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COLLEGE OF HEALTH SCIENCES  
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ASSESSMENT OF THE IMPLEMENTATION OF THE HOME VISITING STRATEGY: A  
CASE STUDY OF MATERNAL AND NEW BORN HEALTH CARE IN THE GA SOUTH  
MUNICIPALITY OF GHANA

BY  
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## **DEDICATION**

To the memory of Faustina Anyeley Akyen Gorleku, my mother, who did not live to taste the fruit of her efforts. It is also dedicated to my husband Francis, Zoe Naa Anyeley Chandi, my bundle of joy, my siblings Charlotte and Alfred Acquah and Miss Ophelia Gorleku.

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## LIST OF ACRONYMS

ANC	Ante Natal Care
CHC	Community Health Committee
CHN	Community Health Nurse
CHO	Community Health Officer
CHPS	Community-based Health Planning and Services
CHRB	Child Health Record Booklet
CHV	Community Health Volunteer
CHW	Community Health Worker
CWC	Child Welfare Clinic
EBF	Exclusive breast feeding
DHMT	District Health Management Team
ENAP	Every Newborn Action Plan
FGD	Focus Group Discussion
FHD	Family Health Division
GHS	Ghana Health Services
GOBIFFF	Growth monitoring, Oral rehydration, Breast feeding, Immunization, Female education, Food supplementation, Family spacing
HVSP	Home Visit Service Provider
IMnCI	Integrated Management of Maternal and Neonatal and Childhood Illness
KII	Key Informant Interview
MCHIP	Maternal and Child Health Integrated Programme

MDGs	Millennium Development Goals
MHD	Municipal Health Directorate
MHRB	Maternal Health Record Booklet
MICS	Multiple Index Cluster Survey
MMR	Maternal Mortality Ratio
MNC	Maternal and Newborn Care
MOH	Ministry of Health
NMC	Nursing and Midwifery Council
NMR	Neonatal Mortality Ratio
OPD	Out Patient Department
PHC	Primary Health Care
PHN	Public Health Nursing
PHNG	Public Health Nurses Group
PML	Princess Marie Louise Hospital
PNC	Post Natal Care
PPME	Policy Planning Monitoring and Evaluation
RHD	Regional Health directorate
SGDs	Sustainable Development Goals
SSA	Sub-Saharan Africa
U5MR	Under five mortality ratio
USA	United States of America
WHO	World Health Organization

## DEFINITION OF TERMS

ANC 4+	Ante natal visits four plus (a pregnant woman making four or more visits to access antenatal services).
Assessment:	Appraising an event.
CHPS Zone:	A demarcated geographical coverage area assigned to a CHO for community services.
Comprehensiveness of home visiting services:	The scope of home visiting services spelt out in a particular model.
Documentation:	Records keeping on home visiting services.
Exclusive breast feeding	Feeding a baby solely on breast milk without any additives and water from birth to six months.
Health care system:	The system or programme by which health care is made available to the population and financed by government, private enterprise, or both.
Health system:	A health system consists of all the organizations, institutions, resources and people whose primary purpose is to improve health.
Health system strengthening:	The process of identifying and implementing the changes in policy and practice in a country's health system, so that the country can respond better to its health and health system challenges.
Home visit:	The strategy used to provide targeted health care services in a client's home.
Home visit Case load:	The number of clients a home visit service provider takes care of over a specified period.

Home visit Coverage:	The area, groups, or number of persons served or reached with home visiting services.
Home visit Dosage:	The frequency and number or quantity of home visit required per client.
Home visit Fidelity:	The extent to which delivery of the home visiting intervention adheres to the protocol or programme model originally developed.
Home Visit Intensity:	The number and consistency of home visits.
Home visit Responsiveness :	The receptiveness of a client towards home visiting services.
Home visit Workload:	The amount of official work a CHO has to do within a stipulated time.
Maternal health care:	Maternal health care refers to the care rendered to ensure the health of women during pregnancy, childbirth and the postpartum period.
New born health care:	Refers to the health care or services rendered to an infant who is less than 28 days post- partum.

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## ABSTRACT

**Background:** Home visiting has been the pivot of both the Primary Health Care (PHC) and currently the CHPS concepts in the Ghana Health Service; yet there is little information on how the home visit strategy improves maternal and new born health. This study aimed at assessing the implementation of the home visiting strategy and its effect on maternal and newborn health care in the Ga South Municipality in Ghana.

**Methods:** A cross sectional study employing mixed methods approach was carried out. Four hundred and fifty three women were interviewed using a structured questionnaire. Four methods (desk review, observation, Key Informant Interviews, and two Focus Group Discussions) were used in the qualitative aspect. The quantitative data was analysed in SPSS version 22 using descriptive statistics for the background characteristics. Chi Square test was used to determine the association between ANC 4+ visits, Post natal coverage and the home visit strategy on one hand; and on the other, infection prevention and exclusive breastfeeding and the home visiting strategy. Nvivo version 11 was used to analyse the qualitative study. Triangulation of data from the quantitative and qualitative studies was done resulting in a synthesised and synergized document.

**Results:** About 51% of respondents had not seen home visit service providers in their communities. All the respondents agreed that the heavy workload of the Community Health Officers (CHOs) makes it difficult for them to conduct home visiting. The social network of clients influenced responsiveness to home visiting services. Fifty seven percent of respondents felt socio economic status of clients do influence home visiting services but there was not enough statistical evidence to conclude. Geographical access and availability of social amenities did not statistically influence home visiting services. The home visiting strategy is more beneficial to neonates than to pregnant women.

**Conclusion:** There are intervening factors that influence home visiting service delivery. Ensuring the availability and managing the workload of service providers could enhance home visiting services. The social networks of clients are valuable resources home visit service providers need to take advantage of.

# CHAPTER ONE

## 1.0. INTRODUCTION

### 1.1. Background to the study

Since 2000, there has been increasing attention to newborn deaths (Shiffman, 2010). Several studies have suggested that rapid policy change has been driven by the recognition that an increasing proportion of under-five deaths were neonatal inclined (Lawn *et al.*, 2010). In addition, evidence exist that effective action even in low resource settings have been a blessing in reducing the neonatal deaths (Knippenberg *et al.*, 2005; Darmstadt *et al.*, 2005; Lawn *et al.*, 2010).

Investing in maternal and newborn health is valuable, because, it has far reaching social and economic advantages (Otogara, *et al.*, 2017). Every year 216 mothers and over three million infants across the globe die but the majority continue to die at home, uncounted (Carlo *et al.*, 2010; Lawn *et al.*, 2010; Hodin *et al.*, 2016). For instance, in northern Ghana, only 13% of neonatal deaths occur in hospital (Baiden *et al.*, 2006).

The causes of these neonatal deaths include infection and socio cultural practices whilst haemorrhage, sepsis, difficult labour, high blood pressure (eclampsia) and anaemia account for the maternal deaths (Liu *et al.*, 2015; von Dadelszen & Magee, 2017). Ninety-eight percent of these neonatal deaths occur in developing countries (Amoako *et al.*, 2017). About two thirds ( $\frac{2}{3}$ ) of these newborn deaths which occur especially around the first week post-partum could be averted if mothers and newborns receive effective interventions which are usually low cost (Darmstadt *et al.*, 2005; Schiffman *et al.*, 2010; and Lawn *et al.*, 2010). These neonatal deaths are closely linked to lack of adequate

maternal and neonatal care at this critical time - the first 2 days after birth (Lawn *et al.*, 2010). Baqui *et al.*, (2009) therefore, suggested the adoption of the WHO-UN joint statement in 2009 on the importance of reaching mothers through early postnatal home visits.

Despite a 45% reduction in the global Maternal Mortality Ratio (MMR), many countries especially in Sub Saharan Africa (SSA) could not achieve the just ended Millennium Development Goal (MDG) 5 (Campbell, 2017). The 2015 UN report indicated that the 546 maternal deaths per 100,000 live births remain highest in SSA as compared to the global MMR of 216 maternal deaths per 100,000 live births (Hodin *et al.*, 2016).

Ghana could also not meet the 75% reduction of maternal mortality rates targeted by the MDG despite the numerous interventions put in place (MOH, 2014). There were significant improvements though, since an appreciable decline from 760/100,000 live births in 1990 to 380/100,000 live births was recorded in 2013 (WHO, UNICEF, UNFPA, WB & UNPD, 2014). During the past few years, several African countries, including Ethiopia, Ghana, Uganda, and United Republic of Tanzania, have made rapid progress for child survival but are not yet on track (Lawn *et al.*, 2010). With a neonatal mortality rate of 29 deaths per 1000 live births, Ghana was one of the 26 countries whose under 5 mortality rate (U5MR) contributed to 80% of the world's childhood mortality in 2013 (Wang *et al.*, 2014). These issues place maternal and newborn care high not only on the Ghanaian health agenda but on the world health agenda as well.

As an unfinished agenda, maternal and newborn health has featured as Goal 3 of the 17 Sustainable Development Goals (SDGs) (United Nations, 2015). It seeks “to ensure

healthy lives and promote well-being for all at all ages” (Abound & Yousafzai 2016). Broadly, this goal targets ending preventable maternal, newborn, and child deaths and improving access to sexual and reproductive health. It includes access to medicines and vaccines (Abound & Yousafzai 2016). Ultimately, SDG 3 targets the reduction of maternal mortality rates to lower than 70 maternal deaths per 100,000 live births, neonatal mortality rates of 9 per 1,000 live births, and stillbirth rates of 9 per 1,000 total births (Kumar *et al.*, 2016). Hence, the need for sustainable interventions to achieve the target set for the SDGs. The need for task shifting, innovation in service delivery, technology and investment in equitably deployed, skilled human resources is now (Lawn *et al.*, 2010 and WHO, 2015). However, a major gap in curbing these deaths is reaching mothers and babies at birth and in the early postnatal period (Lawn *et al.*, 2010). This is a critical period for neonates in Africa because the neonates are at home exposed to socio - cultural practices that endanger their lives (Engmann *et al.*, 2016).

Home visiting and maternal and new born health care have been long standing problems in the Ghana Health Service but lately maternal and new born health is receiving international recognition (MOH, 2014). Interventions for reducing maternal and newborn mortalities must hinge on the lifecycle continuum of care to ensure holistic outcomes (Kerber *et al.*, 2007). Some tried and tested interventions such as the Child Survival Strategy (Growth monitoring, Oral rehydration, Immunization, Breastfeeding, Female education, food supplementation, and Family spacing (GOBIFF), and integrated Management of Maternal and Neonatal and Childhood Illness (IMnCI) use home visits as a strategy for rolling out Maternal and Newborn Care interventions (Cueto, 2004; Irwin & Scali, 2007; Morikawa, 2015). Recently, improving the quality of care to neonates through the Every Newborn Action Plan (ENAP) has been the agenda (de Graft-Johnson

*et al.*, 2017), whilst the Maternal and Child Health Integrated Programme (MCHIP), has been a source of funding especially in piggy backing home visiting activities in the Ga South Municipality. These interventions mainly emanated from the Primary Health Care concept which has been around since 1975 when the World Health Assembly declared “Health for All by the Year 2000” at Alma Atta in Russia (WHO, 2003).

Home visit is an effective public health service delivery strategy for taking services to the door step of clients (Bassavanthappa, 2008; Howard & Brooks-Gunn, 2009 and Folger *et al.*, 2016). The purpose is to assist that individual patient and his/her family overcome specific health problems. Unlike the consulting room setting, home visiting nurses gain valuable knowledge of the family’s environment to facilitate the solution of various problems (Sweet & Appelbaum, 2004; Boller *et al.* 2010; Kahn & Moore, 2010). Studies have shown that home-based newborn care interventions can prevent 30–60% of newborn deaths in high mortality settings under controlled conditions (Bang *et al.*, 1999). Glazner *et al.*, (1994) posited that home visits could lend the support needed by postpartum women and enhance a mother’s utilisation of health care services. WHO and UNICEF now recommend home visits in the baby’s first week of life to improve newborn survival (Bang *et al.*, 1999; Bhutto *et al.*, 2008 and MOH, 2014).

Having been in existence prior to Florence Nightingale’s era, home visiting was the cornerstone of Nightingales’ “District Nursing” (Monteiro, 1985). Presently, it has been endorsed by governments such as the British and American governments as an effective strategy for solving health problems (Boonstra, 2009; Lo Berry *et al.*, 2010 and Segal *et al.*, 2012).

Home visiting has been recommended worldwide for the reduction of all – cause maternal and infant mortality; especially in deprived areas (Darmstadt *et al.*, 2005; Gogia *et al.*, 2010; Olds *et al.*, 2014). Countries with extensive home-visiting programmes generally have lower infant mortality rates (Schieber, Poullier & Greenwald, 1991). However, there are mixed outcomes on the effectiveness of home visiting programmes by nurses (Segal *et al.*, 2012; Filene *et al.*, 2013). Student nurses have been used in the early 20<sup>th</sup> Century to successfully reduce mortality from summer diarrhoea in central New York City when they instructed mothers about hygiene and breastfeeding in their homes (Baker, 1994).

Home visiting across the world has evolved immensely. It is now structured in models that target specific populations with specific interventions based on theoretical underpinnings and goals (Elkan, Blair & Robinson, 2000 and Olds *et al.* 2002). These models help in the monitoring and evaluation of the home visiting strategy.

Ghana has since 1928, been implementing home visiting as a strategy to reduce maternal and child morbidity and mortality as well as to solve sanitation issues (PHNG, 2010). It has been a major activity in public health interventions since then. Currently, it is the main service delivery strategy in the Community based Health Planning and Services (CHPS) concept, undertaken by the Ghana Health Service (GHS, 2005).

Several studies have been conducted in various aspects of home visit to enhance the services to clients in many countries. There is paucity of information on the home visiting strategy in Ghana. It is not clear which model of home visit is in use in Ghana. This becomes a challenge to evaluating any aspect of the strategy. Little is known about how home visiting influences maternal and newborn care and the benefits and challenges in

the home visiting strategy. This study therefore used maternal and newborn care in the Ga South Municipality as a case study to assess the home visiting strategy in Ghana.

## 1.2. **Problem Statement**

The Ghana health system adopted home visiting as a public health service delivery strategy since 1928 (Dampson, 1994; PHNG, 2010). This was in response to the rising maternal and child mortalities, communicable diseases as well as the poor sanitation problems Ghana was then facing (PHNG, 2010). It has since been the pivot of both the Primary Health Care (PHC) and the current Community based Health Planning Services (CHPS) concepts of the Ghana Health Service (GHS, 2005). Community Health Officers (CHOs) and Community Health Volunteers (CHVs) are mandated by the CHPS policy to carry out home visits daily at the community level (GHS, 2005). In addition, Public Health Nurses and Community Health Nurses carry out home visits as part of their job description with pregnant women, mothers and children as their primary targets (GHS, 2005).

Home visiting ensures equitable access to health care services since it is a door-step delivery service (Owen, 1977; Bassavanthappa, 2008; Folger *et al.*, 2016). It also enhances uptake of health services by families challenged with health access, especially those of low socio-economic background (Cowley *et al.*, 2013; Abdu *et al.*, 2016). It bridges geographical access (Engmann *et al.*, 2016; Nesbitt *et al.*, 2016) and reduces morbidity and mortality in both mothers and infants in the early neonatal period (MOH, 2014; Abbott & Elliott, 2016). The home visit service provider (HVSP) is able to comprehend the totality of the clients' problem because she meets the client in the home setting; as compared to the consulting room nurse who understands a part of the problem (Boller *et al.* 2010; Kahn & Moore 2010 and Theile *et al.*, 2011).

The CHOs are expected to visit pregnant women, lactating mothers and their newborns at home yet maternal and neonatal mortality are still high in Ghana (Ganle *et al.*, 2016). In 2014, for instance, close to 50% of under-five mortality occurred during the first 28 days after birth (Engmann *et al.*, 2016); a period where neonates and their mothers are expected to be visited at home (Bang *et al.*, 1999; Bhutta *et al.*, 2008 and MOH, 2014). These early neonatal visits offer the opportunity for physical examination of the mother and baby, providing health education and referral services whilst empowering the significant others in health decision making on the clients (Ntsua *et al.*, 2012).

Many aspects of the CHPS strategy have been studied (from supervision for improvement in service delivery - Aikins *et al.*, 2013, impact on maternal and child health – Binka *et al.*, 2007, lessons from the scaling up in experimental communities – Awoonor -Williams *et al.*, 2013 to possible replication in urban settings – Adongo *et al.*, 2014); but little is known on the influence of the intervening factors (service provider, client and community factors) and the challenges in the implementation of the home visiting strategy. Using the bio-ecological theory as the undergirding theory, this study sought to establish how service provider, client and community factors influence the home visiting strategy for maternal and newborn health care in the Ga South Municipality.

### **1.3. Justification for the study**

Even though a well-structured home visiting strategy has the potential of reducing maternal and new born morbidities and mortalities, there remains a problem in these areas in Ghana (MOH, 2014). Thus, the purpose of this research was to identify ways that would help strengthen the home visiting service delivery in general and specifically to

pregnant women, mothers and new born babies as evidence in this respect is currently, lacking.

Home visiting is an effective service delivery tool in bridging geographical and financial barriers to access to as well as ensuring equity in health care services for the vulnerable (Jack *et al.*, 2002; Ntsua, *et al.*, 2012; Minkovitz *et al.*, 2016). It is essential that at least, the comprehensiveness (scope of operation), coverage (those receiving home visiting services) and the effect of the interventions made at the homes be documented so that the strategy as a whole could be evaluated. How home visits influence maternal and newborn care could then be evident. Based on this, the necessary measures would be put in place to ensure effectiveness and efficiency in the home visiting strategy.

Evidence suggests its usefulness in reducing childhood illnesses, improving family health and compliance with health instructions (Olds, 1992; Cowley *et al.*, 2013; Abdu *et al.*, 2016). Nonetheless, with the exception of the study by Kirkwood *et al.* (2013) on the effectiveness of the home visiting strategy in the survival of neonates it appears no study has yet examined the effectiveness of the home visiting strategy for maternal and newborn care in Ghana besides using a theoretical model to explain home visiting issues. Assessing the effectiveness of the home visiting strategy on ANC 4+visits, PNC attendance, hygienic cord care practices and exclusive breast feeding in this study would address this deficiency as well.

#### **1.4. Significance to Nursing Science and Practice**

Polit and Hungler (1999), suggest the need for improving the practice of nursing through the development and acquisition of the relevant body of knowledge. This study is poised to answer questions on the effectiveness of the home visiting strategy for maternal and newborn health care. There is paucity of information in this area. Thus, not only would this study contribute to building the body of knowledge as nursing science. It would also aid in using the knowledge for practice in nursing.

##### **1.4.1. Nursing Science**

Nursing science is an identifiable discrete body of knowledge comprising paradigms, frameworks, and theories. It is broad enough to encompass all disciplinary knowledge (Daly *et al.*, 1997; Barrett, 2002). This body of knowledge shows the profession's thinking and directs the development of science and theory in the discipline (Burns & Grove, 2005). Knowing is different from knowledge (Chinn & Kramer, 2004). "The term knowing refers to ways of perceiving and understanding the self and the world. The term knowledge refers to knowing that is in a form that can be shared or communicated with others" (Chinn *et al.*, 2004). Thus, this study, on home visiting services in the Ga South Municipality, would help to explain community nursing phenomenon as knowledge contributing to nursing science.

##### **1.4.2. Nursing Practice**

"Nursing knowledge is developed in practice as well as for practice" (Reed 1993). Since knowledge is linked to practice, development of nursing knowledge acquired in this study will be significant to nursing practice in home visiting services in Ghana. Although further studies (on the influence of community factors on home visiting services) will be required, the findings of this study are expected to provide essential information for home

visit nurses. Precisely, to understand the phenomena of home visiting in terms of the relationships between service provider, client, and community factors. The Ghana health sector may be able to identify the factors influencing home visiting services to pregnant women and newborns.

This work would not only serve as evidence, but also enhance policy on home visits. It is envisaged that the findings of this study would help inform policy and further research to enhance home visiting as a service delivery strategy and specifically, for maternal and new born health care.

### **1.5. Study Objectives**

The objectives of this study have been divided into general and specific:

#### **1.5.1. General Objective**

The general objective of the study is to assess the implementation of Ghana's Home visiting strategy for maternal and newborn health care.

#### **1.5.2. Specific Objectives**

The specific objectives of the study were to:

1. determine the influence of service provider factors on home visiting services.
2. determine the influence of client factors on home visiting services.
3. assess the influence of community factors on home visiting services.
4. determine the effect of home visiting services on maternal and newborn care.
5. determine how the home visiting strategy is used to improve maternal and newborn care.
6. determine the challenges in the use of the home visiting strategy for maternal and newborn Care.

### **1.5.3. Research Questions**

The following questions helped to address the specific objectives of the study:

1. What influence do service provider factors have on the home visiting service?
2. What influence do client factors have on the home visiting service?
3. What influence do community factors have on the usage of the home visiting strategy for maternal and newborn care?
4. What is the effect of the use of the home visiting strategy on maternal and newborn care outcomes?
5. How has the home visiting strategy in the Ga South Municipality improved maternal and newborn care?
6. What are the challenges in the use of the home visiting strategy for maternal and newborn care?

### **1.6. Outline of the thesis**

This thesis is structured in eight chapters. Chapter one deals with the background to the study. It captures the problem statement, research objectives and questions and the study's relevance to nursing and policy. Chapter two reviews literature in support of this study. Chapter three presents the health system in Ghana and the CHPS strategy. Chapter four explains the conceptual frame work of this study. It takes into cognisance nursing and health promotion theories and the relevance of the ecological theory as the undergirding theory for this study. Chapter five provides the methodology and analysis plan whilst chapter six presents the results of the quantitative study. Chapter seven discusses the findings from both the quantitative and qualitative study. Chapter eight summarises the issues from the studies and also draws out its contribution to knowledge and policy. It also states the limitations of this study and the future direction for research

on the home visiting strategy. Finally the chapter gives recommendations to the relevant authorities and concludes with the salient issues from the study.

## CHAPTER TWO

### 2.0. REVIEW OF RELATED LITERATURE: HOME VISTING STRATEGY

This chapter focuses on a review of literature on the home visiting strategy and how it affects maternal and new born health care. It begins with the description of the home visiting services and the health care system in Ghana. It describes the primary health care and CHPS concepts and briefly highlights a new health delivery intervention, the “one million community health workers campaign”. This chapter also provides a brief history of the home visiting strategy in Ghana whilst giving a brief global overview of the home visiting strategy. It further discusses some methodological issues on related studies to inform the methods of this study.

#### 2.1. The Home Visiting Strategy

Smith and Maurer (2000) define home visiting as a purposeful interaction in a home (or residence) aimed at promoting and maintaining the health of individuals and the family (or significant others). The ultimate aim is to overcome specific health problems through the use of information, acquired through a unique bond, and resources not available to consulting room practitioners (Pastor, 2007; Bassavanthappa, 2008; Theile *et al.*, 2011). Home visiting also ensures equity, participation and universal access which are principles of primary health care (Nievar *et al.*, 2010; Folger *et al.*, 2016).

Some researchers refer to home visiting as a technical process used mainly by health authorities to provide health care services to mostly vulnerable or hard – to - reach populations (Kendrick *et al.*, (2000); Barlow *et al.*, (2007) and Johnson (2009). Several studies suggest families with children below five years within communities and pregnant

women as the main targets for home visiting though other populations such as the elderly are not exempt from home visiting services (Weiss, 1993; Elkan *et al.*, 2000). The main aims of home visiting are to inform, encourage and improve their clientele on the best use of health and social services available to improve community health (Robertson, 1991 and Offei & Abakah-Quansah, 2009; Cowley & Whittaker, 2013). Furthermore, home visiting rides on health education, surveillance and rehabilitative services to achieve its aims (Elkan *et al.*, 2000).

Home visiting is a therapeutic intervention where the nurse or care giver relies on the client's viewpoints in making ethical decisions (Shute & Judge, 2005). These decisions take into cognizance paradigms in various health-related fields to help organize the interventions into models. The models determine the clientele, type of service provider, interventions or care to provide as well as comprehensiveness and coverage of the programme. The models also help in evaluating the fidelity to the programme as well (Elkan *et al.*, 2000 and Mowbray *et al.*, 2003). There are varieties of models with diverse goals, intensity of services, and staffing to meet the needs of families (Olds *et al.*, 1994).

Home visiting services are usually embedded in health care programmes, especially those for maternal and child health and are usually without direct cost to the client (Granado-Villar *et al.*, 2009). Having evolved out of concern for the poor health of the population, home visiting has its roots in public health (Stanhope & Lancaster, 1996). It had been the main strategy in use before and during Florence Nightingale's district nursing in 1863 till date (Schonberg *et al.*, 1998). It has been successfully used in many countries to reduce morbidity and mortality levels, aid abusive parents, support teenage mothers, provide a

range of care for the elderly and reduce disease burden in general (Bosu, 2003; Cowley *et al.*, 2012; McDonald, 2012; Segal *et al.*, 2012; Kirkwood *et al.*, 2013).

The strategy is not limited to the health sector and differs across countries and within countries by its objectives. It is an established mode of providing services by other sectors such as social welfare, education, agriculture and others. Within the health sector, home visiting is not limited to primary health care or preventive health care. In Cuba, for instance, medical officers in the consulting rooms follow up their clients at home (Dresang, 2005). Midwives are known to offer home visiting services to their clients, especially the first 7 days post-partum in Sweden (Fenwick, 2010). The education sector engages the services of Social Welfare Officers to provide counselling and support to pupils with varying degrees of problems that impact negatively on learning (Bhavnagri & Krolikowski, 2000).

## **2.2. Components of the home visiting strategy**

Home visiting services, from the United States of America perspective, are categorized into two broad models namely the professional health and partnership models (Olds *et al.*, 2004). Licensed personnel from the health services and para-professionals are the main people engaged in the two models respectively. Apart from that most home visiting services comprise programme components, administrative components and outcomes.

*Programme/process components:* The programme components spell out the objectives or core values of the strategy as well as the theoretical framework, type of community partnership and clientele. Table 2.1 shows some home visiting models and their characteristics.

*Administrative/Content component:* the contractual arrangements between the service and the client are taken into consideration in this component. The types of services and mode of employing those services are issues worth considering. Services for instance range from personal visits, group connections, screening and resource networking as in the Alberta Children’s service in the United States of America (USA). Legal issues such as staff qualification and supervision, caseload assignment, records management and monitoring and evaluation are embedded in the administrative components (Elkan *et al.*, 2000).

*Outcomes/impact:* Most of the home visiting outcomes worldwide are in favour of prevention of maltreatment/violence, malnutrition, and improved pregnancy outcomes and parenting. The “Parents as Teachers” model, in the USA, groups outcomes into short term (improved parenting capacity), intermediary (improved child health and development) and long term (healthy children).

**Table 1.1 : Characteristics of some of the Home visiting models**

<b>Programme</b>	<b>Goals</b>	<b>Frequency/duration of home visits</b>	<b>Population served</b>	<b>Background of home visitors</b>
Nurse-Family Partnership	Improved pregnancy outcomes Parenting skills Maternal Life course	Prenatally through 24 months	Low-income, first time mothers	Public Health Nurses
Infant Health and Development Programme	Enhance the development of premature, low-birth-weight babies	Weekly until 12 months, then biweekly until 36 months	Low-birth-weight infants and their families	College graduates with home visiting experience; master’s-level supervisor
Early Head Start	Enhance children’s development Support/strengthen families	Prenatal or birth to 3 years	Low-income families with children	Trained para-professionals

*Source: Howard and Brooks-Gunn (2009).*

### 2.3. **The Home visiting Process**

Since the home visiting strategy is synonymous with public health practice (Cowley, 1995 and Carr, 2005) it subtly imbibes the tenets of the primary health care concept (accessibility, affordability, acceptability, and equity) whilst improving the health of the population through teaching and counseling (Owen, 1977). It has a technique based on the ethics of the nursing profession. Protocols and guidelines spell out how a home visitor is expected to conduct home visiting. The Public Health Nurses School, at Korle-Bu, and the Nursing and Midwifery Council of Ghana have checklists and rating scales on the home visiting technique. These checklists and rating scales are used by the Nursing and Midwifery Council in Ghana to conduct Licensure Examination for Public and Community Health Nurses.

There are two main types of home visiting; the routine and special home visiting but the home visiting process has three distinct phases (Robertson, 1991). Routine home visiting is carried out without previous knowledge of the client. General objectives of what the home visit service provider achieve for the day guides the interventions to be made. In the special home visiting, the service provider has a distinct client in mind and goes directly to the client to achieve objectives that had been set with the client.

The three phases in the home visiting process are planning, service provision and continuity of care (Offei and Abakah-Quansah, 2009).

*The planning phase:* this phase involves goal setting, replenishing resources in the home visiting bag, selecting an area for the home visit and plans for record keeping/report writing.

- i. *Goal setting*: This depends on the type of home visiting and the type and medium of referral of client for home visiting services. The goals are client centred. In routine home visits, the nurse sets out purposely to visit unknown clients. Some of the goals expected could be to support neonatal mothers to practice exclusive breastfeeding, trace Ante Natal Clinic (ANC) or Child Welfare Clinic (CWC) defaulters or identify mothers with difficulty in coping with parenting.
- ii. *Stock replenishing*: artifacts such as home visiting bags are used. Stocking this bag plays a major role in the quality of service to be rendered to a client (Offei & Abeka Quansah, 2009). A good home visiting nurse can be identified by the way he or she handles the home visiting bag. According to the home visiting checklist used by the Nursing and Midwifery Council in Ghana, the home visiting bag must be placed on a higher surface on a clean newspaper to limit contamination by pathogens. Worldwide, an approved home visiting bag has 3 major components (Aaltonen *et al.*, 2009; Offei & Abeka Quansah 2009; McGoldrick, 2014). The first component, the middle or inner, and the outer component. The first component is used for storing hand washing equipment, apron, and old newspapers. The inner or middle component is considered a very clean area that must only be accessed after thorough hand washing. The inner component harbour equipment such as BP apparatus, food samples, contraceptives, trays, flip charts, pamphlets, dressing implements, essential drugs (over the counter drugs), and other items needed for specific interventions by the nurse. The outer component is for storing unwashed equipment and waste that is tightly wrapped in polythene until it is disposed at the approved dumping site.

#### **2.4. Perspectives of home visiting services world wide**

Home visitation programmes for parents and children are well-known early-intervention strategies in most industrialized nations (Olds & Kitzman, 1993; Schonberg *et al.*, 1998). Many home visitation programmes are free of charge and form part of state-owned comprehensive maternal and child health programmes (Granado-Villar *et al.*, 2009). Countries such as Denmark, England and France had either piloted or were providing home visitation programmes by 1937 (American Academy of Paediatrics, 1998). Home-visiting programmes are now implemented widely, covering many thousands of families across the United States and other countries such as Canada, Australia, Syria and Japan (Wiggins *et al.*, 2005; Segal *et al.*, 2012).

#### **2.5. Home visiting services in Africa**

In Africa, countries such as South Africa can boast of the Philani Home Visiting Programmes for underweight Children (Rotheram-Borus *et al.*, 2011; Le Roux *et al.*, 2015) and the volunteer or para-professional support for orphans and Vulnerable Children (Thurman, Kidman & Taylor, 2015). Other African countries such as Malawi and Uganda have home visiting services in place to strengthen child care services (Sitrin *et al.*, 2015). These home visit services have been structured in models that spell out the objectives and clientele. Paucity of information exists on their history.

#### **2.6. History of Home visiting services in Ghana**

Home visiting in Ghana existed before the formal training of “Female Health Visitors” (Public Health Nurses) in 1952 (PHNG, 2010). Historical events from grey literature (Dampson, 1994) state that in 1928 a group of White Ladies came together to educate the housewives in their own homes on health matters such as personal, environmental sanitation, childcare, nutrition and budgeting. This was in response to the call to reduce

the high incidence of diseases and high rate in infant and maternal mortality in Ghana. These ladies were Lady Crentsil, wife of the Governor of the then Gold Coast, Lady Diana Quist, wife of the then Speaker of parliament, Miss Ruby Papafio, an Educationist and Mrs. Odonkor. These ladies ensured nurses from the Princess Marie Louis (PML) Hospital in Accra, were trained in child care and given the Director of Medical Service Certificate in Child Health. Their main duties were to visit sick children who received treatment at the Princess Marie Louis Hospital and to assist the Health Sisters at the Child Welfare Clinics. They also accompanied Health Inspectors on their daily routine duties to educate families on healthy living. The group later organized themselves into the Gold Coast League of Maternal and Child Welfare and with time became the Red Cross Society in Ghana in 1932 (Dampson, 2004). Since then home visiting, which was already in existence became the key strategy used by the Ministry of Health in Ghana for extending the coverage of basic and primary health care services. It is the bedrock of Ghana's Community – based Health Planning and Services (CHPS) concept to enhance access to health care services (GHS, 2005).

#### **2.7. Benefits and challenges of the home visiting strategy:**

The benefits of home visiting services vary according to programme models or objectives (Elkan *et al.*, 2000). Evidence from systematic reviews suggests mixed findings and difficulty in evaluating some home visiting programmes (Olds *et al.*, 1994, Gomby *et al.*, 1999 and McNaughton *et al.*, 2000). All the same, benefits such as improved birth outcomes, child care and prevention of child abuse have been recorded in Randomized Control Trials (Goyal, Teeters & Ammerman, 2013). Home visits reduce future disparity gap and poverty that children from low resourced families may encounter (Chapman, 1990). The service provider is also advantaged in the sense that she gets easy access to resources (human and material) in the environment that can help her discharge her duties

better (Bassavanthappa, 2008). Clients open up because of assurance of privacy and confidentiality (Offei & Abakah-Quansah, 2009).

The American Academy of Paediatrics, (1998) classifies the benefits of home visiting into three broad categories (prenatal, post natal and long term effects). Prenatal benefits include increased use of prenatal care, health and other community resources, birth weight and improved nutrition during pregnancy (Chapman, Siegel & Cross, 1990; Olds, 1992; Olds & Kitzman, 1993; Kitzman *et al.*, 1997). For post natal gains, fewer subsequent pregnancies, emergency department visits and home accidents; improved growth in low-birth-weight infants, rates of breast feeding, increased length of maternal employment among others (Olds *et al.*, 1986; Kitzman *et al.*, 1997; Elkan *et al.*, 2004) have been reported. Long term effects include improved parenting. Evidence from meta-analysis reveals that socially deprived mothers show the greatest benefits from home visiting (Daro, 1999). Although community based para-professionals do well with cultural bond between client and service provider, the professional/ nurse based home visits has far reaching benefits for clients (Lagerberg, 2000 and Daro, 1999).

Major challenges of home visitation programmes have been insufficient capacity to serve the total population of potentially eligible women and children. A systematic review of 53 home visit models on the consistency of programme goals with service delivery revealed that only seven (7) demonstrated programme goals consistency. All of the 7 had a statistically significant positive outcome, whereas 15 out of those with no consistency were unsuccessful (Segal *et al.*, 2012). The safety of the service provider is also a cause for concern (Bassavanthappa, 2008; Ofei & Abakah-Quansah, 2009).

## **2.8. Influence of Home Visit on mothers and newborns**

The Millennium Development Goals (MDGs) 4 and 5 called for a reduction by two thirds and three quarters child and maternal mortality respectively between 1990 and 2015. Countries have worked diligently to reduce especially the under-five mortality rates but reduction in new born mortality seems to yield rather slowly with almost little evidence to show (Lassi, Haider & Bhutta, 2010 and MOH, 2014). Currently, new born deaths are estimated at 2.9 million per year with still births in the last trimester constituting 2.6 million births annually (UNICEF, 2013). Whilst child (1-59 months) and maternal mortality have chalked significant successes, neonatal mortality has reduced by only 2.1 % from 1990 as compared with 4.2% for maternal mortality (UNICEF, 2014). The report further asserts an increase from 37% in 1990 to 44% in 2013. There still exists room for strengthening other service delivery strategies such as home visiting to improve upon services to mothers and newborns (Lawn *et al*, 2015), since, home visit services ensure access to health care. The role of home visiting in uptake of antenatal and postnatal care, building parents' capacity, encouraging mothers to prevent infection and increasing breastfeeding initiation, duration, and intensity cannot be overemphasized (Olds, 1994; Sitrin *et al.*, 2013).

## **2.9. Current situation of home visiting in Ghana**

Prior to 2004, a home visit service provider goes through general nursing training for three years. She then works for at least three years, trains as a midwife for a year and works for at least two years. She then trains for an additional year to acquire the Public Health Nursing certificate to practice home visiting and other family health related services (PHNG, 2011). Currently, Registered General and Mental Health Nurses as well as Registered Midwives (trained for 3 years) are eligible to train as Public Health Nurses

after working for a minimum of three years (Dampson, 2004). Due to insufficient numbers of Public Health Nurses in the health system, Community Health Nurses are trained to support the Public Health Nurses (PHNS, 2011). Anecdotal evidence reveals that a Community Health Nurse goes through three years training to acquire a Diploma (Registered Community Health Nursing) or two years training to acquire the Community Health Nursing Certificate (personal communication, Acquah, June 2016). Mostly, According to Phillips, Bawa & Binka, (2006), Community Health Nurses (certificate holders) are given orientation after passing out of school to man the CHPS Zones as Community Health Officers (CHOs). They work closely with a Community Health Committee (CHC) and a Community Health Volunteer (CHV). The CHO and CHV conduct home visiting under the CHPS concept (GHS, 2006; Ntsua *et al.*, 2012). Other health volunteers from programmes such as the National AIDs Control, Malaria and TB Control Programmes conduct home visits as well (Personal communication with EPI Manager at GHS, April, 2016). They basically support disease surveillance activities and provide palliative care, especially for People Living With or affected by HIV and AIDS.

Other categories of health workers such as midwives, also visit their clients at home. Personal communication with a past Principal of the Public Health Nurses School, Korle-Bu, March 2013, revealed that midwives in Ghana were conducting home visits by the early 1950s.

Home visiting is a mandatory service provided to all categories of people living in Ghana. Pregnant women, lactating mothers and children are the main targets for home visiting (GHS, 2005). Adolescents and the elderly are also targets for home visiting. Service delivery as a component of health systems strengthening is opined by the World Health

Organization as an immediate output of the inputs into the health system, such as the health workforce, procurement and supplies, and financing (WHO, 2007). The health system's primary task is to ensure availability of quality health services that are accessible to their clientele (WHO, 2007).

Currently, none of the Ghana Health Service Annual Reports have information on home visiting, apart from the number of home visits made by service providers (personal communication with Dep. Director, FHD, GHS). The community register barely captures information on home visiting. Poor records keeping practices makes it almost impossible to track the effectiveness of home visiting (Personal communication with retired Principal, June, 2016). Although the Ghana Health Service is in the process of standardizing health education messages to be provided by CHOs on home visiting, no one knows what kind of interventions are made by home visitors on home visits. Tutors and students however use rating scales and guides for home visiting but the use of these rating scales end in the school setting.

The core function of public health nursing is providing assurance, research and policy to populations (Stanhope & Lancaster, 1996). Assurance deals with availability and provision of services, research aims at delving into phenomena to improve upon situations whilst policy aims at providing the appropriate legislation to a course of action. In an attempt to contribute to policy, research and assurance, this study will provide evidence for instituting guidelines for the provision of care and also strengthen the home visiting strategy in Ghana. The findings from this study will help in the development of policies that would strengthen home visiting service provision. It will also contribute to capacity building of home visitors, come out with indicators for monitoring and

evaluating the home visiting strategy and provide new knowledge of the phenomenon at stake.

#### **2.10. Characteristics of studies on home visiting**

Gray & Wandersman (1980) posit that home visit programmes present unique opportunities for examining theoretical and applied issues on the factors that influence the development of competence within the family's ecological context, but they are fraught with conceptualization, implementation, and evaluation challenges. They further assert that studies on such programmes demand a critical look at the methods of the research. Doyle *et al.* (2017); Levey *et al.*, (2017) however found that most of these Randomised Control Trials (RCTs) for example Olds *et al* (1994), that showed little effectiveness of the home visiting outcomes had sample size issues. Desk review shows that RCTs and systematic reviews have dominated the quantitative research arena with mixed methods, ethnographies and grounded theories showing prominence in qualitative home visiting studies. The use of, especially, nursing and health promotion are theories gradually being considered though McNaughton (2000) criticises most public health research for lack of theory and commends the use of rigorous methods, such as RCTs, for evaluating the effectiveness of some the services such as child maltreatment, mental health and prenatal health care among others. These trials generally offer the best way to test causal connection between a service programme and outcomes (Gomby *et al.*, 1999). Whereas most studies on service providers looked at how they provide the services (Vogler *et al*, 2002 and Cowley *et al.*, 2015), a few of these studies have looked at caseload or workload (Crofts *et al*, 2000; Ntsua *et al*, 2012). Child maltreatment, maternal and child health and a few theories such as Peplau's theory on the therapeutic relationship have been tested in the community settings (McNaughton, 2000). Most of these studies were qualitative studies employing ethnography and grounded theories. A few that looked at

geographical access employed quantitative (Engmann *et al.*, 2016) and qualitative (Ntua *et al.*, 2012) methods. So far, there is a gap on studies on the nature of the road and the effect of health and social amenities on home visiting. In the Ghanaian setting paucity of information exists on studies on home visiting in general but that of Kirkwood *et al.* (2013), was a randomised control trial that evaluated outcomes of services rendered to newborns. Using mixed methods in this study, which borders on relationships between levels (bio- ecological theory), would enhance a better understanding of the issues behind the figures.

### 2.11. Chapter summary

This chapter described the home visiting strategy as an essential public health strategy that enhances child and family health outcomes. It also ensures equity and access to health care for the vulnerable (Nievar *et al.*, 2010; Engmann *et al.*, 2016; Folger *et al.*, 2016; Ntsua *et al.*, 2012). The components of the home visiting strategy were spelt out and a brief global overview as well as the African and local overview of the strategy was presented. By 1928, Ghana practised home visiting but it was formalised with the inception of the training of Public Health Nurses in 1952 (Dampson, 2004; PHNG, 2010). An overview of home visiting services to mothers and newborns was highlighted. The chapter ended with an overview of methodology issues in home visiting research.

## **CHAPTER THREE**

### **3.0. BACKGROUND TO THE HEALTH SYSTEM IN GHANA**

This chapter is on the health care system in Ghana. It provides the Act that legalizes the health care system, and situates the Community based Health planning Services (CHPS) concept within the primary health care concept.

#### **3.1. Health Care System in Ghana**

The current health care system in Ghana was established by Act 525 (Ghana, 1996). Its main aim is to provide health care services for all people living in Ghana. The system is organized in 4 main levels (national, regional, district and sub-district). At the national level, the Ministry of Health acts as the regulator whilst the Ghana Health Service is contracted to offer health care services. The Regional and District Health Administration/Directorates fall under the Ghana Health Service. The Regional Health Directorate (RHD) provides technical assistance to the districts and sub-districts. The District Health Directorate also provides guidance to the sub - districts whilst the sub - district also assist the CHPS Zones. The health care services provided are either curative or preventive. The curative health care services are organized from health institutions designated as hospitals, polyclinics, health centres and CHPS Zones according to the levels. Preventive services are predominantly community based though the health workforce providing the services are attached to health institutions.

#### **3.2. The Primary Health Care Concept**

In 1978, one hundred and thirty-eight (138) member states of the UN General Assembly met in the Russian city of Alma Ata to deliberate on health issues. At this conference the phrase 'Health for all 2000 was coined (WHO, 2003). This phrase is a goal which sought

to ensure that by the year 2000, the vast majority of people would have access to health care. At this meeting primary health care was defined as;

*Essential health care based on practically scientific sound and socially acceptable methods and strategies made universally accessible to individuals and families in the community through their full participation and at a cost the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination (WHO, UNICEF 1978).*

Though ambiguities exist in the Alma-Ata document, the concept is widely accepted as both a level of care and an overall approach to health policy and service provision (WHO, 2003). The document further states that low income countries apply PHC as a system-wide strategy as compared to high and middle income countries where it is applied as the first level of care.

### **3.3. Principles and strategies of the Primary Health Care Concept**

The principles of primary health care include universal access to care and coverage on the basis of need; commitment to health equity; community participation; and inter sectorial collaboration (WHO, 1978). The elements inherent in the PHC include food supply and proper nutrition, health education i.e. education concerning the prevailing health problems and the methods of their prevention and their control and provision of adequate supply of safe water and basic sanitation. Others include maternal and child health care including family planning, immunization against the major communicable diseases, and provision of essential drugs. Prevention and control of locally endemic diseases, appropriate treatment of common diseases and injuries and mental health were also key elements in the PHC concept (Cueto, 2004).

#### **3.4. The Primary Health Care Concept in Ghana**

In Ghana, Primary Health Care (PHC) post Alma Atta, operated on a multi structure or three tier system known as levels A, B and C. Services based at level A (village or community) included preventive services, simple diagnosis and treatment, antenatal and postnatal care. The level B (health centre and health post) provided preventive, curative, promotive and rehabilitation. Level C (district or administrative level) had the District Health Management Team (DHMT) to provide oversight (Ackon, 2001). Services were also rendered from hospitals under the PHC system. Their core functions included referral to tertiary hospitals at the regional level, monitoring and evaluation of health programmes in the district, financial administration through budgeting, training of various categories of health and health related staff. They also carry out research work in the district they serve, liaise between the district and the region in matters related to health and liaise with the district political and traditional administration on health issues (Ackon, 2001).

Other structures put in place at the Level A were the introduction of Traditional Birth Attendants and Village (Community) Health Attendants. These community workforces were to be the first point of call to the community members in the provision of first aid services maternal health and general health issues (Ackon, 2001). The village attendants became quack doctors with time (Dampson, 1994). In effect, participation, equity, and access were not optimized. With time the health sector, in trying to meet the tenets of PHC piloted what later became the CHPS concept.

#### **3.5. Community based Health Planning and Services**

The Community based Health Planning and Services (CHPS) is defined as a process of provision of a range of acceptable health care services through the revised primary health care strategies to people in their own setting with their full participation (Ghana Health

Service, 2006). It involves community participation in primary health care services delivery through Community Health Committees and Community Volunteers. It operates mainly by locating CHOs in communities in a Community Health Compound by mobilizing and re orienting ministry of health and district Assemblies to support the initiative at the district level.

It is an initiative aimed at increasing rural access to health care service while empowering local communities to take greater control over their health (Baatiema *et al.*, 2003). It also seeks to promote community-driven health care services, with technical support from the Ghana Health Service (GHS, 2005). WHO (2007), confirms that the CHPS concept is to achieve two of the MoH's goals. The goals are: need to expand public sector health facilities; and shifting of resources from curative institution based care to community based preventive public health services; the ultimate being to ensure access, equity and participation. GHS, (2006) also states that the CHPS concept rides on mobilizing community resources such as community leadership, decision making systems and other resources in a defined geographical location (CHPS zone) to enhance health care services in that zone. It is a strategy for ensuring "health for all" as propounded at Alma Ata in 1977 hence the GHS aligning its definition of CHPS with the Alma Ata definition of Primary Health Care.

CHPS was piloted at Navrongo in 1993 and officially launched for nationwide scaling up in 1999 (Baatiema *et al.*, 2003; Nyonator *et al.*, 2003; Ma *et al.*, 2016). The Navrongo project was named the Community Health and Family Planning Project (CHFP). Upon seeing improvement in child survival and family planning uptake and treatment in minor ailments the project was replicated in Nkwanta (Volta region), Birim North, (Eastern

region) and Asebu – Abura- Kwamankese in the Central Region. Thus in the effort to reach the primary producers of health (households) with services at their door step and involve them in health care decision making, GHS initiated the implementation of the Community based Health Planning and Services Programme.

The health sector reorients frontline health workers who are renamed Community Health Officers (CHOs) to work in collaboration with the community health team and community volunteers according to the tenets of the Primary Health Care system (Phillips, Bawah & Binka, 2006). The main duty of the CHO is to conduct scheduled home visits to the people in her CHPS Zone. Apart from CHOs, Community Health Workers are another cadre of workers widely used for interventions at the community level especially in Africa (WHO, 2000; Mukhopadhyay *et al.*, 2017).

### **3.6. The one million community health workers campaign**

The Global Health Workforce Alliance, established in 2006, pledged their support to train one million community health workers by 2015 to strengthen the health system (Singh & Sachs, 2013). This was to fulfil their mandate as the global convener for mobilizing worldwide attention to the human resources for health (HRH) crisis and generating political will and action for positive change (WHO, 2015).

Rifkin (2008) described CHWs as lay persons living and or working closely with the health system in local communities who provide basic health care services such as health promotion. They are called by many names including volunteers (Giblin, 1989; Witmer *et al.*, 1995; Andrews *et al.*, 2004 and Malcarney *et al.*, 2017). They live solely in the

communities and are the liaison or connectors between the health care sector and the communities (Witmer *et al.*, 1995). The involvement of CHWs or volunteers in health activities dates back to the pre-Alma Atta Conference on primary health care (Witmer *et al.*, 1995 and Leon *et al.*, 2015). The WHO recommends that community health workers should be members of the communities where they work, be selected by the communities, and answerable to the communities for their activities. It further suggests that they should be supported by the health system but not necessarily be a part of its organization, and have shorter training than professional workers (WHO, 1989). Their role in strengthening the health system lies within community participation, emphasized, as one of the major tenets of the Alma Atta Declaration and the Bamako initiative (Lodenstein *et al.*, 2017).

The role of community health workers/volunteers in public health is evolving rapidly. Currently, their roles have expanded with some assuming paid positions in the health system (Leon *et al.*, 2015; Malcarney *et al.*, 2017). Hitherto they were unpaid and regarded as helpers in the health system (Haines *et al.*, 2007). This is in support of Whitmer *et al.*, (1995)'s assertion that, services for community health workers are inexpensive, hence, cost effective. In Ghana, for instance, community volunteers have helped in surveillance activities, National Immunization Days, dispensing of short term family planning commodities but have never been paid as health workers (Personal Communication with the Dep. Director Family Health Division, GHS; February, 2016).

Lehmann & Sanders (2007) and Singh & Sachs (2013), opine that community health workers have been a blessing than a bane to public health particularly in low and middle income countries. In Ghana, grey literature shows that, these same community health workers became a bane to the primary health care system at the level "A" structure Acquah, 1994). The Village Health Volunteers became quack doctors who moved from

community to community injecting people and treating people for all kinds of diseases they were not licensed to treat (Acquah, 1994). However, they are now more than ever being used for many more interventions ranging from health promotion to maternal and child health services especially in Middle and Low Income Countries (Haines *et al.*, 2007). They have also been linked to the successes of community-based interventions in even resource-constrained areas (Mukhopadhyay, 2017).

More so the reduction of maternal and child mortality in sub - Saharan Africa has been linked to volunteer activities leading to declines in malnutrition, and increases in immunisation coverage, bed net use, and access to curative health services (Leon *et al.*, 2015). Some countries such as Niger use CHW in the provision of clinical care (Singh & Sachs, 2013). Ghana also uses CHW extensively especially with the CHPS concept (GHS, 2005). Other programmes in the GHS such as the National Malaria Programme, National AIDS Control Programme, and the Expanded Programme on Immunization also depend on community volunteers outside the CHPS structure. The Family Health Division in the Ghana Health Service continues to train and use CBV in the integrated Maternal, Newborn and Child Health Programmes.

The move by the Global Health Workforce Alliance is in line with the international push to include essential newborn care and some maternal health interventions in the scope of CHW's practice (Leon *et al.*, 2015). Donor partners have increasingly funded community volunteer programme training, medicines, equipment, and tools for supportive supervision, alongside strengthening of supply chain and monitoring systems (Rasanathan *et al.*, 2014). Recently, at a WHO Technical Meeting on the 3 Ebola most affected Countries in Ghana; stakeholders placed emphasis on the need to integrate community

health workers into the health system more than ever and pledged their support for funding such activities (WHO, 2015).

However, Rifkin (1996) and Haines *et al* (2007), opine that community health workers are not a “magic bullet” for weak health systems and will need focussed tasks, adequate remuneration, training, supervision, and the active involvement of the communities in which they work. Despite their weaknesses, there is concern by the WHO to ensure universal health coverage specifically by training and deploying community health workers to especially the rural areas in sub Saharan Africa (WHO, 2015).

### **3.7. Chapter summary**

The health care services in Ghana are backed by Act 525 (Ghana, 2006). Its main aim is to provide health care services for all people living in Ghana. At the national level, the Ministry of Health is the governing body whilst GHS implements policies from the Ministry. Home visiting imbibes the tenets of the Primary Health Care concepts and was assessed under the CHPs concept hence these concepts were described briefly. Community Health Workers are now making headlines in public health interventions especially with the advent of the one million community health workers concept. This was also briefly discussed in this chapter.

## CHAPTER FOUR

### THEORETICAL PERSPECTIVES

This chapter provides related literature to support the use of the bio-ecological theory as the theory of choice for this study. The chapter discusses the intervening factors of this study. It also highlights the meta-paradigms in nursing theory; and compares the relevance of some nursing and health promotion theories in home visiting. It also provides a brief discussion on the tenets of the bio-ecological theory and its relevance to this study. The chapter concludes with a review of literature on the conceptual framework.

#### 4.1. **Factors influencing the implementation of home visiting services (the intervening factors)**

Two variables each were chosen to represent each of the three variables (service provider, Client and community factors) forming the intervening factors.

#### 4.2. **Service provider factors**

Home visiting services are not limited to trained health workers alone (Olds *et al.*, 2004). Depending on the kind of intervention specified in the service model, lay people can be trained to offer the services; otherwise it is the preserve of trained preventive health workers. Paucity of information exists on studies in Ghana suggesting that home visits by professionals or para-professionals have significant impact over the other. However, studies in America have shown that nurse-based home-visiting programmes tend to have better staff retention and benefits to clients compared with those that employ para-professionals (Korfmacher *et al.*, 1999; Jack, DiCenso, & Lohfeld, 2002; Olds *et al.*, 2004; Rotheram-Fuller *et al.*, 2017). Additionally, para-professionals usually are associated with lower salary costs, but the efficacy of the professional-based model is

better established (*Vogler et al.*, 2002). The CHOs are trained auxiliary personnel who are mandated by the Nursing and Midwifery Council of Ghana and the CHPS policy (GHS, 2005). The interaction between the CHO and the client was equated to the meso level in this study.

This study however, chose to assess the availability and workload of the nurses. Evidence suggests that availability of service providers and volume of work to accomplish has an influence on regularity of home visiting services (Daro, 2006; Cowley & Bidmead, 2009).

#### **4.4.1. Client factors**

The clients of home visiting are mostly pregnant women and children under five years since they are considered as the vulnerable group. For the client factors, social network and socio - economic factors were chosen. People's social networks contribute immensely to their health seeking behaviours (*Korfmarcher et al.*, 2008). Evidence exists that many mothers wished for exclusive breastfeeding but influence from grandmothers and significant others thwart their efforts (*Kerr et al.*, 2008). In Ghana, factors accounting for neonatal deaths (43/1000 live birth) include household practices such as inappropriate cord care, bathing babies immediately after delivery, socio-cultural beliefs and practices (GSS, GHS & MEASURE DHS, 2009; *Engmann et al.*, 2016). Significant others comprising the social network surrounding the client play major roles in contributing to the compliance of health education by health visitors. Hence, home visit service providers consider the role of significant others who make decisions on the client's health in health care planning services for clients (*Offei & Abaka Quansah*, 2009). Also, *Collinson & Cowley* (1998), posit that personal attributes of the health visitor and the relationship with the client have been consistently demonstrated as important in consumer satisfaction. To buttress this point, *Pearson*, (1991) suggested the need for health visitors to understand

how clients perceive their needs, their perceptions of health visiting and in particular what they value about the service. Service providers therefore need to create the appropriate rapport with their clients for effective home visiting services. This study looked at whether socio - economic status and the clients' social networks have any influence on home visiting services. The client factors were represented by the macro level of the bio-ecological theory.

- i. *Socio - economic status*: socio - economic status is closely linked to health seeking behaviour (Adamson *et al.*, 2003 and Raphael *et al.*, 2011). Home visiting services are not discriminatory. It is a common service that aims at achieving universal health coverage. Literature suggests that the hard to reach and vulnerable groups are the target for home visiting although caution is taken to prevent stigmatization (Kendrick *et al.*, 2000; Barlow *et al.*, 2007). Evidence also suggests that clients with low socio - economic status are likely to embrace home visiting services (Olds *et al.*, 2004).
- ii. *Social network or significant others*: Not only is social support an important determinant of individual health. It is linked to children's developmental outcomes and influences on parental functioning as well (Bennett *et al.*, 2017). Three types of linkages in social networks were described as: informal (based on parents' own social networks including friends, families, and neighbours), semi-formal (community groups and social events organized within a community by a volunteer organization), and formal (professional or needs-based services) (Moran, Gate, & van der Merwe, 2004). These linkages influence health behaviour. Home visit service providers issue health instructions to clients. Complying with these instructions depend on the trust or rewards and punishments the client receives from any of these linkages. Hence, rapport

creation is an essential component of the home visiting technique and the basis for effective nurse – client interaction (Allen & Tracy, 2004).

#### **4.2.2. Community factors**

For the community factors, the road to the community and availability of social amenities were chosen.

- i. *Geographical access*: issues such as accessibility of the community in terms of road network, telephone or communication networks are a cause of worry in home visiting services. There is the need for clear cut demarcations on the area the home visit service provider is required to serve. The CHPS Zone system in Ghana consists of a number of communities. The CHOs are expected to work within the confines of their allocated zones. In the same way districts and regions also have their boundaries to prevent overlaps and oversights. The exo level was adapted for the community factors in this study.
- ii. *Health and social amenities*: paucity of information exists on influence of health and social amenities on home visiting.

#### **4.3. Theoretical frameworks in home visiting**

Nurses are compelled to justify their clinical decisions as well as nursing epistemology since evidence serves as the building blocks of knowledge (Bluhm, 2014, Garrett & Cutting, 2015; Ou, Hall & Thorne, 2017). In order to assume such a responsibility, nursing must be built on scientifically tested theoretical knowledge (George, 1990; Milton, 2016 and Parks, 2017). These nursing theories emanate from concepts, paradigms, and meta- paradigms (Weaver & Olson, 2006; Bryar & Sinclair, 2011). Paradigms are broad concepts that depict the world view of a discipline (Bryar & Sinclair, 2011). These paradigms therefore give basis to professional nursing practice, education

and research (Bryar & Sinclair, 2011). Generally, four meta-paradigms (person/client/human/individual, environment/society, nursing and health) guide nursing actions and provide the basis for evaluating nursing theories (Moody, 1990; George, 2011; Bryar & Sinclair, 2011).

#### **4.4. The Meta Paradigms in Nursing**

According to George (1990); Bryar & Sinclair, (2011) and Kozier *et al.* (2000), person refers to the patient/client or recipient of nursing care. Environment is said to represent the surroundings that affect the patient. Health is viewed as a continuum representing the degree of wellness or well-being that the client experiences whilst nursing, stands for the attributes, characteristics, and actions of the nurse providing care on behalf of, or in conjunction with, the client.

These four meta-paradigms are featured in all nursing theories. However; prominence is given to a particular paradigm based on the theorists' concepts (Bryar & Sinclair, 2011). For example both Nightingale (1860) and Neumann (1982) built their constructs heavily on environment. Neumann (1992) views the person as an open system exchanging various forms of energies with its environment or society (Burrell & Morgan, 2017). Nightingale's (1860) focus juxtaposed to Neumann's (1982) concept of the environment is more on the physical environment of the person such as meeting the comfort needs of the person (George, 1990). Kozier *et al.* (2000), however, take cognisance of both the internal and external influences as far as the environment is concerned in nursing. This construct gives basis to the assumption that how persons (clients) continuously interact with their surroundings have a bearing on health and wellness (Kozier *et al.*, 2000). Here, emphasis is placed on interactions with family, friends and other people as part of the

environment. Physical and social factors such as economic conditions, geographic locations, culture, social connections and technology are also considered as the environment that affects the client's wellbeing (George, 2011). This means a person can modify her environmental factors to improve her health status.

Other theorists such as Rogers (1974), and Orem (1985), focus on the person based on their concepts of the person (George, 2011). Orem (1985), for instance sees the person as a self-reliant individual who needs to be helped to perform his/her duties (Johnson, 1989). Rogers (1974), on the other hand focused on the need to involve the client/person in his or her care. According to this theory, the client is a unified being in continuous exchange with the environment and capable of abstraction (Rogers, 1974). The philosophical orientations also affect the concepts of the theorists (Bryar & Sinclair, 2011).

#### **4.5. Some Major Nursing Theories**

A myriad of theories and concepts underpin nursing practice. The major ones include developmental, family, interactive and adaptation theories (George, 1990). The theories propounded by nurses such as Florence Nightingale, Imogene King, and Calista Roy belong to those broad classifications. Though these theories tip heavily towards general nursing, the relevance of a few nursing theories have been tested in community /public health nursing settings such as Peplau's interpersonal relations theory (Kulig, 2000; McNaughton, 2000). Table 4.1 summarises some of the nursing theories by George (1990) and justifies those theories' relevance to the home visiting strategy worldwide.

**Table 4.1: A comparison of some nursing theories, the tenets and proponents by George (1990) and their relevance to home visiting**

Proponent	Theory	Meta paradigms	Personal view on relevance of the theory to home visiting
Florence Nightingale (1860)	Environment	<ul style="list-style-type: none"> <li>-<i>Person</i>: has vital reparative powers to deal with disease.</li> <li>-<i>Nursing</i>: is to place the individual in the best condition</li> <li>-nature to act by basically affecting the environment.</li> <li>-<i>Health</i>: the reparative process of getting well.</li> <li>-<i>Environment</i>: the external conditions and influences affecting the life and development of the client. Capable of preventing, suppressing or contributing to disease or health. The focus is on ventilation, warmth, odors, noises and light.</li> </ul>	<ul style="list-style-type: none"> <li>-Nightingale's theory is relevant to home visiting though her environment is focused more on the sick patient.</li> <li>-The home (environment) of the client is an important factor that must be reported on by the home visitor (Robertson, 1991) nonetheless, the clients' environment goes beyond the clients' immediate surroundings as proposed in the conceptual framework of this study.</li> </ul>
Hildegard Peplau (1974)	Interpersonal Relations in Nursing	<ul style="list-style-type: none"> <li>-<i>Person</i>: an organism who strives in its own way to reduce tension generated by needs.</li> <li>-<i>Health</i>: implies forward movement of personality and other ongoing human processes in the direction of creative, constructive, productive, personal and community living.</li> <li>-<i>Nursing</i>: a healing art of assisting the one in need of health care. It involves interactions between two or more people with a common goal that provides reciprocal incentives for the therapeutic process.</li> </ul>	<ul style="list-style-type: none"> <li>-This theory is also relevant in the sense that home visiting rides on building of rapport (Robertson, 1991; Bassavanthappa, 2008). Although rapport creation is the first element in establishing a working relationship with the client, there is the need to consider other social factors that may influence clients response to home visiting services.</li> </ul>
Sister Callista Roy (1988)	Adaptation Model	<ul style="list-style-type: none"> <li>-Comprises five essential elements: (1) the person who is the recipient of nursing care, (2) the goal of nursing, (3) the concept of health, (4) the concept of environment, (5) the direction of nursing activities.</li> </ul>	<ul style="list-style-type: none"> <li>-The goal of a home visitation programme or model determines the services and clients (Olds, 2000) which is congruent with this theory. This theory, lacks the influence of the social network surrounding the client.</li> </ul>
Dorothea E. Orem (1995).	General theory of nursing (self care, self care deficit and nursing systems).	<ul style="list-style-type: none"> <li>-<i>Person</i>: Nursing has its special concern, the individual's need for self care action and the provision and management of it on a continuous basis in order to sustain life and health, recover from disease or injury, and cope with their effects.</li> </ul>	<ul style="list-style-type: none"> <li>-Relevant in clinical care but applies to home based nursing - an aspect of home visiting. The need for self care can influence client's responsiveness when there is illness or a need. Home visiting clients need information to keep them in the health continuum. Much more need to be done beyond constant provision of services to ensure their responsiveness. It is important to work with who has influence on the client to ensure responsiveness.</li> </ul>

In summary, the major theories of nursing are relevant to home visiting. They specify the client, the environment, the services to be provided, and the attributes of the nurse in the care continuum (Kozier *et al.*, 2000). These constructs help to direct nursing services in the community setting as well. Health visiting is also synonymous with health education and promotion (Ellefsen, 2001). A look at other theories relevant to community health nursing such as the health promotion theories need to be considered for a comprehensive overview on the theories underpinning this study.

#### **4.6. Health Promotion theories and their relevance to home visiting**

Aside these nursing theories, home visiting uses health promotion theories (Carr, 2005). One of the core interventions in home visiting is Information, Communication and Education (IE&C). Health promotion/education, like nursing, uses several models, concepts and theories. Table 4.2 describes three of the health promotion theories and their relevance to this study.

**Table 4.2: Review of some health promotion theories and their relevance to this study.**

Theory and Proponent	Description	Uses in nursing	Personal view on relevance of the theory to home visiting
The Health Belief Model (HBM) - Rosenstock, (1966)	<ul style="list-style-type: none"> <li>-A psychological model developed in the 1950s by Hochbaum, Rosenstock and Kegels in the U.S. Public Health Services.</li> <li>-Based on 4 concepts (perceived seriousness, perceived susceptibility, perceived benefits, and perceived barriers) used to explain and predict health behaviours.</li> <li>-Revised to include cues to action, motivating factors, and self-efficacy.</li> </ul>	<ul style="list-style-type: none"> <li>-For developing persuasive messages and initiating interest in making a healthy choice in health promotion behaviours.</li> <li>-Evaluate health behaviors such as the failure of free tuberculosis (TB) health screening programmes, sexual risk behaviors and the transmission of HIV/AIDS (Lancaster and Stanhope, 2013).</li> </ul>	<ul style="list-style-type: none"> <li>-The HBM is useful in disease prevention actions. Restricting this study to the health belief model will lose rich information on the role significant others play in responsiveness to home visiting services.</li> </ul>
Social Exchange Theory (SET) - Homans, (1961)	<ul style="list-style-type: none"> <li>-Introduced by George Homans in 1958.</li> <li>-Application of the theory in family science is accredited to Homans, (1961).</li> <li>-Proponents believe that interpersonal behaviour is guided by the principles of the voluntary transfer of resources from one person to another in return for resources.</li> </ul>	<ul style="list-style-type: none"> <li>-Client-nurse interaction (Byrd, 2006).</li> <li>-Examine the use of health visiting practice from the perspective of health visitors (Chalmers 1992)</li> <li>-Client-nurse practitioner interaction in a women’s health clinic (Donohue 2003).</li> <li>-Explanatory tool in maternal-child home visits Byrd (1996).</li> <li>-Helpful in describing how the nurse initiated, maintained, and ended the home visiting process.</li> </ul>	<ul style="list-style-type: none"> <li>-Interaction between a client and care giver goes beyond reciprocal interactions.</li> <li>-This study takes a comprehensive overview of the other elements described as the intervening factors in the conceptual framework.</li> </ul>
The Bio-ecological Theory - Bronfenbrenner, (1979)	<ul style="list-style-type: none"> <li>-Derived from analyses of the relations between plant and animal populations and their natural habitats (Stokols, 1995).</li> <li>-Rooted in core principles concerning the interrelations among environmental conditions and human behaviour and well-being.</li> <li>-Multiple social, physical and cultural dimensions within the environment can influence a variety of health outcomes, including physical health status, developmental maturation, emotional well-being, and social cohesion.</li> <li>-Its strength lies in the focus on multiple levels of influence that broadens options for interventions (WHO, 1984).</li> </ul>	<ul style="list-style-type: none"> <li>-Widely used in the health setting to assess the relation between intimate partner violence (ipv) and child maltreatment (Little &amp; Kantor, 2002).</li> <li>-Guide community interventions in a Latin American context .</li> <li>-Cigarette smoking and alcohol use (Fisher et al., 2004).</li> <li>-Diabetes self-management (Norris et al. 2002; Salis, Owen and Fisher, 2008),</li> </ul>	<ul style="list-style-type: none"> <li>-This study takes into account the different environmental levels that have effect on the client’s interactions and response to home visiting services.</li> </ul>

In conclusion, ecological models help us to understand how people interact with their environments; hence, its preference over the other theories. Although home visiting depends on perceived need for services as proposed by the HBM, its success goes beyond looking at the perceived need. Moreover, exchange of interactions as propounded by the social exchange theory alone will not ensure responsiveness. The other nursing models discussed earlier are not explicit on understanding the social milieu of the recipient of the home visiting services. Furthermore, Salis, Owen & Fisher (2008) stated that providing individuals with motivation and skills to change behaviour cannot be effective if environments and policies make it difficult or impossible to choose healthful behaviours. This confirms Robertson's (1991) assertion that the social milieu of clients has significant influence on the client's responsiveness to home visiting services. Figure 1 depicts the linkages of aspects of the bio-ecological theory adapted to suit this study.

#### **4.7. The Conceptual framework of this study**

The bio-ecological theory was derived from analyses of the relations between plant and animal populations and their natural habitats (Stokols, 1996). The theory which focuses on the "person - in - context" is more interactive as it looks at various levels of interactions in a person's relationships (Bryans *et al.*, 2009). Urie Bronfenbrenner propounded it in relation to child development in 1979. Having undergone several reviews including that of 2005, the theory has been used in several settings in the health sector (Bronfenbrenner, 2005; Houston, 2017). Urie Bronfenbrenner believed that a person's development was affected by everything in his or her environment hence his assertion that developmental change is the sum of the prolonged relations between child characteristics and the features of their immediate and distal environments over time (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2007). In this case, the child characteristics refer to the developmental, biological, and psychological aspects of the

developing child (Houston, 2017). Processes that lead to developmental change may include parent-child or child-child activities, group or solitary play, reading, learning new skills, studying, athletic activities and performing complex tasks (Houston, 2017).

The ecological theory has also been adapted to fit several sociological settings including family support to and the assessment of families and children 'in need' (Jack, 2000; Hardy and Darlington, 2008; Branch *et al*, 2013; Serbati *et al*, 2013). Other areas that have widely used the ecological theory include the theorisation of resilience, trauma and attachment by Harney (2007) and the empirical investigation of familial relationships by Tudge *et al*. (2009). Within the United Kingdom, it underpins the Framework for the assessment of children in need (DH, 2000). Some home visiting studies that looked at community influences have also adopted the ecological theory (Cho, 2017).

Home visiting happens in a home within a community where social interactions are important in decision making. The child or family to be visited are influenced at many levels of social networks (Lamorey, 2017). It is important to take the client's social networks into consideration when it comes to access to health care services. Moreover, empirical evidence exists that the neighbourhoods in which children live, play, and go to school, particularly those rife with poverty, matter to their health and wellbeing (Minh *et al.*, 2017). This reinforced the preference for the bio-ecological theory for this study.

In his theory, Bronfenbrenner (2005) related the person's (individual) environment to five different levels: the micro system, the meso system, the exo system, the macro system, and the chrono system. According to Bronfenbrenner (1979), these levels

represent the individual's relationships within the proposed levels. The theory proposes that:

- a. The micro system signifies the relations within the immediate surroundings of the individual. Some examples used were home, school, day care, or work. A micro system typically includes family, peers, or caregivers.
- b. The meso system consists of the interactions between the different parts of a person's micro system with examples being parent/teacher, (parent/health visitor as in the case of this study) interactions.
- c. The exo system is the setting in which there is a link between the context wherein the person does not have any active role, but still affects them. This includes decisions that have bearing on the person, but in which they have no participation in the decision-making process.
- d. The macro system setting is the actual culture of an individual. The cultural contexts involve the socio - economic status of the person and/or his family, his ethnicity or race and living in a still developing or a third world country.
- e. The chrono system includes the transitions and shifts in one's lifespan. This may also involve the socio-historical contexts that may influence a person. One classic example of this is how divorce, as a major life transition, may affect not only the couple's relationship but also their children's behaviour.

In adapting the bio ecological theory for this study, there was the need to choose variables to assess their influence on the home visiting strategy. Literature provides several examples of predictors of usage of the home visiting services. McCurdy *et al.* (2006), for instance, in a related study suggested factors such as lower infant birth weight, the comfort of a service provider in a client's home; participant, provider and neighbourhood among others as predictors of home visit service usage. Bryans *et al.*, (2009) used the

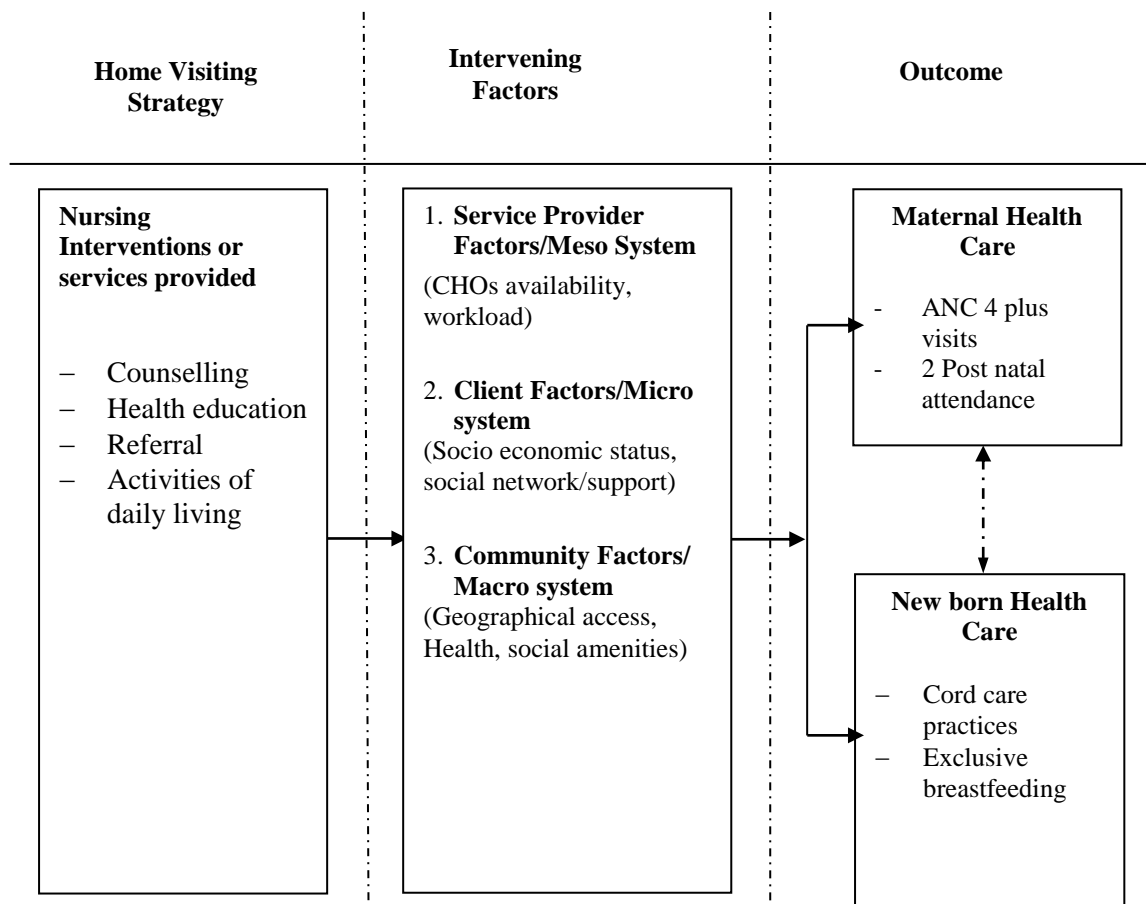
ecological theory to assess interactions between health visitors and their clients (Bryans *et al.*, 2009). The data was collected and the levels of the ecological theory teased out from the data (Bryans *et al.*, 2009). This study takes into consideration factors that may augment or impede home visiting services in relation to the service provider, the client and the community. Therefore, this study rides on the principles of the ecological theory to draw out what constitutes its intervening factors as depicted in its conceptual framework in Figure 1. These factors were modified to suit the principles of the ecological theory. Hence, the foundation theory for this study (the conceptual framework) is the bio-ecological theory.

The conceptual model is made up of three main elements which are:

- i. The home visiting strategy: the home visiting strategy is a programme within the health system. The health system is represented in this framework by the services or interventions such as counselling and health education provided at clients' homes by the home visit service providers. The home visiting strategy is also affected by programmes from Ghana Health Service.
- ii. The intervening factors represent three elements needed for a successful home visiting strategy. These are grouped into three concepts namely service provider factors (meso system), client factors (macro system) and community factors (exo system). These three concepts were modified from the bio-ecological theory. The elements comprising the three concepts are not exhaustive but have been considered for the purpose of this study.
- iii. The third element constitutes the output from the interaction of the intervening factors with the service delivery components. The variables of interest here are maternal and new born health. It is expected that a successful home visitation programme would yield a positive outcome in the form of increase in number of

pregnant women making at least 4 plus visits to access antenatal services; and two visits for post-natal services. For newborn health, the study looked at how the intervening factors and the service delivery strategies influence uptake of exclusive breastfeeding and cord care practices. This information was accessed from both providers and clients.

**Figure 1: Conceptual framework on assessment of the home visiting strategy**



#### 4.8. **Chapter summary**

In summary, this chapter examined the tenets of the meta-paradigms in nursing in relation to some of the nursing theories. Some health promotion theories were also discussed since health promotion and education are core interventions in home visiting (Ellefsen, 2001). The bio-ecological theory was chosen and the reasons for its choice were briefly discussed. The bio-ecological theory draws its strength from its focus on multiple levels of interactions hence broadening its options for interventions. The bio-ecological theory has been used in a variety of studies for different types of studies. Three of the levels posited by Brofenbrenner (1979), were modified to suit this study as the intervening factors.

## **CHAPTER FIVE**

### **5.0. METHODS**

This chapter gives the overview of how the study was conducted.

#### **5.1. Study Design**

A cross sectional, mixed method study involving pregnant women, prenatal women, community health officers and managers across the levels of the health system was done. It employed both qualitative and quantitative methods. The quantitative data was collected from the Amanfrom Health Centre and Weija Hospital, in the Ga South municipality. The Obom Health Centre and Weija Hospital was used for the qualitative study. Data was collected from January, 2016 to April, 2017. The qualitative data analysis was conducted from thematic analysis of broad concepts from transcribed audios from the FGDs and KIIs. This was supported by rapid assessment summaries from the field. For the quantitative study, a structured questionnaire was used targeting pregnant women and neonatal mothers. The qualitative aspect also employed observation of home visits by service providers on the field. Key informant interviews of selected managers and focus group discussions of home visitors and clients were carried out. A review of literature on home visiting, including a desk review of home visitors' case records, policy documents on home visiting and community registers was also done.

Triangulation analysis of the survey, observation, desk review, Key Informant Interviews, and Focus Group Discussion data was done to ensure a synthesized and synergized, document with falsifications nor does scientific fraud in the analysis. Figure 2 depicts the plan of the study of this research.

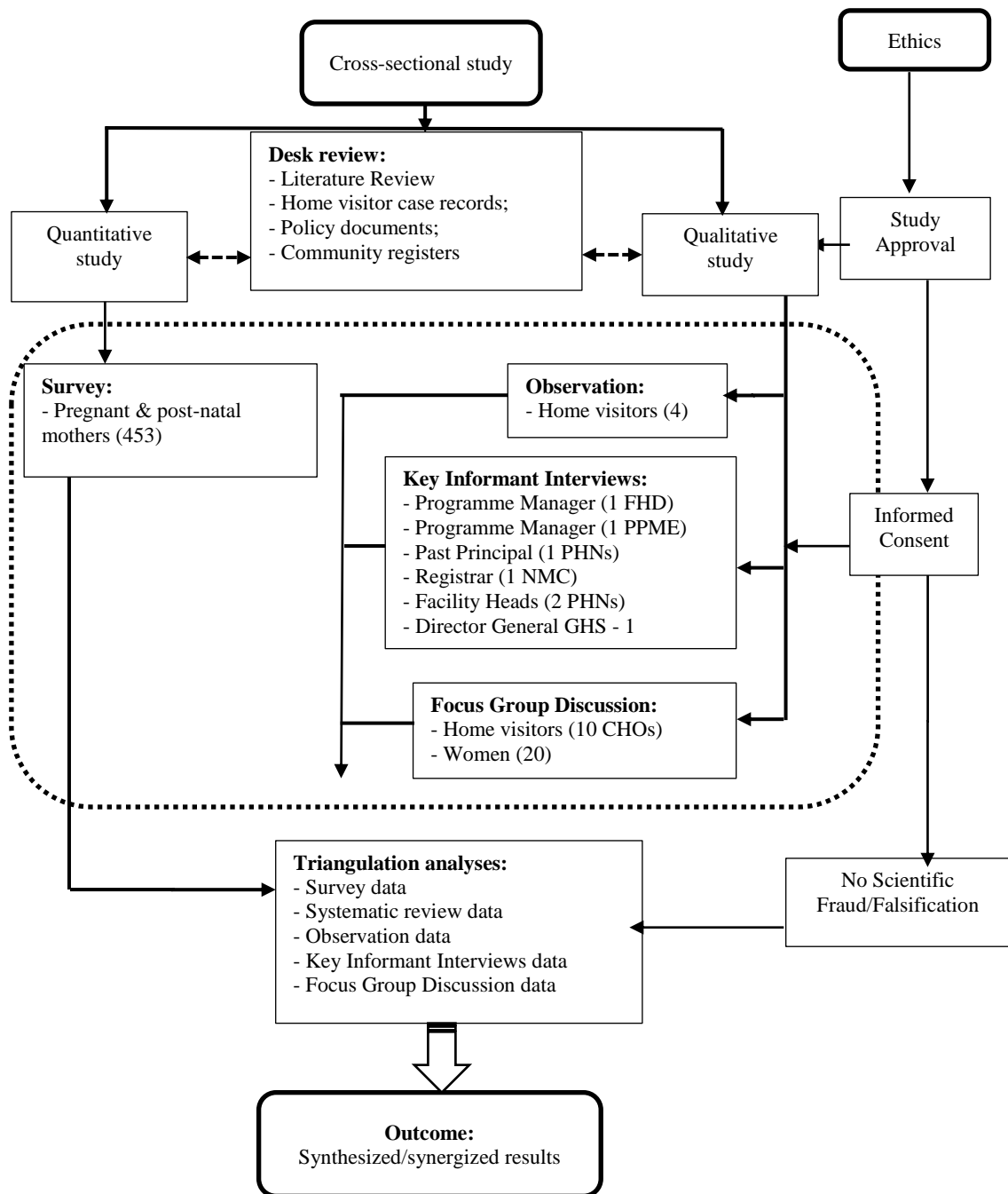
## 5.2. Epistemology

Theoretically, three meta-theories namely positivism, constructivism and postmodernism or critical realism support social research (Fleetwood, 2004). Positivists are inclined to the use of measurable facts; hence, their preference for structured questions capable of giving meaning to what needs to be measured (Borkan, 2004). The constructivists base their argument on the fact that the world around us is subject to people's subjective interpretation of phenomena (Creswell, 2013). The post-modernists on the other hand are sceptical and explain phenomena based on the prevailing circumstances (Wong *et al.*, 2016). Since the whole is greater than the sum of its parts (Koopmans, 2016), this study took the critical realists' position. Since home visiting is related to health and human interactions, it is appropriate to explain phenomena based on the prevailing circumstances as opined by Wong *et al.*, (2016). The mixed methods approach also has the advantage of addressing complex problems or phenomena and investigating the interplay of factors operating at the individual, relationship, community, and societal levels (Koopmans, 2016). The study set off with the qualitative but carried out the quantitative study alongside the quantitative to find out if the findings complement each other.

A mixed methods approach was preferred over other methods because of the complimentary role both methods play. The quantitative method uses numbers to provide provable results whereas the qualitative study offers the opportunity to provide subtle details and meaning behind the numbers. Literature also reveals that several studies including that of Carr (2005), Smithbattle (2009), and Dmytryshyn *et al.*, (2015), have used different qualitative methods. Many others, including Barnett (1993), Naruse *et al* (2012), and Shah & Austin (2014) have used various quantitative methods to investigate various aspects of home visiting. Whittaker & Cowley (2012), among others have also

used the mixed method approach to evaluate self – efficacy in parenting support through home visitation. Since this study is an exploratory study that seeks to recommend interventions for the near future, using a mixed methods approach would tell “the story” better.

**Figure 2: Design of the Home Visiting Strategy study**



### 5.3. Study Location/Area

*Background:* The study location was the Ga South Municipality. It is one of the 16 municipal Assemblies under the Greater Accra Metropolitan Assembly with Weija as its capital. The Assembly was established by Legislative Instrument L.I.1867 and carved out of the then Ga West Municipal Assembly in November 2007. The Ga South Municipal Assembly serves three zonal councils.

*Physical and Natural Environment:* it is located in the South Western part of Accra and lies within Latitudes 5°47'30"N and 5°27'30"N and Longitudes 0°31'30"W and 0°16'30"W. It shares boundaries with Ga Central and the Accra Metropolitan Authority on the South-East, Akwapim South to the North-East, Ga West to the East, West Akim to the North, Awutu-Senya to the West, Awutu-Senya East to the South-East, Gomoa to the South-West and the Gulf of Guinea to the South. It occupies a land area of approximately 413.76 sq km with about 95 settlements. Most of the roads in the Ga South Municipality are feeder roads that are bad and dusty. Figure 3 depicts the geographical boundaries of Ga South Municipality.

There are hundreds of satellite communities and hamlets in the municipality. Being largely peri-urban, the Municipality has about 95 identified settlements with about 90% of the total population living in the urban area. There are about 35 urban towns with populations between 5,000 and 20,000 and hundreds of satellite communities and hamlets. The southern part of the Municipality which is about a quarter (¼) of the Municipality is urbanising at a rapid rate due to its proximity to the Accra Metropolitan area, improved transportation network and serves as a centre between urban Accra and Kasoa which is another rapidly urbanizing area. Ga South is well endowed with social

infrastructure and services such as schools, health facilities, banking facilities, security services and markets.

*Population:* The 2010 Population and Housing Census pegged the total population of the Municipality at 485,643 with 237,558 males and 248,085 females representing a sex ratio of 95.8.

*Health:* The Assembly also provides health care service delivery in the Municipality through the Municipal Hospital and other health service providers under the auspices of the Municipal Health Directorate (MHD). The MHD consists of 5 sub-municipalities namely; Weija, Mallam, Amanfrom, Kokrobite, Bortianor and Obom.

*Common health problems:* the common health problems in the Ga South Municipality include malaria, anaemia in pregnancy, injuries and Upper Respiration Tract Infections,

*Health care financing in the Ga South Municipality:* the National Health Insurance covers some clients whilst those who have not registered with the scheme pay for health services out of pocket.

*Health Infrastructure:* The distribution of health facilities in the Municipality is presented in Table 5.1. There are no Christian Health Association of Ghana (CHAG) facilities in Ga South.

Table 5.1: Distribution of health infrastructure in Ga South Municipality

Level	Government				Private			Total
	A	B	C	D	A	B	C	
<b>Sub- municipal</b>								
Weija	1	1	-	-	1	2	1	<b>6</b>
Amanfrom	-	1	-	-	1	2	1	<b>5</b>
Kokrobitey	-	1	-	-	1	-	-	<b>2</b>
Mallam	-	-	1	-	-	3	8	<b>12</b>
Bortianor	-	1	-	-	-	2	3	<b>6</b>
Obom	-	1	-	5	-	-	2	<b>8</b>
<b>Total</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>15</b>	<b>39</b>

**Key:** **A-** Hospitals and Polyclinics, **B-** Health Centres, **C-** Reproductive and Child Health Centres, **D-** CHPS Zones. There is no quasi health facility in the Ga South Municipality.

The Municipality still has challenges in terms of its human resource capacity to deliver quality health services. Table 5.1 shows the trend of health professionals in the Municipality whilst Figure 3 depicts the situation of the Municipality in relation to the other Municipalities in the Greater Accra Region and other regions.

*Maternal and infant mortality:* In 2012 the coverage of skilled delivery was 36.9%. There was no institutional maternal death recorded in the facility (Ga South Municipality Health Directorate Annual report, 2012). Antenatal Clinic (ANC) attendance coverage rate for 2012 stood at 69.3% whilst Post Natal Clinic (PNC) attendance stood at 35.2%. The Municipality also recorded a still birth rate of 0.4% for 2012.

*Child Health Services:* Nutritional status measured at Child Welfare Clinic (CWC) stands at 9.9% as of 2012. Family planning acceptance rate for 2012 was 13.1% (Ga South Municipal Health Directorate Annual Report, (2012).

Figure 3: Map on demarcations of land use area in the Ga South Municipality.

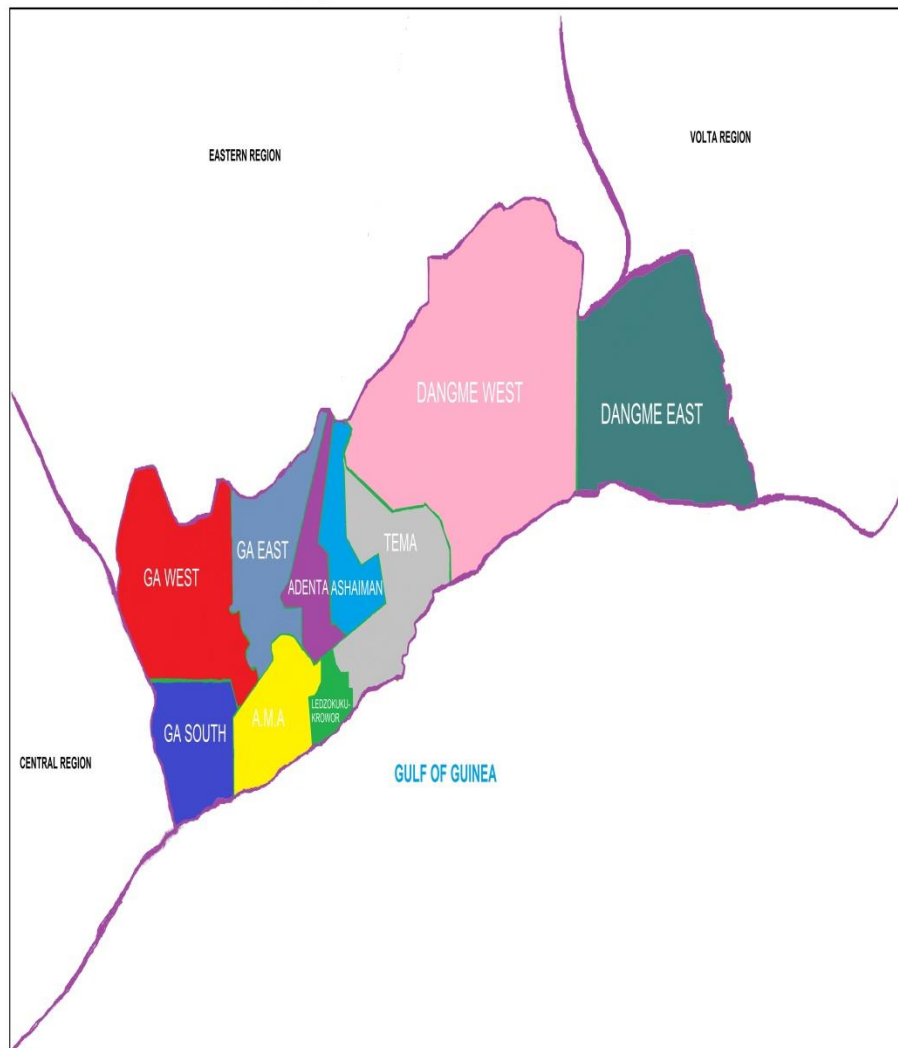


Table 5.2: A five year trend of health personnel in Ga South Municipal Health Directorate

Category (private included)	2010	2011	2012	2013	2014
Doctors	10	7	6	6	6
Medical assistants	10	10	10	10	13
Nurses (all categories)	298	337	427	417	420
Midwives	77	51	58	70	71
Total staff	377	429	501	593	625
Doctor: pop ratio	1:31,031	1:55440	1:51,622	1:69802	1:91541
Nurse: pop ratio	1:1,041	1:822	1:1,208 1:1030	1:1004 1:706	1:1306 1:877
Health staff: pop ratio	1:817	1:646			

#### 5.4. Study Population

The study population was made up of 494 respondents in five different groups. They were :

- a) Pregnant women and neonatal mothers from 15 to 49 years (10). The age of the pregnancy was not considered but the neonatal mothers were those who had delivered within 28 days.
- b) Community Health Officers from which 10 were selected.
- c) Health Staff in Managerial position: - 4 directors, three from the Ghana Health Service and one from the regulatory authority (Nursing and Midwifery Council) were selected.
- d) Retired Principal who was a home visitor was also selected (1).
- e) Public Health Nurses (2): 1 each from the Municipal Health Directorate and District level respectively.

#### 5.5. Sample Size determination

Using the formula for determining sample size proposed by Israel (1992), a total of 453 respondents were targeted for the quantitative study as explained in the formula below.

$$n = \frac{\frac{P[1-P]}{A^2} + \frac{P[1-P]}{Z^2 N}}{R}$$

The above formula is explained as n representing the sample size required and N, the number of people in the population (129,539). P is also estimated as the proportion of women in their fertile age (41%=0.41) and A the precision desired (5%). It is expressed as a decimal (0.05). The confidence level (1.96 or 95%) is represented by Z. R is the estimated response rate (90% or 0.9). This gives a total of 412 respondents. An additional 10% was calculated and added to cater for non-response giving an estimate of 453 respondents. Four hundred and fifty - three (453) respondents were used in this study.

## 5.6. Sampling method/ Procedure

### *Quantitative/survey data sampling*

Sampling proportionate to size was computed using the total population of women in their Fertile Age (WIFA) in Ga South over the WIFA in a specific clinic x the 453 to get the specific number to sample in each facility expressed as:

$$\frac{\text{Number of WIFA in a specific Clinic}}{\text{Total population of WIFA}} \times 453$$

### *Qualitative data sampling*

#### i. Focus Group Discussion

##### a. Women participants

All the 5 CHPS Zones in the Ga South Municipality were included in this study. Every community constituting a CHPS Zone in each of the five CHPS Zones was listed according to the zones. The distance to the CHPS Compound or administrative unit was used to select the nearest and farthest communities from each of the 5 Zones. The CHOs were asked to select either a pregnant woman or lactating woman (within 28 days post-partum) from 2 communities each making 10 communities. The participants constituted 5 pregnant women and 5 lactating women from the 10 communities in the Obom enclave for group 1. The second group were drawn from Ante Natal Clinic (ANC) and Post Natal Clinic (PNC) at the Weija Hospital. Announcements were made by the Research Team Coordinator at the clinic to inform clients. The eligible clients were selected to be part of the FGD. The women were directed to the Research Team after consultation. Those who lived in the communities in the Ga South Municipal and were pregnant or had delivered within the last 28 days were chosen. Those who consented were recruited. Ten women (5 pregnant and 5 post natal women) were recruited. A common date that was favourable

was set (two weeks to favour the PNC attendants). The FGD was held after the clinic session in one of the consulting rooms in the hospital. There were no nurses around since they had closed.

b. Community Health Officers (CHOs)

Ten CHOs from the 5 Zones were purposively recruited. The Deputy Municipal Public Health Nurse was contacted who gave the list of CHOs in the 5 CHPS Zones. The CHPS Zones had two nurses each except for the Kofi Kwei Zone. They had 3 CHOs. The 3rd nurse was on leave so she was automatically left out. The FGD was held at the Obom Health Center.

ii. Observation

Four CHOs were observed whilst they were performing home visiting services. They were given prior notice that any of the CHOs in the Obom sub - municipality could be visited by the researcher on the field. The three observations were done at Ashalaja, Kofi Kwei and Obom communities. The CHOs were contacted and appointments made.

iii. Key Informants Interview

Purposive sampling of managers in the health sector and retired home visitor/ former Principal of the Public Health Nurses School was done because the participants play key roles in the implementation of the home visiting strategy.

*Quantitative data sampling*

1. Survey

A total of 500 participants made up of pregnant women and lactating women (within 28 days postpartum) were recruited for this study. The Ga South Municipality was drawn from a ballot comprising all the 16 health administrative areas in Greater Accra. Ga South was drawn out of the ballot. All the districts in Ga South Municipality were also put in a

cup, shuffled and Amanfrom and Weija were drawn out. The RCH Centres within these two districts were listed and one each randomly selected through balloting. Using the sampling proportionate to size method, the total population of WIFA in Ga South over the WIFA in a specific clinic multiplied by the 453 was computed to get the specific number to sample in each facility. Each facility was visited on each clinic day and each 2<sup>nd</sup> client was picked until the required numbers of women were selected for interview. The 2<sup>nd</sup> client was chosen because the number 2 was drawn from a cup with folded pieces of paper that had numbers from 1 to 9 written on them.

### 5.7. Study Variables

This study had two outcome variables which were maternal health care and new born health care. The exposure variables were in three broad categories namely community, client and home visitor factors.

i. *Dependent/Outcome Variables*

The dependent variables were at least antenatal visits (4 plus) by pregnant women who were exposed to home visiting and 2 postnatal visits by mothers with newborns who were exposed to home visiting.

ii. *Independent /Exposure Variables*

The independent variables consisted of the home visiting strategy, client, community and service provider factors. Tables 5.3 shows the objectives, types of variables and method of accessing data.

Table 5.3: Independent and dependent Variables

Objective	Type of variable	Variable
1. To determine the influence of service provider factors on home visiting services. 2. To determine the influence of client factors on home visiting. 3. To assess the influence of community factors on home visiting.	Independent	<i>Home visiting strategy</i> <i>Community factors</i> Geographical access to the community Health and social amenities available in the community
	Dependent	<i>Client factors</i> Socio economic status Social network <i>Home Visitor factors</i> Number of home visitors Workload Currently visited. Antenatal visits, Post natal visits, exclusive breast feeding, infection prevention practices <i>Community factors</i> Client factors Home Visitor factors
4. To determine the effect of home visiting services on maternal and newborn care.	Dependent variable	Antenatal visits Post natal visits, exclusive breast feeding, cord care practices
	Independent	Home visiting strategy and Community factors Client factors Home Visitor factors.
5. To determine how the home visiting strategy improves maternal and newborn care.	Dependent variable	Antenatal visits Post natal visits, exclusive breast feeding, cord care practices
6. To assess the challenges of the home visiting strategy	Independent	Community factors Client factors Home Visitor factors

## 5.8. Data Collection Techniques/Methods and Tools

The data collection tools, techniques and methods are summarized in Table 5.4.

Table 5.4: Data collection tools, and source of data

Specific objective	Sampling procedure	Data collection technique	Tools	Source of data
1. To determine the influence of service provider factors on home visiting services.	Systematic Random Sampling  Purposive	Survey	Structured questionnaire	Women
		FGD & KII	Guide	Women, CHOs & Managers
		Observation	Checklist	CHOs
2. To determine the influence of client factors on home visiting.	Systematic Random Sampling  Purposive	Survey	Structured questionnaire	Women
		FGD & KII	Guide	Women, CHOs & Managers
		Observation	Checklist	CHOs
3. To assess the influence of community factors on home visiting.	Systematic Random Sampling  Purposive	Survey	Structured questionnaire	Women
		FGD & KII	Guide	Women, CHOs, & Managers
		Observation	Checklist	CHOs
4. To determine the effect of home visiting services on maternal and newborn care.	Systematic Random Sampling	Survey	Structured questionnaire	Women
		Desk review	Guide Community Registers Case notes	Literature Facilities
	Purposive	FGD&KII	Guide	Women & CHOs
		Observation	Checklist	CHOs
		Survey	Structured questionnaire	Women
5. To determine the influence of the home visiting strategy on maternal and newborn care	Systematic Random Sampling  Purposive	FGD & KII	Guide	Women, CHOs, & Managers
		Observation	Checklist	CHOs
6. To determine the challenges of the home visiting strategy on maternal and newborn care.	Systematic Random Sampling  Purposive	Survey	Structured questionnaire	Women & CHOs
		FGD& KII	Guide	Women, CHOs & managers
		Observation	Checklist	CHOs

### **5.9. Quantitative Data Collection**

A structured questionnaire was used to elicit responses from 453 respondents made up of pregnant women and postnatal mothers at antenatal and post-natal clinics. The questionnaire was divided into sections as follows: Section A: socio-demographic characteristics; Section B: structure of the home visiting strategy; Section C: some aspects of the intervening factors and section D: output of home visiting services.

### **5.10. Qualitative Data Collection**

The qualitative part of this study complemented the survey. It sought to unearth important themes that may not be accessible in the quantitative study. Four main methods were used in collecting the qualitative data as detailed below.

#### **5.10.1. Focus Group Discussions**

Two focus group discussions of 10 respondents each was organized comprising home visitors across the 5 CHPS Zones and women from 10 communities served by the CHPS Zones. The 10 participants were selected based on health facilities that organize home visiting services in the municipality. The Focus Group Discussion for service providers was arranged on the day the sub municipality was organizing their peer review meeting to enhance accessibility to the home visitors and also reduce transportation cost. Snacks were served and transportation reimbursed to participants. The FGD addressed objectives 1, 2, 3 and 4.

#### **5.10.2. Key Informant Interviews**

Key Informant Interviews were held with a retired home visitor who was also a past principal of the Public Health Nurses School and instrumental in standardizing home visiting services from the Public Health Nurses School at Korle-Bu. In addition, the Registrar of the Nursing

and Midwifery Council of Ghana was interviewed. One Public Health Nurse from the Ga South Municipal and the nurse manager at the Amanfrom sub Municipal Health Directorate were also interviewed. The focus was to determine the components of the home visiting strategy and how it is managed. The Key Informants' views on the factors affecting home visiting were also elicited. All the 4 objectives were considered in the KII.

### **5.10.3. Desk review**

*Data Sources:* Extensive search of electronic databases was carried out on relevant journals and reference lists from various search engines including Google, Google Scholar, and Academic search complete. Journals such as Emerald, Lancet, Plos one, International Journal of Nursing and many others using the Balme library portal, as well as on web sites were also included. Documents from WHO, GHS, grey literature on maternal and child health, home visiting and policies on home visiting was also considered. Community registers, and other documents at the health facilities were also searched. The review was started before the data collection and concluded with the data analysis. The desk review summarized existing literature on home visiting services in general but focused more on those for maternal and child health from any time.

*Key words:* home visits, maternal health, neonatal health, health visiting, CHPS.

*Study selection:* The inclusion criteria spanned from studies assessing the structure, process and outcomes of home visiting to service providers, clients and community factors. Other Primary Health Care interventions such as community-based approaches for reducing neonatal mortality by Community Health Workers worldwide, those in which home visiting was carried out by personnel with responsibilities within the remit of CHOs or Public and Community Health Nurses, and those that analyzed policy issues on home visiting in general

were assessed. Other relevant studies, which did not meet the inclusion criteria, were retrieved and discussed separately.

*Data extraction:* Themes in line with the study objectives were extracted from each study. The quality of studies was assessed using a standardized quality checklist from the Cochrane library.

#### **5.10.4. Participant observation**

Four home visits were observed bearing in mind the study objectives. The purpose of the study was explained to them and informed consent obtained. Each of them was given a copy of the general information on the study. They were given prior notice and the opportunity to fix the dates. They were reminded a week and a day to the visit. The Principal Researcher and 1 Research Assistant followed the nurses on their home visits and a checklist was used to assess the process according to the research objectives.

### **5.11. Quality Control/Assurance**

#### **5.11.1. Training of field staff**

Three Research Assistants (RAs) were trained in January 2017 at the School of Public Health, University of Ghana, Legon. The RAs were given an overview of the study and the recruitment process. The training focussed on the tools and research methods to ensure quality data capture, transcription and analysis. They were trained on confidentiality and how to administer the questionnaire. The questionnaire took approximately 30 - 45 minutes to administer. A demonstration of how to conduct, record and transcribe an FGD was carried out. They were also taken through rapid assessment summaries. They were monitored by the Principal Researcher throughout the research process.

### **5.11.2. Data Processing/Data entry**

Academic supervisors scrutinized all the instruments and provided guidance to ensure that the instruments were valid and reliable. Data collection was supervised by researcher to ensure accuracy, completeness, consistency and correctness of responses to questions. Data was entered into STATA MP Version 13 and transported to IBM SPSS Statistics Version 22 for analysis. Data quality was also assured by ensuring double entry of coded data in the computer. Data cleaning was done and the right values assigned.

### **5.11.3. Pre-testing of questionnaire**

The aim of pre testing the questionnaire is to reframe and refine the questionnaire for quality and reliability. Pre testing was carried out in the Ga West Municipality since it shared similar characteristics with Ga South Municipality.

## **5.12. Data Analysis/Statistical Methods**

### **5.12.1. Quantitative Data Analysis**

#### **5.12.1.1. *Variables measured in the study***

*Primary outcome measure:* home visiting delivery measured as yes or no.

*Secondary outcome measures:* maternal and newborn care, antenatal care, post natal care and cord care.

*Independent variables:* socio-demographic factors (age, marital status etc.), client factors, community factors and service provider factors.

### 5.13. Statistical methods

Descriptive statistics based on the mean, standard deviation, frequencies and per cent frequency distribution were used to describe the characteristics of the study participants and the outcome measures of interest. In determining association between home visiting and the four outcome variables (ANC, PNC, cord care and exclusive breast feeding), the Chi-Square test of independence was used. Nested models were built based on socio-demographic factors and the best model was selected using the Area Under the Receiver Operating Characteristic Curve. Variables in the best model were controlled for in all subsequent multivariable analysis.

To investigate the effect of home visiting strategy on the primary outcome measures, binary logistic regression analysis was used. P-value <0.05 was considered statistically significant. Data were entered in STATA MP Version 13 and transported to IBM SPSS Statistics Version 22 for analysis. Tables and graphs where appropriate were used to display findings.

#### 5.13.1. Qualitative Data Analysis

Thematic analysis of data was the main method used in this study. Participants in the FGD were coded with the beginning alphabets of their localities. Those in the Obom women's group were coded O in addition to the number assumed as identification hence the first person was coded O1. The CHOs were coded C and Weija, W. The key Informants were coded with K and the order of interview added to the prefix as per what was done for the FGD participants.

The data from the Focus Group Discussions and key informant Interviews were transcribed verbatim and analysed in themes using Nvivo version 11. The checklist from the observation, review of case notes, and records review from registers were also collated and synthesized based on the themes from the objectives and conceptual framework. Data from the systematic review was analyzed in themes according to the study objectives. Two of the RAs also went through the transcripts individually at multiple times. Improvement upon grammar, transcription accuracy and inter coder reliability was thus assured in the process. The validated transcripts were further reviewed to enhance understanding of events, categories and emerging themes. The transcripts were then exported into Nvivo version 11 for data management and analysis.

Analysis begun with a set of predetermined codes based on the conceptual framework in association with the interview guides. The rapid assessment summaries made on the field were also compared with the codes.

Data was merged (both the qualitative and quantitative) in the discussion in a narrative form ensuring a synthesized and synergized report on the study. Quotations and figures, where appropriate, were used for emphasis.

#### **5.14. Data Management**

There was no code on the stored data but it was used solely for this research. The computer was not available for public use. The background information on respondents was not stored

together with the data for this research to ensure confidentiality. Besides, numbers were used to identify respondents instead of their names and communities.

#### 5.15. Ethical considerations

*Ethical clearance:* This was obtained from the Ghana Health Service Ethical Review Committee. The study was issued with the ethical clearance number (**Protocol ID NO: GHS-ERC 10/11/15**).

*Approval:* Approval was given by the heads of the facilities, districts and the Ga South Municipal Health Directorate as well as the respondents of this study. The health authorities were informed and approval granted to interview pregnant women and post- natal mothers (up to 6 weeks after delivery) on home visiting in two of the health facilities chosen at random. Public and Community Health Nurses who carry out home visiting were also engaged in FGDs and KIIs. Approval was sought for participant observation of home visitors and record review from case notes, community registers and other records on home visiting in all the facilities used.

*Description of subjects:* The home visit service providers who participated in the FGD were CHOs stationed in functional CHPS Zones. The questionnaire was administered to women who were either pregnant or lactating mothers within 28 days of delivery. These were clients who assess ANC and PNC services.

*Risk/benefits of the study:* There was no know direct risks or side effects to this study. The outcome of this study was to improve maternal and health care services in Ghana.

*Privacy/confidentiality:* This was assured by safeguarding the data collected. No name of any participant was associated with any information from the study. The data was purposely used for this study. Participants were assured of privacy.

*Voluntary participation and compensation:* Participants were informed that their participation is on voluntary basis. Their right to withdraw at any stage of the study was communicated to them and assured. Apart from transportation cost, no other incentive or allowances were given for participating in this study.

*Data storage and usage:* The survey data was stored securely in a database which was used purposely for this study.

*Informed consent:* The objectives and nature of the study was explained to all participants. Before each survey, literate participants were made to read and sign a consent form. Research Assistants helped those who could not read and write by reading out the consent and guiding them to thump print willingly. A copy of the consent form was given out to the participants.

*Conflict of interest:* There is no conflict of interest in this study.

*Funding for the study:* This study was self-sponsored.

#### **5.16. Limitations**

The study envisaged funding as a major limitation hence when the Ga South Municipality was picked; it was used as a case study. Generalization of findings was also envisaged as a challenge owing to the use of a case study (Baškarada, 2014).

#### **5.17. Chapter summary**

Chapter five focused on the study design, the study population, sample and sample size determination. The study variables, data collection techniques and tools were discussed as

well as the quality control, data analysis and data management. Ethical considerations and limitations to this study were also featured in this chapter. This study, a cross sectional study, employed the mixed methods approach. Four main data collection techniques were used in the qualitative study and a survey of pregnant and lactating women (28 days post - partum) was used for the quantitative study.

## **CHAPTER SIX**

### **6.0. RESULTS**

This chapter presents findings from both the quantitative and qualitative studies.

#### **6.1. Background characteristics of respondents**

There was a hundred per cent (453) response rate to this study. The respondents were pregnant and lactating women (28 days post - partum) and Community Health Officers (CHOs) for the qualitative study and pregnant and lactating women (28 days post - partum) for the quantitative study. The mean age of the respondents was 26.7 years with 49% of them (221) falling within the 20 to 24 year group. A few 3% (13) were below 20 years old. Thirty-two per cent (146) were Middle School or Junior High School (JHS) leavers and 19% (89) had no education. Christians 88% (399) formed the majority, whilst Muslims constituted 12% (53). Of the Christians, Catholics constituted 27% (121), and the Protestants were 62% (278). Eighty per cent of the respondents were employed. Only 8% of the respondents (36) had stayed in their communities for more than 10 years whereas the 46% (208) of them had stayed in their communities for 5 – 10 years. Sixty eight per cent (339) had ever had a pregnancy experience. Twenty nine per cent (149) have had 2 children. Table 6.1 summarizes the background characteristics of the respondents in the quantitative study.

**Table 6.1: Background characteristics of respondents in the quantitative study**

<b>Item</b>	<b>Number N= 453</b>	<b>Percentage (%)</b>
<b>Age in years</b>		
Below 20	13	2.9
20 – 24	221	48.8
25 – 29	152	33.6
30 – 34	46	10.2
35 – 39	14	3.1
40+	7	1.5
<b>Educational level</b>		
None	89	19.6
Primary	143	31.6
Middle/JHS	146	32.2
Secondary/Higher	75	16.6
<b>Religious affiliation</b>		
Catholic	121	26.7
Protestant/Other Christians	278	61.6
Muslim	54	11.9
<b>Employment status</b>		
Employed	401	80.2
Not employed	99	19.2
<b>Period of stay in area</b>		
Less than 5 years	209	46.1
5 – 10 years	208	45.9
More than 10 years	36	8.0
<b>Pregnancy Experience</b>		
First	153	33.8
Second or more	300	66.6
<b>Mother or Neonate</b>		
Pregnant	186	41.1
Neonate	267	58.9
<b>Residential area</b>		
Amanfrom	225	49.7
Mallam	228	50.8

## 6.2. Background information on the respondents in the qualitative study

The respondents in the qualitative study were aged between 19 and 60+ years as per table 6.1. Sixteen of the 20 women were educated. They constituted JHS leavers (9), primary level (4) and tertiary (2). Twenty five (25) were educated up to SHS level or higher whilst five (5) of them were uneducated. Occupation wise, the women were primarily traders (4), peasant farmers (4), not employed (4), food vendors (3), hair dressers (2), researcher (1), private

toilet operator (1), and teacher (1). The rest except for the retired home visitor were employed by the Ghana Health service. Table 6.2 depicts the background characteristics of respondents in the qualitative study.

**Table 6.2: Background Characteristics on participants in the qualitative study**

	FGD 1 (Obom)	FGD 2 (Weija)	FGD 3 (CHOs)	KII (GHS Managers)	Observation (CHOs)
<b>Age</b>					
19 years	1	2	-	-	-
20 – 24	2	1	-	-	3
25 – 29	5	7	10	-	1
30 – 34	2	-	-	-	-
35 - 39	-	-	-	1	-
40 – 45	-	-	-	1	-
45 - 49	-	-	-	2	-
50 – 54	-	-	-	1	-
55 - 60+	-	-	-	2	-
<b>Sex</b>					
Female	10	10	10	5	4
Male	-	-	-	2	-
<b>Employment Status</b>					
Employed	7	8	10	7	4
Not employed	3	2	-	-	-
N =	10	10	10	7	5
<b>Edu. Background</b>					
None	4	-	-	-	-
Primary	1	3	-	-	-
Middle/JHS	4	5	-	-	-
Secondary/Higher	1	2	10	7	4
<b>Residence of the Respondents in the FGD</b>					
	Ashalaja	Mallam Abease	Osofo	-	-
	Kweiman	Gbawe Tipper	Lamptey	-	-
	Bala Gonno	Amanfrom	Bala Gonno	-	-
	Obom	Tetegu	Honi	-	-
	Kwabena fio	Danchira	Horbor	-	-
	Krokoshwe	Broadcasting	Obom	-	-
	Oman mpe hia	Off Town	-	-	-
	Oman Kope	McCarthy Hill	-	-	-
	Kofi Kwei	Gbawe Bulemi	-	-	-
	Trebu	Kokrobite	-	-	-
			-	-	-

\*- represents no values

### 6.3. Influence of service provider factors on home visiting services

Availability and workload of service providers were the variables assessed.

#### 6.3.1. Availability of Service Providers

The visibility of the HVSPs in the communities was used as proxy indicator for their availability. The survey revealed that about 51% of the respondents (230) had not seen home visiting service providers in their community. Sixty – one per cent (275) had never been visited. Thirty – one per cent (145) however, had been visited in their current status (pregnant or nursing a neonate). Thirty two per cent (32%, 143) were visited at monthly intervals. Table 6.3 depicts the frequency distribution on availability of home visiting service providers.

**Table 6.3: Frequency distribution on availability of service providers**

<b>Variable</b>	<b>number=453</b>	<b>Percentage (%)</b>
<b>Availability of HVSP</b>		
Ever seen HVSP	223	49.2
Never seen HVSP	230	50.8
<b>Visited by HVSP</b>		
Ever been visited	178	39.3
Never been visited	275	60.7
<b>Current visits</b>		
Visited	143	31.5
Not visited	310	68.5
<b>Time of visit</b>		
Once	106	23.4
Twice	67	14.8
3 or more	5	1.1
Not visited	275	60.7
<b>Frequency of visit</b>		
Not at all	275	60.7
Monthly	143	31.5
Other	35	7.8

From the qualitative study, the women group stated that home visiting services were carried out monthly and weekly usually between 9:00 am and 1:00 pm but majority of them do not see the nurses at work. Some of the women in the FGDs said the nurses were not enough that

is why they were not visited at home. The following were some of the quotes to substantiate the findings on availability of service providers:

*“I have never been visited but I have seen some of them [Home visit nurses] visiting people at home. They don’t wear the green uniform. Sometimes they use house dress like skirt and health T shirt”-(FGD, post natal woman from Obom group).*

*“I am hearing this for the first time that nurses visit people at home”- (FGD, pregnant woman from Weija group).*

*“They visit us once in a while. The first time they visited, they looked at my child’s weighing card and said I should continue the weighing. They looked at his finger nails and said I should cut it. As for me they did not even see I was pregnant” ...- (FGD – postnatal mother from Obom group).*

*“They [CHOs] are not enough but once it is [home visiting] part of their duties whether they are enough or not they should do it. Even if it has to be once in a month they should do it”- (KII, GHS Manager at District level).*

*“In fact they [home visit] are not enough so they are not able to visit everybody. They are not enough. Because it’s the Director General’s [of Health Services] concept that 2 CHNs are supposed to work in an electoral area. And the areas are large. That is how we zone them. We demarcated it [electoral area] into smaller zones for them even with that they are two, two,*

*two but sometimes one, one. They are not even enough in the areas”– (KII, GHS Manager from Municipal Level).*

### **6.3.2. Workload/case load of the Home Visit Service Providers**

Workload was cited as a factor that competes with home visiting services by all the respondents. The CHOs stated their willingness to conduct home visits but when other duties which demand meeting health sector indicators come into play, home visiting fizzles out. Their issue was the workload at the CHPs Zones was huge. The clients, in support, felt the CHOs were overburdened with work. The ensuing quotes support of the findings:

*“Activities at our CHPS Zones include home visiting. Tuesday and Fridays are solely home visit days in my Zone but people troop in to the OPD so you end up going in the afternoon, with the scorching sun, it makes it difficult to go. Even if you try hard and go they will be at the farm so you meet empty houses. I will do something that will push my indicators up instead of visiting empty home”. – (FGD, CHO at Obom).*

*“Sometimes the malaria Control programme for example may have a programme such as “hang out” campaign. The entire period used for this campaign affects home visiting services. It is difficult to combine the two” – (FGD, CHO at Obom).*

*“Hmm madam, it’s all about meeting the indicators that will speak for you. If I concentrate on home visiting alone, my immunization indicators, CWC*

*attendance and the others required in the MCH report will fall. I need to satisfy those ones so for home visiting I will go but my concentration is on meeting my targets” – (FGD, CHO at Obom).*

*“Their work is too much. How can the nurses combine visiting us at home with their normal duties at the health centre? - (FDG, Pregnant woman at Obom).*

*“I think they get tired doing other things. Are they not the same people who do the weighing? They cannot do the two. Weighing is easier than going from house to house so they will choose weighing”– (FGD, Post natal mother at Weija).*

#### 6.4. **Estimating for confounding variables for objectives 2 and 3**

In predicting the influence of client and community factors on home visiting services, there was the need to control for confounding variables. From the bivariate analysis in table 6.4, none of the socio - demographic characteristics had a relationship with home visit ( $p>0.05$ ). The best model among the 6 nested models was model 6 (AIC=571.15, AUROC =61.26%) which was adapted due to goodness of fit and was used for subsequent analysis of the rest of the two intervening (client and community) factors. Details of the performance of the nested models can be found in table 6.5 and figure 4.

**Table 6.4: Bivariate analysis of factors associated with home visiting**

Predictors	Home Visit		Chi-Square	P-value
	No (%)	Yes (%)		
<b>Socio demographic</b>				
Mean age ( $\pm$ SD)	25.97( $\pm$ 4.87)	25.35( $\pm$ 4.46)	1.33 <sup>§</sup>	0.1837 <sup>†</sup>
<b>Education level</b>				
None	55(17.74)	34(23.78)		
Primary	104(33.55)	39(27.27)		
JHS	103(33.23)	43(30.07)	4.02	0.259
SHS/Higher	48(15.48)	27(18.88)		
<b>Religion</b>				
Catholic	84(27.10)	37(25.87)		
Protestant	190(61.29)	89(62.24)	0.08	0.963
Muslim	36(11.61)	17(11.89)		
<b>Employment</b>				
Employed	255(82.26)	108(75.52)		
Unemployed	55(17.74)	35(24.48)	2.79	0.095
<b>Group area</b>				
Amanfrom	162(52.26)	63(44.06)		
Mallam	148(47.74)	80(55.94)	2.63	0.105
<b>Period of stay</b>				
< 5years	148(48.05)	61(42.66)		
5 - 10years	142(46.10)	66(46.15)	4.31	0.116
>10 years	18(5.84)	16(11.19)		
<b>Client factors</b>				
<b>Socio-economic status</b>				
Influences H/V	187(60.32)	73(51.05)		
Does not influence H/V	123(39.68)	70(48.95)	3.44	0.064
<b>Social network</b>				
Influences H/V	211(68.06)	84(58.74)		
Does not influence H/V	99(31.94)	59(41.26)	3.75	0.053
Accessible	156(50.32)	72(50.35)		
Not accessible	154(49.68)	71(49.65)	0.00	0.996
<b>Road to community</b>				
Good	12(3.87)	6(4.20)		
Bad	298(96.13)	137(95.80)	0.03	0.869
<b>Health &amp; Social amenities available</b>				
<b>Weighing center</b>				
Improves home visit	163(52.58)	78(54.55)		
Does not improve home visit	147(47.42)	65(45.45)	0.15	0.697
<b>CHPS</b>				
Improves H/V	125(40.32)	59(41.26)		
Does not improve H/V	185(59.68)	84(58.74)	0.04	0.850
<b>Market</b>				
Improves H/V	112(36.13)	51(35.66)		
Does not improve H/V	198(63.87)	92(64.34)	0.01	0.92

**Table 6.4 continued**

<b>School</b>				
Improves H/V	120(38.71)	52(36.36)		
Does not improve H/V	190(61.29)	91(63.64)	0.23	0.63
<b>Maternity home</b>				
Improves H/V	160(51.61)	69(48.25)		
Does nor improves H/V	150(48.39)	74(51.75)	0.44	0.506

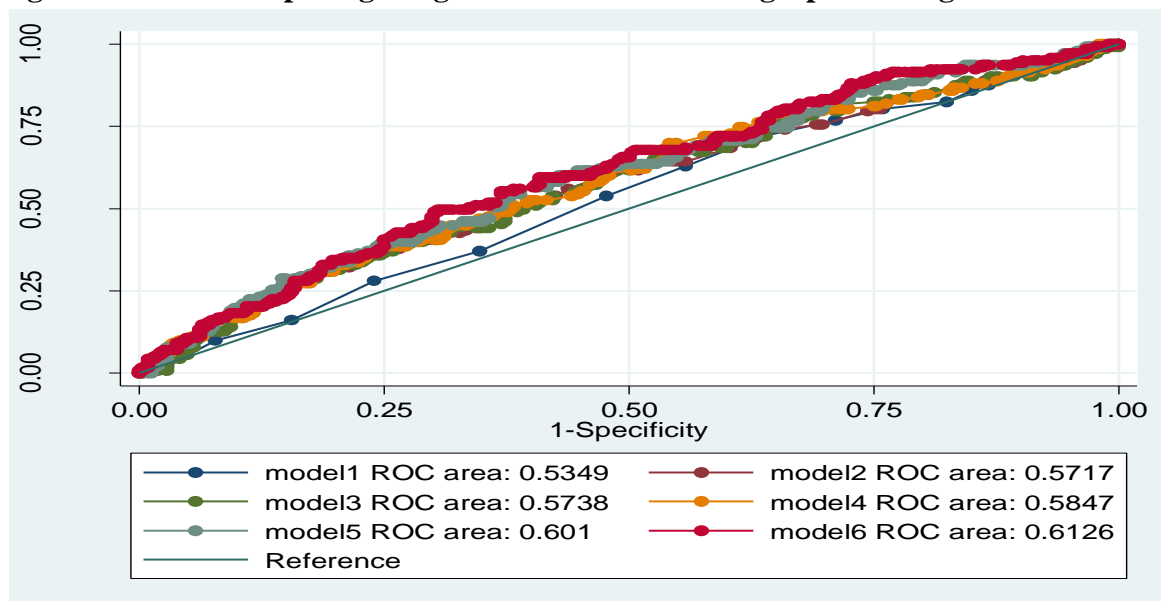
N (%) represents frequency/per cent frequency, SD is standard deviation, † p-value estimate from the Welch t-test. OR: odds ratio, aOR: adjusted odds ratio, CI: confidence interval, Ref: reference category, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

**Table 6.5: comparing nested models to select the best baseline socio demographic characteristics**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>
Predictors	Age	Age	Age	Age	Age	Age
		Educational level	Educational level	Educational level	Educational level	Educational level
			Religion	Religion	Religion	Religion
				Employment status	Employment status	Employment status
					Group area	Group area
						Years of stay at residence
<b>Model performance index</b>						
AUROC	53.49%	57.17%	57.38%	58.47%	60.10%	61.26%
(95% CI)	(47.83 – 59.15)	(51.40 – 62.95)	(51.63 – 63.13)	(52.73 – 64.20)	(54.48 – 65.71)	(55.71 – 66.80)
AIC	567.25	568.95	568.95	572.92	571.90	571.15
HL GOF	$\chi^2 = 5.32, p = 0.7231$	$\chi^2 = 5.13, p = 0.7438$	$\chi^2 = 7.04, p < 0.5319$	$\chi^2 = 6.49, p < 0.5929$	$\chi^2 = 7.12, p = 0.5242$	$\chi^2 = 4.55, p = 0.8046$

AUROC: Area under Receiver Operating Characteristic Curve, AIC: Akaike Information Criterion, HL GOF: Hosmer Lameshow Goodness of fit test.

**Figure 4: Model comparing the goodness of fit for demographic background**



### 6.5. Influence of client factors on home visiting services

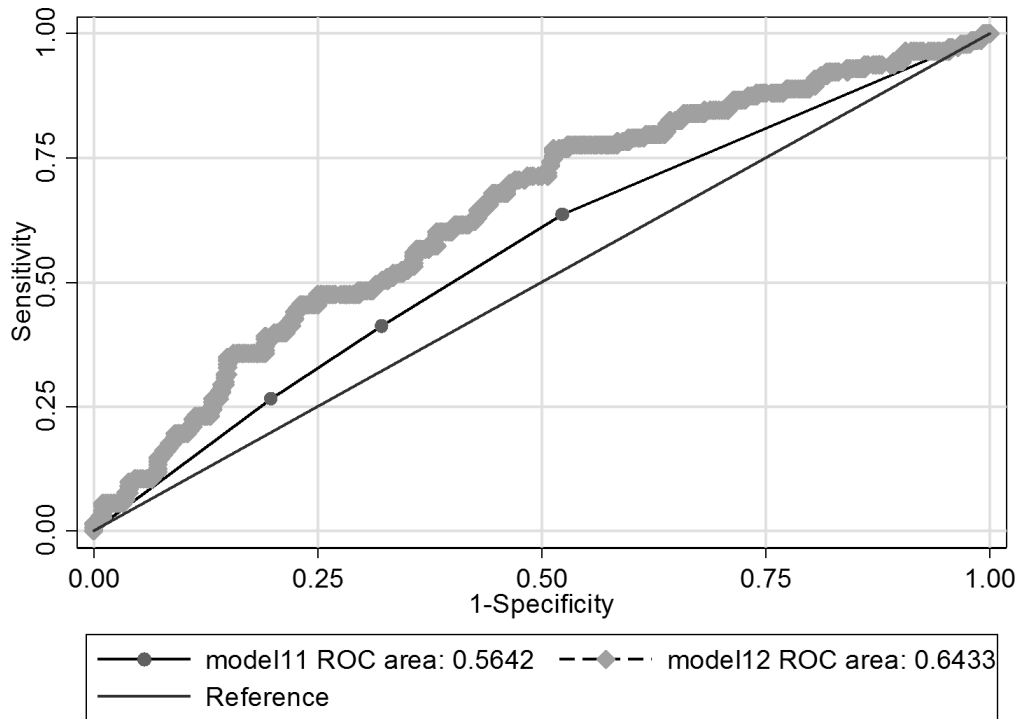
Socio-economic status and social network were the two client factors investigated. In investigating the effect of these client factors on home visit, two different nested models were fitted. Model 1 consisted of only client-factor variables and model 2 integrated both the client factors and socio-demographic characteristics. The performances of those two models were evaluated with the Area under Receiver Operating Characteristic Curve (AUROC) and Akaike Information Criterion (AIC). There was statistical significant difference in AUROC between the two nested models ( $\chi^2=7.44$ ,  $p=0.0064$ ), the best performing model was model 2 (AUROC=64.33%, AIC=566.36). Detailed evaluation of the 2 models can be found in Tables 6.6 and figure 5.

**Table 6.6: Evaluating the influence of client factors on home visiting**

Client Factors	Home Visit			Home visit			
	Unadjusted effect of client factors on Home visit: model 1			Effect of Client factors on Home visit controlling for Socio demographic factors: model 2			
	OR	95%CI	p-value	aOR	95%CI	p-value	
Socio-economic status							
Yes	Ref			ref			
No	1.33	0.88 – 2.02	0.179	1.31	0.83 – 2.05	0.244	
Social network							
Yes	Ref			ref			
No	1.37	0.89 – 2.11	0.149	1.56	1.10 – 2.49	0.050*	
<b>AUROC (95% CI)</b>		56.42 (50.03 – 61.82)			64.33 (58.86 – 69.79)		
<b>AIC</b>		565.45			566.36		
<b>HL GOF</b>		$\chi^2=0.39$ , $p=0.8235$			$\chi^2=12.99$ , $p=0.1122$		

OR: odds ratio, aOR: adjusted odds ratio, CI: confidence interval, Ref: reference category, \* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.001$ , AUROC: Area under receiver operating characteristic curve, AIC: Akaike Information criterion, HL GOF: Hosmer Lameshow Goodness of fit test.

**Figure 5: The estimation of good fit for client factors**



### **6.5.1. The influence of socio - economic status of clients on home visiting**

Fifty seven per cent (260) of the respondents in the survey felt socio economic status do influence home visit services but there was not enough statistical evidence to conclude that socio - economic status of mothers had influence on home visiting ( $p>0.064$ ) as depicted in Table 6.5.

The women groups in the qualitative study did not see socio - economic status as a strong factor for delivering home visiting services. It only helps the nurses to know where to provide which service. On observation, the nurses did not use socio-economic status as a basis for selecting clients. They simply walked into clients homes to provide services. The KII also revealed that socio-economic status was not a factor for selecting clients though it guides nurses' actions. A participant said:

*“Poor people need pity. The rich can afford health care services so the nurses need to concentrate on the poor who are barely able to pay for health care services”* (FGD, pregnant woman at Weija).

A participant from Obom also said:

*“There are some rich people who have not gone to school so need help”*  
(FGD, nursing mother at Obom).

Another participant from the Weija group also put it in a different perspective that:

*“Even some teachers may be ignorant of health issues so everybody needs equal attention from home visiting nurses”* (FGD, nursing mother at Weija).

The CHOs also felt that socio economic status influenced interventions during home visiting but not choice of client:

*“In situations where resources are scarce, socio economic status would be an important element in choosing who to visit and how to help the client. We will select items in her environment to teach her what to do. We cannot teach an uneducated charcoal seller to prepare salad but we can tell a teacher to include vegetable or fruit salad in her diet”* (FGD, CHO at Obom).

These quotes support the managers’ views:

*“It shouldn’t be, because no matter the status of an individual or client we all need health assistance. Yeah so you cannot visit somebody based on the person’s status. You can’t say this person or that woman is poor she cannot afford so I have to visit her no. Somebody can have the means everything alright but may be lacking the knowledge in something like in food preparation or something. So in fact it is not based on economic status.*

*Everyone (emphasis on everyone) no matter your level you will need some assistance. So it is not based on socio economic status. We are supposed to visit very one in the house” - (KII, GHS Manager at the Municipal Level).*

*“Definitely the low socioeconomic group will fall into special visit, but then those in the high socioeconomic group behave like they know when they don’t so they should be visited as well”-(KII, retired Manager at Otano).*

### **6.5.2. The influence of Social Network of clients on home visiting**

After controlling for socio-demographic factors, the odds of those who perceived the social network to have influence on home visit was approximately 1.6 times higher compared to the odds of those who perceived otherwise (aOR=1.56, 95%CI: 1.10-2.49) as per table 6.5.

It was revealed in the qualitative study that client’s compliance to health interventions and responsiveness to home visiting services were influenced by their social network. Some participants however felt social networks could not influence compliance with instructions given by home visit nurses, but, the nurses’ visit rather enhanced care from significant others. The CHOs were of the view that in communities where language barrier between service provider and clients existed, the social network tended to gain the upper hand in decision making. Other migrant communities especially within the Ashalaja and Bala Gonno Zones were not that receptive to home visiting services under the pretence of language barrier.

Some women from both groups said the social network had helped them with activities of daily living through home visiting; or had influenced them against health instructions from home visitors. From the managers and the service providers' point of view significant others play a major role in compliance to health instructions. On the contrary, some of the service providers did not rope significant others in the visits they made during the observation. Some clients had their mothers and in laws around but they were not included in any of the interventions. Some of the quotes to support these findings were as follows:

*“The social network has a lot of influence on clients. The mother in - law can tell you not to do something and you obey that instead of the nurse so we involve the social network a lot during home visiting” - (KII, GHS Manager at the Municipal Level).*

*“It does, o yes it does. The clients believe what those around them at home tell them. Moreover those at home are powerful. You cannot disobey your mother or mother in law. As for the men when they speak that is final. Because of this in home visiting, involving the “significant others” is a very important task. It needs skills to do that effectively” – (KII, Retired GHS Manager at Otano).*

*“I have been visiting some Fulani and ewe communities. When they see you coming they go and hide and one of them who speak a little Twi or English will tell you that they are not in. In one community no one is allowed to give birth outside the community. They have a male TBA who does all the*

*deliveries. They are given herbs. None of them are allowed to receive immunization. When the TBA sees a nurse talking to a client he tells them something that makes them change their reception to you. So as far as the social network is concerned, they can make the visit successful or disturb the progress of the visit. Sometimes too as soon as you start the visiting process with a client, family members and none family members come around making it difficult to discuss sensitive issues”- (FGD, CHO at Obom).*

*“Nobody can change my mind on what a nurse will tell me to do. I will make sure I obey what any nurse tells me because they understand health issues”– (FGD, pregnant woman from Obom).*

*My mother in – law never allowed me to breastfeed my baby without water, the baby was given water. She said because we don’t give babies water that is why people die at younger ages” – (FGD, a teen mother from the Obom).*

*“My co tenants did not care about me but when a nurse visited she involved them so now they fetch water for me. They even take my money and buy things for me when they go to the market. Her visit has been helpful to me” – (FGD, postnatal mother at Obom).*

*“The “home nurses” [social network/significant others] are terrible. They will say we have delivered more babies nothing happened. You have*

*delivered only one baby and you are disturbing us with the nurses say... why did God create water? Give the baby water and let us think” – (FGD, pregnant woman from Weija).*

*”The social network has a lot of influence on clients. The mother in - law can tell you not to do something and you obey that instead of the nurse so we involve the social network a lot during home visiting” – (FGD, GHS manager at Municipal level).*

#### **6.6. Influence of community factors on home visiting services**

Geographic access and road network to community were the community factors investigated. In investigating the effect of community factors on home visit, two different nested models were fitted. Model 41 consists of only the community factors and model 42 integrated both the community factors and socio-demographic characteristics. The performances of those two models were evaluated with the Area under Receiver Operating Characteristic Curve (AUROC) and Akaike Information Criterion (AIC). There was no statistical significance difference in AUROC between the two nested models ( $\chi^2= 14.65$ ,  $p=0.0001$ ), the best performing model was model 42 (AUROC=61.65%, AIC=572.92). Detailed evaluation of the 2 models can be found in Table 6.8. A Graph depicting the performance of the models can be found in Figure 6. After controlling for socio-demographic factor, there is not enough evidence to conclude that any of the community factors had any statistical effect on home visiting ( $p>0.05$ ).

### 6.6.1. Influence of geographic access to the community on home visiting

Eighty seven per cent (87%, 394) of the respondents in the survey lived in communities with good roads (very good 27.4%, good 46.7%, and moderately good 12.8%) whilst 13% of them (bad, 6.8 and very bad, 6.2) said poor roads were likely to influence home visiting services as per table 6.8. The Chi-Square test revealed that road network / access to the community was not statistically significant as far as influencing home visiting was concerned. As shown in table 6.9 none of the community factors was statistically significant to have influence on home visit ( $p=0.404$  and  $p= 0.783$ ) for geographical access and road leading to the community respectively as shown by the multivariate logistic model (model 2) in table 6.8.

**Table 6.7: Distribution of the influence of community factors on home visiting**

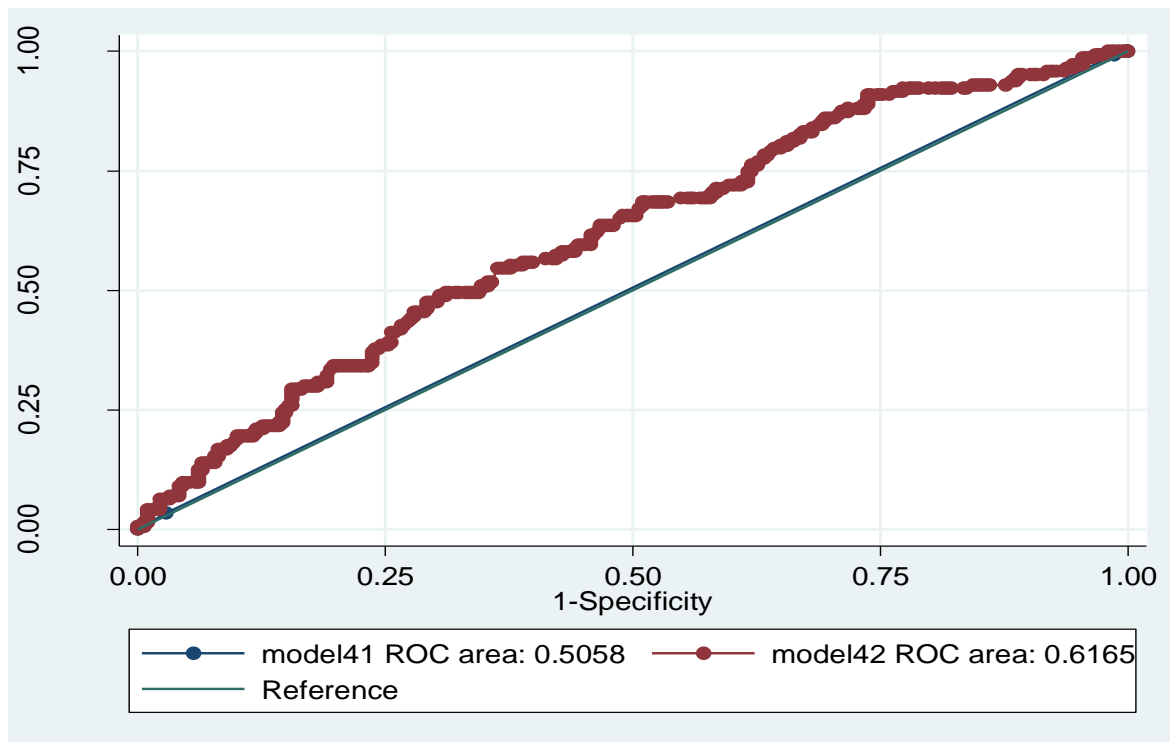
Variable	Number	%
<b>Road network</b>		
Very good	124	27.4
Good	212	46.7
Moderately good	58	12.8
Bad	31	6.8
Very bad	28	6.2
<b>Community accessibility</b>		
Accessible	228	50.3
Not accessible	225	49.7

**Table 6.8: Comparing the performance of two nested models used in assessing the effect of community factors on home visiting**

Community factors	Home Visit			Home visit		
	OR	95%CI	p-value	aOR	95%CI	p-value
Geo access to community						
<i>Accessible</i>	Ref			Ref		
<i>Not accessible</i>	2.24	0.21 – 23.76	0.504	2.87	0.24 – 33.91	0.404
Road to community						
<i>Good</i>	Ref			Ref		
<i>Bad</i>	0.79	0.27 – 2.33	0.664	0.85	0.28 – 2.64	0.783
<b>AUROC (95% CI)</b>	50.58 (48.58 – 52.57)			61.65 (56.15 – 67.15)		
<b>AIC</b>	570.42			572.92		
<b>HL GOF</b>	$\chi^2=0.01, p=00$			$\chi^2=11.46, p=0.1768$		

OR: odds ratio, aOR: adjusted odds ratio, CI: confidence interval, Ref: reference category, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001, AUROC: Area under receiver operating characteristic curve, AIC: Akaike Information criterion, HL GOF: Hosmer Lameshow Goodness of fit test

**Figure 6: Effect of community factors on home visiting**



All the 30 participants in the FGDs came from communities with bad roads. Some of them felt poor roads could not influence home visiting services whereas others thought otherwise.

At the managerial level, the nurse managers felt poor roads and long distances should not hinder home visiting services. One of the KII discussants was of the view that natural disasters such as flooding were likely to hinder home visiting services aside that there is no excuse for poor roads or long distances. The CHOs sided with the women on poor roads and long distances influencing home visiting services negatively. Some of the quotes were as follows:

*“Mhmm because of the potholes and the big trucks that win sand, a lot of accidents occur on the road so people are scared to use motor bikes. The nurses will not risk their lives. No they will not”* – (FGD, pregnant woman from Obom).

*“Poor roads? No nurses will not use such roads”*– (FGD, postnatal woman from Obom).

*“The roads are so dusty; by the time you come home you cannot be recognized..... I don't normally go to that far place because of the fare too I don't go often”*– (FGD, CHO at Obom).

*“How do we expect these young nurses to travel in trotro to the interior where I am? I stay inside Amanfrom. The road is so rough that the taxi drivers charge double the price. I don't think the nurses will like to come there. Aah well may be they do but I have not seen them”* – (FGD, post natal mother from Weija).

*“Bad road will prevent them [nurses] from visiting us. My area is not too bad. I live close to the road side. But like my sisters have said. Living at an area with bad roads will not appeal to the nurses to come”- (FGD, nursing mother from Weija).*

*“Geographical barriers influence home visiting a lot. If you have a client in a flooded area, or you have to cross a river to the next village and it is overflowing you can’t go. All the natural situations can act as barriers to home visiting. Dusty and rough roads should not be a problem but long distances may require motor bikes. If you have a motor you should be able to go there” – (KII, retired manager at Otano).*

#### **6.6.2. Influence of the availability of social amenities on home visiting**

The bivariate analysis per Table 6.4 showed that availability of social amenities had no statistically significant association with home visiting services ( $p=0.05$ ). However, 53% of the women (241) were of the opinion that availability of a weighing center in the community would enhance home visiting services. With regards to CHPS compounds and health facilities 41 % (184) the CHOs felt could influence home visiting services positively. Fifty one per cent (229) and 36% (163) respectively felt markets and schools have influence on home visiting.

From the qualitative study, the CHOs and the managers felt health and social amenities could influence home visiting services. The CHOs were of the view that community centres are beneficial for community durbars:

*“When durbars are held problems, that could encourage the community to open up during home visiting or at the clinic, are highlighted”- (FGD, CHO at Obom).*

*“Once school health services are done in a community, home visiting would also be done to follow up some of the special cases” (FGD, CHO at Obom).*

Drug stores and drug peddlers were seen as a bane by the CHOs, especially in the Obom Kofi Kwei communities. The CHOs in these communities were of the view that availability of drug stores and drug peddlers would influence responsiveness to home visits negatively. During the observation study, it was revealed that the community members in the Obom communities preferred home delivery to skilled attendance at birth and were heavily dependent on drug peddlers. One of the CHOs at Kofi Kwei community remarked that:

*“Because of the drug peddlers, they hardly patronize the OPD services at the CHPs Zone” (FGD, CHO from Obom).*

The nurse managers felt health facilities, Schools and CHPS Zones could influence the availability of home visitors and referrals but these amenities were not likely to influence dosage and responsiveness to home visiting. Some of the views expressed by the KII participants were as quoted below:

*“Mmmm, it affects in some way because when you visit a client and you identify a problem you want to refer and there is no health facility there sometimes it becomes a problem. The client has to travel all the way. For example, you have met a suspected Tb client and the person has to do a test. If in the weija area the person has to come all the way to the hospital for the sputum, test it becomes a problem. You might end up missing the client. So it affects”* – (KII, GHS Manager at the Municipal level).

*“If we follow the CHPS strategy there are demarcated zones within each district but then not all of them have CHOs to man these Zones and carry out home visits. Some of them are few in number which means that .... Not able to so the number of CHOs is important because not all the Zones have CHOs. That means that they will not be able to carry out home visiting as recommended. Also the presence or absence of CHPS compounds in some areas because they do not live in the community the number of times they will carry out home visiting is limited”* – (KII, GHS Manager at the national level).

#### **6.7. Effect of home visiting services on maternal and newborn care**

The outcome variables were fourfold: (1) post natal care (2) antenatal care (3) cord care and (4) exclusive breast feeding.

### **6.7.1. Maternal health care**

The multivariable logistic regression analysis showed no statistically significant effect of home visit on both ANC ( $p=0.623$ ) and PNC ( $p=0.171$ ) after controlling for socio-demographic factors as depicted in Tables 6.9, 6.10 and 6.11 respectively.

**Table 6.9: Assessing the effect of home visit on Ante Natal Care**

Predictors	Ante Natal Care Unadjusted effect		Adjusted effect	
	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Socio-demographic				
<i>Mean age (±SD)</i>	0.99 (0.91 – 1.07)	0.752	0.99(0.91 – 1.07)	0.756
Education level				
<i>None</i>	Ref		ref	
<i>Primary</i>	1.51(0.54 – 4.23)		1.45(0.50 – 4.21)	
<i>JHS</i>	1.16(0.43 – 3.172)	0.795	1.12(0.40 – 3.17)	0.797
<i>SHS/Higher</i>	1.71(0.49 – 5.96)		1.76(0.49 – 6.35)	
Religion				
<i>Catholic</i>	Ref		ref	
<i>Protestant</i>	0.82(0.31 – 2.14)		0.88(0.32 – 2.44)	0.772
<i>Muslim</i>	0.61(0.18 – 2.14)	0.745	0.63(0.17 – 2.34)	
Employment				
<i>Employed</i>	Ref			
<i>Unemployed</i>	1.14(0.42 – 3.11)	0.799	1.17(0.40 – 3.40)	0.773
Group area				
<i>Amanfrom</i>	Ref			
<i>Mallam</i>	1.20(0.56 – 2.57)	0.639	1.10(0.50 – 2.41)	0.818
Period of stay				
<i>&lt; 5years</i>	Ref			
<i>&gt;5years</i>	1.33(0.62 – 2.85)	0.463	1.36(0.61 – 3.03)	0.451
Home visit				
<i>Not visited</i>	Ref		ref	
<i>Visited</i>	1.25(0.54 – 2.93)	0.596	1.24(0.52 – 2.97)	0.623

ref: the reference category, AOR: adjusted odds ratio from the multivariable logistic regression model, CI: confidence interval. p<0.05, \*\*p<0.01, \*\*\*p<0.001

**Table 6.10: Assessing the effect of home visit on post natal care**

Predictors	Post Natal Care Unadjusted effect		Adjusted effect	
	UOR (95% CI)	p-value	AOR (95% CI)	p-value
<b>Socio demographic</b>				
<i>Mean age (±SD)</i>	1.00 (0.87 – 1.15)	0.974	1.08 (0.85 – 1.38)	0.521
<b>Education level</b>				
<i>None</i>	Ref		ref	
<i>Primary</i>	2.03(0.48 – 8.65)		0.72(0.06 – 8.06)	
<i>JHS</i>	2.04(0.43 – 9.73)	0.655	3.06(0.17 – 55.58)	0.798
<i>SHS/Higher</i>	3.25(0.34 – 30.88)		1.24(0.08 – 18.56)	
<b>Religion</b>				
<i>Catholic</i>	Ref		ref	
<i>Protestant</i>	1.16(0.29 – 4.71)		0.64(0.05 – 9.00)	0.461
<i>Muslim</i>	0.57(0.09 – 3.74)	0.702	0.13(0.00 – 4.26)	
<b>Employment</b>				
<i>Employed</i>	Ref			
<i>Unemployed</i>	0.53(0.14 – 2.11)	0.370	0.38(0.05 – 3.02)	0.359
<b>Group area</b>				
<i>Amanfrom</i>	Ref			
<i>Mallam</i>	0.78(0.24 – 2.57)	0.688	0.85(0.11 – 6.94)	0.883
<b>Period of stay</b>				
<i>&lt; 5years</i>	Ref			
<i>&gt;5years</i>	1.08(0.32 – 3.67)	0.905	0.68(0.09 – 5.13)	0.709
<b>Home visit</b>				
<i>Not visited</i>	Ref		ref	
<i>Visited</i>	3.50(0.55 – 22.30)	0.185	4.11(0.54 – 31.07)	0.171

ref: the reference category, AOR: adjusted odds ratio from the multivariable logistic regression model, CI: confidence interval. p<0.05, \*\*p<0.01, \*\*\*p<0.001

The qualitative study revealed that HVSPs do remind pregnant women to attend ANC. They also refer some of the pregnant women to the ANCs. The ensuing quotes support these findings:

*“I was visited about three years ago. I was pregnant. The nurse examined me in my room and told me that all is well. She asked me to continue going to the clinic”* (FGD, nursing mother from Obom).

*“The CHOs job is to remind all pregnant women and nursing mothers to attend the various clinics. They have volunteers to help them”* – (KII, GHS manager at national level-).

During the observation study, a pregnant woman (28 weeks gestation) was linked to a midwife on phone for first dose Tetanus Diphtheria vaccine and other ANC services.

### **6.7.1. Neonatal health care**

Among those visited 91% (143) affirmed that the HVSPs offer services on exclusive breastfeeding compared to those who were not visited but practiced exclusive breast feeding (90%, n=26). The Fishers exact test did not show significant difference in the proportion of women who were visited and practiced exclusive breastfeeding and women who were not visited and practiced exclusive breastfeeding (p=0.217). The multivariable logistic regression analysis depicted in Table 6.11 did not show any statistical significant effect of home visit on exclusive breast feeding (p=0.168). Religion was however found to have statistically significant influence on exclusive breast feeding (p=0.027).

Table 6.11: Assessing the effect of home visit on Exclusive Breast Feeding

Predictors	Exclusive Breast Feeding			
	Unadjusted effect		Adjusted effect	
	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Socio-demographic				
Age	0.99(0.93 – 1.06)	0.831	1.00(0.93 – 1.07)	0.963
Education level				
None	Ref		ref	
Primary	1.35(0.55 – 3.48)		1.06(0.40 – 2.76)	
JHS	1.38(0.55 – 3.48)	0.653	1.24(0.48 - 3.19)	0.905
SHS/Higher	0.842(0.31 – 2.20)		0.86(0.31 – 2.36)	
Religion				
Catholic	Ref		ref	
Protestant	0.32(0.11 – 0.93)	0.017	0.32(0.1 – 0.97)	0.027 *
Muslim	0.17(0.5 – 0.57)		0.17(0.05 – 0.62)	
Employment				
Employed	Ref			
Unemployed	1.45(0.59 – 3.55)	0.421	1.03(0.39 – 2.70)	0.955
Group area				
Amanfrom	Ref			
Mallam	0.91(0.47 – 1.74)	0.774	0.83(0.42 – 1.63)	0.586
Period of stay				
< 5years	Ref			
>5years	1.17(0.61 – 2.25)	0.627	1.21(0.61 – 2.40)	0.583
Home visit				
Not visited	Ref		ref	
Visited	1.65(0.77 – 3.57)	0.200	1.74(0.79 – 3.83)	0.168

ref: the reference category, AOR: adjusted odds ratio from the multivariable logistic regression model, CI: confidence interval.  $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

With regards to hygienic cord care practices, 99% (n=143) said the HVSPs offer help on cord care practices as per Table 6.13. Some cultural practices prohibit babies below 1 week from outdoors and visitors. It takes the HVSPs a good rapport with the families to get to know and visit such babies at this crucial time when neonatal deaths are common. All clients who were visited benefitted from physical examination including examination of the cord and capacity building on attachment and positioning to the breast for effective exclusive breastfeeding.

### 6.8. Improvement of maternal and newborn care by home visiting services

Home visiting services were carried out monthly (32%, 146) by the CHOs in the mornings (31%, 140). Fifty – nine per cent (n=106) of the respondents had been visited once. Most of the home visits were through routine visits (90%, 161) with (9%, 16) being visits initiated through health facilities. The visits were convenient for 57% (257) of the respondents. Table 6.12 provides a breakdown of the implementation of the home visiting services at the Ga South Municipal.

**Table 6.12: Home visiting services in the Ga South Municipality**

Variable	Number (453)	Percentage (%)
<b>How often the nurses visit</b>		
Monthly	143	31.6
Other	35	7.7
Not visited	275	60.7
<b>Period visited</b>		
Morning	140	31.0
Afternoon	35	7.7
Other	278	61.3
<b>Number of times visited</b>		
Once	106	59.0
Twice	67	38.0
3 or more	5	3.0
n=	<b>178</b>	100
<b>First contact with HVSP</b>		
Arranged from HF	16	9.0
Routine visit	161	90.4
Initiated by client	1	0.6
n=	<b>178</b>	100
<b>Convenience of time visited</b>		
Convenient time	257	56.7
Inconvenient time	196	43.3
n=	453	100

Table 6.13 shows interventions carried out by the home visit nurses in clients' homes. More than 95%, of the respondents benefited from prevention of cord infection, exclusive breast feeding, and encouragement to attend various clinics run for mothers and children.

**Table 6.13: Interventions by home visiting nurses**

<b>Items</b>	<b>Number (n=181)</b>	<b>Percentage (%)</b>
<b>Education on general issues</b>		
Received education	172	95.0
Not received	9	5.0
<b>General counselling</b>		
Counselled	176	97.2
Not counselled	5	2.8
<b>Facilitate referral</b>		
Referral facilitated	173	95.6
No referral	8	4.4
<b>Encourage ANC/PNC attendance</b>		
Received encouragement	176	97.2
No encouragement	5	2.8
<b>Assist with ADL</b>		
Assisted	166	91.7
Not assisted	15	8.3
<b>Encourage CWC attendance</b>		
Encouraged to attend CWC	179	98.9
No encouragement	2	1.1
<b>Prevention of cord infection</b>		
Cord inspected	180	98.9
Not inspected	2	1.1
<b>Exclusive breastfeeding</b>		
EBF encouraged	179	98.9
Not encouraged	2	1.1
<b>Improve relationship</b>		
Improved	161	89.0
Not improved	20	11.0

### 6.9. Improvement of maternal and newborn care by home visiting services

Thirteen (13) out of the 21 clients visited during the observation fell within the population for this study as per the sample report in Table 6.15 in the appendix. They were pregnant women (10) and neonates (3). The ensuing quotes support findings on how the home visit strategy improves maternal and newborn health:

*“In places where you see home visitors especially in the CHPS system, you see that there are not much defaulters. I went to the Upper West Region; you could see that the defaulter rate is almost zero. You see that when they visit them they talk to them about the clinics and remind them of when to come to clinic. They also make sure they are comfortable. They also talk to their*

*spouses. From their maternal death audits you could see clearly that those who die were those who were not attendants. Nobody followed them up at home” – (KII, GHS Manager at the national level).*

*“Normally we do home visiting for all people, but, you can select the people you want to concentrate on such as the pregnant women, newborn babies, special cases, babies who are premature, the aged or the children. These are the people we call vulnerable so our concentration is on them” – (FGD, CHO at Obom).*

From the desk review, most of the studies targeted outcomes of maternal and child health but the visits that started prenatally were proven to offer the best results (Olds *et al.*, 2014 and Peacock *et al.*, 2013). The outcomes ranged from preventing child abuse, building parenting capacity for pregnant teenagers, increasing uptake of ANC and PNC attendance, exclusive breast feeding and prevention of child maltreatment/abuse.

Both the curricula for Public Health Nursing and Community Health Nursing specify “at risk group” as: malnourished children, children born less than two years interval, premature babies, twins, orphans, single parents, brother or sister malnourished, any child death, fifth child or more and other. These were also specified in the child health record booklet.

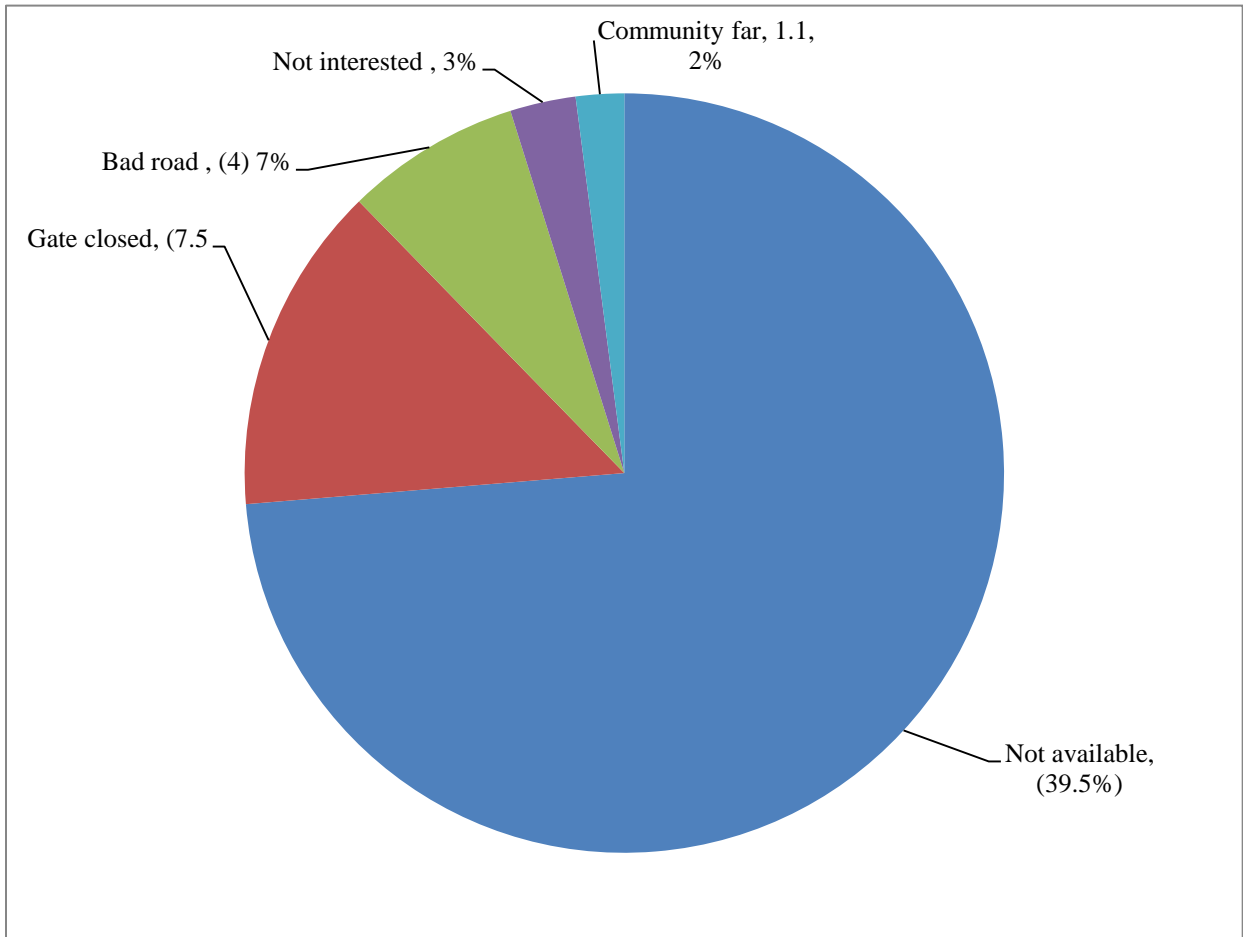
The home visit registers were bulky; hence CHOs keep small field note books. Information on clients was scanty in the notebook. The registers were absent on the field. The child health record booklet and maternal health record booklets have pertinent information for both

service providers and clients. The CHOs used these booklets for counselling during the observation

#### **6.10. Challenges of home visiting services in the Ga South Municipality**

About thirty – nine per cent (179) of the respondents in the survey indicated that they would not be available by the time the nurses' visit due to their occupation. Seven per cent (34) would also not be accessible because their gates were always closed. Poor roads were not too much of a challenge to home visiting services likewise the distance to the community as per Figure 7.

**Figure 7: Challenges of the home visiting services**



The under listed quotes from the quantitative study support challenges to home visiting services:

*“For me I don’t see the nurses. I believe I would be at work by the time they come visiting”*– (FGD, nursing mother from Weija).

*“Some of the CHOs would want to go but they do not know what to tell them so they might not go or they will go fewer times or the visit may not be*

*effective. And also the tools, we have not developed special registers but in some cases we have them. But to a large extent we don't have them. The registers that they use at the facilities, they have been complaining that it is bulky; because they are bulky they do not take them. They would want to take their notebooks and come and transfer. I think we need to streamline these”-* (KII, GHS Manager at national level).

*“Carrying the normal heavy scale, if you don't have the Salter, makes it difficult. The coordination, getting feedback is a challenge. Some districts are using mobile a few areas are overcoming in because you send them out but you don't know what they are doing. Recently some areas are using a mobile app to do tracking but then it's on a small scale. It is yet to be scaled up. It's on a pilot basis. There should be a policy that should state how. We need to look at who should coordinate even the office to coordinate. We should be clear as to where it belongs. Sometimes government's commitment in terms of resources also becomes a problem”-* (KII, GHS Manager at National Level).

*“Hmm Logistics (with emphasis)... Logistics- the basic things are not there for all of them. These things are a challenge. You cannot enter a home and not do anything for them. At least check the blood pressure but some do not have even home visiting bags not to talk of the items to fill the bags. Some District leaders such as the Weija Hospital have bought some of the logistics so others will gradually follow”-* (KII, GHS Manager at Municipal level).

*“Looking at the numbers it will not be feasible for tutors to accompany each student to these homes to coach them on how to do home visiting effectively. They can’t wait for them to do all these individually. If the students are let’s say 100 and each student is to take at least 30 minutes in each home. How many students will have the opportunity in a week? Home visiting is not the only skill that requires practice. There are several of them. The other alternatives are to take about 10 to 20 students to a home. That is not ethical. Practicing amongst themselves is different from the real life experience” – (KII, Manager from MOH - Statutory Authority).*

*“At the health system level, we don’t have the continuity of care. We have Focused Ante Natal Care but when you ask whether the people are visited at home (because it is in the home that you will know whether they have taken their medication or not) it doesn’t work. These are some of the challenges. The continuity of care is lacking. Among the health workers themselves the continuity of care is not there. Secondly how to get to the homes is an issue too. The transport arrangement is also not there. The 3<sup>rd</sup> one is even the assignment of the people to the community members. We are doing that through the CHPs system. So that a nurse in charge of a local area and pay them visits”– (KII, Manager at the national level).*

*“Language barrier is a problem. We have some Ewe and French settlers in my community (Bala gonno), they don’t understand anything. I learnt French over 10 years ago and I try to use the little I can remember with signs. It is uncomfortable. You definitely need someone to intervene and how do you discuss certain issues in the presence of a stranger?”- (FGD, CHO at Obom).*

*“Most of us [CHOs] have not been outdoored. We introduced ourselves to the chiefs. We have CHOs who are not trained in that capacity. I believe all these affect our services. The people do not understand the CHPS system so they use the facility like a hospital”- (FGD, CHO at Obom)*

#### **6.11. Situating the study in the conceptual framework**

Three of the tenets of the bio-ecological theory were adapted to fit the intervening factors (service provider, client and community). The study found that home visiting has intervening factors that influence it across the three ecological levels. The influence from significant others of the client and availability of CHPS Zones were the micro and macro level factors that influenced home visiting positively.

The social network (significant others) of the clients was statistically significant whilst socio-economic status of clients was not statistically significant at ( $p=0.064$ ). Workload, language barrier, logistics and lack of some HVSP’s involvement of the significant others of the client negatively affected the home visiting strategy as depicted in Figure 8.

#### 6.12. Influence of the service provider factors (meso system)

Almost half of the clients did not see HVSPs in their communities and about 61% were not visited. Workload from GHS programmes primarily hindered the nurses from visiting their clients. Using the meso structures in the community, some of the interventions provided by the nurses such as helping to breastfeed exclusively and encouragement to attend ANC and PNC could be done by trained community members (mother support groups) or the Community Health Volunteers (CHVs).

Home visiting at the micro level was beneficial to the socially vulnerable as opined by (Olds et al., 2002; Peacock *et al.*, 2013 and Burström et al., 2017) though this study was contrary to that assertion. The services ensured equity to those who could have missed health care services. With regards to the clients' social network, they were seen to play a valuable role in the visiting process but the CHOs failed to include them in their interventions.

The macro system (community factors) influenced the home visiting services negatively. Apart from the CHPS Zones that attracted the posting of CHOs to the community, the roads and long distances to some communities became a challenge to the home visit service. Language barrier permeates through the three levels. First at the service provider /meso level, it hindered effective communication between the HVSPs and the clients in one of the migrant communities. Poor community entry skills at the meso level (CHO and community political leaders) led to a whole community (macro level) not been reached with the dosage and coverage of home visiting services.

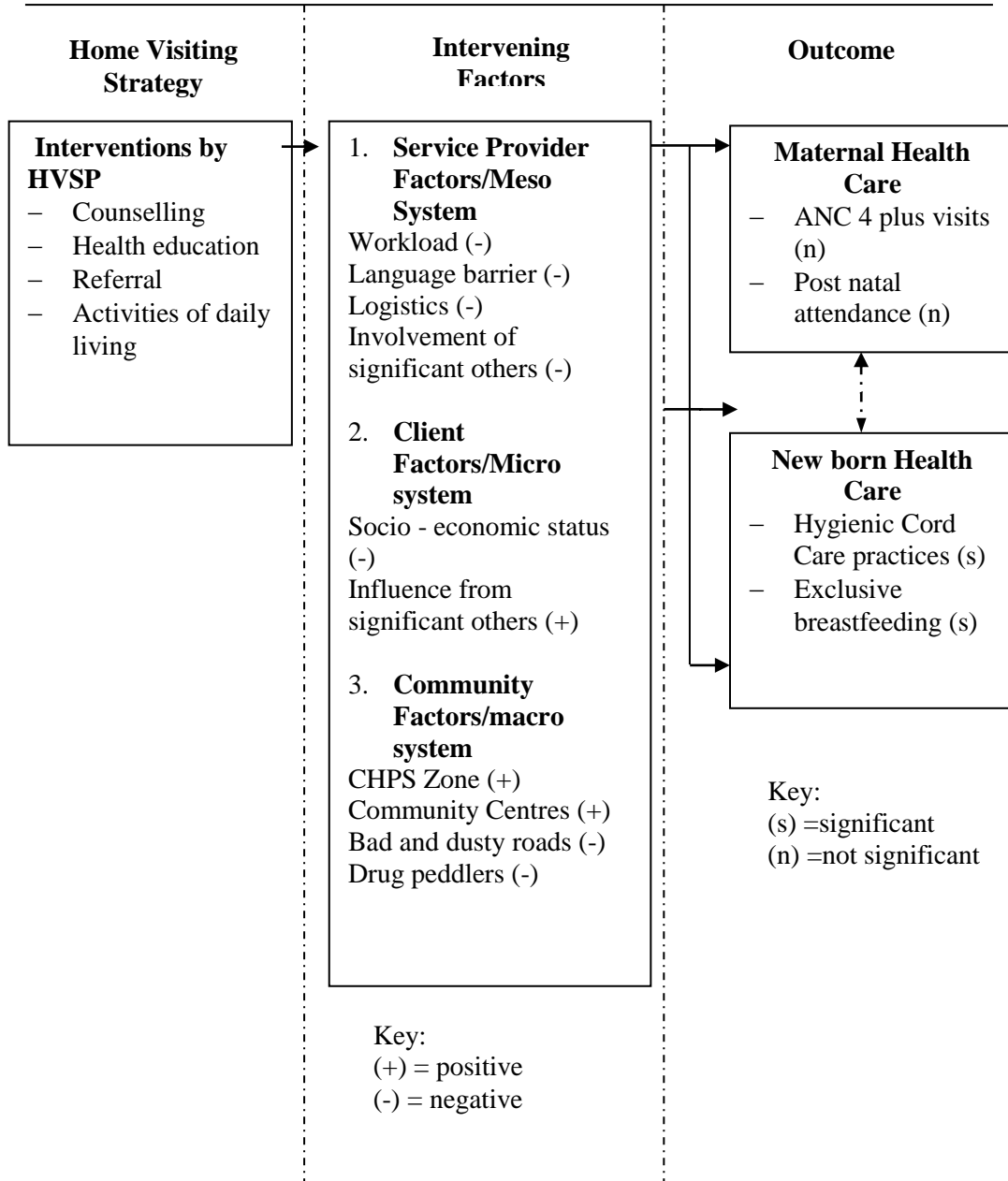
Although drug peddlers are not considered as health amenities, the lack of drugstores and private health centres encouraged their proliferation in the communities. Their activities had a direct effect on the responsiveness to the home visiting strategy. A pregnant woman who had a furuncle (boil) in her ear refused the tetanus- rubella vaccine because a drug peddler asked her not to receive any injections since it would have untoward effects on her (Personal communication, CHOs at Kofi Kwei). These drug peddlers could sell expired drugs to pregnant women that may have teratogenic effects on their babies or cause death to both mother and baby. There is need for community structures to monitor their activities in the communities whilst the regulating agencies step up their supervision in the communities.

The challenges such as the lack of logistics, non-availability of some of the clients and language barrier permeates across the three ecological levels. At the meso level, lack of logistics serves as a disincentive to work (Heaman *et al.*, 2015), likewise language barrier. It was evident in one of the FGDs that the social networks take advantage of language barrier to influence clients' compliance to health instructions. The client at the meso level does not benefit fully from the visit. This study also found the repercussion of language barrier on services to a migrant community in the Bala gonno area.

In summary, relationship exists between the three ecological levels studied and the home visiting strategy. Workload and non-availability of CHOs influence home visiting services negatively. Capitalizing on the social network of the clients whilst ensuring the socially disadvantaged are reached with home visiting services could improve health services to mothers and newborns. Home visiting services could be boosted by planning effectively

with regards to setting the relevant community structures in place. Community dialogue enhances community participation.

**Figure 8: Results of the study based on the conceptual framework**



## CHAPTER SEVEN

### 7.0. DISCUSSION

This chapter draws together related literature in support of the findings in this study. The discussion is presented along the objectives of this study.

The home visiting strategy comes in various forms and it exists in Ghana but fraught with challenges. There are intervening factors (service provider, client and community factors) that influence the home visiting strategy. Home visit in Ghana is implemented under the CHPS strategy in the Ghana Health System. It uses the life course disease prevention model. In this model, emphasis is on disease prevention and all the people in a designated locality (CHPS Zone) are expected to be visited and health promotion interventions given as per the individual's health concerns (personal communication, DG of GHS, GHS headquarters, 2016).

#### 7.1. Influence of service provider factors (meso system) on home visiting

The service provider factors (availability of home visit nurses and case/workload) were not statistically significant in this study. Nonetheless, the CHOs in this study complained that OPD cases and health sector programmes interfered with home visiting schedules. The FGDs and KIIs reinforce findings which corroborate with findings by Daro *et al.*,(2003), Ellenbecker *et al.*, (2006) and Whittaker *et al.*, (2017) on home visit service provider case and workloads. A similar study in Ghana by Ntsua *et al.* (2012) found out that CHOs in the Brong Ahafo region were making one home visit per week instead of the stipulated 10 visits per day due to their workload. Aside the programme goals that needed to be met, the CHPS

zones were becoming health centres since daily immunization services and attending to minor ailments were competing for time with home visiting services. Home visiting is no doubt an effective intervention for solving maternal and neonatal deaths as opined by Lawn *et al.*, (2015) and Luckow *et al.*, (2017) but until the meso system challenges are surmounted home visiting will continue to be fraught with challenges.

Other plausible causes of the meso system challenges could be wrong timing and poor planning by the CHOS coupled with lack of supervision from the district level as found in the observation study. Although a few respondents in the quantitative study said their gates were closed by the time the CHOs visited, majority of those visited in the observation study were in houses without walls in the rural settings at the Obom communities. This shows that the rural urban settings have different challenges that need to be addressed according to those levels. Keeping accurate records could aid planning of home visiting services. Each community has a register and CHOs are assisted by Community Health Volunteers. The register should be able to indicate which house has a neonate or a pregnant woman so that CHOs embark on scheduled visits instead of routine visits leading to missed targets. With reference to the urban areas where gated communities, lifestyle and other challenges that come with urbanization are prevailing, there is the need to consider special times that would be favourable to clients. The use of a mobile technology that allows clients to get information on childcare and a home visitor on request could be tried. A similar intervention has been beneficial to depressive HIV positive heroin users in Japan (Wang *et al.*, 2009).

The CHOs also had to perform relieving duties for colleagues who were either on maternity leave or study leave. The GHS needs to reassess the case/workload of CHOs and re-strategize for effective home visiting services. On the other hand using para-professionals such as trained Community Health Workers (Community Health Volunteers) or the mother support groups for selected interventions could go a long way to reduce maternal and newborn deaths in the first week of life. Another study by Sharma *et al.*, (2017), addressed meso system challenges by using a multi-disciplinary level model in providing innovations in TB services. Some studies have evaluated home visits by para-professional that have yielded positive results (*Old et al.*, 2002; *Olds et al.*, 2014). The capacity of the “invisible” CHVs need to be built to render some of these services and report to the CHOs.

This study found that community engagements to outdoor the CHPS strategy were lacking and most of the CHOs were not trained CHOs. Possibly, this accounted for the long queues at the CHPS Zones and lack of participation by some of the community members. Although the CHOs knew the community members by name and locality, that feeling of belongingness could be enhanced by formally introducing the CHOs to the community at a durbar.

## 7.2. Client factors (micro system)

With regards to the client factors, social network of the client was found to be statistically significant as far as influencing the home visiting strategy was concerned. The social network of a client has a lot of influence on the client’s health decision making hence, the involvement of significant others (social network) in home visiting interventions (*Korfmarcher et al.*, 2008; *Lemorey*, 2017). The premise for using the ecological theory stems from the role of the social network of the client. The social network can be valuable in

terms of helping one appraise behaviour, rendering tangible services, information and emotional support (Glanz *et al.*, 2008). From the observation study, most of the nurses failed to include the “significant others” of the clients, yet, these people influence clients’ decision making. Ethically, a successful home visiting practice should imbibe person-centeredness while valuing the person – in – context (human ecology) as well (Cowley *et al.*, 2015) and Doi *et al.*, 2017). Valuing the person - in - context ensures a holistic approach to solving client’s problems during home visiting (Robertson, 1991, Offei & Abaka – Quansah, 2009). A pregnant woman had her co tenants helping her with marketing and exempting her from some routine chores when one of them was involved in health education by the CHO (FGD, pregnant woman, Obom). Other FGD respondents also gave accounts on the influence exerted by the social network around them to corroborate with this finding.

Bronferbrenner (1979) relates the child’s immediate environment (micro system) to relationships such as parent/child, families, school and those environments that exert direct influence on the child. The social network, from this study is an asset that can be tapped for ensuring responsiveness in the home visiting services at the Obom sub-district. Since rapport creation is an important step in the home visiting process (Bassavanthappa, 2008; Offei & Abeka Quansah, 2009).

A community was not receptive to home visiting services in one of the CHPS Zone due to language barrier. Creating rapport with one of the influential people (gate keepers) could have averted this situation. If the “gate keepers” (community structures) had been involved right from the CHPS implementation process, the story would have been different. There is

the need for periodic continuous education on customer care and weekly or monthly drills on the nursing theories for home visit service providers. This would go a long way to help HVSPs imbibe the ethics of home visiting.

With regards to socio - economic factors, evidence exists that mothers and newborns in poor families are at increased risk of illness and face more challenges in accessing timely, quality care compared with wealthier families (Lawn *et al.*, 2010). From the desk review, socio economic status is one of the criteria for offering home visiting services (Appleton & Cowley, 2008 and Abbot & Eliot, 2016). Although the CHOs did not show that socio economic status influences their choice of client during the observation, it was evident in the FGDs that socio-economic background aids in decision making, more so, during scarce resources. An analysis of 13 African Demographic and Health Surveys (DHS) indicated that the poorest 20% of families experience, on average, 68% higher neonatal mortality than the richest 20% of families (WHO, 2006). The child health record booklet has a list of vulnerable people to be visited regularly. The term “at risk” is used to describe such clients. They comprise mothers with multiple births, death of a sibling under 5 years, single parents, multiple pregnancies, and others that fall within the socially vulnerable groups. These issues could account for home visit service providers visiting the disadvantaged clients.

### **7.3. Community factors (macro system)**

Geographical access and availability of social and health amenities were not statistically significant but paucity of information exists to support these findings. Darmstadt *et al.*, (2009); Engmann *et al.* (2016) and Nesbitt *et al.* (2016) cited distance to a health facility as barrier to accessing health care services. This is congruent with the findings from the

qualitative study that long distance, bad and dusty roads were challenges to the home visit service delivery. This finding was also confirmed during the observation. The road leading to Obom and its communities were dusty and deplorable coupled with reckless driving by the tipper truck drivers who won sand in the area. These posed as dangers to motor cycle riders. Besides, most of the communities in the Obom CHPS Zone were accessible by motor cycles only.

Although road network is a factor beyond the client's control (macro level), it remotely affects home visit service delivery. One of the CHOs remarked that it is dangerous for her to visit a far community that had bad road so she visits that community less. Although the "hard to reach" areas exist within the CHPS Zones, there is the need for the CHOs to plan separate packed interventions such as campouts (personal communication with Deputy Director of FHD, GHS, 2017). This is another situation that calls for the use of para professionals in home visiting services. The "one million Community health workers campaign" would be appropriate in this situation as revealed by (Luckwou *et al.*, 2017).

The bio-ecological theory comes handy in surmounting this challenge. At the macro level, the Ghana Health Service could liaise with the Municipal and District Assemblies, Roads and Highways and other relevant authorities to solve the poor roads issue. At the Meso level, the Assembly men and Chiefs could be sensitized by the CHOs during community durbars so that communal labour would be organized to get the road in a better shape. This could facilitate meetings with the local transport unions to collaborate with the CHPS Zones for transportation services for home visiting. At the Micro level, the tipper truck drivers could

be sensitized to bear in mind that the CHOs are rendering valuable services to the community at large so they should be considerate with the use of the road. They could even offer to lift them to some of the remote places.

#### **7.4. Effect of home visiting on maternal and newborn care**

Providing effective home visiting interventions to at-risk population is a public health priority that has beneficial outcomes for maternal and newborn care (Olds *et al.*, 1986; Olds *et al.*, 2002; Cowley *et al.*, 2015; Sujan & Eckenrode, 2017). With 50 - 73% of neonatal deaths occurring in the first week of life, bridging the equity gap for marginalized groups (due to wealth, location or cultural factors) becomes an essential intervention (Lawn *et al.*, 2015). Home visit comes handy since it addresses both lack of access and quality care. The health promotion education, counselling and guidance, demonstrations and referral services provided by the home visit service providers go a long way to influence uptake and compliance to health services. Although Kirkwood *et al.* (2013) reported a non-significant reduction in overall neonatal mortality and a small but significant effect in a pooled analysis in the Ghanaian setting, using a different method such as a mixed method could give a better explanation to some of the nuances that affected the outcomes. Then the issues behind the figures in the quantitative study could be explained better.

##### **7.4.1. Maternal health outcomes**

Although ante natal and postnatal services were not significantly influenced by home visits in this study, literature reveals that home visit models that targeted pregnant women from 28 weeks of conception to when the child attains 3 years or more led to increased post natal coverage (Daro, 2006). Similarly studies have linked increased antenatal coverage to home

visiting services (Williams *et al*, 2017). Plausibly, clients receive health educational messages from public and community health nurses at all the MCH clinics hence it will influence their responsiveness to the ANC and PNC overshadowing the services rendered by the CHOs. During the observation study pregnant clients were referred to the ante natal clinics by the CHOs. A new client (28 weeks) was linked to the midwife at Kofi Kwei through a telephone call for preliminary laboratory investigations and the first dose of Tetanus Diphtheria immunization was given.

#### 7.4.2. Neonatal health outcomes

Empirically, home visiting has been an effective strategy for increasing the duration of exclusive breastfeeding (Morava *et al*, 2014; Olds *et al.*, 2014). It also enhances uptake of health care services in general (Crowley *et al.*, 2015). One of the managers in the Key Informant Interviews (KII), at the national level linked low defaulter rates to the various maternal and child health clinics with home visiting services. Similarly, two of the nurse managers remarked that home visiting services could be a contributory factor to the successes chalked in prevention of Neonatal Tetanus and increased uptake of exclusive breastfeeding in Ghana, but, evidence in that direction is lacking. Several studies including Bartlett *et al* (1991); Darmstadt *et al.* (2005) and Haws *et al.* (2007) have recommended the efficacy of home visits by trained community health workers in the reduction of mortality in newborns. Similarly, postnatal home visits within the first two days of life by trained Community Health Workers have reduced neonatal mortality significantly (Baqui *et al*, 2009). In order to make considerable progress in the SDGs, Ghana needs to (1) build the capacity of HVSPs in using the life course disease prevention home visiting model and (2) consider a home visiting model solely for maternal and newborn care.

### **7.5. Improvement of maternal and newborn care by home visiting services**

The monthly home visits by the CHOs were targeted mainly at pregnant women and babies in general. Although fewer neonates were visited, literature supports home visits in the early neonatal period (Baqui *et al*, 2009; Gojia & Sachdev, 2010; Lawn *et al.*, 2012). It has been found to be protective against death from preventable diseases (MOH, 2014; Lawn *et al*, 2012; Lawn *et al*, 2015) and possesses overall benefits (Larson, 1980; Sweet & Appelbaum, 2004. Daro, 2006) in maternal and newborn health care. Most home visiting programmes have scheduled visits with dosages and intensities such as a minimum of 9 to 12 visits from 28 weeks of pregnancy till the child is two years or more (Gomby *et al*, 1999;

### **7.6. Challenges of the home visiting strategy**

According to Segal (2012), fidelity to home visiting intensity is a problem. The home visiting service at the Ga South Municipality had its challenges. Lack of logistics, language barrier and bad road networks and the respondents receiving fewer visits were prominent among the challenges.

Since the early 1900s, the home visiting bag has been a vital tool for public and community health nurses (Aaltonen *et al.*, 2009; McGoldrick, 2014). The bag contains the fundamental content for a home visit as such ensures quality interventions (Aaltonen *et al.*, 2009). During the observation study, only the nurses at Kofi Kwei community used a home visiting bag. The non - use of the use of home visiting bags on the field suggests that home visit service providers face limitations with some interventions at clients' homes. With reference to the rating scale on home visiting for the Licensure Examinations, stocking the home visiting bag and the technique for using the bag are core steps (Nursing and Midwifery Council of Ghana,

unpublished)for examination. Survey results however, show that nurses do experience physical discomfort such as bag weight in the utilization of the home visit bag (Sitzman *et al*, (2002). One of the managers at the national level gave bag weight as a reason for CHOs ill equipping themselves for home visiting.

Aside the bag weight, bag transport and discomfort associated with bag use also account for non-bag use on the field (Aalton *et al*. (2009). A manager from the national level disclosed in the KII that knapsacks (backpacks) have replaced the traditional home visit bags yet the weight is still an issue. It is time nurse managers and the Nursing and Midwifery Council take a second look at what goes into the home visiting bag. Nurse Managers are also encouraged to emulate the manager at the Weija Hospital by ensuring the availability of pertinent logistics for home visiting.

Concerning the availability of the nurses, many of the clients were not sure if nurses do visit them at home whereas the nurses confirmed that most of the clients were not at home. Home visiting under the CHPS system is to ensure universal health coverage (GHS, 2005; Personal Communication with the Director General of GHS, January, 2016). More than half of the respondents (61%) were not visited which does not reflect equity. Some of the factors that could account for the gap in the visits boil back to the poor roads, caseload and “invisible” coordination of home visiting services. That aside, other GHS programmes with indicators for the District Health Information Management System (DHIMS) compete with home visit services. Such programmes also have funding as compared to home visiting which receives intermittent funding from MCHIP (personal communication, Nurse Manager at Municipal

Level, March, 2016). Piggy-backing home visits on those programmes become cumbersome for some of the CHOs (FGD, CHO at Obom).

If CHOs have to use long shawls to cover their head and body including their faces (due to the dusty nature of the road) before sitting on motorcycles as shown in figure 9 in appendix 12; they would be de-motivated to go on home visits. A participant in the FGD referred to the CHOs as “classy”. She did not see why “classy nurses” would defy bad and dusty roads to visit them. In our Ghanaian setting, a visible desk for coordination of home visiting services at the GHS national level could go a long way to solve home visiting management issues.

Another strategy is to concentrate on the training of nurses solely for home visiting to solve the visitation gap. These nurses would then have to account for the coverage and dosage of home visiting at a visible desk. With the right policies in place, fidelity to the home visitation programmes could also be assessed for improvement in the services. Going beyond the life course disease prevention model by introducing home visit models that address specific maternal and newborn health issues could chalk successes in maternal and newborn care.

### **7.7. Limitations**

There were a number of limitations in this study. First, only one district was assessed due to lack of funding. Secondly using one district as a case study also comes with its limitations in scientific rigor and transferability as opined by Baskrada (2014) hence the results may not be generalizable to the population of all home visit service providers in Ghana. Thirdly, the instruments developed for Ga South and pre tested in the adjoining Ga West district might not be able to capture the same concept in Ghana. Another limitation was that this study did

not assess pertinent community factors, such as beliefs and customs influencing the responsiveness to home visiting services for maternal and newborn health care. This was swapped for the geographical access since it was envisaged as a challenge in the study area.

Paucity of information on the home visiting strategy in Ghana was also a limitation to this study. Lastly, old references have been cited in this work because the current studies were more inclined towards reducing child maltreatment and mental health issues instead of service provider and community factors. Paucity of information on the influence of health and social amenities on home visiting was also a limitation to this study.

#### **7.8. The conceptual framework of the study revisited**

This study is premised on the bio-ecological theory by Bronfenbrenner, (1979). Ecological models of health behaviour incorporate social and psychological influences whilst emphasizing the environmental and policy contexts of behaviour (Glanz *et al*, 2008). Three (meso, micro and macro) out of the five levels that form the core principles of the bio-ecological theory were modified for this study. According to Tudge (2009), aspects of the theory could be adapted but the researcher needs to explicitly state that to avoid conceptual incoherence. This study envisaged that home visiting service providers' caseload and their availability (meso system) influence clients' responsiveness to home visiting services. Aside the caseload, this study also presumed that relationships exist between the client, service provider and community that determine the success or otherwise of the home visiting services as depicted in figures 1 and 8.

## CHAPTER EIGHT

### 8.0. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter gives a brief overview of the study and aligns some of the findings to policy, theory/education and management. It also draws out the salient findings in this study and suggests ways and means of resolving some of the issues at stake.

#### 8.1. Summary

This study, conducted from January 2016 to July 2017, assessed the home visiting service in Ghana. Maternal and newborn health care in the Ga South Municipality was used as a case study. The influences of service provider, client, and community factors on home visiting and the effects of home visit on maternal and newborn health care were assessed. It also assessed the challenges facing the implementation of the home visiting service in the Ga South Municipality. In all, the social network, of the client was found to be statistically significant ( $p=0.05$ ). Despite socio-economic status of client not being statistically significant, it forms the basis of home visiting. Home visiting targets primarily the socially vulnerable to bridge health access to this population (Folger *et al.*, 2016). Although service provider factors and community factors were not statistically significant, they were concerns expressed in the qualitative study. A myriad of challenges including workload of the CHOs and bad roads were found. Although workload was not statistically significant to influence home visiting services, it draws attention to the need to evaluate the workload of CHOs in the CHPS zone.

This study has contributed to literature on the home visiting service in Ghana. It has documented the history of home visiting service in Ghana and also revealed that Ghana uses

the disease prevention life course approach home visiting model. The use of the bio ecological theory for this study sets the pace for other researchers. The need to conduct a study on the effect of workload of the CHOs on the home visiting strategy was one of the recommendations from this study.

## 8.2. Conclusion

Home visiting is an evidence based service delivery strategy for improving health outcomes in the community settings. Harnessing this strategy for reducing maternal and neonatal morbidity and mortality, calls for identifying intervening factors across the ecological levels that influence home visiting. The home visiting strategy in Ghana, under the Community – based Health Planning and Services (CHPS) concept, is based on the life course approach, disease prevention model; where everybody in a localized area is visited by a Community Health Officer and the necessary interventions rendered based on the problem at hand. This study found the home visiting strategy in the Ga South Municipality to be beneficial to neonates as compared to pregnant women but the strategy is fraught with many challenges.

There are intervening factors that influence home visiting service delivery across the three ecological (meso, micro and macro) levels assessed in this study. At the meso level this study found that CHOs workload had a negative influence on home visiting. Social networks had a positive influence on home visiting at the micro level and at the macro level, poor roads affected home visiting negatively. Ensuring availability of service providers and managing their workload could enhance home visiting services. The social networks of clients are valuable resources home visit service providers need to capitalize on at the micro level. To ensure equity in access, the socio economic background of clients should be a guide in choice

of clients and interventions as well. Intersectoral collaboration as well as community dialogue would be beneficial in surmounting challenges at the macro level.

### **8.3. Contribution to knowledge and policy**

Apart from contributing to literature on home visiting services in Ghana; this study also pioneered the use of the bio-ecological theory in the home visiting setting. The study revealed that the home visiting strategy is influenced by intervening factors at each ecological level. It shows that community interventions could use the bio ecological model to plan or solve challenges.

This study also lends credence to the fact that the workloads of CHOs impede home visiting services as found by Ntsua *et al*, 2012; hence could be helpful in policy decisions on the scope of work of CHOs. The home visiting service providers spent more time on other relevant duties than on home visiting. Some of the interventions by the CHOs at clients' home such as cord care, positioning and attaching babies for effective breast feeding, and encouraging attendance to the various MCH clinics could be done by para-professionals such as the Community Health Volunteers or the mother support groups.

### **8.4. Recommendations**

The following recommendations are addressed to the Ministry of Health / Ghana Health Service. There is the need for the Ministry of Health to:

1. evaluate the workload of the CHOs and consider the use of community structures such as the Community Health Volunteer and Mother Support Groups to provide non- technical services to mothers and newborns at home.
2. engage communities in planning and implementing home visiting services for maternal and newborn health care services, and
3. Provide explicit policies and guidelines on the home visiting strategy in use in the CHPS strategy to enhance assessment of the programme.

The GHS Policy Planning Monitoring and Evaluation Unit should:

1. establish indicators that could be used to evaluate the content, comprehensiveness, responsiveness and fidelity to the home visit strategy in Ghana.
2. strengthen the coordination of home visiting services within the districts and at the national level.

#### 8.4. **Future research**

Future research should cover:

1. The effectiveness of home visiting services for maternal and newborn care and could be conducted nationwide.
2. Assessment of the workload/caseload of the CHOs at the CHPS zones.
3. The effect of work /caseload on the CHOs fidelity to the home visiting strategy.
4. The influence of cultural beliefs and practices in the early neonatal period on responsiveness to home visiting services.

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## APPENDICES

### Appendix 1: General Information

**Title of study:** Assessing the Implementation of the Home Visiting Strategy: The Case of Maternal and Newborn Health Care in Ghana.

**Name and Address of Principal Investigator:** Margaretta Gloria Chandi, (PhD Student)

**Address:** School of Public Health, University of Ghana.

**Tel:** 0244668548 or 0204668548

**Email:** glomachand@yahoo.com.

#### Study information

**The main objective** is to assess the implementation of Ghana's home visiting strategy for maternal and newborn health care.

#### Specific objectives:

1. determine the influence of service provider factors on home visiting services.
2. determine the influence of client factors on home visiting services.
3. assess the influence of community factors on home visiting services.
4. determine the effect of home visiting services on maternal and newborn care.
5. determine how the home visiting strategy is used to improve maternal and newborn care.
6. To determine the challenges in the use of the home visiting strategy for maternal and newborn Care.

This is a cross sectional study employing mixed methods: The quantitative aspect will involve administration of a structured questionnaire targeting 453 respondents made up of pregnant and postnatal women.

Four main methods will be used in the qualitative aspect. A desk review comprising a review of literature and review of health visitors' case books, community registers and other reports on home visiting would be conducted. The other methods will be observation of four (4) home visit service providers (CHOs), six (6) Key Informant Interviews, and three (3) Focus

Group Discussions with ten (10) CHOs in the Ga South Municipality and twenty (20) women from the CHPS Zones and the Weija Hospital.

Approval from the Ghana Health Service Ethical Review board would precede the data collection. Participants would be assured of confidentiality, anonymity and the right to pull out of the study at any time.

Triangulation of data from the survey, systematic review, observation, Key Informant Interviews, and Focus group discussion data would be done resulting in a synthesised and synergized document with neither falsification nor scientific fraud in the analysis.

The outputs of this study would be the effect of home visits on ANC 4+ and postnatal attendance by pregnant and postnatal women. The other aspect would be the effect of home visits on infection prevention practices and exclusive breastfeeding of newborn babies.

The study would be disseminated to Ghana Health Service, Community Members, facilities used and international presentations would be made in any available fora.

**Address and telephone numbers of personnel at the research sites, including their responsibilities:** The primary responsibilities of these nurses are to coordinate the study and assist in recruiting participants.

**Main coordinator:** Helena Obeng – Ga South Municipal Health Directorate.

**Telephone number:** 0244679785.

Study area	Weija	Amanfro	Obom
Coordination site	Public Health Nurses Demonstration Clinic	Health Centre	Obom CHPS Compound
Coordinator	Helena Obeng	Caroline Amarboye	Millicent Aryee
Contact number	0244679785	0207061780	0506520533

## **Appendix 2: Informed Consent**

**Title:** Assessing the implementation of the Home Visiting Strategy: A Case study of Maternal and Newborn Health Care in the Ga South Municipality.

**Background:** Dear participant, my name is **Margaretta Gloria Chandi**, a student from the School of Public Health in the University of Ghana, Legon. I am the Principal Investigator in this research. I would be working with a team of trained Research Assistants. Home visiting is the way specially trained nurses visit people in their homes to provide health care services especially health promotion and education. It is one of the strategies of the Ghana Health Services to ensure that fair preventive health care services are made available to every citizen resident in Ghana. The focus of this study which is purely an academic work, is to find out how home visiting is being used to improve health care for pregnant women, post natal mothers and their new born babies.

**Procedures:** Observation of a home visitor at work, answering questions from a structured questionnaire, in a focus group discussion and key informant interview would be the main methods in this study. We would appreciate your accurate and honest responses.

**Risks and benefit:** There are no risks to this study. Giving the necessary information correctly would help us strengthen the home visiting strategy in general but especially to pregnant women, mothers and newborn babies. There is neither compensation nor payment for participating in this study. However, where applicable, transportation cost would be reimbursed.

**Right to refuse:** Participation is free without any force. Participants can decide to opt out of this study at any stage.

**Anonymity and confidentiality:** No name would be linked to any comment in this study. Participants are assured of confidentiality.

**Before taking consent:** Do you have any questions on this study? Yes  No

Question.....

Or contact me on 0244668548 later with your questions.

You can also contact the Ethical Review Committee Administrator, Ms Hannah Frimpong on 0243235225

**Consent:**

I ..... Having fully understood what is required of me, and been made aware of the purpose, procedures, risks and benefits of this study, consent to be a participant.

Signature of participant:-.....Date:-.....

Interviewer's statement: I, .....have explained this consent form to this participant in the language he/she understands including the purpose, procedures, risks and benefits of this study and has freely agreed to be a participant of this study.

Signature of interviewer:-.....Date: -.....

Address:.....

### Appendix 3: Questionnaire

This study is purposely for academic work. It is intended to seek respondents' views on home visiting for pregnant women and mothers with new born babies (up to 6 weeks post-delivery). Your genuine response is very much needed for better planning of home visiting in Ghana. Respondents have the liberty to decide to contribute or withdraw at any time of the study. You are also assured of confidentiality. No information on you will be disclosed to anybody and your name will in no way be linked to any information in this study. For further information please contact **MARGARETTA GLORIA CHANDI** on 0244668548/0204668548. Thank you for your participation. You have made this study possible.

Respondent:..... Number.....

Community.....

*Please tick the appropriate responses or provide answers in the spaces provided:*

NO	QUESTION	RESPONSE
<b>SECTION A: BACKGROUND INFORMATION</b>		
1.	Age	<input type="text"/>
2.	Educational Level – What is your level of education? None Primary Middle/JHS Secondary/Higher	<input type="text"/>
3.	Religious Affiliation- Which religion do you belong? Catholic Protestant/ other Christians Muslim Traditional No religion Others (specify)	<input type="text"/> ..... ...
4.	Employment Status – Are you employed? Fully employed Not employed Not employed for the past 12 months	<input type="text"/>
5.	Residential Area – Where do you live currently?	..... ...

6.	Period of Stay in Residential Area – How long have you lived there? Less than 5 years 5 – 9 years 10years to 14 years 15 years or more	<input type="text"/>
7.	Number of Children – How many children have you given birth to?	..... ...
8.	Experience of Pregnancy – Is this your first pregnancy or child? 1. Yes /2. No	<input type="text"/>
9.	How old (in weeks) is your pregnancy or baby?	..... ...
<b>SECTION B: INFLUENCE OF SERVICE PROVIDER FACTORS</b>		
10.	Have you ever seen a home visitor providing services to anybody in a home? 1. Yes / 2. No	<input type="text"/>
11.	Have you ever been visited at home by nurses during any of your pregnancies or first 6 weeks after delivery? 1. Yes /2. No	<input type="text"/>
12.	How many times were you visited by a nurse at home during your previous pregnancy or nursing period (up to 6 weeks)? Once Twice If more than twice state.....	<input type="text"/>
13.	How was your first contact with the home visitor made Arranged from health facility Routine visit by home visitor Contact initiated by client Other .....(specify)	<input type="text"/>
14.	Have you been visited at home by nurses during this pregnancy or nursing period? 1. Yes/ No	<input type="text"/>
15.	How many times have you been visited during this pregnancy/nursing period? Nil 1- 2 3- 4 5 or more	<input type="text"/>
16.	How often do the nurses visit at home? Not at all Daily Weekly Months Other (specify)	<input type="text"/>
17.	What time or period of the day do the nurses visit at home? Morning Afternoon Evening Other	<input type="text"/> .....

		...
18.	Is the time of visit convenient for you? 1. Yes / 2. No	<input type="checkbox"/>
19.	When do you want nurses to visit you at home? Afternoon Morning Evening	<input type="checkbox"/>
<b>C. INFLUENCE OF CLIENT FACTORS ON HOME VISITING</b>		
20.	How would you describe the relationship between you and the nurse who visits you at home share with you? 1. Very Good 2. Good 3. Moderately good 4. Bad 5. Very bad	<input type="checkbox"/>
21.	Do you think significant others influence the decision you make on advice given by nurses who visit you at home? 1. Yes / 2. No	<input type="checkbox"/>
22.	Do you think socio economic status plays a role in the clients the nurses choose to visit at home? Yes / 2. No	<input type="checkbox"/>
	Relationship developed with health visitor	<input type="checkbox"/>
	Health visitor's grounds for making referrals	<input type="checkbox"/>
	Type of services provided by the health visitor	<input type="checkbox"/>
<b>D. INFLUENCE OF COMMUNITY FACTORS</b>		
	How will you describe the road to your community? Very Good 2. Good 3. Moderately good 4. Bad 5. Very bad	<input type="checkbox"/>
23.	Do you thing think the accessibility of your community influences home visit services? 1. Yes /2. No	<input type="checkbox"/>
24.	Will any of the following social/health amenities available in the community influence home visiting? Weighing center 1. Yes / 2. No	<input type="checkbox"/>
	Maternity home 1. Yes / 2. No	<input type="checkbox"/>
	CHPS 1. Yes / 2. No	<input type="checkbox"/>
	School 1. Yes / 2. No	<input type="checkbox"/>
	Community Center 1. Yes / 2. No	<input type="checkbox"/>
	Market 1. Yes / 2. No	<input type="checkbox"/>
	Private hospital/clinic 1. Yes / 2. No	<input type="checkbox"/>
<b>D. INFLUENCE OF HOME VISIT ON MATERNAL AND NEWBORN HEALTH CARE</b>		
25.	Do nurses who visit at home include you in and any of your relations in decision making about your care? 1. Yes / 2. No	<input type="checkbox"/>

26.	What services do the nurses provide at home? Education on general health issues Yes / 2. No	<input type="checkbox"/>
	Provide general 181Counseling services 1. Yes / 2. No	<input type="checkbox"/>
	Facilitate referral for appropriate services 1. Yes / 2. No	<input type="checkbox"/>
	Encourage attendance to postnatal or antenatal 1. Yes / 2. No	<input type="checkbox"/>
	Supervise / assist with activities of daily living 1. Yes / 2. No	<input type="checkbox"/>
	Encourage child welfare clinic attendance 1. Yes / 2. No	<input type="checkbox"/>
	Provide nursing services/continuation of care 1. Yes / 2. No	<input type="checkbox"/>
	Teach how to prevent infection to the baby's cord 1. Yes / 2. No	<input type="checkbox"/>
	Help us to do exclusive breast feeding 1. Yes / 2. No	<input type="checkbox"/>
	Teach how to feed our babies with family food 1. Yes / 2. No	<input type="checkbox"/>
	Encourage the use of home visiting services 1. Yes / 2. No	<input type="checkbox"/>
	Improved my relationship with significant others 1. Yes / 2. No	<input type="checkbox"/>
27.	Where do the nurses usually refer you to for further management? Health facility Pharmacy Social Welfare Peer Educator group (mother support group) Other (specify).....	<input type="checkbox"/>
<b>E. EFFECT OF HOME VISITING ON MATERNAL AND NEWBORNCARE</b>		
28.	Has the visit by the nurses helped you? 1. Yes /2. No	<input type="checkbox"/>
29.	How has the nurses visits helped you? I was able to take good care of my baby's cord 1. Yes /2. No	<input type="checkbox"/>
	I was able to make 2 postnatal visits 1. Yes /2. No	<input type="checkbox"/>
	I was able to make 4 antenatal/Child Welfare services 1. Yes / 2. No	<input type="checkbox"/>
	I was able to practice exclusive breast feeding 1. Yes / 2. No	<input type="checkbox"/>
	I was given health education messages 1. Yes / 2. No	<input type="checkbox"/>
30.	How many antenatal visits did you make in your previous pregnancy? Less than 4 4 visits or more	<input type="checkbox"/>

	None	
31.	How many antenatal visits did you make in this current pregnancy? Less than 4 4 visits or more None	<input type="checkbox"/>
32.	How many postnatal visits did you make in previous pregnancy? One Two None	<input type="checkbox"/>
33.	How many post natal visits did you make currently? One Two None	<input type="checkbox"/>
34.	Did you breast feed your last child exclusively? 1. Yes / 2. No	<input type="checkbox"/>
35.	If yes who helped you breast feed exclusively? The home visit nurse helped me My family members supported me My friend encouraged me Other (specify) .....	<input type="checkbox"/>
36.	If no what discouraged you from breast feeding exclusively? I did not have enough information on it I did not have anybody to encourage me I was encouraged by the home visit nurse but did not trust her Somebody around me discouraged me Other (specify).....	<input type="checkbox"/>
<b>SECTION E: BARRIERS TO HOME VISITING</b>		
37.	What challenges will prevent nurses from visiting you at home? I am not available by the time the nurse visits 1. Yes / 2. No	<input type="checkbox"/>
	I am available but my gate is always locked 1. Yes / 2. No	<input type="checkbox"/>
	The road is bad so nurses do not go there 1. Yes / 2. No	<input type="checkbox"/>
	My community is far away so nurses do not go there 1. Yes / 2. No	<input type="checkbox"/>
	I am not interested in their services 1. Yes / 2. No	<input type="checkbox"/>

## **Appendix 4: Focus Group Discussion Guide – Women**

### **Background information**

This study is purposely for academic work. It is intended to seek respondents' views on home visiting for pregnant women and mothers with new born babies (up to 6 weeks post-delivery). Your genuine response is very much needed for better planning of home visiting in Ghana. Respondents have the liberty to decide to contribute or withdraw at any time of the study. You are also assured of confidentiality. No information on you will be disclosed to anybody and your name will in no way be linked to any information in this study. For further information please contact **MARGARETTA GLORIA CHANDI** on 0244668548/0204668548. Thank you for your participation. You have made this study possible.

### **Objective 1: service provider factors**

1. Have you ever been visited at home by any nurse?

*(Probe the type of nurse, type of uniform).*

2. How often do the nurses visit you at home?

*(Probe for time and frequency – monthly/ weekly).*

3. What do you have to say about the availability or non- availability of the home visit nurses?

*(probe if there are some issues influencing the availability or non- availability of the home visiting nurses in the communities).*

### **Objective 2: Client factors**

4. Would anyone help us explain how the nurses choose who they provide services to? –  
(Probe if socio economic status affects choice of clients, which areas in the community do the nurses usually visits? What types of people live there?)
5. Do the nurses' discriminate in the choosing of their clients? (What influences the choice of community or houses or clients)?
6. Would you please help by describing how friends, relatives and community members or other care givers play in the way you accept or refuse instructions and services from home visit nurses? (What role do these people play in your compliance to home visiting services)?
7. How do you feel if other people including your close relatives hear your conversations with the home visit service nurses? *(Probe for socio economic issues*

*such as main occupation of the people, type of houses they live in and availability of car, radio and television).*

**Objective 3: Community factors**

8. Describe how distance to communities in your Zone affects attendance to ANC and post natal services. (Probe- would anyone help us explain how the distance to your community affects attendance to ANC and Post Natal Services? (Would anyone give examples on how distance affected attendance to Post Natal Care?).
9. Would anyone help us explain if bad roads can affect home visiting services? (Probe how bad road networks affect how you access home visiting services?)
10. Do the availability of health and social amenities affect your compliance to instructions from the nurses who visit you at home? Give reasons. (Probe- would anyone help us explain how health and social amenities like clinic, drug store etc. affect your compliance or otherwise to home visit nurses' instructions and services)?
11. How do bad road network affect your access to home visiting services?

**Objective 4: Effect of home visiting on maternal and newborn health care**

12. What successes have home visiting achieved for you as a pregnant or lactating woman, and your babies (up to 28 days)?
13. Would anyone help us Describe how home visiting has affected the health of pregnant women, mothers and children within 28 days of delivery in your community? *Where can evidence of these successes be seen?*
14. What motivates you to accept home visiting services? (Probe would anyone help us explain what motivates you to accept home visiting services)?

**Objective 5: influence of home visiting on maternal and newborn health care**

13. What services did the nurse provide when he/she visited you?
14. Did the nurse specify who he/she came to visit? (Probe what type of clients did they visit)?
15. How convenient is the time for visiting to you? (Probe would anyone help us explain whether the time for visiting you at home is appropriate for you? (Probe time of visit and what time would be convenient for client).

**Objective 6: challenges to the home visiting services**

16. What are some of the challenges you face with home visiting? (Probe would anyone help us explain the challenges you face on home visiting?)

17. Do you think the home visit nurses have any challenges with visiting you at home?  
(Probe- what do you know about other duties the nurses engage in? do you think the other duties affect home visiting services?)

## **Appendix 5: Focus Group Discussion Guide - Community Health Officers**

### **Background information**

This study is purposely for academic work. It is intended to seek respondents' views on home visiting for pregnant women and mothers with new born babies (up to 6 weeks post-delivery). Your genuine response is very much needed for better planning of home visiting in Ghana. Respondents have the liberty to decide to contribute or withdraw at any time of the study. You are also assured of confidentiality. No information on you will be disclosed to anybody and your name will in no way be linked to any information in this study. For further information please contact MARGARETTA GLORIA CHANDI on 0244668548/0204668548. Thank you for your participation. You have made this study possible.

### **Objective 1: service provider factors**

1. How often do you provide home visiting services? (PROBE the time, number of days in a week/month, period of the day).
2. In your opinion, do you think there are enough CHOs for home visiting? (PROBE for all CHPS the number of CHOs engaged in home visiting).
3. Could you please discuss your duties at the CHPS zones? (PROBE- how do other duties affect home visiting services? How do you think the other duties affect home visiting services)?

### **Objective 2: Client factors**

4. Would anyone help us explain how you choose who you provide services to? – (Probe if socio economic status affects choice of clients, which areas in the community do they usually visit? What types of people live there?)
5. Do you discriminate in choosing your clients?(PROBE: What influences the choice of community or houses or clients?(PROBE for socio economic issues such as main occupation of the people, type of houses they live in and availability of car, radio and television).
6. Would you please help by describing how friends, relatives and community members or other care givers play in the way your clients accept or refuse your instructions and services? (PROBRE, What role do these people play in your clients compliance to home visiting services)?

7. Do the care givers or relations of clients interfere with your interactions with the clients? (PROBE: How do you feel if other people including your close relatives hear your conversations with your clients, do your clients show discomfort)?

**Objective 3: Community factors**

8. Describe how distance to communities in your Zone affects home visiting services. What effect does it have on clients' attendance to ANC and post natal services. (PROBE- would anyone help us explain how the distances to your communities affect home visiting services and clients' attendance to ANC and Post Natal Services? Encourage responses on examples).
9. Would anyone help us explain if bad roads can affect home visiting services? (PROBE how bad road networks affect how you access your clients)?
10. Do the availability of health and social amenities have any influence on home visiting services? Give reasons. (Probe- would anyone help us explain how health and social amenities like clinic, drug store etc. affect home visit nurses' instructions and services)?
11. How do bad road network affect your home visiting services? (PROBE for examples)

**Objective 5: influence of home visiting on maternal and newborn health care**

12. Who are your primary target groups for home visiting? (PROBE what model is in use, does it specify types of clients? what are the objectives of that model? is there any evidence?)
13. What services do you provide at clients' homes? (Could we please discuss according to types of clients)?
14. How convenient is the time for visiting for you and your clients? (Probe would anyone help us explain whether the time for visiting appropriate for you and the client? (Probe time of visit and what time would be convenient for both nurse and client).

**Objective 4: Effect of home visiting on maternal and newborn health care**

15. What successes have home visiting achieved for pregnant or lactating woman, and their babies (up to 28 days)? ASK for records to support achievements. (PROBE? would anyone help us Describe how home visiting has affected the health of pregnant women, mothers and children within 28 days of delivery in your community)? *Where can evidence of these successes be seen?*
16. What motivates you to conduct home visiting services? (PROBE would anyone help us explain what motivates you to provide home visiting services)?

**Objective 6: challenges to the home visiting services**

17. What are some of the challenges you face with home visiting? (Probe would anyone help us explain the challenges you face on home visiting?) - Please categorize them according to: (a). Service provider /Health sector factors (b). Client/ personal factors (c). Community factors

## Appendix 6: Key informant interview (KII) guide – Nurse Manager

### Background information

This study is purposely for academic work. It is intended to seek respondents' views on home visiting for pregnant women and mothers with new born babies (up to 6 weeks post-delivery). Your genuine response is very much needed for better planning of home visiting in Ghana. Respondents have the liberty to decide to contribute or withdraw at any time of the study. You are also assured of confidentiality. No information on you will be disclosed to anybody and your name will in no way be linked to any information in this study. For further information please contact MARGARETTA GLORIA CHANDI on 0244668548/0204668548. Thank you for your participation.

Location: .....Sex.....Code.....

Educational attainment.....

Position.....

Years of experience in current position.....

Working experience in years.....

Core duties related to home visiting:

.....  
.....

### Section A: Service Provider/ Health sector factors

1. Please would you explain to me what the concept of home visiting is?

**Probe: -**

Any policy and mandate establishing home visiting in Ghana

- I. When it was established?
- II. Is it available?
- III. Who were the stakeholders?
- IV. Is it in use?
- V. Has it been reviewed?

Any policy document on maternal and newborn health?

**Probe: -**

- I. When was it established?
- II. Is it available?
- III. Is it in use?

2. Would you please explain to me the key personnel who are eligible to carry out home visiting?

**Probe:** for any mandate / policy document to that effect.

3. Would you please explain to me the key categories of clients who are supposed to be visited?
4. Please, would you explain to me how often clients are expected to be visited?

**Probe** is it weekly or monthly for each client)?

5. Would you please educate me on the kind of interventions home visitors make during such visits?
6. Please, would you be able to discuss with me how the home visiting strategy in Ghana is coordinated (are there coordinators for all levels across the country)?

**Probe** how the geographical areas are specified to be covered by nurses who conduct home visits?

7. Would you please explain to me whether there are adequate numbers of health home visitors for all the enumeration areas in Ghana?

### **Section B client factors**

8. Would you please throw more light on how socio-economic status influences the choice of clients for home visiting?
9. Would you please reveal to me the kind of influences that clients' social networks have on their compliance with home visit services?
10. Would you please discuss with me the kind of relationship that should exist between the home visitor and the client's family or significant others?

### **Section C: Community factors**

11. Would you please discuss with me the influence of geographical barriers on the provision of home visiting?
12. Would you please discuss the influence of availability or lack of social / health amenities on home visiting?

### **Section D: effect of home visiting on maternal and newborn care.**

13. Would you please discuss how the home visiting strategy is used to improve ANC and PNC attendance?

**Probe for examples and ask for documented evidences**

14. Would you please discuss with me how the home visit service affects uptake of exclusive breast feeding and practice of hygienic cord care?

**Probe for examples and ask for documented evidences**

### **Section E: Barriers/ challenges to the home visiting strategy**

15. What are the challenges in implementing home visiting in this district?

Probe for challenges with:

- a. home visit service providers (in conducting home visits)
- b. Logistics
- c. planning for home visiting
- d. deploying home visitors to the various districts.

Thank you for your cooperation. This is the end of the interview.

Do you have any concerns you want to share on home visiting in Ghana?

## **Appendix 7: Key Informant Interview Guide for Programme GHS**

**managers**

### **KEY INFORMANT INTERVIEW (KII) GUIDE FOR ASSESSING THE IMPLEMENTATION OF HOME VISITING STRATEGY IN MATERNAL AND NEWBORN HEALTH CARE (GHANA HEALTH SERVICE – PROGRAMME HEAD)**

#### **Background information**

**- Introduce self and the purpose of your visit**

#### **Objectives of study**

1. To determine how the home visiting strategy is used to improve maternal and newborn care.
2. To determine the influence of intervening factors on the use of the home visiting strategy for maternal and newborn care.
3. To determine the effect of the home visiting strategy on maternal and newborn care outcomes.
4. To identify the challenges in the use of the home visiting strategy for maternal and Newborn Care.

#### **Section A: Home visiting services**

1. What are your views on Home visiting in Ghana?

#### **PROBE for**

- a. Objectives
  - b. Policies
  - c. Personnel
  - d. Interventions (content), frequency, time.
2. What role does the Family Health Division/ PPME play in home visiting services?

#### **Section B: Influence intervening factors on home visiting.**

**PROBE** how:

3. Does the following have any effect on home visiting service?
  - a. Service delivery factors (availability of home visit nurses, workload of the nurses)
  - b. Client factors (social network, socio economic status)
  - c. Community factors (geographical access, availability of health and social amenities).

#### **Section C: Effect of home visiting on maternal and newborn health care.**

4. What gains has home visiting services made in maternal and newborn care?

**PROBE** - what are some of the measureable impacts on?

- a. Improvement in cord care practices
- b. Uptake of exclusive breast feeding
- c. Increasing ANC 4+ attendance
- d. Improving post natal attendance

#### **Section D: Challenges to the implementation of the home visiting services.**

5. What kinds of challenges affect the home visiting services in Ghana and specifically that of the Ga South Municipality?  
**(PROBE** for

<b>Health system</b>	<b>Service providers</b>	<b>Client</b>	<b>Community</b>
Coordination	Availability	Socio economic status	Nature of road
Logistics	Workload	Social network	Distance

6. How can the challenges be addressed?  
 What recommendations would you make on how to improve the home visiting strategy in general and specifically to pregnant women, neonates and their mothers?

*The interview is over but would you like to share some concerns on home visiting you feel has not been addressed in this interview?*

*Thank you*

## **Appendix 8: Key Informant Interview Guide for Regulatory Body (GHS)**

### **KEY INFORMANT INTERVIEW (KII) GUIDE FOR ASSESSING THE HOME VISITING STRATEGY USAGE IN MATERNAL AND NEWBORN HEALTH CARE - (NURSING AND MIDWIFERY COUNCIL- CEO/REGISTRAR)**

#### **Background information**

#### **- Introduce self and the purpose of your visit**

#### **Objectives of study**

1. *To determine how the home visiting strategy is used to improve maternal and newborn care.*
2. *To determine the influence of intervening factors on the use of the home visiting strategy for maternal and newborn care.*
3. *To determine the effect of the home visiting on maternal and new born care outcomes.*
4. *To identify the challenges in the use of the home visiting strategy for maternal and Newborn Care.*

#### **Section A: Home visiting services**

1. What is your opinion on home visiting services in Ghana?

**Probe for:** the main objectives of home visiting in Ghana?

2. Are there home visiting standards or protocols in Ghana?

**Probe:** Are they part of our national health policies?

- a. If yes, where can they be found?
  - b. If no, are there plans to implement that?
3. What role does the NMC play in home visiting services? – regulation, coordination
  4. What are your views on Home visiting in Ghana?
  5. Are there any challenges in the implementation of home visiting services in Ghana?
    - a. What are they?
    - b. How can they be addresses?
  6. In your opinion, can you say home visiting in Ghana has had any impact on maternal and newborn care?
    - a. If yes.... what are some of the measureable impact?
    - b. If no, how then can we improve on home visiting services for maternal and newborn health care in Ghana

*The interview is over but would you like to share some concerns on home visiting you feel has not been addressed in this interview?*

*Thank you*

## Appendix 9: Sample of report on home visit during the observation study

**Table 6.15: Report on home visit from Ashalaja**

Sno	Client details	Issue	Intervention
1.	2 year old female	CWC defaulter CHRB was not available but grandmother claims child has had only 2 immunizations	Grandmother counselled on importance of CWC and immunizations. She was referred to the Clinic.
2.	5 months 3 weeks female child, regular CWC attendant.	Started artificial feeding 2 months after birth. Mother claims she has insufficient breast milk. Mother taught how to interpret the growth curve. According to the growth curve child was undernourished.	Infant feeding was discussed and mother urged to add family food to baby's diet.
3.	50 year old woman	She is menopausal and has been diagnosed of uterine fibroid	Client's records were checked and reassured. Menopause was discussed and client referred to the Weija Hospital.
4.	21 year old gravida 2 para 1 woman.	She was 8 months pregnant. Non ANC attendant and lives at Krokoshwe. She desires to deliver at home by her grandmother.	The danger signs of pregnancy and birth preparedness plan were discussed. The importance of using skilled attendant at birth was discussed. Referral to the clinic for ANC services was done.
5.	22 year old gravida 1 para 0.	Client lives in Cape Coast but came to visit mother at Ashalaja. Has no complaint. Will deliver at Ashalaja. Client left her routine drugs at Cape Coast	Birth preparedness plan was discussed; importance of taking routine drugs was also discussed.
6.	8 month old baby boy	Client was a regular CWC attendant and eats any food given. He was crying for his porridge at time of visit around 9am. Weight was below the 70th percentile.	Both parents were counselled on the need for a well-mixed diet. Samples were shown from the CHRB. Parents were encouraged to give more local well mixed diet to the child and continue CWC.
7.	21 year old gravida 1 Para 1	Complained of severe lower abdominal pain. She has resumed her menstruation after birth but has not seen her menses for the past 2 months. The abdomen was tender to touch. She bought medication from a drug store the previous day but the pain is getting worse.	Examination was carried out and a referral letter written for continuity of care at Amasaman Hospital. Client's father was involved and counselled to treat the referral as emergency.

8.	2 year old male child	Child has never accessed any CWC services. He has never been immunized. He feeds solely on breast milk and soup. He looks malnourished	The importance of CWC, immunization and the CHRBS were discussed. Mother promised to take the child to the clinic the next day.
9.	20 year old gravida 1 para0. 28 weeks pregnant	Non attendant. Lives with mother in-law at K Kwei. Complained of no money for scan. Has not registered for NHIS.	Midwife called on phone. Spoke to client and client referred for first dose Td. Mother in law absent. Her telephone number was taken for further counseling. Health education on danger sign and the importance of ANC discussed

**Appendix 10: Desk review Guide (sample).**

Source of data	Author(s )& year of publication	Objectives	Effects on maternal and newborn health	Remarks
Early Childhood Research Quarterly 17 (2002) 28–51	Hebbeler, K. M., & Gerlach-Downie, (2002)	To develop a theory of change to describe from the home visitors’ perspective how the interactions between the home visitor and the parent	home visitors saw their role of providing family support as more important than their information sharing role	Home visits had a consistent structure across visits and home visitors. Home visitors know and understand what they do.
Curriculum of PHNG	NMC,	Provide resources for teaching / learning		Provide guidelines on home visiting services
CHPS – Community register	Not available	Not available	Not applicable	Specifies interventions and number of visits per day
Unpublished literature	Acquah, C. (1994)	Lecture notes /N/A	Not applicable	History of Public health services and home visiting in Ghana.

Information extracted by

1<sup>st</sup> review by.....

2<sup>nd</sup> review by.....

## Appendix 11: Observation checklist

### CONDUCTING A ROUTINE HOME VISIT

<b>Instructions:-</b> Write comments in the spaces provided against the tasks if service provider is seen engaging in the specified activity			
<b>Preparation for Home Visiting</b>			
	Check if there is a policy or guideline on conducting home visiting in the facility <i>Check if service provider made reference to it.</i>		
	Check if objectives for home visiting have been set in the field note book (probe) if it is client's first visit.		
	Check if service provider packs the home visit bag with relevant logistics (according to the list provided).		
	What time was the client visited?		
<b>Service Provider / Client relationship</b>			
	Does service provider establish working relationship with client? (greet, introduces self, asks about client and family's health, explains purpose of visit)		
	Does he/she asks about general health and activities of daily living		
	Does she/he finds out if client has any complaints/ any special problems		
	Does service provider ask about chief complaint of the client?		
	Does he/she find out from client/care giver how he/she /they intend to solve the problem?		
	Was health visitor ethical in her/his approach?		
	Ethical approach	Yes	No
	Privacy		
	Attitude		
	Client centered care		
	Infection prevention practices		
<b>Client factors</b>			
	Type of client visited Pregnant woman 2. Neonate 3. Other (specify)		
	Does service provider involve client/significant others in setting objective (s) on solution to problem		
	How would you rate clients' socio economic status*? Poor 2. Rich		
<b>Interventions Provided by CHO During Home Visit</b>			
	What intervention did service provider make for client?		
	Demonstrates how to put baby to breast		
	Teaches how to express breast milk		
	Performs physical examination		
	Dresses or supervises how to care for the cord		
	Counsels on infection prevention		
	Checks vital signs		

	Dresses wounds			
	Provides referral services or counsels on attendance to ANC 2. PNC 3. Other (specify			
	Offers counseling on any special problem (engorged breast, general care of baby etc)			
	Aids in performing any **ADL			
	Provides health education on .....			
	Discusses danger signs of pregnancy with client			
	Discusses birth preparedness plan with client including skilled attendant at birth			
	Finds out if client is following any health instructions			
	Educates on personal and environmental care			
	Others (specify)			
<b>Community factors</b>				
	Comment on the road to the community Good 2. Bad			
	Thanks client and care taker for cooperation			
	Reminds client of date for next visit			
	Asks permission and leaves			
<b>Documentation of Home Visiting Services</b>				
	Sets date and objectives for next visit with client and records it in field note book			
	Records findings and interventions in home visitor's note book			
	Writes report/notes on activities performed in register at health facility			
<b>Barriers to Home Visiting</b>				
	Logistics not adequate in home visiting bag (refer to list A)			
	Home visited but client not available			
	Describe other challenges faced by the CHO on this home visit			

\*DHS criteria

\*\*ADL – Activities of Daily Living (personal hygiene needs, exercises, feeding etc)

Date transcribed: .....Transcribed by: .....

**Appendix 12: CHOs in Obom area dressed up for home visiting**

**Figure 9: CHOs ready for home visiting**

