lessons learnt. *BMC research notes*, *11*(1), 1-6.

Dalinjong, P. A., Wang, A. Y., & Homer, C. S. (2019). The free maternal health policy: Acceptability and satisfaction with quality of maternal health services during pregnancy in rural Northern Ghana. *Journal of Health Sciences*, *9*(2), 108-117.

d'Ambruoso, L., Abbey, M., & Hussein, J. (2005). Please understand when I cry out in pain: women's accounts of maternity services during labour and delivery in Ghana. *BMC public health*, *5*(1), 1-11.

Dankwah, E., Zeng, W., Feng, C., Kirychuk, S., & Farag, M. (2019). The social determinants of health facility delivery in Ghana. *Reproductive health*, *16*(1), 1-10.

Danzima, N. Y., Nayeri, N. D., Arpi, M., Buunaaim, A. D. B., & Tijani, A. (2021). The Lived Experiences of Postpartum Women in Ghana Regarding Nursing Care During Childbirth and Their Concept of Care-A Phenomenological Study.

Das, A., Gopalan, S. S., & Chandramohan, D. (2016). Effect of pay for performance to improve quality of maternal and child care in low-and middle-income countries: a systematic review. *BMC public health*, *16*(1), 1-11.

De Vincenzi, I. (2009, July). Triple-antiretroviral (ARV) prophylaxis during pregnancy and breastfeeding compared to short-ARV prophylaxis to prevent mother-to-child transmission of HIV-1 (MTCT): the Kesho Bora randomized controlled clinical trial in five sites in Burkina Faso, Kenya. In *5th International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention, Cape Town, 19-22 July 2009: 2009*.

Desai, M., Hill, J., Fernandes, S., Walker, P., Pell, C., Gutman, J., ... & Ter Kuile, F. O. (2018). Prevention of malaria in pregnancy. *The Lancet infectious diseases*, *18*(4), e119-e132.

Devkota, H. R., Murray, E., Kett, M., & Groce, N. (2018). Are maternal healthcare services accessible to vulnerable group? A study among women with disabilities in rural Nepal. *PloS one*, *13*(7), e0200370.

Dimbuene, Z. T., Amo-Adjei, J., Amugsi, D., Mumah, J., Izugbara, C. O., & Beguy, D. (2018). Women's education and utilization of maternal health services in Africa: a multi-country and socioeconomic status analysis. *Journal of biosocial science*, *50*(6), 725-748.

Dixon, J., Tenkorang, E. Y., & Luginaah, I. (2013). Ghana's National Health Insurance Scheme: a national level investigation of members' perceptions of service provision. *BMC International Health and Human Rights*, *13*(1), 1-10.

Dogba, M., & Fournier, P. (2009). Human resources and the quality of emergency obstetric care in developing countries: a systematic review of the literature. *Human resources for health*, *7*(1), 1-12.

Donabedian, A. (1988). Quality assessment and assurance: unity of purpose, diversity of means. *Inquiry*, 173-192.

Donabedian, A. (2002). *An introduction to quality assurance in health care*. Oxford University Press.

Downe, S., Finlayson, K., Tunçalp, Ö., & Gülmezoglu, A. M. (2017). Factors that influence the provision of good-quality routine antenatal services: a qualitative evidence synthesis of the views and experiences of maternity care providers. *The Cochrane Database of Systematic Reviews*, *2017*(8).

Downe, S., Finlayson, K., Tunçalp, Ö., & Metin Gülmezoglu, A. (2016). What matters to women: a systematic scoping review to identify the processes and outcomes of antenatal care provision that are important to healthy pregnant women. *BJOG: An International Journal of Obstetrics & Gynaecology*, *123*(4), 529-539.

Drummond, M. F., & McGuire, A. (2001). *Economic evaluation in health care: merging theory with practice*. Oxford University Press, USA.

Dzakpasu, S., Soremekun, S., Manu, A., Ten Asbroek, G., Tawiah, C., Hurt, L., ... & Kirkwood, B. R. (2012). Impact of free delivery care on health facility delivery and insurance coverage in Ghana's Brong Ahafo Region. *PloS one*, *7*(11), e49430.

Dzakpasu, S., Soremekun, S., Manu, A., Ten Asbroek, G., Tawiah, C., Hurt, L., ... & Kirkwood, B. R. (2012). Impact of free delivery care on health facility delivery and

insurance coverage in Ghana's Brong Ahafo Region. *PloS one*, *7*(11), e49430. https://doi.org/10.1371/journal.pone.0049430

Ebu, N. I., & Gross, J. (2015). Factors influencing access to antenatal services and delivery care in sub-Saharan Africa. *African Journal of Midwifery and Women's Health*, *9*(2), 58-65.

Edelman, C. L., Mandle, C. L., & Kudzma, E. C. (2017). *Health promotion throughout the life span-e-book*. Elsevier Health Sciences.

Eldredge, L. K. B., Markham, C. M., Ruiter, R. A., Fernández, M. E., Kok, G., & Parcel, G. S. (2016). *Planning health promotion programs: an intervention mapping approach*. John Wiley & Sons.

Elliott, S., Powell, R., & Brenton, J. (2015). Being a good mom: Low-income, black single mothers negotiate intensive mothering. *Journal of Family Issues*, *36*(3), 351-370.

Engineer, C. Y., Dale, E., Agarwal, A., Agarwal, A., Alonge, O., Edward, A., ... & Peters, D. H. (2016). Effectiveness of a pay-for-performance intervention to improve maternal and child health services in Afghanistan: a cluster-randomized trial. *International journal of epidemiology*, *45*(2), 451-459.

Ensor, T., Chhun, C., Kimsun, T., McPake, B., & Edoka, I. (2017). Impact of health financing policies in Cambodia: a 20 year experience. *Social Science & Medicine*, *177*, 118-126.

Eshag, A., & Lindow, S. (2018). Iron deficiency and iron deficiency anaemia in pregnancy and the postnatal period. In *Obstetrics and Gynaecology Forum* (Vol. 28, No. 4, pp. 9-13). In House Publications.

Evans, R. G., & Stoddart, G. L. (2005). Producing health. *Health Care Systems: Rethinking health care systems*, *4*(12), 174.

Fathalla, M. (1987). The long road to maternal death. *People*, *14*(3), 8-9.

Fenny, A. P., Asuman, D., Crentsil, A. O., & Odame, D. N. A. (2019). Trends and causes of socioeconomic inequalities in maternal health care in Ghana, 2003–2014. *International Journal of Social Economics*.

Finkelstein, J. L., Herman, H. S., Guetterman, H. M., Peña-Rosas, J. P., & Mehta, S. (2018). Daily iron supplementation for prevention or treatment of iron deficiency anaemia in infants, children, and adolescents. *The Cochrane Database of Systematic Reviews*, *2018*(12).

Flock, T., & Naturopathy, D. O. (2018). Vaccines: Are They Worth the Health Risk or Not?.

Ganle, J. K., Afriyie, K., & Segbefia, A. Y. (2015). Microcredit: Empowerment and disempowerment of rural women in Ghana. *World Development*, *66*, 335-345.

Ganle, J. K., Otupiri, E., Parker, M., & Fitzpatrick, R. (2015). Socio-cultural barriers to accessibility and utilization of maternal and newborn health care services in Ghana after user-fee abolition.

Gee, S., Vargas, J., & Foster, A. M. (2018). "We need good nutrition but we have no money to buy food": sociocultural context, care experiences, and newborn health in two UNHCR-supported camps in South Sudan. *BMC international health and human rights*, *18*(1), 1-10.

Ghaffari, F., Jahani Shourab, N., Jafarnejad, F., & Esmaily, H. (2014). Application of Donabedian quality-of-care framework to assess the outcomes of preconception care in urban health centers, Mashhad, Iran in 2012. *Journal of Midwifery and Reproductive Health*, *2*(1), 50-59.

Ginsburg, O., Badwe, R., Boyle, P., Derricks, G., Dare, A., Evans, T., ... & Sullivan, R. (2017). Changing global policy to deliver safe, equitable, and affordable care for women's cancers. *The Lancet*, *389*(10071), 871-880.

Ginter, P. M., Duncan, W. J., & Swayne, L. E. (2018). *The strategic management of health care organizations*. John Wiley & Sons.

Ghosh, D., & Dinda, S. (2018). Health infrastructure and economic development in India. In *Health Economics and Healthcare Reform: Breakthroughs in Research and Practice* (pp. 78-97). IGI Global.

Gyasi, R. M., Phillips, D. R., & Amoah, P. A. (2020). Multidimensional social support and health services utilization among noninstitutionalized older persons in Ghana. *Journal of Aging and Health*, *32*(3-4), 227-239.

Hagey, J., Rulisa, S., & Pérez-Escamilla, R. (2014). Barriers and solutions for timely initiation of antenatal care in Kigali, Rwanda: Health facility professionals' perspective. *Midwifery*, *30*(1), 96-102.

Haider, M. R., Qureshi, Z. P., & Khan, M. M. (2017). Effects of women's autonomy on maternal health care utilization in Bangladesh: Evidence from a national survey. *Sexual & reproductive healthcare*, *14*, 40-47.

Handler, A., Issel, M., & Turnock, B. (2001). A conceptual framework to measure performance of the public health system. *American Journal of Public Health*, *91*(8), 1235-1239.

Herklots, T., van Acht, L., Khamis, R. S., Meguid, T., Franx, A., & Jacod, B. (2019). Validity of WHO's near-miss approach in a high maternal mortality setting. *PloS one*, *14*(5), e0217135.

Hirai, M., Morris, J., Luoto, J., Ouda, R., Atieno, N., & Quick, R. (2020). The impact of supply-side and demand-side interventions on use of antenatal and maternal

services in western Kenya: a qualitative study. *BMC pregnancy and childbirth*, *20*(1), 1-13.

Hochbaum, G., Rosenstock, I., & Kegels, S. (1952). Health belief model. *United states public health service*, *1*.

Hong, G., Kim, S., Park, G., & Sim, S. G. (2019). Female education externality and inclusive growth. *Sustainability*, *11*(12), 3344.

Hovey, W. (2000). The worst of both worlds: Nursing home regulation in the United States. *Review of Policy Research*, *17*(4), 43-59.

Hsia, R. Y., Mbembati, N. A., Macfarlane, S., & Kruk, M. E. (2012). Access to emergency and surgical care in sub-Saharan Africa: the infrastructure gap. *Health policy and planning*, *27*(3), 234-244.

Hurst, C. E., Gibbon, H. M. F., & Nurse, A. M. (2016). *Social inequality: Forms, causes, and consequences*. Routledge.

Hyzam, D., Zou, M., Boah, M., Saeed, A., Li, C., Pan, S., ... & Wu, L. J. (2020). Health information and health-seeking behaviour in Yemen: perspectives of health leaders, midwives and mothers in two rural areas of Yemen. *BMC Pregnancy and Childbirth*, *20*(1), 1-12.

Jacobs, B., Ir, P., Bigdeli, M., Annear, P. L., & Van Damme, W. (2012). Addressing access barriers to health services: an analytical framework for selecting appropriate interventions in low-income Asian countries. *Health policy and planning*, *27*(4), 288-300.

John, T. W., Mkoka, D. A., Frumence, G., & Goicolea, I. (2018). An account for barriers and strategies in fulfilling women's right to quality maternal health care: a qualitative study from rural Tanzania. *BMC pregnancy and childbirth*, *18*(1), 1-10.

Jonas, K. T. (2019). *Assessment of the Impact of Pregnancy School on Pregnancy Outcomes and Skilled Delivery in Nabdam District of Upper East Region* (Doctoral dissertation, University of Ghana).

Jungari, S., & Paswan, B. (2019). What he knows about her and how it affects her? Husband's knowledge of pregnancy complications and maternal health care utilization among tribal population in Maharashtra, India. *BMC pregnancy and childbirth*, *19*(1), 1-12.

Kanya, L., Obare, F., Warren, C., Abuya, T., Askew, I., & Bellows, B. (2014). Safe motherhood voucher programme coverage of health facility deliveries among poor women in South-western Uganda. *Health Policy and Planning*, *29*(suppl_1), i4-i11.

Kasaye, H. K., Endale, Z. M., Gudayu, T. W., & Desta, M. S. (2017). Home delivery among antenatal care booked women in their last pregnancy and associated factors: community-based cross sectional study in Debremarkos town, North West Ethiopia, January 2016. *BMC pregnancy and childbirth*, *17*(1), 1-12.

Kerber, K. J., Mathai, M., Lewis, G., Flenady, V., Erwich, J. J. H., Segun, T., ... & Pattinson, R. (2015). Counting every stillbirth and neonatal death through mortality audit to improve quality of care for every pregnant woman and her baby. *BMC pregnancy and childbirth*, *15*(S2), S9.

Kerr, E. A., & Fleming, B. (2007). Making performance indicators work: experiences of US Veterans Health Administration. *BMJ*, *335*(7627), 971-973.

Kettles, A. M., Creswell, J. W., & Zhang, W. (2011). Mixed methods research in mental health nursing. *Journal of psychiatric and mental health nursing*, *18*(6), 535-542.

Kifle, M. M., Kesete, H. F., Gaim, H. T., Angosom, G. S., & Araya, M. B. (2018). Health facility or home delivery? Factors influencing the choice of delivery place among mothers living in rural communities of Eritrea. *Journal of Health, Population and Nutrition*, *37*(1), 1-15.

Kim, E. T., Singh, K., Speizer, I. S., Angeles, G., & Weiss, W. (2019). Availability of health facilities and utilization of maternal and newborn postnatal care in rural Malawi. *BMC pregnancy and childbirth*, *19*(1), 1-15.

Klazinga, N. (2010). Health system performance management. *Measuring and managing performance*, *16*(3), 26.

Kotoh, A. M., & Boah, M. (2019). "No visible signs of pregnancy, no sickness, no antenatal care": Initiation of antenatal care in a rural district in Northern Ghana. *BMC public health*, *19*(1), 1-13.

Kruk, M. E., Gage, A. D., Joseph, N. T., Danaei, G., García-Saisó, S., & Salomon, J. A. (2018). Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. *The Lancet*, *392*(10160), 2203-2212.

Kumar, G., Choudhary, T. S., Srivastava, A., Upadhyay, R. P., Taneja, S., Bahl, R., ... & Mazumder, S. (2019). Utilisation, equity and determinants of full antenatal care in India: analysis from the National Family Health Survey 4. *BMC pregnancy and childbirth*, *19*(1), 1-9.

Kumar, S., Dansereau, E. A., & Murray, C. J. (2014). Does distance matter for institutional delivery in rural India?. *Applied Economics*, *46*(33), 4091-4103.

Kuzara, J., Woodriff Sprinkel, A., Mekuria, F. T., Rubardt, M., Maguiraga, F., Sissoko, K., & Hastings, P. (2018). Addressing social and gender norms to improve uptake

of maternal health services in Mali: a descriptive study of CARE's Project Hope for Mothers and Newborns (PEMN). *Culture, health & sexuality*, *20*(11), 1273-1286.

Kyei, N. N., Chansa, C., & Gabrysch, S. (2012). Quality of antenatal care in Zambia: a national assessment. *BMC pregnancy and childbirth*, *12*(1), 1-11.

Labrecque, J. (2018). Conditional cash transfers and child health.

Lannes, L., Meessen, B., Soucat, A., & Basinga, P. (2016). Can performance-based financing help reaching the poor with maternal and child health services? The experience of rural Rwanda. *The International journal of health planning and management*, *31*(3), 309-348.

Lassi, Z. S., Musavi, N. B., Maliqi, B., Mansoor, N., de Francisco, A., Toure, K., & Bhutta, Z. A. (2016). Systematic review on human resources for health interventions to improve maternal health outcomes: evidence from low-and middle-income countries. *Human resources for health*, *14*(1), 1-20.

Lemma, S., Girma, S., Alemayehu, L., & Gatellier, K. (2018). How to improve maternal health service utilisation in Ethiopia.

Lim, S. S., Dandona, L., Hoisington, J. A., James, S. L., Hogan, M. C., & Gakidou, E. (2010). India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. *The Lancet*, *375*(9730), 2009-2023.

Linard, M., Blondel, B., Estellat, C., Deneux-Tharaux, C., Luton, D., Oury, J. F., ... & Sibiude, J. (2018). Association between inadequate antenatal care utilisation and severe perinatal and maternal morbidity: An analysis in the Pre CARE cohort. *BJOG: An International Journal of Obstetrics & Gynaecology*, *125*(5), 587-595.

Liu, K., Cook, B., & Lu, C. (2019). Health inequality and community-based health insurance: a case study of rural Rwanda with repeated cross-sectional data. *International journal of public health*, *64*(1), 7-14.

Luxon, L. (2015). Infrastructure–the key to healthcare improvement. *Future hospital journal*, *2*(1), 4.

Machira, K., & Palamuleni, M. (2018). Women's perspectives on quality of maternal health care services in Malawi. *International journal of women's health*, *10*, 25.

Madsen, C., Håberg, S. E., Aamodt, G., Stigum, H., Magnus, P., London, S. J., ... & Nafstad, P. (2018). Preeclampsia and hypertension during pregnancy in areas with relatively low levels of traffic air pollution. *Maternal and child health journal*, *22*(4), 512-519.

Maine, D., & Rosenfield, A. (1999). The safe motherhood initiative: why has it stalled?. *American Journal of Public Health*, *89*(4), 480-482.

Mainz, J. (2003). Defining and classifying clinical indicators for quality improvement. *International journal for quality in health care*, *15*(6), 523-530.

Makanga, P. T., Schuurman, N., von Dadelszen, P., & Firoz, T. (2016). A scoping review of geographic information systems in maternal health. *International Journal of Gynecology & Obstetrics*, *134*(1), 13-17.

Malapit, H. J. L., Kadiyala, S., Quisumbing, A. R., Cunningham, K., & Tyagi, P. (2015). Women's empowerment mitigates the negative effects of low production diversity on maternal and child nutrition in Nepal. *The journal of development studies*, *51*(8), 1097-1123.

Manzi, A., Nyirazinyoye, L., Ntaganira, J., Magge, H., Bigirimana, E., Mukanzabikeshimana, L., ... & Hedt-Gauthier, B. (2018). Beyond coverage: improving the quality of antenatal care delivery through integrated mentorship and quality improvement at health centers in rural Rwanda. *BMC health services research*, *18*(1), 1-8.

Marchant, T., Tilley-Gyado, R. D., Tessema, T., Singh, K., Gautham, M., Umar, N., ... & Schellenberg, J. R. A. (2015). Adding content to contacts: measurement of high quality contacts for maternal and newborn health in Ethiopia, north east Nigeria, and Uttar Pradesh, India. *PloS one*, *10*(5), e0126840.

Maseko, L., & Harris, B. (2018). People-centeredness in health system reform. Public perceptions of private and public hospitals in South Africa. *South African Journal of Occupational Therapy*, *48*(1), 22-27.

Masiye, F., Kaonga, O., & Kirigia, J. M. (2016). Does user fee removal policy provide financial protection from catastrophic health care payments? Evidence from Zambia. *PloS one*, *11*(1), e0146508.

Mensah, H. K., Akuoko, K. O., & Ellis, F. (2016). An empirical assessment of health workers' organisational commitment in Ghana: A comparative analysis. *International Journal of Business and Management*, *11*(3), 183-192.

Mekonnen, T., Dune, T., & Perz, J. (2019). Maternal health service utilisation of adolescent women in sub-Saharan Africa: a systematic scoping review. *BMC pregnancy and childbirth*, *19*(1), 1-16.

Mekonnen, W., & Gebremariam, A. (2018). Causes of maternal death in Ethiopia between 1990 and 2016: systematic review with meta-analysis. *Ethiopian Journal of Health Development*, *32*(4).

Menotti, E. P., & Farrell, M. (2016). Vouchers: a hot ticket for reaching the poor and other special groups with voluntary family planning services. *Global Health: Science and Practice*, *4*(3), 384-393.

Merten, S., Hilber, A. M., Biaggi, C., Secula, F., Bosch-Capblanch, X., Namgyal, P., & Hombach, J. (2015). Gender determinants of vaccination status in children: evidence from a meta-ethnographic systematic review. *PloS one*, *10*(8), e0135222.

Meuwissen, L. E., Gorter, A. C., & Knottnerus, J. A. (2006). Perceived quality of reproductive care for girls in a competitive voucher programme. A quasi-experimental intervention study, Managua, Nicaragua. *International Journal for Quality in Health Care*, *18*(1), 35-42.

Miller, S., Abalos, E., Chamillard, M., Ciapponi, A., Colaci, D., Comandé, D., ... & Althabe, F. (2016). Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide. *The Lancet*, *388*(10056), 2176-2192.

Mills, A. (1998). Health policy reforms and their impact on the practice of tropical medicine. *British Medical Bulletin*, *54*(2), 503-513.

Ministry of Health. (2004). Guidelines for implementing the exemption policy on maternal deliveries.

Mohanan, M., Bauhoff, S., La Forgia, G., Babiarz, K. S., Singh, K., & Miller, G. (2013). Effect of Chiranjeevi Yojana on institutional deliveries and neonatal and maternal outcomes in Gujarat, India: a difference-in-differences analysis. *Bulletin of the World Health Organization*, *92*, 187-194.

Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European Journal of General Practice*, *24*(1), 9-18.

Moshokwa, M. L. (2018). *Antenatal care an investigation of the time interval between the confirmation of pregnancy diagnosis and commencement* (Master's thesis, University of Cape Town).

Moyer, C. A., Benyas, D., & Rominski, S. (2016). The relationship between facility-based delivery and infant immunization in sub-Saharan Africa. *African journal of reproductive health*, *20*(2), 27-33.

Munguambe, K., Boene, H., Vidler, M., Bique, C., Sawchuck, D., Firoz, T., ... & Sevene, E. (2016). Barriers and facilitators to health care seeking behaviours in pregnancy in rural communities of southern Mozambique. *Reproductive health*, *13*(1), 83-97.

Murray, S. F., Hunter, B. M., Bisht, R., Ensor, T., & Bick, D. (2014). Effects of demand-side financing on utilisation, experiences and outcomes of maternity care in low-

and middle-income countries: a systematic review. *BMC pregnancy and childbirth*, *14*(1), 1-15.

Mustapha, S., Mohammed, T., & Abukari, I. (2017). Application of multinomial logistic to smallholder farmers' market participation in Northern Ghana. *International Journal of Agricultural Economics*, *2*(3), 55-62.

Naariyong, S., Poudel, K. C., Rahman, M., Yasuoka, J., Otsuka, K., & Jimba, M. (2012). Quality of antenatal care services in the Birim North District of Ghana: contribution of the community-based health planning and services program. *Maternal and child health journal*, *16*(8), 1709-1717.

Ndwiga, C., Warren, C. E., Ritter, J., Sripad, P., & Abuya, T. (2017). Exploring provider perspectives on respectful maternity care in Kenya:"work with what you have". *Reproductive health*, *14*(1), 1-13.

Ngabo, F., Nguimfack, J., Nwaigwe, F., Mugeni, C., Muhoza, D., Wilson, D. R., ... & Binagwaho, A. (2012). Designing and implementing an innovative SMS-based alert system (RapidSMS-MCH) to monitor pregnancy and reduce maternal and child deaths in Rwanda. *The Pan African Medical Journal*, *13*.

Nkonki-Mandleni, B., & Anim, F. D. K. (2014). Determining factors of support for co-operatives in South Africa. *Journal of Human Ecology*, *47*(2), 171-174.

Obeng-Hinneh, R. (2019). Negotiating entry into marriage: Strategies of Ghanaian women in" marriage-like" partnerships. *Ghana Social Science Journal*, *16*(1), 54-71.

Obirikorang, K. A., Wongnaa, C. A., Nkrumah, E. E., & Ansong, M. (2018). Uneven Development: Urban and Industrial Growth and its Environmental Implications for Rural and Urban Communities in Ghana. *Rural-Urban Linkages and Sustainable Development in Africa*, 39.

Okaro, J. M., Umezulike, A. C., Onah, H. E., Chukwuali, L. I., Ezugwu, O. F., & Nweke, P. C. (2001). Maternal mortality at the University of Nigeria Teaching Hospital, Enugu, before and after Kenya. *African journal of reproductive health*, *5*(2), 90-97.

Okonofua, F., Ogu, R., Agholor, K., Okike, O., Abdus-Salam, R., Gana, M., ... & Galadanci, H. (2017). Qualitative assessment of women's satisfaction with maternal health care in referral hospitals in Nigeria. *Reproductive health*, *14*(1), 1-8.

Okonofua, F., Ntoimo, L., Ogungbangbe, J., Anjorin, S., Imongan, W., & Yaya, S. (2018). Predictors of women's utilization of primary health care for skilled pregnancy care in rural Nigeria. *BMC pregnancy and childbirth*, *18*(1), 1-15.

Osborn, R., Squires, D., Doty, M. M., Sarnak, D. O., & Schneider, E. C. (2016). In new survey of eleven countries, US adults still struggle with access to and affordability of health care. *Health Affairs*, *35*(12), 2327-2336.

Øvretveit, J. (2004). Formulating a health quality improvement strategy for a developing country. *International Journal of Health Care Quality Assurance*.

Panciera, R., Khan, A., Rizvi, S. J. R., Ahmed, S., Ahmed, T., Islam, R., & Adams, A. M. (2016). The influence of travel time on emergency obstetric care seeking behavior in the urban poor of Bangladesh: a GIS study. *BMC pregnancy and childbirth*, *16*(1), 1-13.

Paul, P., Pennell, M. L., & Lemeshow, S. (2013). Standardizing the power of the Hosmer–Lemeshow goodness of fit test in large data sets. *Statistics in medicine*, *32*(1), 67-80.

Peahl, A. F., Novara, A., Heisler, M., Dalton, V. K., Moniz, M. H., & Smith, R. D. (2020). Patient preferences for prenatal and postpartum care delivery: a survey of postpartum women. *Obstetrics & Gynecology*, *135*(5), 1038-1046.

Penfold, S., Harrison, E., Bell, J., & Fitzmaurice, A. N. N. (2007). Evaluation of the delivery fee exemption policy in Ghana: population estimates of changes in delivery service utilization in two regions. *Ghana medical journal*, *41*(3), 100.

Poeran, J., Denktas, S., Birnie, E., Bonsel, G. J., & Steegers, E. A. (2011). Urban perinatal health inequalities. *The Journal of Maternal-Fetal & Neonatal Medicine*, *24*(4), 643-646.

Powell-Jackson, T., & Hanson, K. (2012). Financial incentives for maternal health: impact of a national programme in Nepal. *Journal of health economics*, *31*(1), 271-284.

Powell-Jackson, T., Mazumdar, S., & Mills, A. (2015). Financial incentives in health: New evidence from India's Janani Suraksha Yojana. *Journal of health economics*, *43*, 154-169.

Priedeman Skiles, M., Curtis, S. L., Basinga, P., & Angeles, G. (2013). An equity analysis of performance-based financing in Rwanda: are services reaching the poorest women?. *Health policy and planning*, *28*(8), 825-837.

Renaudin, P., Prual, A., Vangeenderhuysen, C., Abdelkader, M. O., Vall, M. O. M., & El Joud, D. O. (2007). Ensuring financial access to emergency obstetric care: three years of experience with Obstetric Risk Insurance in Nouakchott, Mauritania. *International Journal of Gynecology & Obstetrics*, *99*(2), 183-190.

Requejo, J. H., Bryce, J., Barros, A. J., Berman, P., Bhutta, Z., Chopra, M., ... & Victora, C. G. (2015). Countdown to 2015 and beyond: fulfilling the health agenda for women and children. *The Lancet*, *385*(9966), 466-476.

Ridde, V., Yaogo, M., Zongo, S., Somé, P. A., & Turcotte-Tremblay, A. M. (2018). Twelve months of implementation of health care performance-based financing in B

urkina F aso: A qualitative multiple case study. *The International Journal of Health Planning and Management*, *33*(1), e153-e167.

Rios-Zertuche, D., Zúñiga-Brenes, P., Palmisano, E., Hernández, B., Schaefer, A., Johanns, C. K., ... & Iriarte, E. (2019). Methods to measure quality of care and quality indicators through health facility surveys in low-and middle-income countries. *International Journal for Quality in Health Care*, *31*(3), 183-190.

Ritchie, L. M. P., Khan, S., Moore, J. E., Timmings, C., van Lettow, M., Vogel, J. P., ... & Straus, S. E. (2016). Low-and middle-income countries face many common barriers to implementation of maternal health evidence products. *Journal of clinical epidemiology*, *76*, 229-237.

Roemer, M. I., Montoya-Aguilar, C., & World Health Organization. (1988). *Quality assessment and assurance in primary health care*. World Health Organization.

Rosen, H. E., Lynam, P. F., Carr, C., Reis, V., Ricca, J., Bazant, E. S., & Bartlett, L. A. (2015). Direct observation of respectful maternity care in five countries: a cross-sectional study of health facilities in East and Southern Africa. *BMC pregnancy and childbirth*, *15*(1), 1-11.

Rudasingwa, M., Soeters, R., & Bossuyt, M. (2015). The effect of performance-based financial incentives on improving health care provision in Burundi: a controlled cohort study. *Global Journal of Health Science*, *7*(3), 15.

Lannes, L., Meessen, B., Soucat, A., & Basinga, P. (2016). Can performance-based financing help reaching the poor with maternal and child health services? The experience of rural Rwanda. *The International journal of health planning and management*, *31*(3), 309-348.

Rudasingwa, M., Soeters, R., & Bossuyt, M. (2015). The effect of performance-based financial incentives on improving health care provision in Burundi: a controlled cohort study. *Global Journal of Health Science*, *7*(3), 15.

Saaka, M., & Akuamoah-Boateng, J. (2020). Prevalence and Determinants of Rural-Urban Utilization of Skilled Delivery Services in Northern Ghana. *Scientifica*, *2020*.

Sakeah, E., Aborigo, R., Sakeah, J. K., Dalaba, M., Kanyomse, E., Azongo, D., ... & Oduro, A. R. (2018). The role of community-based health services in influencing postnatal care visits in the Builsa and the West Mamprusi districts in rural Ghana. *BMC pregnancy and childbirth*, *18*(1), 1-9.

Salifu, H., & Salifu, K. (2015). Determinants of farmers adoption of improved maize varieties in the Wa Municipality. *American International Journal of Contemporary Research*, *5*(4), 27-35.

Sarkodie, S. A., & Adams, S. (2020). Electricity access, human development index, governance and income inequality in Sub-Saharan Africa. *Energy Reports*, *6*, 455-466.

Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A. B., Daniels, J., ... & Alkema, L. (2014). Global causes of maternal death: a WHO systematic analysis. *The Lancet global health*, *2*(6), e323-e333.

Schoetzau, A., Filipiak-Pittroff, B., Franke, K., Koletzko, S., Von Berg, A., Gruebl, A., ... & Gini Study Group. (2002). Effect of exclusive breast-feeding and early solid food avoidance on the incidence of atopic dermatitis in high-risk infants at 1 year of age. *Pediatric allergy and immunology*, *13*(4), 234-242.

Sebbani, M., Adarmouch, L., Amine, M., & Cherkaoui, M. (2020). Determinants of Maternal Health Services Use among Vulnerable Women in a Rural Community in the Moroccan High Atlas. *African journal of reproductive health*, *24*(1), 97-105.

Seddoh, A., & Sataru, F. (2018). Mundane? Demographic characteristics as predictors of enrolment onto the National Health Insurance Scheme in two districts of Ghana. *BMC health services research*, *18*(1), 1-6.

Shamsu-Deen, Z. (2013). Assessment of the contribution of traditional birth attendants in maternal and child health care delivery in the yendi district of ghana. *Assessment*, *3*(4).

Shaw, E. (2018). What matters is what works: The Third Way and the case of the Private Finance Initiative. In *The Third Way and Beyond*. Manchester University Press.

Sherwood, G., & Barnsteiner, J. (2013). Quality and safety in nursing: a competency approach to improving outcomes. *Journal of Nursing Regulation*, *3*(4), 64.

Sileyew, K. J. (2019). Research design and methodology. In *Cyberspace*. IntechOpen.

Simbar, M., Nahidi, F., & Akbarzadeh, A. (2010). Quality of Antenatal Care in Health Centres related to Medical Science University of Shahid beheshti. *Ira J Payesh*, *11*(4), 529-44.

Singh, K., Osei-Akoto, I., Otchere, F., Sodzi-Tettey, S., Barrington, C., Huang, C., ... & Speizer, I. (2015). Ghana's National Health insurance scheme and maternal and child health: a mixed methods study. *BMC health services research*, *15*(1), 1-13.

Singh, R., Neogi, S. B., Hazra, A., Irani, L., Ruducha, J., Ahmad, D., ... & Mavalankar, D. (2019). Utilization of maternal health services and its determinants: a cross-sectional study among women in rural Uttar Pradesh, India. *Journal of health, population and nutrition*, *38*(1), 1-12.

Sk, M. I. K., Paswan, B., Anand, A., & Mondal, N. A. (2019). Praying until death: revisiting three delays model to contextualize the socio-cultural factors associated

with maternal deaths in a region with high prevalence of eclampsia in India. *BMC pregnancy and childbirth*, *19*(1), 1-11.

Smith, P. C., Mossialos, E., Papanicolas, I., & Leatherman, S. (Eds.). (2009). *Performance measurement for health system improvement: experiences, challenges and prospects*. Cambridge University Press.

Sood, A. (2019). Vaccination in Pregnancy. *Infections in Pregnancy: An Evidence-Based Approach*, 1.

Sumankuuro, J., Crockett, J., & Wang, S. (2017). Maternal health care initiatives: Causes of morbidities and mortalities in two rural districts of Upper West Region, Ghana. *PLoS One*, *12*(8), e0183644.

Tamale, N. R. G. (2019). Trends and Causes of Maternal Mortality at the Tamale Teaching Hospital in Ghana, between 2010 and 2016. *International Journal of Applied Engineering Research*, *14*(7), 1703-1708.

Tanou, M., & Kamiya, Y. (2019). Assessing the impact of geographical access to health facilities on maternal health care utilization: evidence from the Burkina Faso demographic and health survey 2010. *BMC Public Health*, *19*(1), 1-8.

Thaddeus, S., & Maine, D. (1994). Too far to walk: maternal mortality in context. *Social science & medicine*, *38*(8), 1091-1110.

Thomas, T. (1985). Maternal Health from 1985-2013: Hopeful progress and enduring challenges. *World Health*, *2*, 83-5.

Tilton, K. (2019). Maternal Health Interventions in Rural, Resource-Limited Countries.

Tonsuglo, A., Aglobitse, P. B., & Kuunibe, N. (2014). Choice of malaria care services in Sissala West District in the Upper West Region of Ghana. *Ghana Journal of Development Studies*, *11*(1), 78-92.

Tunçalp, Ö., Pena-Rosas, J. P., Lawrie, T., Bucagu, M., Oladapo, O. T., Portela, A., & Metin Gülmezoglu, A. (2017). WHO recommendations on antenatal care for a positive pregnancy experience—going beyond survival. *BJOG: An International Journal of Obstetrics & Gynaecology*, *124*(6), 860-862.

Turcotte-Tremblay, A. M. (2020). The unintended consequences of a complex intervention combining performance-based financing with health equity measures in Burkina Faso.

Tuyisenge, G. (2020). *Access, equity, and ethics: A qualitative exploration of Rwanda's maternal community health worker program* (Doctoral dissertation, Environment: Department of Geography).

Unicef. (2015). Monitoring the situation of children and women for 20 years: The Multiple Indicator Cluster Surveys (MICS) 1995–2015. *New York, NY: UNICEF*, 1-99.

Ushie, B. A., Udoh, E. E., & Ajayi, A. I. (2019). Examining inequalities in access to delivery by caesarean section in Nigeria. *PloS one*, *14*(8), e0221778.

Van de Poel, E., Flores, G., Ir, P., & O'Donnell, O. (2016). Impact of performance-based financing in a low-resource setting: a decade of experience in Cambodia. *Health Economics*, *25*(6), 688-705.

Van de Poel, E., Flores, G., Ir, P., & Van Doorslaer, E. (2014). Can vouchers deliver? An evaluation of subsidies for maternal health care in Cambodia. *Bulletin of the World Health Organization*, *92*, 331-339.

Varkey, R. S., Joy, J., & Panda, P. K. (2020). Health infrastructure, Health outcome and Economic Growth: Evidence from Indian Major States. *Health*, *7*(11), 2020.

Venkateswaran, M., Bogale, B., Abu Khader, K., Awwad, T., Friberg, I. K., Ghanem, B., ... & Frøen, J. F. (2019). Effective coverage of essential antenatal care interventions: a cross-sectional study of public primary health care clinics in the West Bank. *PloS one*, *14*(2), e0212635.

Veugelers, P. J., & Yip, A. M. (2003). Socioeconomic disparities in health care use: Does universal coverage reduce inequalities in health?. *Journal of Epidemiology & Community Health*, *57*(6), 424-428.

Victora, C. G., Matijasevich, A., Silveira, M. F., Santos, I. S., Barros, A. J. D., & Barros, F. C. (2010). Socio-economic and ethnic group inequities in antenatal care quality in the public and private sector in Brazil. *Health policy and planning*, *25*(4), 253-261.

Victora, C. G., Requejo, J. H., Barros, A. J., Berman, P., Bhutta, Z., Boerma, T., ... & Bryce, J. (2016). Countdown to 2015: a decade of tracking progress for maternal, newborn, and child survival. *The Lancet*, *387*(10032), 2049-2059.

Way, C. (2015). *The millennium development goals report 2015*. UN.

Witter, S., Boukhalfa, C., & Filippi, V. (2014). Cost and impact of policies to remove fees for obstetric care in Benin, Burkina Faso, Mali and Morocco. *Aberdeen: FEMHealth*.

Woldeyes, W. S., Asefa, D., & Muleta, G. (2018). Incidence and determinants of severe maternal outcome in Jimma University teaching hospital, south-West Ethiopia: a prospective cross-sectional study. *BMC pregnancy and childbirth*, *18*(1), 1-12.

World Bank. (2020). Ghana Maternal Mortality Rate 2000-2020. Retrieved from https://www.macrotrends.net/countries/GHA/ghana/maternal-mortality-rate

World Health Organization. (1992). Traditional birth attendants: a joint WHO/UNICEF.

World Health Organization. (1999). *The World health report: 1999: Making a difference: message from the Director-General* (No. WHO/WHR/99.1). World Health Organization.

World Health Organization. (2000). *The world health report 2000: health systems: improving performance*. World Health Organization.

World Health Organization. (2011). Evaluating the quality of care for severe pregnancy complications: the WHO near-miss approach for maternal health.

World Health Organization. (2014). Every newborn: an action plan to end preventable deaths.

World Health Organization. (2015). Health in 2015: from MDGs, millennium development goals to SDGs, sustainable development goals.

World Health Organization. (2015b). Strategies towards ending preventable maternal mortality (EPMM).

World Health Organization. (2015c). *Trends in maternal mortality: 1990-2015: estimates from WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. World Health Organization.

World Health Organization. (2016). Standards for improving quality of maternal and newborn care in health facilities.

World Health Organization. (2016b). *WHO recommendations on antenatal care for a positive pregnancy experience*. World Health Organization.

World Health Organization. (2017). Health systems financing: the path to universal coverage. 2010. *WHO Library Cataloguing-in-Publication Data*.

World Health Organization. (2019). Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.

World Health Organization. (2020). *World Health Organization/United Nations University International Institute for Global Health meeting on economic and financing considerations of self-care interventions for sexual and reproductive health and rights: United Nations University Centre for policy research, 2–3 April 2019, New York, United States of America: summary report* (No. WHO/SRH/20.2). World Health Organization.

Yaya, S. (2020). Wealth status, health insurance, and maternal health care utilization in Africa: evidence from Gabon. *BioMed Research International, 2020*.

Yip, W. C. M., Hsiao, W. C., Chen, W., Hu, S., Ma, J., & Maynard, A. (2020). Early appraisal of China's huge and complex health care reforms. *Health Care Policy in*

East Asia: A World Scientific Reference: Volume 1: Health Care System Reform and Policy Research in China, 51-83.

APPENDICES

Appendix A: Interview Guide

In-depth interview for women beneficiaries of the Free Maternal Health Care Policy (FMHCP) under the National Health Insurance Scheme (NHIS)

Objective: To explore the perspectives of beneficiaries about the Free Maternal Health Care Policy.

A. Background Information

1. Age:
2. Marital status:
3. Educational level:
4. Employment status:
5. Religion:
6. Parity:

B. Knowledge about Free Maternal Health Care Policy under the National Health Insurance Scheme

7. Please can you tell me what you know about the FMHCP.
8. How did you hear about the policy?
9. Please describe how you acquired your NHIS card.
10. In what ways was the NHIS card helpful to you during your pregnancy and delivery?

C. Utilisation of the policy

11. Please describe your antenatal care experience to me.
12. Can you tell me the services you received when you went for your antenatal visits?
13. Among the services you have listed above which ones did you have to pay for? (Probe to find out if she was given explanation as to why she had to pay for those services.)
14.
15. Can you describe your delivery experience to me?
16. Were you required to make any payment during the delivery of your baby? (Probe to find out what she was required to make payment for.)

D. Quality of care under the policy

17. Please can you describe the general process you had to go through when you went for antenatal and delivery?
18. Can you tell me about the availability of equipment and supplies during your antenatal and delivery?
19. Please describe the attitude of the health providers during your antenatal and delivery

20. What is your view about the quality of care you received during your antenatal and delivery?
21. Please describe the satisfaction of care you received during your antenatal, delivery and postnatal period.
22. From your experience, would you still utilise the policy even if you had the means to pay for your bills?

E. Suggestions and recommendations

23. Please recommend some suggestions that you think can be included in the policy to improve health outcomes of pregnant women.

Appendix B: Ethical Clearance

UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)

Ref. No.: ECH 120/18-19

6th June, 2019

Ms. Doreen Anyamesem
Institute of Statistical Social and Economic Research
University of Ghana
Legon.

Dear Ms. Anyamesam,

ECH 120/18-19: ASSESSING MATERNAL HEALTH OUTCOMES OF THE FREE MATERNAL HEALTH CARE POLICY UNDER THE GHANA NATIONAL HEALTH INSURANCE SCHEME.

This is to advise you that the above reference study has been presented to the Ethics Committee for the Humanities for a full board review and the following actions taken subject to the conditions and explanation provided below:

Expiry Date:	06/06/20
On Agenda for:	Initial submission
Date of Submission:	19/03/19
ECH Action:	Approved
Reporting:	Annually

Ethics Committee for Humanities
06 JUN 2020
Valid Until.....
(University of Ghana)

Please accept my congratulations.

Yours Sincerely,

Prof. C. Charles Mate-Kole.
ECH Vice Chair

Cc: Prof Felix Asante, Institute of Statistical Social and Economic Research, University of Ghana.
Dr. Charles Ackah, Institute of Statistical Social and Economic Research, University of Ghana.
Dr. Ama Pokuaa Fenny, Institute of Statistical Social and Economic Research, University of Ghana.