

UNIVERSITY FOR DEVELOPMENT STUDIES

IMPROVING MATERNAL AND CHILD HEALTH CARE USING THE COMMUNITY
BASED HEALTH PLANNING AND SERVICES MODEL: EVIDENCE FROM DAFFIAMA,
BUSSIE, ISSA DISTRICT, UPPER WEST REGION OF GHANA

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2019

DECLARATION

Student

I hereby declare that this thesis is the result of my own original work and no part of it has been presented for another degree in this university or elsewhere.

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I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

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ABSTRACT

Maternal and Child health continues to be a burden to many developing countries in sub Saharan Africa making it imperative for the adoption of many interventions to improve the situation. In Ghana one such primary health care intervention, has been the Community-based Health Planning and Services (CHPS) model. After over two decades of implementation of the model, this study, using a systems theoretical framework, sought to examine the contributions of CHPS towards improved maternal and child health in rural communities by appraising the implementation processes, ascertaining its performance, and analyzing its implementation challenges. Using a qualitatively dominated mixed method case study design, respondents included 13 traditional birth attendants, women in their fertility age (n=635), community health officers (n=30) and community health volunteers and committee members (n=21) drawn from 13 communities within the study district. Surveys, in depth interviews, field observation and systematic document review were utilized to obtain data. Survey data was processed using SPSS version 21, while qualitative data was processed in Microsoft Excel. Results are presented in frequency tables, figures, graphs and verbatim quotes summarizing qualitative responses placed in text boxes. The findings reveal that, health services such as routine home visits, health promotions, antenatal care, immunization and postnatal care were being provided. In spite of seeming adequate staff numbers, the skills mix was flawed; there was inadequate number of midwives, while nurses lacked sufficient midwifery training. Although most CHPS compounds were largely functional, they faced equipment and logistics challenges which affected optimum functioning. In terms of performance, maternal mortality and stillbirths rates has seen a steady improvement, while child mortality has stagnated. The main challenges confronting the implementation of the model included funding gaps, inadequate infrastructure and logistics, unclear program design, a conundrum with traditional birth attendants and issues of governance. Key recommendations include improving the skills mix of the health staff, developing strategies to improve community participation, address the design, governance and TBA problems as well as determine and adopt a more sustainable and sufficient funding regimes.



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DEDICATION

To my lovely wife and my parents without you this thesis would not have seen the light of day.

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List of Acronyms

AARD	Average Annual rate of Decline
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
BCG	Bacillus Calmette–Guérin
BEmONC	Basic Emergency Obstetric and Newborn Care
CBA	Community-Based Agents
CHAPs	Community Health Action Plans
CHMC	Community Health Management Committee
CHN	Community Health Nurse
CHO	Community Health Officer
CHPS	Community Based Health Planning and Services
CHV	Community Health Volunteer
DBI	Daffiama, Bussie Issa
EPI	Expanded Program on Immunization
FANC	Focused Antenatal Care
FSV	Facilitative Supervision
FTFSG	Father to Father Support Group
GEHIP	Ghana Essential Health Interventions Program
GHS	Ghana Health Service
HIRD	High Rapid Impact Delivery
HIV	Human Immunodeficiency Virus
HPSR	Health Policy and Systems Research
IMCI	Integrated Management of Childhood Illness
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency



MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MMR	Maternal Mortality Ratio
MNCH	Maternal Newborn and Child Health
MOH	Ministry of Health
MTMSG	Mother to Mother Support Group
NDPC	National Development Planning Commission
PENTA	Pentavalent
PNC	Postnatal Care
PMNCH	Partnership for Maternal, Newborn and Child Health
PPMED	Policy, Planning, Monitoring and Evaluation Division
RCH	Reproductive and Child Health
SDG	Sustainable Development Goal
STI	Sexually Transmitted Infection
TBA	Traditional Birth Attendant
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UWR	Upper West Region
WHO	World Health Organization
WIFA	Women in Fertility Age



CHAPTER ONE

INTRODUCTION

The well-being of societies is directly linked to the health and survival of mothers and children. When mothers survive and thrive, their children survive and thrive.

When both mothers and children survive and thrive, the societies in which they live prosper”

World Health Report (2005)

1.1 Background to the study

Health and human development are twin issues which are inseparable as far as human existence is concerned. It is for this reason that many nations in both the developed and developing regions of the world expend large portions of their resources towards safeguarding the health of their populations. In developing countries, the need to provide quality and affordable health care is even more pronounced. This is because of the generally high levels of poverty and vulnerability among the majority of its people (International Federation of the Red Cross, 2013).

The health of vulnerable populations particularly women and children have been regarded as absolutely imperative in measuring the developmental progress of many nations. In light of this, the United Nations, in its Millennium Development Goals (MDGs) and subsequently Sustainable Development Goal (SDGs) 3, included two very important maternal and child health goals. These are the goals to "Reduce Child Mortality" (MDG 4), to "Improve Maternal Health" (MDG 5), and



ending preventable deaths of newborn and children under five years of age (SDG 3.2). These goals aim at reducing by two-thirds, under-five mortality among children and, three-quarters of maternal mortality rates respectively around the world (UN, 2000; Sakeah et al, 2014). Progress towards MDGs 4 and 5 were inextricably linked: improving maternal health was expected to have led directly to reductions in deaths among newborns and young children. There were also shared challenges in improving health services across the continuum from pre-pregnancy through pregnancy, childbirth, the postnatal period, and childhood (Countdown to 2015, 2012).

In spite of steady improvements in the conditions related to maternal and child health, it was widely reported that at such a pace, it would have been difficult to achieve these goals by 2015 especially in most developing countries. For instance, the WHO in its *2014 World Health Statistics* indicated that “the number of women dying due to complications during pregnancy and childbirth decreased by nearly 50% from an estimated 523 000 in 1990 to 289 000 in 2013; the average annual rate of decline (AARD) was far below that needed to achieve the MDG target (5.5%)” and the number of deaths remained unacceptably high. The decline in sub-Saharan Africa so far has been only 0.1%. Similarly, it is reported that “nearly 18000 children worldwide died every day in 2012, and the global speed of decline in mortality rate remains insufficient to reach the target of a two-thirds reduction in the 1990 levels of mortality by the year 2015” (WHO, 2014, p.3).

In 2008 an estimated 356,000 maternal deaths occurred worldwide and nearly 800 women died every day from maternal causes (Wang et al., 2011).



Although the 2008 figure represented a 34% decline from the levels in 1990, developing countries continued to account for 99% of all maternal deaths, with 87% in sub-Saharan Africa and South Asia (WHO, 2014; Wang et al. 2011). In these two regions, a woman faces a 1 in 31 adult lifetime risk of maternal death compared with only 1 in 4,300 in developed regions (WHO, UNFPA, UNICEF and World Bank, 2004). Sub-Saharan Africa accounted for the highest maternal mortality ratio (MMR) of any region in 2008 (640 maternal deaths per 100,000 live births) (WHO, 2014).

Additionally, the WHO estimates that more than 1,000 women die each day (358,000 a year) during pregnancy and child birth mainly due to poor access to effective interventions: skilled care during childbirth is available only to 60 per cent of women; and even fewer – less than 40 per cent – receive a postnatal visit (WHO, 2010). Meanwhile, the number of unintended pregnancies is 76 million a year, and unsafe abortions reach 22 million accounting for 13 per cent of all maternal deaths. In most developing countries, access to family planning remains very limited despite its potential to avert deaths: satisfying the unmet need for contraceptives would reduce unintended pregnancies by two-thirds, which, in turn, would save more than 1.5 million maternal and newborn lives and prevent 505,000 children from losing their mothers (UNFPA, 2010).

The majority of maternal deaths occur during labour, delivery, and the immediate postpartum period (Wang et al. 2011). Because most maternal deaths occur due to preventable obstetric complications, most could be prevented if



women had access to high-quality maternal health care, including antenatal care, skilled assistance at delivery, and postnatal care (Chou et al. 2010).

With regards to child health, although under-five mortality remains a major public health problem, levels have dropped worldwide, from 12 million under-five deaths in 1990 to 6.9 million in 2011, of which 3 million were neonatal deaths, 2 million post-neonatal deaths, and 1.9 million deaths among children under five years (UNICEF et al. 2012). Furthermore, the 2014 World Health Statistics (WHO, 2014) indicate that between 1990 and 2012, mortality in children under 5 years of age declined by 47%, from an estimated rate of 90 deaths per 1000 live births to 48 deaths per 1000 live births. This translates into 17,000 fewer children dying every day in 2012 than in 1990. The risk of a child dying before its fifth birthday is still highest in the WHO African Region (95 per 1000 live births) – eight times higher than that in the WHO European Region (12 per 1000 live births). The regional average of the under-five mortality rate (145 deaths per 1,000 live births) falls short of World Summit for Children national goal of reducing the infant mortality rate to 50/60 deaths per 1,000 live births, and reducing under-five mortality to 70/80 per 1,000 (WHO, 2012).

According to an African Union Report (2013), globally, over 20,000 children under five die each day, the majority of them from preventable causes. Worldwide, the four major killers of children under age 5 are pneumonia (18percent), diarrheal diseases (1percent), preterm birth complications (12 percent) and birth asphyxia (9 percent). Poor nutrition is an underlying cause in more than a



third of under-five deaths. Malaria is still a major killer in Africa (outside northern Africa), causing about 16 percent of under-five deaths (African Union, 2013).

The report further asserts that while there has been a significant reduction in child deaths, the world is still only half way towards reaching the target of cutting the child mortality rate by two-thirds by 2015 (MDG 4). African children carry a disproportionately high proportion of deaths as compared to their counterparts in other parts of the world. Twenty three of the twenty four countries with child mortality rates of over 100 per 1000 live births are in Africa (African Union, 2013).

Similarly, in the African Union Report, a systematic analysis done in 2008 by Black, also report that the main causes of child mortality at age 1-59 months were infectious diseases, particularly pneumonia, diarrhoea, and malaria. Forty-one percent of child deaths occurred during the first 28 days of life, mainly due to preterm birth complications, followed by birth asphyxia, sepsis, and pneumonia (Black, 2010). Similarly, the WHO estimated in 2005 that pneumonia, diarrhoea, malaria, and neonatal sepsis accounted for more than half of all child deaths (Bryce, 2005).

In developing countries, maternal, demographic, and socio-economic factors have been found to be important determinants of childhood mortality (Gyimah and Fernando, 2002). Nutritional deficiencies, illnesses such as malaria, diarrhoea, and acute respiratory infection (ARI), as well as vaccine-preventable diseases are also recognized as causes of under-five mortality in most countries in sub-Saharan Africa (Boerma and Bicego, 1992; Gyimah and Fernando, 2002). The seriousness of the issue was such that, if the world did not meet the 2015 target, the



lives of about two million mothers and thirty million children were feared to be lost (UNDP, 2010).

In the case of Ghana, it was reported that the national target was to reduce the 1990 maternal mortality rate of 740 per 100,000 live births (national) by 3/4 to 185 per 100,000 live births by 2015 (Ministry of Health [MOH] 2013, p.24). But figures from the Global Interagency Maternal Mortality Estimation Group estimates Ghana's MMR at 350 deaths per 100,000 live births, against a target of 185 per 100,000 live births.

Citing Ghanaian rural communities as worst case scenarios of under-utilised skilled birth attendance, Crissman, et al. (2013) estimated that two-thirds of maternal deaths in Ghana occur in late pregnancy through to 48 hours after delivery. In the northern part of Ghana, a predominantly rural area, where the incidence of poverty remains high and far above the national average of 28% (at 52% in the Northern, 70% in Upper West and 88% in the Upper East regions), MMR varies from 330 to 500 per 100,000 live births (NDPC, 2010: 2).

Under-five mortality rate which had shown worrying trends since 1998 registered some improvements around 2003-2006. After declining successively from 122 deaths per 1,000 live births in 1990 to 98 deaths per 1,000 live births in 1998, the under-5 mortality rate appears to have stagnated at 111 deaths per 1,000 live births during the period of 2003 and 2006. Recent figures from the Ghana Health Service put the under-five mortality rate at 90 deaths per 1,000 live births in 2010/2011(MOH, 2012). The number of deaths among children under – five is



estimated at 5.9 million and Sub – Saharan Africa, of which Ghana is part, contributes almost half (3 million in 2015) to these deaths (UN MDG report, 2015).

Research indicates that the majority (96%) of pregnant women in Ghana received Antenatal Care (ANC) from a trained provider, including, doctor, nurse/midwife or auxiliary midwife; about 77% of these women made four or more antenatal visits during pregnancy as recommended by WHO (GSS/GHS, 2009 cited by Dako-Gyeke et al. (2013). However, a skilled attendant is present at approximately half (55%) of all deliveries (GSS/GHS, 2009), with 20% and 9% assisted by trained Traditional Birth Attendants (TBA), and untrained Traditional Birth Attendants, respectively. Also, data indicates that nationally, 54% of births are delivered in health facilities, whilst about 45% occur at home (GSS/GHS, 2009). The situation is worse in some parts of the country, like Northern Ghana, where 71% of women are reported to have delivered at home and 25% at a hospital/clinic (Akazili et al., 2011).

Many efforts were made in an attempt to meet the health MDGs. These efforts, usually in the form of projects and programs, like their counterparts in the rest of the world, had resulted in different outcomes, some positive and others not so positive. Such interventions included: the Safe Motherhood program, which aimed to improve access to Emergency Obstetric Care; the various Family Planning Programs; the High Impact Rapid Delivery (HIRD); policy oriented data gathering using Maternal Mortality Surveys, Maternal Death Notification and Maternal Death Audits, among others (Galaa, 2012). Some of these have been ad hoc measures introduced to reduce maternal and child deaths in the short term, while others had



a long term focus (MOH, 2008). The main strategies for curbing maternal and child mortality could also be summarized into three cardinal areas namely; increasing access and utilization of antenatal care, improvement in number of women who were attended to by skilled health care personnel during delivery and provision of relevant postpartum or postnatal health services to both mothers and babies (WHO, 2012). Specifically for child health, the specific intervention programs centre on antenatal, delivery and postnatal care together with immunizations, nutrition and treatment of childhood illnesses, and prevention of malaria.

Despite these numerous interventions, the maternal and child health situation still appears bleak. This is because, high rates of maternal and child mortality remain a public health concern (Dako-Gyeke, Aikins, and Aryeetey 2013, p.1). The Sustainable Development Goals (SDGs) has since replaced the Millennium Development Goals. Goal SDG 3.2 is geared towards ending preventable deaths of newborn and children under five years of age. This compels countries to reduce neonatal mortality to at least as low as 12 per 1000 live births and under five mortality to at least 25 per 1000 live birth by the year 2030. The SDGs aim for a total number of projected cumulative maternal deaths between 2016 and 2030 of no more than 2.5 million, 1.4 million lower than is expected based on present rates of change (Alkema et al., 2016).

1.2 Statement of the Problem

Maternal, Newborn and Child Health (MNCH) situation in Sub-Saharan Africa is precarious to say the least (GHS, 2012). Increasing access and utilization of antenatal care, improvement in number of women attended to by skilled health



care personnel during delivery and provision of relevant postpartum or postnatal health services to both mothers and babies are three cardinal strategies for curbing maternal and child mortality (WHO, 2012). Additionally, intervention programs to improve child health is centred on antenatal, delivery and postnatal care together with immunizations, nutrition and treatment of childhood illnesses, and prevention of malaria. Reducing maternal mortality and improving child health is imperative if Ghana is to make progress towards its development agenda.

Ghana initiated the Community-based Health Planning and Services (CHPS) model in 1999, to include “the mobilization of community leadership, decision making systems and resources in a defined catchment area (zone), the placement of reoriented frontline health staff [known as Community Health Officers (CHO)], with logistics support and community volunteer systems to provide services according to the principles of primary health care (PHC-Plus)” (GHS, 2005, p.11). The model is a “close-to-client” service delivery system where CHOs “are expected to pursue a work routine that revolves around home visiting, and has its base in outreach by the health provider, rather than a static service base for the client to attend” (GHS, 2005, p.11). The CHPS model has been seen as an excellent strategy to improve health care delivery to rural and resource constrained populations across the country.

In addition to the model’s aim of tackling general health care problems, it has been adopted to help curb the high maternal, newborn and child mortality issues. The CHPS adopts the WHO strategy of reducing maternal and newborn mortality by improving family planning and reproductive health services,



improving emergency obstetric care as well as increasing the number of women who received skilled delivery at birth.

After more than a decade and half in operation, the CHPS model has reportedly made modest gains towards reducing maternal and child mortality in rural Ghana. Reviews of the model suggests that its implementation has met with some challenges including manpower constraints, lack of accessibility to CHPS compounds, inadequate equipment and facilities and ineffective coordination, and collaboration between health officers and traditional health practitioners (TBAs and Traditional doctors/healers) (GHS, 2009; SEND Ghana, 2013). Other socio cultural factors may have caused this situation (CHeSS, 2014). Additionally, a 2009 Annual Health Sector Review Report identified several gaps in the CHPS model including: a lack of political will to scale up the program, inadequate resources and equipment at facilities, different understandings of CHPS among the health sector leadership, insufficient CHPS zones, lack of transportation, and inadequate skill mix of CHOs and limited community mobilization skills for CHOs (GHS, 2009).

A close examination of the past reviews of the model reveals that aside a couple of annual program reviews, very little comprehensive studies have appraised or examined the model with emphasis on MNCH component. Notable past reviews, largely assessed and described the performance of the program in general, the extent to which the implementation guidelines of CHPS have been followed, the level of citizens' involvement in the setting up of CHPS compounds and the level of collaboration, and the quality of services delivered by the CHPS compounds (GHS, 2009; SEND Ghana, 2013, CHeSS, 2014; Ziblim, 2015).



A study initiated in 2013 by Awoonor-Williams and colleagues which took a partial look at the MNCH component of CHPS, has also revealed that the implementation of the program has been confronted with problems including those outlined earlier. Critical among these bottlenecks is the inadequate skills mix of the CHOs and also the drift from preventive and promotional services to clinic and facility based curative services (Awoonor –Williams et al., 2013). These two problems coupled with weak leadership structure within the program has resulted in a less than impressive performance of CHPS, especially in the area of MNCH. Perhaps that is why there is still an unacceptably high maternal and child mortality rates in the country.

Awoonor-Williams and colleagues conducted a study known as the Ghana Essential Health Interventions Program (GEHIP), which sought to improve the CHPS model by 1) extending the range and quality of services for newborns; 2) training community volunteers to conduct the World Health Organization service regimen known as Integrated Management of Childhood Illness (IMCI); 3) simplifying the collection of health management information and ensuring its use for decision making; 4) enabling community health nurses to manage emergencies, particularly obstetric complications and refer cases without delay; 5) adding \$0.85 per capita annually to district budgets and marshalling grassroots political commitment to financing CHPS implementation; and 6) strengthening CHPS leadership at all levels of the system (Awoonor-Williams et al., 2013).

Preliminary results of GEHIP show that interventions are having their intended impact on the pace of CHPS scale-up. If, as expected, this success



translates into an impact on child mortality, GEHIP will provide a critically needed focus for national efforts to develop primary health care and lessons for international health experts as well. The GEHIP provides a classic example that implementation research can play a key role in shaping policy direction even for ongoing programs and projects. However, the scope of their study does not answer all the questions on CHPS' implementation challenges and recommendations made to address them.

In the Upper West Region where the model has been implemented for more than a decade, CHPS has received attention from the Japan International Cooperation Agency (JICA). In a two phase project, JICA together with the Ghana Health Service instituted a project aimed at the scaling up of CHPS implementation in the Upper West Region with the view to eliminate disparities in access to health services, especially in the Region where health index is low. This project was titled enhancing "*Ghana Health Service's capability to administer CHPS policies*" to expand functional CHPS zones in the Upper West Region. Specifically, a facilitative supervision system was introduced for CHPS activities and improved relevant knowledge and skills among community health officers (CHO). A referral system was also established among CHPS, health centres and hospitals. Furthermore, the procedures for the community people to participate in the project were revised with an aim to disseminate CHPS within all regions of Ghana.

Having commenced in March 2006, the project provided 20 separate training courses for CHOs in the Region. With those efforts, 140 CHOs were actively working so far and the regional health administrators have been eligible to



train CHOs in their own. The local communities work on Community Health Activity Plans (CHAPs) and raise health awareness. For example, they established a fund for supporting CHO, community emergency transportation system (CETS) and others. The Health Improvement Program for Residents of the Upper West Region also developed a strategic program tied to grant aid and Japan Overseas Cooperation Volunteer projects. That program provides equipment and also brings about a synergetic effect with grassroots support activities to attain better access to the basic health services.

The second phase of the project commenced after a review of the first and a conceptualization of a second. The phase two which is still ongoing was scheduled to end in 2016 after its commencement in 2011. The project was titled, *Project for Improvement of Maternal and Neonatal Health Services Utilising CHPS System in the Upper West Region*. This Project was expected to contribute to the improvement of the coverage of Antenatal Care (ANC), Skilled Delivery and Postnatal Care (PNC). Among others the key outputs towards improving MNCH in the region include: The capacity of midwives, CHOs and Community Health Nurses (CHNs) on maternal and neonatal care is strengthened through quality training; CHO's and CHN's capacity on promoting behavioral change in communities is strengthened; Community-based health activities to increase antenatal care, skilled delivery and postnatal care are strengthened through improved facilitation by skilled CHOs; The ability of Health Centres to provide Basic Emergency Obstetric and Newborn Care (BEmONC) is enhanced; Referral and feedback between CHOs, health centres and hospitals are strengthened; Task



on maternal and neonatal care are standardized and continuously improved through Facilitative Supervision (FSV). The above is a laudable effort indeed. There is some evidence to suggest that both phases of the project has contributed immensely to improving CHPS' implementation and overall MNCH outcomes in the region. However, this evidence has not been independently interrogated by researchers outside the JICA/ GHS/ MOH circles.

According to Islam & Yoshida (2009), the challenges to be met when trying to improve maternal and child health are not new technologies nor new knowledge about effective interventions, because according to him we mostly know what needs to be done to save the lives of mothers and newborns. To them, the real challenges are how to deliver services and scale up interventions, particularly to those who are vulnerable, hard to reach, marginalized and excluded. Effective health interventions exist for mothers and babies and several proven means of distribution (such as CHPS) can be used to put these in place (Islam & Yoshida, 2009).

Since the CHPS model was one of the first policies to actually emanate from an evidenced based scientific study, (the “Navrongo Experiment” and the “Nkwanta replication”), it would be imperative to examine its implementation in order to ascertain the progress made toward improving MNCH in the Upper West Region. The origin of this national CHPS model was strongly linked to the attempts to improve child mortality and family planning services within rural communities. The key question is: to what extent has the model addressed the very many health issues relative to women and children in deprived areas? What are the various



implementation modalities adopted in the deprived districts to make the model a success? To what extent have various districts implemented the key components of the CHPS program and what have been the outcomes of the implementation. Answers to these questions will go a long way to throw much needed light on CHPS' implementation in deprived communities in the country.

This study therefore seeks to examine how CHPS has been implemented in a relatively deprived district in the Upper West Region, highlighting MNCH components and activities. It seeks to explore whether the model is in tandem with its program theory within the context of improving MNCH. This will fill a much desired evidence gap needed to ascertain the success or otherwise of the model and provide insightful findings that may be used to enhance the overall design and implementation of the model.

1.3 Objectives of the study

1. To ascertain the minimum package of MNCH services being delivered in the DBI as stipulated by the CHPS model
2. To describe the nature of CHPS human resources and infrastructure in DBI
3. To identify the community participation practices within the CHPS model in DBI
4. To determine the main contributions of CHPS to MNCH outcomes
5. To examine the main challenges confronting the CHPS' model implementation relative to MNCH



1.4 Research Questions

1. What are the minimum package of CHPS services relative to MNCH in the DBI district?
2. How has CHPS built capacities and provided the required infrastructure to deliver MNCH services in the District?
3. In what ways are the various communities in the district involved in CHPS' implementation?
4. What are the specific achievements of CHPS towards improving MNCH in the District?
5. What are the key challenges confronting CHPS within the DBI?

1.5 Study Scope

This study centres on a systematic review of a policy and its programs geared towards improving MNCH in a rural district in Ghana. It mainly undertakes to conduct a detailed study of the CHPS program in Ghana with emphasis on how it has been implemented in the Upper West Region, specifically the Daffiama, Bussie Issa District. The research comprised an examination of all policy issues regarding the establishment and management of CHPS Zones and compounds.

As part of the review, the study undertook to assess the processes involved in the roll out of the CHPS, including the composition of the various Community Health Volunteers, as well as Community Health Committees. The day to day activities of the Zones and Compounds were examined to determine how they



affected the overall performance. A key part of this study identified how the goals and objectives of the CHPS policy were operationalized at the grassroots level. This was done to enable the discovery of the extent to which the policy was achieving its aims or not.

Finally, the study carried out a review of key MNCH indicators such as, child immunization rates, prevalence of child diseases, skilled birth attendance, antenatal and post natal services utilization, among others, in order to make a determination of the state of MNCH in the District and to allow for ascertaining the impact of CHPS on MNCH.

1.6 Significance of the Study

In justifying the significance of this study, I am motivated by a statement in the 2013 *World Health Report* authored by the WHO which reads “Scientific research has been fundamental to the improvement of human health. Research is vital in developing the technology, systems and services needed to achieve universal health coverage. On the road to universal coverage, taking a methodical approach to formulating and answering questions is not a luxury but a necessity” (WHO, 2013, p. XI)

The issue of MNCH is important globally and nationally. This study is long overdue in view of the slow pace of the reduction in maternal mortality and the number of women receiving skilled deliveries. This study sought to provide evidence regarding how the policy has been implemented over the years in the selected district. This assessment generated data that brings to light the successes



and failures of an intervention geared toward the improvement of maternal and child health.

In carrying out this study, I am again minded by a profound statement asserted by Adam and de Savigny (2012) to the effect that, without deep analysis of the process and context around which an intervention works, its broader effects on the health system as a whole, evaluations may over or under-estimate the actual impact of the intervention or overlook important effects on the system itself or on other interventions already in place.

It was envisaged that findings of this study would contribute to shedding some light on how to design and implement an Integrated Maternal and Child Health Care System. Thus, the results of the study could serve as a useful guide to developing proposals to initiate a ‘rural-specific’ health care intervention aimed solely at improving maternal and child health at that level. Successes of such an evidence-based intervention would therefore lead to a nationwide replication and national level health system reform.

Another key significance of the study was that it has the potential of providing data that could be used to improve the CHPS initiative and other health care interventions. It presents findings that are useful to policy planners, program reviewers, donors and even beneficiaries at all the levels, from the local community up to the international level. A prerequisite for evidence-based policy formation is the timely provision of scientifically sound and up-to-date information to policymakers (WHO, 2000) and the success of a country’s development efforts depend upon the degree to which its planners and program managers use and apply



research for decision-making. As such I find this study relevant to evidence-based policy design and implementation. The Navrongo and Nkwanta studies culminated into the CHPS. Hence, its review and strengthening could equally be derived from comprehensive reviews like the present study.

1.7 Philosophical Underpinnings of the Study

The first major concern regarding the undertaking of this research was the selection of an appropriate research paradigm, which according to Kuhn refers to “the set of common beliefs and agreements shared among scientists about how problems should be understood and addressed” (Hall, 2012). According to Guba and Lincoln (1994), research paradigms can be characterised through their ontology - what is reality; epistemology – how do you know something; and methodology – how do you go about finding it out? (Guba & Lincoln, 1994).

Three of the most commonly cited paradigms are positivism whose adherents argue that there is a single reality, which can be measured and known, and therefore they are more likely to use quantitative methods to measure this reality; constructivism which holds that there is no single reality or truth, and therefore reality needs to be interpreted, and therefore they are more likely to use qualitative methods to get those multiple realities. Finally, pragmatism usually opines and believes that reality is constantly renegotiated, debated, interpreted, and therefore the best method to use is the one that solves the problem.

Pragmatism was deemed the most appropriate underpinning for this study. The main justification for settling for the pragmatist philosophical underpinnings



was that, ontologically, epistemologically, theoretically and methodologically, the paradigm seems very suitable. Ontologically, the objectives of this study is well suited to the idea that CHPS' reality was constantly renegotiated, debated and interpreted in the light of its usefulness in a new and unpredictable situation like the DBI district. Epistemologically, pragmatism espouses that the best method is the one that solves the problem and finding out what processes, contributions and challenges of CHPS is the underlying aim of this study.

Theoretically, the pragmatist approach allowed for examining the interventions of CHPS from a systems framework, hence the systems theory became the anchor theory guiding the conduct of this study. This enabled the study to examine the CHPS model within the context of an entire health care system. Additionally, since the programme theory of CHPS was geared towards ensuring equity and the rights of vulnerable groups, that principle was also taken into consideration alongside the continuum of care approach. This led to the inclusion of two supporting perspectives, thus the health continuum perspective and the human rights and equity framework.

On methodology, a mixed method design as postulated by the pragmatist paradigm was considered as the best option. This design ensured a combination of quantitative and qualitative methods to collect and analyze the necessary data to undertake the assessment. These are similar to the sentiments of Creswell and Plano Clark (2011), who intimated thus:

The ontological view of pragmatism is that there are both singular and multiple realities. Its epistemological assertion is that researchers should be practical, thus they should collect data by what works to address their



research questions. The key methodology of pragmatism tends to combine both quantitative and qualitative data. In effect pragmatists focus on the consequences of human actions, usually problem centred, are pluralistic and tend to be real-world practice oriented (Creswell and Plano Clark, 2011).

According to Hall (2012), pragmatism has gained considerable support as a stance for mixed methods researchers (Hall, 2012; Feilzer, 2010; Morgan, 2007). Feilzer writes that it is oriented ‘toward solving practical problems in the “real world” (Feilzer, 2010:8). The key strengths of the design was that it was flexible and easily adaptable to the research topic and objectives of the study. It also allowed for the good blend of quantitative and qualitative data to good effect. Pragmatism allowed for the inclusion of elements of both social constructivism and post-modernism. In extolling the virtues of the use of this approach, Denscombe asserts that,

pragmatism provided for a possible fusion of approaches, provided a basis for using mixed methods approaches as a ‘third alternative’ - another option open to social researchers if they decide that neither quantitative nor qualitative research alone will provide adequate findings for the particular piece of research they have in mind, treated as a new orthodoxy built on the belief that not only is it allowable to mix methods from different paradigms of research but it is also desirable to do so because good social research will almost inevitably require the use of both quantitative and qualitative research in order to provide an adequate answer, and finally, pragmatism is treated in the common sense way as meaning ‘expedient’. (Denscombe, 2008).

According to McCready (2010), pragmatism has been criticized for focusing on practical results and ignoring philosophy and theory (Nowell, 2015). Furthermore Doyle and colleagues (2009), indicate that pragmatists have been criticized for considering the research question to be more important than either the method or the paradigm that underlies it. A further criticism of pragmatism is that basing methodological choices solely on what works does not answer the question



for whom is this working and to what end (Doyle et al., 2009). However, Nowell (2015), argues that pragmatic researchers can address this limitation by explicitly acknowledging for who and how well the research is meant to be useful (Nowell, 2015).

1.8 Organization of the study

This study is organized into seven chapters delineated according to the main thematic areas. The present chapter serves as the introductory chapter, which sets the tone for the study with a background to the study. It also includes the articulation of the research problem, objectives and questions guiding the study. The remaining part of the chapter presents the significance, scope, philosophical underpinnings and organization of the study.

The second chapter undertakes a critical review of literature. It is sectioned into three parts as follows: part one presents a review of literature on some key definitions and indicators of Maternal, Newborn and Child Health. It also reviews literature on the state of MNCH as well as the main causes of poor MNCH. The second part of the literature review examines global and national efforts at curbing maternal and child mortality, it traces the historical trajectory of these strategies, examines the nature and context of the various interventions and reviews of Ghana's attempts to improve MNCH through various strategies including CHPS.

The final part of the literature review discusses the theoretical issues guiding this study. It summarizes the main theoretical frameworks like the Health Systems



framework, the Human rights and Equity framework and the Continuum of Care Framework.

The third chapter presents the research methodology of this study. Here, the description of the study area, study context and research design, as well as target population are clearly spelt out. Sampling procedures, the main sources of data and the instruments and procedure for data collection are presented. How the key variables and indicators are conceptualized and measured are clearly articulated in the chapter. The chapter ends with a description of data analysis procedure, data presentation outline, methodological limitation of the study and how ethical issues were treated.

The fourth, five and sixth chapters represent the presentation and discussion of results. Here the issues to be discussed are drawn from the thematic areas deduced from the objectives of the study. Chapter four mainly presents and discusses results on the activities of the CHPS, while chapter five presents findings on the performance of CHPS, chapter sixth examines the findings in relation to the challenges of CHPS in delivering MNCH services.

The final chapter presents a comprehensive summary of the study which includes key findings and conclusions drawn. It also presents suggestions which seek to guide future research directions as well as policy recommendations prudent for all stakeholders in the MNCH and health sectors.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of literature on some key definitions and indicators of Maternal, Newborn and Child Health as well as the state of MNCH worldwide, in Africa and Ghana. It also includes a review of the main causes of poor MNCH, international and local efforts towards curbing maternal and child mortality across the globe and in Ghana. It traces the historical trajectory of global efforts towards ending poor maternal and child health, it also examines the nature and context of the various interventions and continues with a review of Ghana's attempts to nib poor maternal and child health in the bud. The last section is dedicated to review of CHPS. The final part presents the main ideas of three theoretical approaches to MNCH intervention, highlighting their origins, key features and their utility in this thesis.

2.1 The Concept of MNCH

The broad concept of Maternal, Newborn and Child Health (MNCH) encompasses varied but related ideas. Embedded within it are terms like MCH, which represents an abbreviation for Maternal and Child Health; RCH which is, Reproductive and Child Health; Neonatal or New born Health, among others. The literature is also replete with other acronyms like RMNCH and PMNCH. According to the WHO, MCH includes the broad meaning of health promotion, preventive, curative and rehabilitative health care for mothers and children (WHO,



1978). It thus includes such areas as maternal health, family planning, child health, school health, handicapped children and aspects of care of children in a special setting like a day care (WHO, 1978).

Child health as a concept is usually employed to explain the health of any person defined legally and socially as a child. It includes children under the age of five, infants aged one year and below, as well as neonatal or newly born within their first four weeks of life. This definition of MCH is indeed a broad one which provides the widest possible context in which to discuss it.

A related and also a broad concept found regularly in the MNCH literature is Reproductive Health. Reproductive health has been comprehensively defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to reproductive systems and to its functions and processes (UN, 1994). Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so (UN, 1994). Implicit in this last condition, are the rights of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods for regulation of fertility which are not against the law and the right to access appropriate health care services (GHS, 2006).

Reproductive health is understood from the scope of safe motherhood, family planning, prevention and management of unsafe abortion and post abortion care, prevention and treatment of sexually transmitted infections (STIs) and



HIV/AIDS, adolescent rights, infant health etc. Reproductive health also connotes a right to prevention and treatment of infertility, prevention and management of cancer of the reproductive tract including breast, cervical, testicular and prostate, issues of menopause and the discouragement of harmful traditional practices affecting the reproductive health of men and women including female genital mutilation (GHS, 2006).

WHO (2008) report defines maternal health as the health of women during pregnancy, childbirth and the postpartum period. According to the Tenth International Classification of Diseases, a maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (Canavan, 2009). The above definition envisages that there is both a temporal and a causal link between pregnancy and death. When the woman dies, she could have been pregnant at the time, that is, she died before delivery, or she could have had a pregnancy that ended in a live or stillbirth, a spontaneous or induced abortion or an ectopic pregnancy within the previous 6 weeks. The pregnancy could have been of any gestational duration.

In addition, the death was caused by the fact that the woman was or had been pregnant. Either a complication of pregnancy or a condition aggravated by pregnancy or something that happened during the course of caring for the pregnancy caused the death. In other words, if the woman had not been pregnant, she would not have died (WHO, 2004).



In turn, maternal morbidity is defined as a condition outside of normal pregnancy, labor and childbirth that negatively affects a woman's health during those times (Orshan, 2008). Maternal morbidity comprises temporary, mild or severe conditions as well as permanent/chronic conditions that persist beyond the puerperium (such as obstetric fistula, urinary or fecal incontinence, scarred uterus, pelvic inflammatory disease, palsy and Sheehan's syndrome) (WHO, 2014a).

2.1.1 Measures and Indicators of MNCH

Two critical measures are used to measure maternal health: Maternal Mortality Ratio and Maternal Mortality Rates. Maternal mortality ratio, is defined as 'the annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100 000 live births, for a specified time period'. This is usually contrasted with the maternal mortality rate which measures both the obstetric risk and the frequency with which women are exposed to this risk. It is calculated as the number of maternal deaths in a given period per 100 000 women of reproductive age. Thus while the ratio measures obstetric risk of mothers against live births, the rate does so for women in their reproductive age and not live births. Thus the ratio is more specific than the rate hence the ratio is more commonly used (WHO, 2014b).

Depending on the cause, there are two types of maternal deaths: direct and indirect: *Direct maternal death* refers to deaths resulting from obstetric complications of the pregnancy state (pregnancy, labor, and the puerperium), from



interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above; examples include: hemorrhage, infection, preeclampsia and eclampsia, complications of abortion and obstructed labor. On the other hand *indirect maternal death*, refers to deaths resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy. Examples include: hepatitis, anemia, malaria, cardiovascular disease, HIV/AIDS, diabetes, tuberculosis, and psychiatric illness (WHO, 2007a).

A 2010 study by Allen and colleagues expands maternal deaths to include both the direct and indirect causes as well as coincidental and late maternal deaths. They referred to coincidental deaths as fortuitous deaths which were pregnancy-related, while deaths occurring between 42 days and one year after delivery were defined as late maternal deaths (Allen et al, 2010). This expansion in the classification allowed for the roping in of hitherto under reported causes of deaths especially in developing countries (Lewis, 2007).

Although standardized definitions of maternal mortality and its causes exist, it is difficult to accurately measure levels of maternal mortality for three primary reasons: (a) it is challenging to identify maternal deaths; (b) the woman's pregnancy status may not be known; and (c) in country settings where medical certification of cause of death does not exist, accurate attribution of female deaths as maternal death is difficult (WHO, 2005).

Another term widely used in the maternal health literature is skilled birth attendance also sometimes called skilled delivery at birth. A skilled birth attendant



according to the WHO (2006), refers to a medically qualified provider with midwifery skills (midwife, nurse or doctor) who has been trained and is proficient in the skills necessary to manage normal deliveries and diagnose, manage or refer obstetric complications. Ideally, skilled attendants live in and are part of, the community they serve. They must be able to manage normal labor and delivery, perform essential interventions, start treatment and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in a particular setting (WHO, 2006).

Skilled attendance (or skilled care) according to WHO (2007b) denotes a skilled attendant operating within an enabling environment or health system capable of providing care for normal deliveries as well as appropriate emergency obstetric care for all women who develop complications during childbirth (WHO, 2007b). Skilled attendance is measured by the percentage of live births attended by skilled health personnel during a specified time period.

Related to skilled attendance is antenatal and postnatal care services. Antenatal care (ANC), also an aspect of maternal health, is the particular form of medical supervision given to a pregnant woman and her unborn baby starting from the time of conception up to the delivery of the baby. It includes regular monitoring of the woman and her baby throughout pregnancy by various means including a variety of routine regular examinations and a number of simple tests of various kinds. Antenatal care is very important in the life of pregnant women because it helps the pregnant woman to maintain a good health status and it also gives her



information about the pregnancy, labor and child care. The recommended number of antenatal visits for pregnant women is preferably four (WHO, 2007b).

Antenatal care coverage is measured by determining the percentage of women aged 15-49 with a live birth in a given time period that received antenatal care four or more times. In addition to antenatal care, postnatal care or postpartum care is equally imperative for positive MNCH outcomes. It refers to the medical attention sought and given to a woman after she has delivered. It includes a range of services that seeks to safeguard the health of both mother and baby in the early hours following delivery. It is measured by the percentage of mothers and babies who received postpartum care within two days of childbirth (regardless of place of delivery) (WHO, 2007b).

On child health, under five mortality rate is defined as the probability of a child born in a specific year or period dying before reaching the age of five, if subject to age-specific mortality rates of that period (Osei-Kwakye et al., 2010). Infant mortality rate refers to the probability of a child born in a specific year or period dying before reaching the age of one, if subjected to age-specific mortality rates of that period. Infant mortality rates can be obtained by summing the neonatal and post neonatal mortality rates. Neonatal mortality rate means the number of deaths during the first 28 completed days of life per 1000 live births in a given year or other period. Post neonatal mortality represents those deaths occurring after the first month of life but before the first year of life has been completed (WHO, 2014b.).



These measures can be further disaggregated according to place of residence, sex of child or infant birth weight, age in weeks or days, as well as socio economic status of parents. These additional indicators throw more light on the causes of the various birth outcomes or mortality and /or morbidity status of the child (World Bank, 2013).

In addition to these core indicators and terms for child health, others have been regularly used in the literature. The rest include immunization coverage rates as well as nutrition rates. Immunization includes both pregnant women and children of a particular age usually, under five, under one and within the first month. For immunization coverage, the measure refers to the percentage of target population (women and children) who have received the appropriate doses of the recommended vaccines in the national schedule by recommended age: (BCG, hepB; DTP-HepB-Hib, PcV; measles; HPV, TT,).

On nutrition, the focus is usually on newborns and children. There are several measures ranging from exclusive breastfeeding of babies 0-5 months, early initiation of breastfeeding, birth weight, stunting and wasting among under five children as well as anemia among women in the reproductive ages and children (WHO, 2014b).

2.2 An Overview of the burden of Poor Maternal, Newborn and Child Health

The number of maternal deaths is unconscionably high. An estimated 500,000 women die each year in pregnancy and childbirth (WHO, 2007b). An estimated 10 million more women suffer serious maternal morbidities, including



debilitating and socially devastating conditions such as uterine prolapse and obstetric fistulae (Hunt, 2007). In addition, substantial proportions of the 3 million newborn deaths and 4 million stillbirths that occur each year are the result of maternal conditions or of acute events in and around the time of delivery (Hunt, 2007).

The patterns of maternal mortality reveal large levels of inequity between and within countries – 99 per cent of maternal deaths occur in developing countries, with 86 per cent occurring in South Asia and sub-Saharan Africa alone (WHO, 2007b). Fourteen countries have maternal mortality rates (MMRs) of at least 1,000 per 100,000 live births, of which all except Afghanistan are in sub-Saharan Africa: Angola, Burundi, Cameroon, Chad, the Democratic Republic of Congo, Guinea-Bissau, Liberia, Malawi, Niger, Nigeria, Rwanda, Sierra Leone, and Somalia. Wide disparities also exist within countries. Class, too, plays a defining role in maternal mortality and morbidity statistics, with studies in multiple countries showing that the MMR amongst poor women is four times higher than amongst wealthier groups (Ronsmans and Graham 2006).

Hundreds of thousands of women die each year because of complications related to pregnancy and childbirth. For every woman who dies, approximately 20 others suffer injuries, infection and disabilities, resulting in millions of women experiencing adverse pregnancy outcomes (WHO, 2013a). Worldwide, 250,000–280,000 women die during pregnancy and childbirth every year (WHO, 2010) and an estimated 6.55 million children die under the age of five (UNICEF, 2012). The majority of maternal deaths occur during or immediately after childbirth. A child's



risk of dying is highest during the first 28 days of life when about 3.5% of under five deaths take place, translating into 2.85 million deaths (UNICEF, 2012). Up to one half of all newborn deaths occur within the first 24 hours of life and 75% occur in the first week. Children in Low and Middle Income Countries (LMICs) are nearly 56 times more likely to die before the age of five than children in High-Income Countries (HICs) (Lassi et al., 2014).

According to Lassi et al. (2014) the maternal mortality ratio is approximately 500 per 100,000 live births in sub-Saharan Africa, compared to around 150 per 100,000 live births in South Asia and 16 per 100,000 live births in HICs. Around the world, at least 160 million women become pregnant every year. Of these, 15% develop serious complications, which lead to the death of about 600 000 women due to complications related to pregnancy, most of which could have been prevented. In fact, over ten million women annually suffer from complications related to pregnancy that seriously affect their health, often permanently. Every year, 3.4 million babies die within the first week of life largely as a result of inadequate or inappropriate care during pregnancy, delivery or the first critical hours after birth. For every newborn baby who dies, at least one is stillborn (UNICEF, 2012).

According to a 2011 World Bank/IMF report, of the eight MDGs, MDG 5 lags furthest behind and has made the least progress, with only 24% of developing countries currently on track to reduce their MMRs by 75% by 2015 (World Bank/IMF, 2011). The MMR for women living in developed regions is 16 deaths per 100,000 live births; yet, the MMR for women living in developing regions is 240



deaths per 100,000 live births (World Health Organization and others, 2012). The lifetime risk of a woman dying as a result of a maternal health complication in Somalia is 1 in 16; Nigeria 1 in 29; United States, 1 in 2,400; and Greece, 1 in 25,500 (WHO, 2012). Similar differences exist among socioeconomic and ethnic groups within countries, and most maternal deaths are concentrated among women with the fewest resources (Lottof et al., 2014).

Maternal mortality also remains high in conflict-affected countries, where more than a third of global maternal deaths occur (WHO, 2013a). In times of protracted crises and recovery, women and girls commonly lack access to sexual and reproductive health services, including skilled attendance at delivery, basic and comprehensive emergency obstetric services and contraception. Gender-based violence often rises during crises, conflicts, and post-conflicts.

While India and Nigeria do not have the highest MMRs in the world, they contribute more maternal deaths each year to the global burden than any other countries. India's 56,000 and Nigeria's 40,000 maternal deaths comprise one-third of the global burden of maternal deaths (Lattof et al., 2014). The other highest-burden countries are Pakistan, Afghanistan, Ethiopia, and Democratic Republic of Congo (WHO, 2014b).

There have been some welcome surprises, however. Over the last several years, safe and effective interventions for the major causes of maternal mortality and morbidity have been developed, evaluated and determined to be effective (Langer et al., 2012). A full analysis of the status of the 75 countries that account for 95% of the world's maternal and child deaths is found in the latest Countdown



2015 report, (WHO, 2013b) which shows several instances of MDG5 being met in countries where maternal mortality burdens historically have been highest. Vietnam, for example, had a maternal mortality ratio (MMR) of 240 per 100,000 live births in 1990; by 2010 the MMR was 59 per 100,000; the country has already surpassed its 2015 target of 60 (WHO, 2013b). Similarly, Nepal had an MMR of 770 in 1990; by 2010, it had met and surpassed its MDG5 goal when it reached 170 (WHO, 2013b).

Even though MDG5 was not met in 2015, the number of maternal deaths globally has declined significantly since ICPD, according to the most recent estimates of global, regional, and country-level maternal mortality published by the World Health Organization (WHO) and, independently, by the Institute for Health Metrics and Evaluation (IHME). Between 2005 and 2008, maternal deaths declined by 36% from 535,900 to 342,000 (Hogan, et al, 2010). From 2008 to 2011, maternal deaths decreased an additional 20% to 273,500 (Lozano, et al., 2011). As noted above, these global figures mask vast disparities among and within the majority of high-burden countries; large declines in Central Europe and South Asia are overshadowed by negligible progress in all regions of sub-Saharan Africa (Lattof, et al. 2014).

According to the Countdown 2015 report released in 2010, globally 8.8 million children a year die before their fifth birthday, more than 40% of them during their first four weeks of life. While there has been a significant reduction in these child deaths over the past decades, the world is still only half way towards reaching the target of cutting the child mortality rate by two thirds by 2015 (MDG 4).



African children carry a disproportionately high proportion of deaths as compared to their counterparts in other parts of the world. Twenty three of the twenty four countries with child mortality rates of over 100 per 1000 live births are in Africa. Of particular concern is the slower rate at which the neonatal mortality rate is falling compared to child mortality rates? Preterm births are increasing in most countries with 60% of preterm births occurring in Africa and Asia (African Union, 2013). While under-five mortality reduction has been significant, progress in reducing neonatal mortality has been slower. For the world as a whole, the neonatal mortality rate declined 37%, less than the 47% decline in the under-five mortality rate. There is a consistent pattern of faster decline in the under-five mortality rate compared with the neonatal mortality rate across all MDG regions (UN Inter-agency Group for Child Mortality Estimation UN IGME, 2013). In 2013, 2.8 million newborns died within 28 days of birth, accounting for 44 percent of global under-five deaths (UN IGME, 2014).

Many countries have made and are still making tremendous progress in lowering under-five mortality. Of the 61 high-mortality countries with at least 40 deaths per 1,000 live births in 2012, 25 have reduced their under-five mortality rate by at least half between 1990 and 2012. Of them, Bangladesh (72%), Malawi (71%), Nepal (71%), Liberia (70%), Tanzania (68%), Timor-Leste (67%), and Ethiopia (67%) have already reduced the under-five mortality rate by two-thirds. In absolute terms 15 countries made reductions surpassing 100 deaths per 1,000 live births since 1990 (UN IGME, 2014).



As indicated in the UN Inter-agency Group for Child Mortality Estimation 2013 report indicates that the world has made substantial progress, reducing the under-five mortality rate by 47%, from 90 deaths per 1,000 live births in 1990 to 48 in 2012. However, this progress is not enough, and the target risks have been missed at the global level. To achieve MDG 4 on time, the global annual rate of reduction in under-five mortality rate would need to rise to 15.6% for 2012–2015, much faster than the 3.9% achieved over 2005–2012. At the country level, historical trends show that progress for most countries has been too slow and that only 13 of the 61 countries with high under-five mortality rates (at least 40 deaths per 1,000 live births in 2012) were on track to achieve MDG 4—with an average annual rate of reduction of 4.4% or more.

Still, in 2012, 6.6 million children died before reaching their fifth birthday (6.3 million in 2013), mostly from preventable causes and treatable diseases, even though the knowledge and technologies for life-saving interventions are available. In addition inequities in child mortality between high income and low-income countries remain large. In 2012 the under-five mortality rate in low income countries was 82 deaths per 1,000 live births—more than 13 times the average rate in high-income countries (UN IGME, 2013). In 2013 the under-five mortality rate in low-income countries was 76 deaths per 1,000 live births—more than 12 times the average rate in high-income countries (UN IGME, 2014).

Many countries still have very high rates—particularly in sub-Saharan Africa, home to all 12 countries with an under-five mortality rate of 100 deaths or more per 1,000 live births. Reducing these inequities across countries and saving



more children's lives by ending preventable child deaths are important priorities (UN IGME, 2014).

2.2.1 The Ghanaian Situation

The story about Ghana's MNCH situation is not too different from those on the rest of the African continent and other developing nations as a whole. In Ghana for instance, "it is estimated that over 130,000 Ghanaians, mostly women and children, die each year due to preventable causes" (Addai, 2000). The majority of such deaths are related to maternal and child mortality. It is estimated that maternal mortality rate are still high, ranging from between 214 to 700 maternal deaths per 100,000 live births with some rural communities showing even higher rates (GHS, 2005).

More recently, Sakeah and colleagues report that in Ghana, between 1,400 and 3,900 women and girls die each year due to pregnancy-related complications (Sakeah et al. 2014). In 2013, the WHO report on the trends of maternal mortality 1990-2013 indicates that approximately 3,100 women in Ghana died from pregnancy-related complications (WHO, 2014b). An estimated two-thirds of these deaths occur in late pregnancy through to 48 hours after delivery (UNFPA, 2012). Recent statistics point to a maternal mortality ratio (MMR) in Ghana of 380 deaths per 100,000 live births. According to Sakeah et al. (2014), this MMR is high when compared with that of other sub-Saharan African countries such as Namibia, which has a MMR of 130 deaths per 100,000 live births but is lower than the sub-Saharan African regional estimated average of 510 maternal deaths per 100,000 live births (WHO, 2013).



On child health, Ghana has been able to reduce the under-five mortality rate from 128 per 1000 births to 103 per 1000 births in 2000. From 2000 to 2010 under-five mortality rate reduced from 103 to 74 and further reduced to 72 by the end of 2012 (UN IGME, 2013). The latest world health statistics (2014) reports that the under-five mortality rate for Ghana in 2013 was still 72 per 1000 births.

Ghana has recorded a steady decline in under – five mortality rates in the past 25 years, 155 per 1000 live births to 60 per 1,000 live births from 1988 to 2014, with the past decade in particular presenting a rapid decline from 111 per 1,000 live births to 60 per 1,000 live births from 2003 to 2014 (GDHS, 2014). This can be attributed to the implementation of the Child health policy and the Child health strategy interventions (UNDP/NDPC, 2015). Ghana was not able to achieve the MDG 4 target by the end of 2015 due to the slow rate of decline (UNDP/NDPC, 2015).

This decrease has not been evident in infant and neonatal mortalities as decline in neonatal mortality has been slower as compared to the whole under – five mortality. To achieve the MDG 4 goal and the ambitious SDG goal of at least 25 deaths per 1000 live births, there is the need to reduce neonatal mortality as it contributes about half of all deaths of under - fives’ (GSS, 2014). This makes the development and operationalization of the Ghana National Newborn Strategy in 2014 (which has an implementation period between 2014 and 2018) a proactive strategy. This is to integrate and converge all interventions and gear them towards improving newborn health organized along the continuum of care of mother and child (MOH, 2014).



Overall, Ghana did not performed well in achieving the MDGs 4 and 5 and the populations in the poorest quintile still use less maternal and child health care services, including skilled care at birth, delivery in a health facility and use of modern contraceptives (Zere et al., 2012).

2.3 An Empirical Review of Causes of Maternal and Child Mortality

The causes for poor maternal and child health outcomes are numerous and varied. Across the globe, different populations are affected differently by the burden of poor maternal and child health (Nieburg, 2012). As illustrated by the statistical overview presented in the previous section, the problem of maternal and child mortality is not uniformly distributed across countries and continents. The scourge is felt more severely in poor countries found in the developing world compared to their developed counterparts.

The causes of these health disparities are numerous and various factors and determinants have been proposed to explain this. The sections examine the main causes and factors that affect maternal and child health across the globe, in Africa and in Ghana. The section will discuss the medical and non-medical causes of maternal and child mortality and morbidity. In addition to this, structural, economic, political as well as geographical influences are discussed.

In an article, *Advancing safe motherhood through human rights*, Cook, et al. (2001) assert that three fundamental causes of maternal mortality can be identified. These are:



- Medical causes, consisting of direct medical problems and pre-existent or coexistent medical problems that are aggravated by pregnancy, such as anaemia and malaria;
- Health systems laws and policies that affect availability, accessibility, acceptability, and quality of reproductive health services; and
- Underlying socio-legal conditions.

Additionally, the causes of Maternal and Child mortality can be said to be emanating from three main factors namely: Health care delivery factors, medical factors and socio-economic factors. Usually the most recognized and readily discernable causes are those that can be explained medically. However, it has long been established that these medical causes are strongly associated with and precipitated by health care delivery factors as well as socio-economic factors. The medical factors are presented first followed by a combination of healthcare delivery and socio-economic factors.

2.3.1 Direct Medical Causes

According to many authors on the subject, the main direct medical causes of maternal death include haemorrhage, infection, eclampsia, obstructed labor and unsafe abortion (WHO, 2008, 2013a, 2014a; Sari, 2009; UNFPA, 2010). Globally, around 80% of all maternal deaths are direct obstetric deaths. The pattern of direct causes is broadly similar around the world: hemorrhage (25%, usually occurring postpartum), sepsis (15%), hypertensive disorders in pregnancy (12%), obstructed labor (8%), complications of unsafe abortion (13%) and other direct causes (8%).



Below is a more comprehensive summary of the medical causes of maternal mortality as presented by various authors such as the WHO and Countdown 2015 reports (2012, 2013 and 2014) and Senah (2003).

Postpartum Hemorrhage

According to *the Decade Report of Countdown 2015*, hemorrhage is the main cause of maternal deaths around the world. Where pregnant women are already anemic, postpartum hemorrhage coupled with the relatively high frequency of long-term disabilities, make a major contributor to the global burden of maternal mortality and disability. Postpartum haemorrhage is one of the most common reasons for blood transfusion, an intervention that has become dangerous with the advent of HIV/AIDS (Senah, 2003).

Puerperal Infections

The incidence of puerperal infections in developing countries is not accurately known although puerperal sepsis is clearly associated with unhygienic practices during delivery and the postpartum period. The estimated incidence of puerperal sepsis ranges from a high 10% in sub-Saharan Africa to a low 5% in established market economies.

Sexually transmitted infections (STIs) during pregnancy are risk factors for sepsis. Anecdotal evidence from a number of countries indicates that the antibiotic-resistant sepsis is common in HIV-positive women and that post-caesarean section infections are also more common in HIV-positive women.



Eclampsia

Globally, it is estimated that around 0.5% of live births are complicated by eclampsia and 4.5% by hypertensive disorders. Pre-eclampsia affects many vital organ systems. Renal and liver damage, pulmonary edema, cerebral haemorrhage and retinal detachment may follow eclamptic convulsions.

Obstructed labor

This factor is estimated to cause around 8% of direct maternal deaths. By far, the most severe and distressing long-term condition following obstructed labor is obstetric fistula (vesico-vaginal fistula or rectovaginal fistula or both). Women with prolonged and/or obstructed labor are more likely to also develop complications related to sepsis, particularly if there is premature or prolonged rupture of the membranes. Another complication frequently associated with obstructed labor, particularly in women who have had several children already, is uterine rupture.

Obstructed labor is one of the most common causes of fetal death and disability. If labor is allowed to continue, the fetus dies because of excessive pressure on the placenta and umbilical cord. The dead fetus becomes softened by decay and may trigger the onset of disseminated intravascular coagulation (DIC) resulting in maternal hemorrhage, shock and death. Obstructed labor according to Senah, (2003) may be due to early pregnancy, inadequate nutrition during childhood, foeto-pelvic disproportion, multiparity and abnormal foetal presentation.



Unsafe abortion

About 20 million unsafe abortions take place each year worldwide. This represents almost one in ten pregnancies, or a ratio of one unsafe abortion to seven births. Nearly 90% of unsafe abortions take place in the developing world. Complications such as sepsis, hemorrhage, genital and abdominal trauma, perforated uterus or poisoning from abortifacient medicines can lead to death if left untreated. Death may also result from secondary complications such as gas gangrene and acute renal failure. The long-term consequences of an unsafe abortion can be permanent disability and secondary infertility. High incidence of ectopic pregnancy and premature delivery and increased risk of spontaneous abortion in subsequent pregnancies, are other possible consequences of poorly performed abortions.

2.3.2 Indirect Medical Causes

Approximately 20% of maternal deaths are due to indirect obstetric causes, that is, pre-existing conditions that are exacerbated by pregnancy or its management (Nieburg, 2012). Some of these conditions are relative or absolute contraindications for pregnancy. The indirect causes include coexisting medical problems such as: malaria, anaemia, jaundice and tuberculosis. There is also a contributory role of increased incidence of domestic violence during pregnancy, associated with cultural and stigmatized notions of sexuality and morality (World Health Report (2005). Indirect complications of pregnancy such as anemia, malaria, sexually transmitted infections, viral hepatitis, tuberculosis and cardiovascular disease are



aggravated by the physiological effects of pregnancy and may lead to maternal mortality.

Anemia

One of the most dreaded of these indirect causes is anemia which causes death not only through cardiovascular arrest but also through hemorrhage and sepsis. Anemic women do not tolerate blood loss to the same extent as healthy women. During childbirth, blood loss of up to one liter will not kill a healthy woman, but in an anemic woman, a much smaller loss can be fatal. Anemic women are high anesthetic and operative risks. Following surgery, wounds may fail to heal promptly or may break down completely.

Malaria

Malaria increases the risk of maternal anemia, pre-maturity and low birth weight during a woman's first pregnancy. Placental malaria and maternal anemia are both risk factors for low birth weight. HIV infection appears to interfere with the maintenance of pregnancy-specific immunity acquired during the first and second pregnancies, placing HIV-positive multigravidae in endemic areas also at an increased risk for the clinical consequences of malaria.

Viral Hepatitis

Some studies have found that the incidence of viral hepatitis in pregnant women is twice that in non-pregnant women. Pregnant women are also likely to become more seriously ill and more likely to die (case-fatality rates are up to 3.5 times higher than in non-pregnant women). Viral hepatitis in fulminating form



occurs most commonly during the third trimester of pregnancy, while premature labor, liver failure and severe hemorrhage often complicate this form of disease which makes foetal death likely.

Sexually transmitted infections (STI)

According to Lattof et al (2014), since girls are less likely to refuse sex or be able to negotiate sex and use condom infrequently, they are at increased risk of not only pregnancy but also of sexually transmitted infections (STIs), including HIV. HIV/AIDS is an increasingly important indirect cause of maternal death within this population, especially in sub-Saharan Africa, where women aged 15-24 are three times as likely to be infected as men in that age group (WHO, 2013). Family planning and comprehensive education on sexuality are key tools in the reduction of adolescent pregnancy and transmission of HIV. The feminized HIV/AIDS epidemic among young women in particular is one factor limiting progress in the reduction of maternal mortality overall.

It is women in the developing world who pay the highest toll for untreated STI which often result in Pelvic Inflammatory Disease (PID), infertility, and ectopic pregnancy. The rate of ectopic pregnancy in Africa is about three times higher than that found in industrial countries and remains a great cause of maternal mortality, especially in rural areas where easy access to critical care facilities is often lacking. Abortions, pre-maturity and stillbirths are frequently caused by STI.



HIV/AIDS

Indeed, the HIV and AIDS pandemic raged through the developing world and by 2000, in many places the infection rate was much higher in women than men (Chigwedere et al., 2008). By 2011, some 56,100 maternal deaths were attributed to HIV/AIDS mostly in sub-Saharan Africa (Wallace, 2012; Lozano et al., 2011; Nabudere, et al, 2010). Of the estimated 33 million people living with HIV, almost 14 million are women, most of them in the developing world. In parts of southern Africa, the prevalence of HIV in pregnant women is over 30%, while rates of new infections are rising in South-east Asia and the proportion of infections occurring in women is increasing in many developed countries. Adverse pregnancy outcomes that have been reported in HIV-positive women include increased rates of spontaneous early abortion, low birth weight babies, stillbirths, pre-term labour, and pre-term rupture of membranes, STI, bacterial, pneumonia, urinary tract infections and other infectious complications. Almost 600, 000 children are infected through mother-to-child transmission of HIV annually, i.e. over 1,600 each day (Lattof et al., 2014).

2.3.3 Health Care Delivery and Socio-economic Causes

Underlying these medical causes is a range of systemic factors. These include discrimination on the grounds of gender, race, ethnicity, religion, and caste, and social factors such as lack of education and employment opportunities, increased workload (both outside and domestic), and political and legal issues (Cook et al., 2003). Particularly significant are the underlying patriarchal values and norms that define state policy differently across countries. Moreover,



differential legal provisions relating to abortion, family planning, and medical consent, together with coercive and repressive population policies, also account for heightened risks (PMNCH, 2014).

Risk factors are not limited simply to demographic variables (age, parity, etc.) but also relate, for example, to issues of social stigma surrounding sexual behaviour and seasonal peaks in women's workload. In addition, gender biases in the structure and culture of health services provision further augment these risks. For instance, a recent Human Rights Watch Report on maternal deaths in Uttar Pradesh, a state in north India, identified four important reasons for sustained high rates of maternal mortalities – barriers to emergency care, poor referral practices, gaps in continuity of care and improper demands for payment as a condition for delivery of health services (Human Rights Watch, 2009).

Gender analyses also suggest that maternal mortality is linked to a wide range of factors in women's lives, including the value placed by women and by their families and communities on women's health, women's economic position, their access to education and information and their capacity to make autonomous decisions (Oxaal & Baden, 1996).

Another key cause of maternal mortality is lack of political commitment and inadequate financial and technical input. The WHO laments that many governments allocate too small a portion of their national budgets to health and, within that budget, not enough is spent on addressing the preventable and avoidable deaths (Countdown to 2015, 2010). Political commitment to reduce maternal and neonatal mortality is often not translated into increased resources (in terms of



finances, skilled personnel, adequate health facilities and available drugs). In spite of the global knowledge that skilled attendants are necessary at the time of birth, many women do not have access to such care. Pregnant women and adolescent girls have to be able to find access to such services in an emergency and communication systems have to be geared to their needs.

The Decade Report of Countdown to 2015 summarizes the causes of continued poor maternal health outcomes: poorly functioning health infrastructure, inadequate numbers of health workers, slow adoption of evidence-based health policies and insufficient focus on quality of care. These are holding back progress in many countries (WHO, 2010a).

Related to the above is the fact that the low social, economic and educational status of girls and women in developing countries limits their access to economic resources and basic education and also their ability to make decisions related to their health and nutrition. Some women are denied access to care when it is needed either because of cultural practices of seclusion or because decision-making is supposed to be the responsibility of other family members (Green, 2012).

In many places girls and young women do not enjoy basic rights: they are restricted from voting and acquiring education; they have no inheritance rights; their access to primary quality health care is limited; they have little or no sexual and reproductive autonomy; and they are denied justice within an enabling legal system. Girls die needlessly in pregnancy and childbirth mostly because sex is forced upon them and their bodies are not developed enough for healthy pregnancy



and childbirth. Girls lack knowledge and societal respect, which makes them vulnerable to unintended and unwanted pregnancies (Lattof et al., 2014).

Another important factor is gender disparities. Deeply entrenched gender disparities are common in many developing countries where maternal mortality is high and health service utilization is low. Gender inequality and women's low social status and disempowerment have significant impact on access to and demand for maternal health care services (Shen & Williamson, 1999).

Furthermore, studies have shown that high fertility rate and low contraceptive use rate also play a significant contributory role in the poor maternal and child health outcomes around the globe (WHO, 2013a). It is estimated that current global contraceptive use rate is 60% among couples and women of reproductive age. In developed countries, the level of contraceptive use rate is 73%, while in developing countries, the contraceptive use rate is 56%. But there are big disparities: China has 83%, while Cambodia has only 16% rate among women of reproductive age. Low contraceptive rate is strongly related to high fertility rate, unwanted pregnancy and unsafe abortion. The consequence of unwanted pregnancies and unsafe abortion, especially in countries where abortion is illegal, is highly correlated with maternal mortality. Unprotected pre-marital sex, low contraceptive use among adolescents and adolescent pregnancy which lead to STI/HIV/AIDS, unwanted pregnancy and unsafe abortion are the other problems related to maternal mortality.

Another major underlying cause of high maternal death can be attributed to the poor quality of care and referral system. Some obstetric complications can



neither be predicted nor prevented, but they can be successfully treated. Improving the quality of emergency obstetric care and the referral system is a vital condition for the reduction of maternal mortality.

A vital but often taken for granted and overlooked factor in child and maternal mortality is childbirth with untrained personnel. In developing countries, many women are assisted in delivery by the traditional birth attendants or by relatives, while many deliver alone. Only 53% of women in developing countries are assisted by skilled health personnel and 40% give birth in a hospital or a health centre. An estimated 15% of pregnant women experience life-threatening complications that require emergency care (WHO, 2013b). According to Lassi et al. (2014), worldwide 50 million births take place at home without a skilled birth attendant (UNICEF, 2008). The rates of no access to skilled birth care and emergency obstetric care are higher in LMICs where majority of deaths and morbidity related to complications of childbirth take place (Darmstadt et al., 2009). Skilled attendance at birth remains particularly low in sub-Saharan Africa and southern Asia and there are wide disparities within countries, across socio-economic status, geographic location and educational status. In sub-Saharan Africa, women are alone, with no attendant in more than half of home births while in South Asia, around one-third of home births are without traditional birth attendants (Lassi et al., 2014).

Coupled with the above is the issue of teenage motherhood. Girls experience a disproportionate burden of maternal ill health, accounting for 11% of global births but 23% of all disability adjusted life years and 13% of deaths (Green,



2012). As their bodies are still maturing, girls are at greater risk of pregnancy complications. Among girls aged 15 to 19 in developing countries, poor maternal health is the largest cause of mortality and disability; girls aged 15 to 19 are two times more likely to die during childbirth than women in their 20-30s, while girls younger than 14 are five times more likely to die (Green, 2012; Nossiter, 2013). The babies born to adolescent mothers are also at increased risk of infant death (Lattof et al., 2014). Numerous factors contribute to maternal mortality and morbidity among adolescent girls: child marriage, poor nutrition, low social status, female circumcision, illiteracy and many others (WHO, 2013b). Nearly 90% of adolescent births occur within marriage (Green, 2012).

2.3.4 Causes of Child Mortality

The causes of child deaths and morbidity are closely associated with those already espoused in the previous section. This is because maternal health plays a rather critical role and is strongly related to child health outcomes. A healthy, safe and well-nourished mother is likely to ensure same for the child during pregnancy, delivery and after delivery.

According to UNICEF (2014), most child deaths result from five causes, or a combination of them: pneumonia, preterm birth complications, intrapartum related complications (complications during birth), diarrhoea and malaria. Poverty and the failure to ensure universal access to basic social services are to blame. Under-five deaths are caused by easily manageable or preventable diseases such as malaria, measles, pneumonia, diarrhoeal diseases (or a combination of such diseases) with malnutrition playing a role in more than half of such deaths. Certain



factors such as socioeconomic status, fertility behaviour, environmental health conditions, nutritional status and infant feeding and the use of health services have been identified as strong risk factors for child mortality also (UNICEF, 2014). The magnitude of each factor varies in various regions across the world (Mosley & Chen, 1984).

New estimates of child deaths for 2008 show that pneumonia, diarrhoea and malaria remain the highest causes worldwide, together accounting for 41% of deaths. As stated earlier, more than 40% of child deaths occur in the neonatal period, and progress in reducing deaths has been slower for newborn deaths than for deaths among children ages one month to five years. Under-nutrition contributes to more than one-third of child deaths (Grantham-McGregor et al., 2014).

Bryce et al. (2005) estimated that worldwide, 73% of deaths in children younger than age 5 years are attributable to six causes: pneumonia (19%), diarrhea (18%, which includes 17% of deaths in children 1–59 months and 3% of neonatal deaths), malaria (8%), neonatal sepsis or pneumonia (10%), preterm delivery (10%), and asphyxia at birth (8%). The four communicable disease categories account for more than half (54%) of all child deaths. Sepsis or pneumonia in neonates and pneumonia in older children constituted 29% of all deaths. Additionally, under-nutrition is an underlying cause of 53% of all deaths in children aged younger than 5 years (Caulfield et al., 2004a, and 2004b). The estimated proportions of deaths in which under nutrition is an underlying cause are roughly similar for diarrhoea (61%), malaria (57%), pneumonia (52%), and measles (45%) (Bryce et al, 2005).



Among deaths in children younger than age 5 years worldwide, 42% occur in the WHO Africa region and an additional 29% occur in the Southeast Asia region. Cause-of-death profiles vary across the six WHO regions, though the biggest communicable disease killers remain the same with the exception of malaria. Deaths directly attributable to malaria occur almost entirely in the Africa region (94% of global malaria deaths), representing 18% of all deaths in children younger than age 5 years in that region, though there is also a high prevalence of malaria in a few countries of the eastern Mediterranean region (Bryce et al., 2005)

More recently, a study carried out by Liu and colleagues in 2012 and published in the *Lancet* report that of 7.6 million children who died in the first 5 years of their life in 2010, 64.0% (4.879 million) died of infectious causes. Of all infectious disorders, pneumonia, diarrhoea, and malaria were the leading causes of death worldwide —of all deaths in children younger than 5 years, pneumonia caused 1.396 million deaths (18.3% of total deaths), diarrhoea caused 0.801 million deaths (10.5%), and malaria caused 0.564 million deaths (7.4%) (Liu et al, 2012).

Liu and her colleagues asserted that about 40% (3.072 million) of deaths in children younger than 5 years occurred in the neonatal period, most often because of preterm birth complications (14.1%; 1.078 million), intrapartum-related complications (9.4%; 0.717 million), and neonatal sepsis or meningitis (5.2%; 0.393 million). Injury and congenital abnormalities were also important causes, with injury causing 0.354 million deaths (4.6%) and congenital abnormalities



causing 0.270 million deaths (3.5%) in children younger than 5 years (Liu et al, 2012).

Recently, Liu and her colleagues published the 2013 estimates of child mortality causes around the world. In that article, they observe that of the 6.3 million children who died before age 5 years in 2013, roughly half died of infectious causes and just over two-fifths died in the neonatal period. The three leading causes of death were preterm birth complications, pneumonia, and intrapartum-related complications. Reductions in pneumonia, diarrhoea, and measles collectively were responsible for half the 3.6 million fewer deaths that took place in 2013 versus 2000. Causes with the slowest progress included congenital, preterm, neonatal sepsis, injury, and other causes. If present trends continue, 4.4 million children younger than 5 years will still die in 2030.

Their analysis underlines a major transition for child survival symbolized by the fact that preterm birth complications are now the leading cause of under-5 deaths globally, not just of deaths in the neonatal period. Pneumonia is the second leading cause of under-5 deaths. Intrapartum-related complications were the third leading cause, replacing diarrhoea, which was the third leading cause in 2010 (Liu et al, 2012).

Understanding of this and other shifts that affect where, when, and how children die according Liu et al. (2014) is crucial to inform investments for completion of the unfinished agenda for child deaths and ensure that the present reality is addressed, not the situation based on a cause-of-death pie chart from the past decade. They reported that, their data show various shifts in terms of the



timing, causes, and geography of child deaths and the move beyond child survival. These analyses according to them, also emphasize associated shifts in the data that should be anticipated and addressed so that by 2030, investigators have moved beyond uncertain estimates and obtain real data for every birth and every death (World Bank, 2014).

2.4 The Three Delays Model

In summing up the causes and factors that influence poor maternal and child health outcomes, it is prudent to review a concept which has been used extensively to provide a broader understanding of factors that impinge on maternal and child health outcomes. It is often said that maternal mortality is overwhelmingly due to a number of interrelated delays which ultimately prevent a pregnant woman accessing the health care she needs (Thaddeus & Maine, 1994; Senah, 2003; Nieburg, 2012). Each delay is closely related to services, goods, facilities and conditions which are important elements of the right to health.

The “Three Delays Model” (Thaddeus & Maine, 1994) identifies delays in seeking, reaching, and receiving care as the key factors contributing to maternal death. The delay in seeking care is related to having the knowledge to recognize a life-threatening problem and making the decision to go for care. The delay in reaching care results from inaccessibility of health services due to distance, poor infrastructure, lack of money, or other barriers to access. The delay in receiving care refers to problems in content and quality of maternal health care services (GHS, 2005).



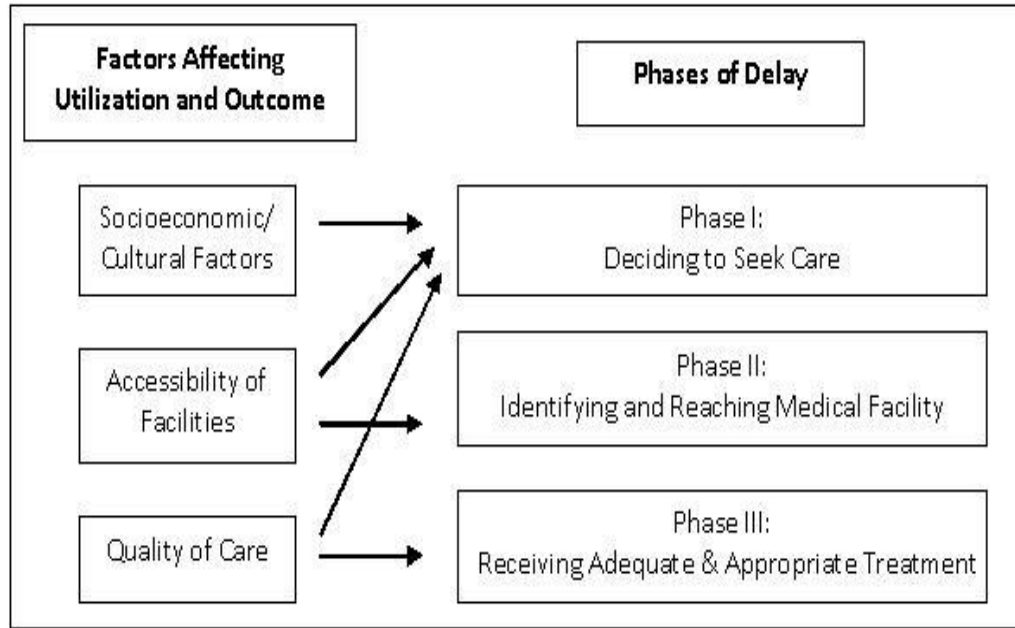


Fig. 2.1 Three delays model

Source: MEASURE Evaluation, Family Planning and Reproductive Health Indicators Database, 2018

Waiswa and colleagues (2010) summarize the delays as follows; type one is delay in seeking appropriate medical help for an obstetric emergency for reasons of cost, lack of recognition of an emergency, poor education, lack of access to information and gender inequality. Type two refers to delay in reaching an appropriate facility for reasons of distance, infrastructure and transport. Type three implies delay in receiving adequate care when a facility is reached because there are shortages in staff, or because electricity, water or medical supplies are not available (Waiswa et al., 2010).



Senah (2003), in an article titled *Maternal Mortality in Ghana: The Other Side* adds a fourth delay. To him, the delays are 1) delay in the recognition of a problem, 2) delay in the decision to take appropriate action, 3) delay in arriving at a health facility; and finally 4) delay within the health facility (Senah, 2003: 53-54). This use of the three or four delays model has the advantage of highlighting some of the underlying cultural, socio-economic, geographic, and health system challenges to ensuring women's access to emergency care in pregnancy (Senah, 2003; Nieburg, 2012).

These include, for example: 1) The limited ability of some pregnant women and their family members to recognize pregnancy related emergencies; 2) Culturally determined gender norms that deny women the ability to decide when and where to seek care, without their husband's or other family members' permission; 3) Health facilities that are difficult to reach from women's usual residences; 4) The absence of any vehicle to use for emergency transport and/or lack of money to pay for emergency transport or to buy medicines or other supplies after reaching a health facility; and 5) Weak health systems, as reflected by inadequate staffing, training, equipment, medications, or other commodities at many health facilities. Data from such "Three Delays" analyses can be used to identify and address the most problematic hurdles to women's obtaining adequate care (Nieburg, 2012).



2.5 A Review of Interventions to Improve Maternal, Newborn, and Child Health

According to Otupiri (2012) agencies, organizations, groups and individuals such as UNICEF, WHO, UNFPA, the Child Health Epidemiology Reference Group (CHERG), Save the Children, the Countdown Working Group, the Global Alliance for Vaccines and Immunization (GAVI), the Inter-agency Group for Child Mortality Estimation (IGME), and nations, have collectively and individually contributed and continue to contribute to efforts to reduce the global burden of deaths in children (Otupiri, 2012).

The health of the mother during pregnancy and childbirth was not a focus for policy-making, research and programming until 1985, when a seminal paper provocatively titled “*Maternal health – a neglected tragedy: Where is the ‘M’ in MCH (Maternal and Child Health)?*” by Rosenfield and Maine (1985), was published by two researchers at Columbia University in New York (Thomas, 2013). According to Thomas (2013), Alan Rosenfield and Deborah Maine posited that the global policy and programmatic focus was on newborn and child health, while they neglected the health of the mother (Thomas, 2013). In the paper, they called on multilateral agencies, particularly the World Bank, to prioritize maternity care, considerably reduce maternal morbidity and mortality and perinatal mortality, and encourage contraceptive practice.

Also in 1985, the first International Decade for Women culminated in widely cited WHO estimates that approximately 500,000 women die annually from obstetric complications (Thomas, 2013). Since then, a number of direct and indirect



interventions, research efforts, funding programs as well as policies have been conceived and implemented by various national and international agencies and bodies. The following section reviews some of the main interventions and actions geared towards improving maternal and child health globally, in Africa and Ghana.

2.5.1 The Safe Motherhood Initiative

In 1985, two academics from Columbia University wrote a highly influential paper that put the issue of maternal mortality on the international health policy agenda (Canavan, 2009). The first international conference devoted to maternal mortality (Safe Motherhood Conference, Nairobi, Kenya, 10–13 February 1987) was sponsored by the World Bank, WHO, and UNFPA, and led to the launch of the Safe Motherhood Initiative (SMI). International agencies involved in the SMI coalition included five UN agencies (WHO, UNDP, World Bank, UNFPA, and UNICEF) and two NGOs (the Population Council and the International Planned Parenthood Foundation (IPPF), (Canavan, 2009). SMI was aimed at improving maternal health and reducing maternal deaths by 50% by 2000 (Starrs, 2006). This initiative led to a series of national and international conferences that made ‘safe motherhood’ a widely understood term in the public health realm.

The Safe Motherhood Initiative (SMI) born at the International Safe Motherhood Conference in Nairobi and Family Care International (at that time represented a new and arguably the first maternal health NGO), became the secretariat of the SMI Inter-Agency Group. That same year (1987), the Preventing Maternal Mortality program (now known as the Averting Maternal Death and Disability program) was established at Columbia University with early support



from the Carnegie Corporation and the Gates Foundation. Most experts agree that 1987 is the year when the field of maternal health was firmly established in the global and health and development sector (Thomas, 2013).



Fig. 2.2 Safe Motherhood Initiative and its pillars Source: World Bank, 2016

The Safe Motherhood Initiative called for a four-pronged policy approach to improving maternal health outcomes: 1) adequate primary health care and an adequate share of available food for females from infancy to adolescence, and universally available family planning; 2) good prenatal care, including nutrition, with early detection and referral of those at high risk; 3) the assistance of a trained person at all births; and 4) access to the essential elements of obstetric care for women at higher risk (Lattof et al., 2014; Galaa, 2012).

Thus, the SMI put maternal mortality at the forefront of international public health. It led to significant improvements in knowledge and gave greater visibility



to the hidden inequity of maternal ill-health. The initiative supported evidence-based practices and contributed to the Joint WHO/UNFPA/UNICEF/World Bank statement on Reduction of Maternal Mortality in 1999, which summarized the consensus on necessary actions, namely, prevention and management of unwanted pregnancy and unsafe abortion, provision of skilled care in pregnancy and childbirth, and access to referral care when complications arise (WHO, 2000). However, the initiative has been criticized for focusing only on increasing awareness and to a far lesser extent on mobilizing resources for safe-motherhood activities (which itself was a narrow agenda) (Human Rights Council, 2010). In the decade that followed, safe-motherhood strategies were developed based on the different phases in a woman's reproductive cycle – pre-pregnancy, antenatal, delivery, and post-partum periods (PMNCH, 2011).

According to Rosenfield, Min and Freedman (2007), the Safe Motherhood Initiative initially took a few strategic missteps. Emphasis was placed on antenatal care, including screening for risk factors, and on training traditional birth attendants to use safe, hygienic practices. Neither approach had any real effect on maternal mortality. Many obstetrical complications cannot be predicted or prevented. Screening can identify women with certain risk factors (e.g., young age or high parity), but the majority of obstetrical complications occur in women categorized as low risk. Although most deliveries in high-mortality settings take place at home, often with traditional birth attendants present, there is little that even trained traditional birth attendants can do by themselves to save women's lives when serious complications develop (Rosenfield et al., 2007).



Policies and strategies to achieve safe motherhood have also changed as knowledge and understanding about the determinants of maternal health have become clearer. In the Initiative's early years, the focus was on maternal death as a result of poor or inaccessible medical care. But then recognition was given to the range of direct and indirect problems that contribute to poor maternal health: lack of education for girls; early marriage; lack of access to contraception; poor nutrition; and women's low social, economic, and legal status (Starrs, 2006).

2.5.2 International Conference on Population and Development (ICPD)

According to Lattof et al. (2014), two ensuing global U.N. conferences included strong affirmations of the basic human right for women to have access to quality and comprehensive maternal and reproductive health care: the 1994 Cairo International Conference on Population and Development, and the Fourth Beijing International Conference on Women in 1995. Both conferences identified maternal health as a priority component of global health and development and the 1994 ICPD produced a Program of Action that accelerated the mandate to measure global progress on maternal health.

The International Conference on Population and Development (ICPD) recommended that countries move away from the traditional family planning projects to a broader perspective of reproductive health. Although not primarily focused on maternal health and safe motherhood, the Program of Action developed at ICPD has helped to keep, maternal health within a reproductive health agenda (Farah & Rasheed, 2009, cited in Ameyaw, 2011).



According to Farah and Rashid (2009), one of the goals which guided the ICPD was "to promote women's health and safe motherhood; to achieve a rapid and substantial reduction in maternal morbidity and mortality and reduce the differences observed between developing and developed countries and within countries. On the basis of a commitment to women's health and well-being, to reduce greatly the number of deaths and morbidity from unsafe abortion; to improve the health and nutritional status of women, especially of pregnant and nursing women" (Farah & Rasheed, 2009, cited in Ameyaw, 2011).

The ICPD Program for Action and the subsequent Beijing Platform for Action adopted at the Fourth UN World Conference on Women in Beijing in 1995, along with their follow-up conferences held every five years, have been very influential in shaping policies on maternal and reproductive health in various countries.

2.5.3 Millennium Development Goals

The next major milestone in child and maternal health intervention was the MDGs in 2000. The importance of maternal and child health and survival were reinforced in 2000 when they were included as two of the eight Millennium Development Goals (MDGs) (with a commitment to reduce U5MR and MMR by three-quarters between 1990 and 2015). In 2007, a target on reproductive health was added after some controversy. MDG5b called for universal access to reproductive health; it explicitly merged the ICPD platform for action with the MDGs (Lattof et al., 2014). Although widely deemed unattainable by countries



with the highest maternal mortality levels, the act of setting MDG 4 and 5 as a global ambition laid down the gauntlet to donors and policy-makers at all levels.

In 2005 The Lancet, along with leading academics and a coalition of UN agencies, jointly launched Countdown 2015, which tracks coverage levels for health interventions proven to reduce maternal, newborn and child mortality. It called on governments and development partners to be accountable, identifies knowledge gaps, and proposes new actions to reach Millennium Development Goals 4 and 5, to reduce child mortality and improve maternal health. Since then, Countdown has consistently produced country reports on the progress, successes and challenges of various countries in their efforts to meet the MDGs.

2.5.4 Partnership for Maternal, Newborn and Child Health

In order to increase the likelihood of achieving a reduction in maternal deaths, the WHO launched the Partnership for Maternal, Newborn and Child Health. The vision and goals of The Partnership were outlined in "The Delhi Declaration" – a landmark statement developed by participants of "Lives in the Balance: The Partnership Meeting for Maternal, Newborn and Child Health", held in New Delhi, India, April 7-9, 2005 at the time of the launch of the *World Health Organization's 2005 Report: Making every woman and child count.*

This collaboration between many academic and research institutions, governments, non-governmental organizations, professional groups and health agencies aimed to take immediate action to help women and children to survive. The importance of addressing maternal health with the same determination as that



shown for child health and the influence of Goal 5 on the other MDGs are the key points of this partnership (PMNCH, 2011).

The Partnership for Maternal, Newborn & Child Health (PMNCH), brings together 180 member maternal, newborn and child communities in an alliance to reduce mortality and morbidity. The PMNCH is the product of an alliance between the three leading partnerships on maternal, newborn and child health:

- 1) The Partnership for Safe Motherhood and Newborn Health, hosted by WHO in Geneva, was an outgrowth of the Safe Motherhood Inter-Agency Group, which was established in 1987. This Partnership was launched in 2004 with a broadened mandate to promote the health of women and newborns, focusing on the most vulnerable groups. It also lobbied for greater national and international commitment to achieve MDGs 4 & 5;
- 2) The Healthy Newborn Partnership, based at Save the Children USA; was established in 2000 with three main objectives: (1) promoting awareness and action to improve newborn health; (2) providing a forum to communicate new advances and information in newborn health initiatives; and (3) incorporating newborn health into government policies and programs; and
- 3) The Child Survival Partnership, hosted by UNICEF in New York, which was created in 2004 to improve the efficiency and the effectiveness of child health programs, and to lobby for governments to support and expand national child health initiatives. The Partnership strives to



achieve these goals by bringing together national, regional, and global partners in a shared effort to mobilize resources and achieve MDG 4.

The Partnership for Maternal, Newborn and Child Health was handed the mandate to shed new light and emphasis on the *continuum of care*, and maternal health emerged as a focal point. The partnership focuses on four key areas of work: 1) advocacy, its central mission, to raise the profile of maternal, newborn and child health on political agendas and press for more financial and other resources, 2) promotion and assessment of effective, evidence-based interventions for scaling up, with a focus on reducing inequity in access to health care; 3) country support to include maternal, newborn and child health care in national development and investment plans, strengthen health systems and improve equity in coverage; 4) monitoring and evaluation of coverage of priority interventions, progress towards MDGs 4 and 5, and equity in coverage, to hold stakeholders accountable. PMNCH members are divided into six constituency groups: academic and research institutions, health-care professionals, UN agencies, non-governmental organizations, donors and foundations, and governments (PMNCH, 2014).

The partnership aims to place at least 50 per cent of the 60 countries identified by Child Survival Countdown to 2015 on track to achieve MDGs 4 and 5 by 2010. A defining principle of its work is to engender a continuum of care to address maternal, newborn and child care in an integrated manner, across both time (pregnancy, birth, newborn and young child periods) and location (home, community and health facilities).



2.6 Synthesizing Recent Strategies and Interventions for MNCH

In a recent paper, Yuan and colleagues (2014) emphasize that different kinds of interventions aimed at reducing maternal and child mortality rates have been implemented in low- and middle-income countries (Yuan et al., 2014). Some interventions, they claim, try to improve maternal and child health by improving material circumstances where women or children live, such as provision of nutrition supplementation (Benn et al., 2010); some interventions try to improve the delivery of maternal and children health services, such as promotion of immunization by outreach campaign (Sasaki et al., 2011), training traditional birth attendant (Sibley, Sipe & Barry, 2012), and upgrading health facility infrastructure and equipment for health care (Olukoya et al., 1997); some interventions target demand side and remove the physical, financial or other barriers to access to maternal or child health services, such as, subsidies for use of health services (Rasella et al., 2013), community based information, education and communication interventions (Gummi et al., 1997). Depending on their target population, these interventions can be categorized into universal or targeted (Yuan et al, 2014).

Universal approaches aim at the whole population, and targeted interventions are aimed at specific groups, usually the disadvantaged (Tugwell et al., 2010). Universal interventions may have differential effects in different segments of populations, and it is possible that an intervention that is intended to improve health in the overall population may widen inequalities if its benefits are concentrated among the better-off (Thomas et al., 2008). Whether the poor and other disadvantaged populations benefit less or more from health policies and



interventions has also become a concern of policymakers and researchers when assessing the effectiveness of these health interventions (Tugwell et al., 2010). Assessment of different effects in different population strata is also relevant for targeted interventions, as the effects might be different across population subgroups even within a disadvantaged group (Yuan et al, 2014). For example, nutrition interventions targeting poor populations may have different effects on boys and girls (Benn et al., 2010).

The review of ongoing interventions worldwide indicate that the various interventions now employ the continuum of care approach advocated by the PMNCH and the Countdown to 2015 Working Group. In a recent review of interventions across Medium and Least Developed countries, Bhutta and colleagues found that evidence regarding the efficacy of some interventions is quite high, but coverage is low, there was also a clear quality of care gap since the impact of costs were usually quite low (Bhutta et al., 2014).

According to their study, new evidence-based interventions exist to address the main causes of newborn deaths, including: Innovations such as chlorhexidine cord cleansing. Increasing evidence of care of small and ill newborn infants in first and second level facilities. Increasing feasibility because of adaptation and innovation of preventive measures such as antenatal corticosteroids and care for preterm infants using training tools for resuscitation and low-cost equipment such as continuous positive airway pressure (Bhutta et al., 2014).

These interventions can be delivered within existing service delivery packages, but almost all have very low coverage at present, with less than a third



of women and neonates in need receiving them. A major acceleration is needed to be able to meet targets for Every Newborn, linked to A Promise Renewed, and the post-Millennium Development Goal targets. High coverage of care by 2025 would prevent 71% of neonatal deaths, saving 1.90 million newborn babies, preventing 0.82 million stillbirths, and averting more than 0.16 million maternal deaths per year, with ongoing effects on child health beyond the first month of life (Bhuta et al., 2014).

According to the report, together, the most effective packages can save 87% of preventable maternal and newborn deaths: Care during labour and birth, plus immediate newborn care, can avert 1.49 million maternal and newborn deaths and stillbirths per year by 2025, of which almost 0.8 million are newborn lives. Care of the small and ill newborn can avert more than 580 000 newborn deaths per year. Preventive care of the healthy neonate could save more than 230, 000 neonatal lives, whereas immediate care of the neonate at birth alone could avert almost 190, 000 deaths (Bhutta et al., 2014).

Quality of care at birth: an immediately feasible opportunity is to address the quality gap for births already occurring in facilities by 2020, resulting in an estimated 1.325 million neonates saved, 531, 000 still-births prevented, and 113, 000 women saved. Care of small and ill neonates estimates suggest that the greatest effect would come from a focus on the care of small and ill neonates, which has been neglected to date and would prevent almost 600, 000 newborn deaths per year by 2025. Much of this effect is potentially achievable through newborn care services in sub-district and district level hospitals.



The 24 countries with the highest mortality (neonatal mortality rate >30) have the greatest potential for lives saved, both proportionately and in actual numbers (1.3 million or two-thirds of all newborn lives saved by 2025). Within countries, specific unreached populations need to be targeted in different ways, such as rural or urban poor populations or ethnic minority groups. To harness the power of parents, families, and communities is crucial to mobilise change. Community and primary care approaches alone could save an estimated 372 000 newborn lives by 2020, at a cost of less than US\$2 billion (Bhutta et al., 2014).

A critical review of various interventions to improve MNCH across various countries reveal that the common areas of convergence of these interventions are reproductive health and family planning, antenatal services, delivery care, postpartum care and nutritional services (Bhutta et al., 2014; PMNCH, 2012, Countdown, 2013). These culminates into specific interventions such as preconception nutrition care which involves the provision of care such as folic acid fortification, multiple micronutrient supplementation and balanced energy supplementation.

The antenatal care (ANC) services can often be divided into two, basic antenatal care and advanced antenatal care. The basic ANC involves activities like giving tetanus toxoid vaccinations, as well as the detection, prevention and/ or treatment of malaria and syphilis. Advanced ANC include the detection and management of hypertensive diseases, diabetes, fetal growth restrictions and other debilitating ailments which may pose a danger to both mother and child.



In addition to this, the next line of interventions target the delivery process. Here, efforts are concentrated on ensuring that most births are attended to by people with the right skills and tools to ensure a safe delivery. The main interventions here include the provision of the right personnel in both competence and number, equipment, transportation and access to facilities to ensure the prevention of unwarranted deaths, and also to see to the timely/skilful management of complications that may arise during delivery.

To fulfil this, the interventions include ensuring that a decent referral system exist, supported by adequate transportation systems to rush emergencies to the right facilities and also the availability of the right equipment and personnel who can undertake Basic emergency obstetric care as well as comprehensive obstetric care for both mothers and babies (BEmOc and CEmOc).

A recent Countdown, 2014 Report, titled, “*Fulfilling the Health Agenda for Women and Children,*” outlines the direction that interventions should concentrate on. These areas include:

- Meeting the vast unmet need for contraception, so that women and families can better control their fertility and their lives;
- Ensuring that there are enough adequately trained health care workers equipped with the supplies needed to provide high-quality care before, during and after pregnancy to make pregnancy and childbirth safer for both mother and baby;



- Improving maternal and newborn survival, including reducing preterm births and stillbirths, by investing in care on the day of birth when the risk of mortality is highest;
- Addressing the infectious diseases, especially pneumonia and diarrhoea, that needlessly kill millions of children because they do not have access to effective treatments, appropriate nutrition, safe water and adequate sanitation facilities; and
- Confronting the huge burden of under nutrition that retards both the growth and the life opportunities of far too many children and adolescents in the majority of *Countdown* countries, where more than 30% of children are stunted.



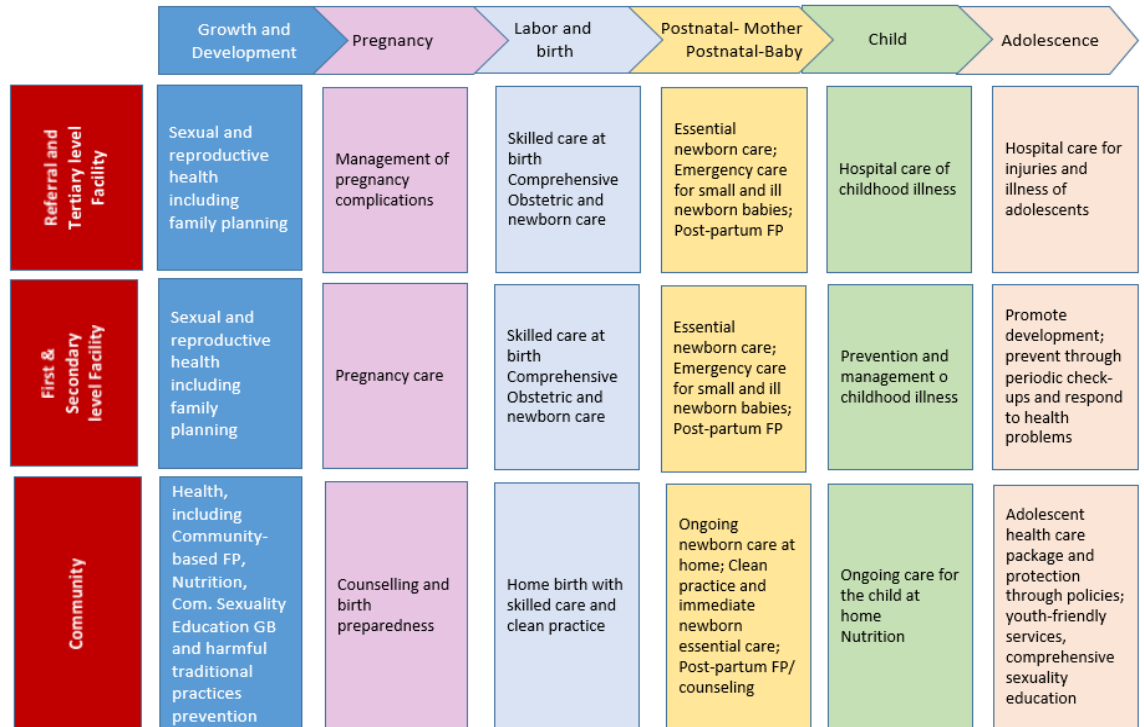


Fig. 2.3 Global Strategy for Women's, Children's and Adolescents' Health, Stenberg et al. (2014).

2.7 Overview of Ghana's MNCH Strategies

Ghana like most developing countries have grappled with the problem of poor maternal and child health outcomes for quite a long time. As such the various international efforts to reduce the spate of maternal and child deaths have been widely adopted and implemented across the country. A closer examination of the various strategies reveal that over the past three decades, Ghana has undertaken quite a number of policy initiatives geared towards the improvement of maternal and child health.

A number of these initiatives have been designed and implemented by the Ministry of Health/Ghana Health Service (MOH/GHS) and its partners to address



the problem of the high under-five mortality and maternal deaths. These include; the *Under 5 Child Health Policy: 2007–2015* and *Under 5 Child Health Strategy: 2007–2015*, MDG Acceleration Framework and Country Action Plan; Maternal Health (MAF) initiatives of the accelerated phase of WHO's Expanded Program on Immunization (EPI) with introduction of new and additional vaccines, and projects supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Ghana's Under 5 Child Health Policy (2007–2015) provided a framework for planning and implementing the programs for improving child survival and well-being. The policy was organized along the continuum of care for the mother and child, namely; pregnancy, birth and early and late newborn periods, infants and children (GHS, 2011). Furthermore, there was also the policy document that outlined strategies geared towards maternal and child health known as the *Reproductive Health Strategic Plan: 2007-2011* developed by the Ghana Health Service. It served as the nation's commitment in response to the recognition of reproductive health as a human rights issue and a global development priority.

The Reproductive Health Strategic Plan (RHSP) states the national health strategy for reproductive health in Ghana. This strategy was intended to improve reproductive health through services and activities that are derived from the following six strategic objectives: a) Reduce maternal morbidity and mortality; b). Reduce neonatal morbidity and mortality; c) Enhance and promote reproductive health; d) Increase contraceptive prevalence through promotion of, access to and quality of family planning services; e) Develop and implement cross-cutting measures to ensure access and quality of reproductive health services; and f)



Enhance and promote community and family activities, practices and values that improve reproductive health (GHS, 2006).

Each strategic objective consists of intermediate objectives, which in turn comprised implementation plans, activities and targets. It was intended that the RHSP would generate further detailed implementation plans for national, regional and district levels. The RHSP was intended to assist in overcoming the barriers to improved reproductive health by providing the framework for implementation of services and activities that are designed to better current conditions.

2.7.1 The High Impact Rapid Delivery (HIRD)

Another policy undertaken to improve maternal and child health outcomes in Ghana was The High Impact Rapid Delivery (HIRD). The HIRD approach was a strategy to reduce maternal and child mortality. It aims for rapid scale up to achieve universal coverage (at least 80%) in key priority and cost effective interventions by 2010 and 90% by 2015.

Following the results published in the 2003 Demographic and Health Survey (DHS) there were concerns over the high under five and maternal mortality rates. It therefore became clear there was an urgent need to do things differently in order to move coverage levels of key interventions higher. Thus, in November 2005 in collaboration with the development partners, the Ghana Health Service and the Ministry of Health embarked upon HIRD (GHS, 2007).

Among others HIRD involves moving proven known cost-effective interventions to scale through fast-track approaches. It focuses upon community



and household levels using local community structures. It includes system wide strengthening and addressing larger, socio-cultural and economic factors. The approach recognizes the urgent need to do things differently and to do different things. There is a need for a multi-agency approach due to the complex nature of reducing under five and maternal mortality rates (GHS, 2007).

According to a Ghana Health Service Policy Brief on HIRD (2007), on the basis of existing evidence and national policy, GHS selected a number of interventions to be included in HIRD. The interventions are grouped into two main ones namely: under five and maternal packages.

These include a number of child-specific interventions including, the use of ITNs, and use of ORS for diarrhea, vaccination against vaccine preventable diseases (EPI), Vitamin A supplementation and exclusive breastfeeding for first six months. The rest are, appropriate complementary feeding practices from 6 months and beyond, regular de-worming, management of HIV/AIDS, promotion of the use of iodated salts, and appropriate care of newborn, including cord care, temperature management, resuscitation.

On the maternal health component the interventions include, the promotion of use of ITNs during pregnancy, the use of IPT for pregnancy (at least 3x during pregnancy), promote early attendance at antenatal clinics and make at least 4 visits before delivery, promote the use of iron/folic tablets during antenatal period and VCT and PMTCT. The remaining interventions are to promote IEC to raise awareness and promote the use of support groups in communities, skilled attendance during delivery, appropriate referral during emergencies, provision of



alternative transport arrangement with communication system and linkage with National Ambulance Service,

Additionally the package includes, access to Basic and Comprehensive Emergency Obstetric Care (including C/S, blood transfusion, facility extension, management of PET), exclusive breast feeding for the first six months, and the promotion of family planning services (GHS, 2005).

Additionally, Ghana has implemented a free maternal health policy. According to Witter and colleagues, (2007), in resource-poor countries, the high cost of user fees for deliveries limits access to skilled attendance and contributes to maternal and neonatal mortality and the impoverishment of vulnerable households. This has led to a growing number of countries experimenting with different approaches to tackling financial barriers to maternal health care (Witter et al, 2007). Ghana has not been an exception to making these attempts.

The Government of Ghana introduced exemptions from delivery fees in September 2003 in the four most deprived regions of the country. In April 2005 this was extended (without formal evaluation) to the remaining six regions (Witter et al., 2009). The aim was to reduce financial barriers to using maternity services to help reduce maternal and prenatal mortality and contribute to poverty reduction (Witter et al., 2009).

The policy was funded through Highly Indebted Poor Country (HIPC) debt relief funds, which were channeled to the districts to reimburse public, mission and private facilities according to the number and type of deliveries they attended to



monthly (Witter et al., 2007). The policy of user fee exemptions was to some extent superseded by a new National Health Insurance system (Witter et al., 2007). The NHIS provided protection against user fee costs for a wide range of health services, including maternal health care for formal sector workers, those in the informal sector who take up voluntary coverage, children of members, pensioners and a small category of “indigents” (Witter et al., 2009). The decision was made to implement this through NHIS (National Health insurance scheme) so that mothers have the full package of antenatal, prenatal and postnatal care. In the year 2008 under the directive of the President, the decision to implement the free maternal care policy was initiated and a package was put together by the NHIS to give mothers coverage for antenatal, prenatal and postnatal care (Quansah, 2013).

Free maternal care is available to all pregnant women. By the policy, a pregnant woman who has never registered – register for free and access care for free. Also, a woman who has already registered and becomes pregnant when her membership has expired – renews it for free and access to healthcare is for free. Moreover, a pregnant woman who is already registered and who is still an active member can access care for free (NHIA, 2011). The Maternal Benefit Package includes the following: No premium is charged for fresh registration or renewal of membership; also, no processing fee is charged for registration or renewal as well as no waiting period.

Under the policy, pregnant women have six antenatal visits and all other medically necessary visits are captured as OPD visits. In addition all deliveries including caesarean section and all other emergencies arising from the delivery are



catered for free. Pregnant women have two post-natal visits within 6 weeks and benefit from all other NHIS covered benefits. Further, there is a full year cover is given no matter when the pregnant woman registers. In addition, there is free care for the baby on mother's NHIS ticket for 90 days: alternatively, the baby can be treated free on the ticket of the father or other designated guardian. After 90 days the child can be registered as individual under 18 (no premium is paid but processing fee only) (NHIA, 2011).

Again the impact of the free maternal health care has not been sufficiently researched. However, some implementation challenges that emerged with the implementation of the policy include: some pregnant women access full health care under Free Maternal Care Policy without registering and non-registration means incomplete data. Paying Free Maternal Care Policy claims without evidence of pregnancy has been uncovered. In addition to that, general Out Patient Department (OPD) services to pregnant women are often treated as antenatal care, with repeated claims for antenatal and pregnant women are charged extra fees from out of pocket (NHIA, 2011).

2.7.2 MDG Acceleration Framework (MAF)

The Ministry of Health in ensuring attainment of the MDG 4&5 targets, developed the MDG Acceleration Framework (MAF). This was to enable accelerated progress towards expanding access to life-saving maternal and neonatal health services that would benefit all the communities in Ghana. The MAF aims at supporting national governments, UN agencies and other development partners and civil society organizations (CSOs) working in the MDG areas to better understand



the key causes affecting positive outcomes in a particular MDG, find key solutions and develop an action plan that could help to reduce the risks hampering progress of that MDG.

In the case of Ghana, the MAF objectives sought to:

- i. Review existing policies and interventions in the area of MDG 4 & 5
- ii. Identify the key bottlenecks to the implementation and attainment of MDG 4 & 5;
- iii. Identify gaps in existing policies and interventions;
- iv. Develop cost-effective solutions that can accelerate progress towards the attainment of MDG 4& 5;
- v. design an action plan for implementing the indicative interventions and monitor progress

The MAF introduced by the UN System, fell in line with the concerns and priorities of the Government of Ghana (MOH, 2011). Thus, the selection of Ghana along with 10 countries (four in Africa — Ghana, Tanzania, Togo and Uganda) to develop a Country Action Plan (CAP) or the acceleration of MDG 4 & 5, which were off track. The Ghana CAP contained the elaboration of the key prioritized interventions that are required to achieve MDG 4&5, identified the bottlenecks to the interventions and suggested cost-effective solutions to address the bottlenecks and accelerate progress. The CAP included an implementation and monitoring plan for tracking progress. This was expected to enable Ghana to address the critical constraints that hamper the progress towards achieving MDG 4&5 and put maternal and child mortality targets back on track.



2.7.3 The Community based Health Planning and Services (CHPS) Model

2.7.3.1 What is CHPS?

Ghana has been implementing the Community-based Health Planning and Services (CHPS) program for nearly 20 years now. Considered one of the pragmatic strategies for achieving universal health coverage of a basic package of essential primary health services, CHPS has gained international recognition. Led by a Community Health Officer and supported by volunteers drawn from the area of service, the CHPS strategy is a breakthrough in enhancing community involvement and ownership of primary health care interventions towards achieving universal health coverage (UHC) (CHeSS Report, 2014).

The CHPS strategy is a community-based approach, which seeks to provide health services through partnerships between the health program, community leaders and social groups. The CHPS program was launched against the realisation that more than 70% of all Ghanaians lived over 8 kilometers from the nearest health care provider (MOH, 2012), a problem made worse by inadequate road and transport facilities. Thus, accessibility to basic health care services was the key factor that influenced the initiation of the CHPS concept.

2.7.3.2 Origins of CHPS

According to Awoonor-Williams, Vaughan-Smith, & Phillips (2010), the CHPS initiative originated with a 1993 exchange between the Ghana Ministry of Health and the Bangladesh Ministry of Health and Social Welfare. They narrate that, at that time, a team of Ghanaian scientists, administrators, and policy-makers



collaborated with their counterparts in Bangladesh to develop a programme that would transfer elements of the highly regarded Bangladesh approach to Ghana, adapt strategies to local circumstances, test their efficacy in an experimental trial, and scale up the results (Awoonor-Williams, Vaughan-Smith, & Phillips (2010). This experimental trial was deemed to be essential because social research on African reproductive norms suggested that Asian programmatic strategies would not work in the African context (Cadwell & Cadwell, 1987; Cadwell, 1988)

The experience of CHPS, a programme that promotes the idea that communities can be active participants in the provision of their own health care, demonstrates that urban/rural differentials in health are not insurmountable. Indicators of reproductive health status and practices of impoverished and illiterate women improved when CHPS was introduced in 1999 (Awoonor-Williams, Vaughan-Smith, & Phillips, 2010). Most indicators of access to and utilization of maternal health services were improved by community exposure to the CHPS approach. These indicators included utilization of safe motherhood services, contraceptive use, and partner condom use among women who believed that they were at risk of HIV (Awoonor-Williams, et al, 2004).

They further asserted that, in communities covered by CHPS, child health indicators including immunization coverage, patterns of parental health-seeking behaviour and care for most recent illness, and parental knowledge of priority health problems all improved (Awoonor-Williams, Vaughan-Smith, & Phillips (2010).



Evidence from the initial implementation effort found that between 1995 and 1998, childhood immunization coverage increased from 30% to over 83%, contraceptive use increased from 3% to 20% in the area where the nurse worked within a context of active community support, and infant mortality rates declined from 141 to 96 per 1000 live births. By 2001, the fertility rate declined by almost one birth per woman, representing the largest fertility effect ever demonstrated in Africa through programmatic intervention.(Debpuur, et al, 2002; Phillips, Bawah & Binka, 2006).

CHPS began as a Community Health and Family Planning (CHFP) project based on lessons learnt from Bangladesh (Phillips, 1988, cited in MOH, 2012). The project was launched in Navrongo as an operations research in 1994 and piloted in three sub-districts. Four different models of delivering community services were experimented with to treat malaria, acute respiratory infections, diarrheal disease and other childhood illness and to provide family planning services and immunization outreach (CHeSS, 2015). In 1999, consensus was reached to adopt and scale up the Navrongo model as a national strategy to improve access, efficiency and quality of health care (GHS, 2005).

2.7.3.3 Structure and Components of CHPS

The programme relies on community resources for construction of compounds, service delivery and programme oversight (MOH, GOG, UN, 2011). As such, it represents a national mobilisation of grass-roots action, resources and leadership in promoting quality health care in marginalised communities. With a primary focus on deprived rural communities, CHPS aims to provide essential



primary health care services and health education within demarcated geographic areas referred to as CHPS zones, which are staffed by resident Community Health Officers and supported by community volunteers, community health committees and traditional health care providers including native doctors, Traditional Birth Attendants (TBAs) and herbalists (GHS, 2005; Nyongator et al., 2005; Johnson et al., 2015). CHPS activities cover educational programmes aimed at prevailing health problems, prevention and care, improving physical wellbeing and personal hygiene, maternal, newborn and child health care including antenatal and postnatal care as well as family planning and immunisation (GHS, 2005, Sakeah et al., 2014, Johnson et al, 2015).

Fifteen steps were developed to guide the implementation process. Community Health Nurses were provided further training and designated Community Health Officers (CHOs) as resident health care providers in a CHPS zone. Zones were geographical coverage areas for community services. The CHOs would provide reproductive, maternal and child health services, manage diarrhoea, treat malaria, acute respiratory infections and childhood illness and provide comprehensive family planning and childhood immunization outreach (GSS, 2009).

CHPS, thus, begins with a planning process identifying locations in districts where health care access is low, and then maps work areas for nurse relocations, and corresponding catchment areas for CHC construction, within those identified areas. Once 'zones' are clarified, DHMTs then introduce the program to chiefs, elders, leaders, and community members in community meetings known as



durbars, through a coordinated program consistent with local resources, staff, and geography (Ntsua, Tapsoba, Asare and Nyonator, 2012).

The CHOs were supported by volunteers whose roles involved educating the community on basic health issues and serving mainly as agents of referral services and community social mobilization. These services were mainly delivered through home visits. Treatment would be provided for those who come to the CHOs at their residence. The model relied on communities and other stakeholders to provide financial or in-kind resources for construction and provide oversight for service delivery and welfare of the CHOs (Binka et al., 2009; MOH, 2012).

2.7.3.4 Reviews and Adjustments

In 2009, the Ministry of Health initiated an in-depth study to provide an independent assessment of progress made towards meeting the objectives of the CHPS program and how the CHPS program can be expanded to provide delivery services. Based on the report, some initiatives were undertaken to improve and expand the delivery of health services through CHPS to all communities. Key among these initiatives was the acceleration of training of CHOs to provide a critical mass of community-based health workers that will provide mainly promotive and preventive health care at the lowest level of the health system. Midwifery training for CHOs was reintroduced to provide more impetus to the government's supervised delivery program. A critical milestone in terms of numbers of CHOs trained has been achieved. The next is to improve efficiency in CHPS service provision (MOH, 2014).



As a result, the Ministry decided to reduce emphasis on CHPS compounds and instead shift attention to functional Zones, which is defined as a zone with all the elements of CHPS except a compound. Upon this re-positioning, the Ministry signed a performance contract in 2011 and 2012 with the Ghana Health Service to accelerate the rapid deployment of CHOs into demarcated CHPS Zones. The new zones are to be coterminous with the District Assembly electoral areas (MOH, 2014).

In 2010, the geographical delineation for a CHPS zone was changed to correspond with electoral areas as opposed to being based on population size. This reduced the number of CHPS zones from 5280 to 2840. Since its inception, CHPS has been scaled up to a total of 1,863 functional CHPS zones by midyear 2012. In 2013, there were 5,487 CHPS zones, out of which 1,189 were reported to be functional (CHeSS, 2015).

2.7.3.5 Overall Impression of CHPS

Although the CHPS model resulted from positive findings made with regards to childhood mortality, reduced fertility and improved nutrition, through improved outreach and community mobilization, its implementation and scale up has since seen it take on the cloak of a general health care service outfit. As such every aspect of health including maternal and reproductive health, child health services, treatment of minor ailments, including fever control, first aid for cuts, burns and domestic accidents, referrals, Health education, sanitation and counselling on healthy lifestyles and good nutrition have been some of the key aspects of its implementation (MOH, 2012).



There are no doubts this strategy has a great potential to achieving its stated objectives of improving universal coverage to health services through a decentralized health care system emphasizing household level care, increase utilization of basic care as well as strong community involvement. The rationale for this study is to adduce evidence of how and on what ways CHPS can and has improved MNCH in a deprived rural area in Northern Ghana.

2.8 Theoretical Approaches to MNCH and their influence on CHPS

This section examines three theoretical views that have been in various ways utilized to study and underpin public health interventions including CHPS. It reviews the systems approach in general and indicates how that informed the Health Policy and Systems Research (HSPR) approach to health care. The second theoretical model discussed is the equity and human rights perspective on health care provision. Lastly, the Continuum of Care paradigm which has played a crucial role in the conceptualization and design of recent MNCH interventions will also be explored.

2.8.1 Systems Approach to Health Research

The study draws heavily on a systems perspective to identify, measure and evaluate health policy interventions in Ghana. Systems perspective in health research is one that approaches the delivery of health care and its interventions in a holistic manner rather than in a piecemeal way. The following discussions define and place health systems research in the *systems thinking* context.



According to Peters (2014), at its core, systems thinking is an enterprise aimed at seeing how things are connected to each other within some notion of a whole entity. The word system according to him is said to be derived from the Greek word “sunistánai”, meaning “to cause to stand together.” According to him, if we consider that a system is a perceived whole made up of parts that interact toward a common purpose, we recognize that the ability to perceive, and the quality of that perception, is also part of what causes a system to stand together. Systems thinking is intended to improve the quality of those perceptions of the whole, its parts, and the interactions within and between levels (Peters, 2014: 1).

With roots in other disciplines, such as engineering, computing and cognitive psychology, systems thinking views the system as a whole rather than its individual component parts (Ergo et al., 2011). A system is not just any set of elements, but rather one whose essence is that the whole is different from the sum of its parts (Frenk, 1994). In other words, it emphasizes the interdependence that exists among its different parts. Making changes to any single element of the system will have repercussions throughout the system and, vice versa, the impact of the changes on that element is to a large degree dependent on the other elements of the system and the way they interact (Ergo et al., 2011).

2.8.1.1 Origins of Systems Thinking

Systems thinking is considered to have largely developed as a field of inquiry and practice in the 20th century and has multiple origins in disciplines as varied as biology, anthropology, physics, psychology, mathematics, management, and computer science (Peters, 2014). The term is associated with a wide variety of



scientists, including the biologist Ludwig von Bertalanffy who developed General System Theory (Checkland, 1993, cited in Peters, 2014); psychiatrist Ross Ashby and anthropologist Gregory Bateson who pioneered the field of cybernetics; Jay Forrester, a computer engineer who launched the field of systems dynamics; scientists at the Santa Fe Institute, such as Noble Laureates Murray Gell-Mann and Kenneth Arrow, who have helped define complex adaptive systems (Miller & Page, 2007) and a wide variety of management thinkers, including Russell Ackoff, a pioneer in operations research, and Peter Senge, who has popularized the learning organization (Peters, 2014).

Much of the work in systems thinking has involved bringing together scientists from many disciplinary traditions, in many cases allowing them to transfer methods from one discipline to another (inter-disciplinarity), or to work across and between disciplinary boundaries, creating learning through a wide variety of stakeholders, including researchers and those affected by the research (trans-disciplinarity) (Peters, 2014).

2.8.1.2 Relevance of Systems Thinking in Health Research

Systems thinking approaches can provide guidance on where to collect more data, or to raise new questions and hypotheses. The methods and tools help us to make explicit assumptions, identify and test hypotheses and calibrate models against real data. According to Piana and Peters (2011), one of the frustrations of health planners and researchers has been the belief that interventions shown to be effective on a small scale or in a research setting cannot be simply replicated on a large scale or to reach populations that are most vulnerable (Piana & Peters, 2011).



Systems thinking methods and tools are increasingly being used to explain epidemics and to inform programmatic expansion efforts (Adam & de Savigny, 2012).

Concluding on systems thinking in health research, Peters (2014) writes:

“One of the more compelling reasons to use systems thinking approaches is to inspire a scientific habit of mind. Beyond the contributions of any particular theory, method or tool, the practice of systems thinking can reinforce what Epstein calls a “militant ignorance”, or commitment to the principle that “I don’t know” as a basis for expanding scientific knowledge. Systems thinking adds to the theories methods and tools we otherwise use in global health, and provides new opportunities to understand and continuously test and revise our understanding of the nature of things, including how to intervene to improve people’s health. And for those who value thinking and doing in global health, that can only be a good thing” (Peters, 2014: 5).

From the above discussions it is not out of place to submit that *Systems Thinking* has become an imperative tool in health research. While health research has become a driving force for improving the performance of health systems and the health of individuals and populations (Gilson, 2012). The next sections discusses the concept of a health systems and how useful it is to the research and policy making community.

2.8.1.3 Health Systems Defined

Health systems have been defined in many different ways (Atun & Menabde, 2008; Shakarishvili et al., 2010). In the early 1990s when the term begun to gain popularity, Roemer (1991) defined health systems as the combination of resources, organization, financing and management that culminates in the delivery of health services to the population. That same year, Hurst (1991), in his definition of health systems, focused on financial flows and payment methods between



population groups and institutions. Subsequently, Cassels and Jonovsky defined health systems in terms of the economic relationship between demand, supply and intermediary agencies influencing the demand-supply relationship (Cassels, 1995; Jonovsky & Cassels, 1996).

However, the most widely used definition is from the World Health Organization's Report, which defines health systems functionally as "*all the activities whose primary purpose is to promote, restore or maintain health*" (WHO, 2000). The report groups these activities into six categories or "building blocks", namely 1) service delivery, 2) health workforce, 3) health information systems, 4) medical products, vaccines and technologies, 5) health systems financing and 6) leadership and governance (WHO, 2007d).

Apart from the constitution blocks of health systems, it has also been defined, at least in part, in terms of contributing actors. The European Observatory for Health Systems & Policies, for example, defines health systems as the "people, institutions and resources, arranged together in accordance with established policies, to improve the health of the population they serve, while responding to people's legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health" (cited in Hoffman et al., 2012).

On similar lines, the Tallinn Charter from the 2008 WHO European Ministerial Conference on Health Systems, defines health systems as the

"ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health which



encompass both personal and population services, as well as activities to influence the policies and actions of other sectors to address the social, environmental and economic determinants of health” (WHO, 2008: 445).

Another way in which health systems have been conceptualized is in the context of evaluation frameworks. For example, the “Control Knobs Framework” developed by Marc J. Roberts and colleagues at Harvard University in 2003 and adopted by the World Bank Institute’s *Flagship Program on Health Systems Strengthening* offers an example of a framework for evaluating changes to health systems. In that framework, health systems are conceptualized as “a set of relationships where the structural components (means) and their interactions are associated and connected to the goals the system desires to achieve (ends).” This framework identifies five major “control knobs” of a health system which policymakers can use to achieve health system goals: 1) financing, 2) organization, 3) payment, 4) regulation, and 5) behavior. These knobs influence the achievement of efficient, quality and access as intermediate performance measures and ultimately performance goals of improved health status, customer satisfaction and risk protection (Roberts et al., 2003).

Hoffman et al. (2012) concluding on definitions of Health Systems espouse that “the diversity of existing frameworks highlights the great variety of ways in which health systems are understood by different people, disciplines and regions, and how health systems have been conceptualized differently over time. They assert that such discrepancies may represent a lack of coherence, inefficiencies and untapped opportunities for collaboration, as well as the large number of conceptual issues for which there is no consensus and for which greater research and



deliberation is necessary. Alternatively, the plethora of frameworks may further highlight the continued need for diversity in health systems research, its context-specificity, opportunities to build on work in other fields, and how such frameworks may need to be fit for purpose (Hoffman et al., 2012).

Despite the numerous conceptualizations of health systems, one more definition can still be offered. In this, a health system may be described as a set of cultural beliefs about health and illness that forms the basis for health-seeking and health-promoting behavior; the institutional arrangements within which that behavior occurs; and the socioeconomic/political/physical context for those beliefs and institutions (Bhandari, 2013).

It can, therefore, be concluded that a health system is the sum of the structures, people and processes that together provide the vehicle for the delivery of health care and achievement of better health. When considering a health system, it is important to adopt what has come to be known as *systems thinking*, as has been espoused earlier in this review.

2.8.1.4 *The Function of a Health System*

As earlier articulated, the health system encompasses all the organizations, institutions and resources that are devoted to producing health actions whose primary intent is to improve health. There are four vital functions of health systems defined by Alliance for Health Policy and Systems Research (2004). These are;

- *Service provision*: encompassing both formal and informal service providers, whether public or private, and also service organization



both at the level of service delivery and higher up the chain of management;

- *Resource generation*: encompassing key inputs such as human resources, physical capital, drugs and medical supplies;
- *Financing*: the volume and sources of financial resources available for the health system, together with the mechanisms for pooling resources and transferring them to service providers;
- *Stewardship*: the role of oversight of the health system which falls to the government, and encompasses defining the vision and direction of health policy, exerting influence through regulation, and collecting using key data.

As emphasized earlier, health systems research is multi-disciplinary by nature and may employ any of a wide range of research approaches and methods. The range of disciplines typically applied in health systems research include sociology, anthropology, economics, organizational theory, epidemiology, and management sciences – to name but a few.

Health systems research has encompassed a large range of research approaches and methodologies including operational research, economic evaluations, rapid participatory appraisals, case studies, pilot studies, conceptual analyses, and impact evaluations. Research may focus on the community or household level, the service delivery level, the national policy level and increasingly the supra-national or global level (AHPSR, 2004).



2.8.2 The Human Rights and Equity Approach to MNCH Care

The second theoretical perspective discussed is human rights and equity approach to health care interventions. Human rights violations have been regarded as both a cause and consequence of poverty and ill-health (Freedman, 2001; Hawkins, Newman, Thomas & Carlson, 2005). Respect for human rights can enhance poverty reduction and improve health outcomes. A human rights-based approach explicitly integrates human rights norms, standards and principles into programs, plans and policies to reduce maternal and child mortality.

2.8.2.1 Characteristics of the Human Rights and Equity Approach

According to Cock (2003), while there is no set formula for a human rights-based approach, key characteristics include:

- Making the realization of human rights – such as the rights of women to life, health, and non-discrimination the main objective of maternal and child mortality related policies and programs;
- Ensuring that human rights guide, and are integrated into, policies and programs at all stages – from development to implementation;
- Enhancing the capacity of rights-holders to claim their rights, and the capacity of duty-bearers to fulfil their obligations; (Cook, 2003).

In recent years, there has been a deepening conceptual understanding of maternal mortality as a human rights issue (Hunt & de Mesquita, 2007). Maternal mortality and morbidity are connected to a number of human rights, in particular



the right to the highest attainable standard of health. This right is legally protected by international human rights treaties including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), and the International Covenant on Economic, Social and Cultural Rights (ICESCR). It is also recognized in regional treaties, as well as by the domestic constitutions and laws of many countries worldwide (Newman, Thomas & Carlson, 2005).

The right to health is broadly understood as an entitlement to an effective and integrated health system, encompassing health care and the underlying determinants of health, which is responsive to national and local priorities, and accessible to all (WHO, 2005). An equitable, well-resourced, accessible and integrated health system is widely accepted as a vital pre-condition for guaranteeing women's access to the interventions that can prevent or treat the causes of maternal deaths (Freedman et al., 2005).

The right to health includes entitlements to a range of health interventions which have an important role to play in reducing maternal and child mortality. These include: 1) Emergency obstetric care (EmOC); 2) A skilled birth attendant; Education and information on sexual and reproductive health; 3) Safe abortion services where not against the law; 4) Other sexual and reproductive health care services, such as family planning services; 5) Primary health care services (Freedman, 2005). These are evidently very critical to improving MNCH.

According to Otupiri (2012), the concept of equity in health denotes each person getting health care according to the person's needs. Health coverage disparities that appear to be unfair and avoidable represent inequities (Countdown



Equity Analysis Group, 2008). Equity can be defined as equal access for equal need. “Equity in health implies a societal commitment to equal capabilities for achieving good health outcomes, conditional on respect for human diversity and individual autonomy, and achieved through health action for the unfairly disadvantaged” (Tan-Torres Edejer 2001: 8). Health inequities connotes differentials in health status that are unfair, unjust and avoidable (Whitehead, 1992).

A profound statement on Health Equity is the one made by the World Health Organization’s Commission on Social Determinants of Health which says:

“...Poor health is not confined to those worst off. In countries at all levels of income, health and illness follow a social gradient: the lower the socioeconomic position, the worse the health. It does not have to be this way and it is not right that it should be like this. Where systematic differences in health are judged to be avoidable by reasonable action they are, quite simply, unfair. It is this that we label health inequity. Putting right these inequities – the huge and remediable differences in health between and within countries – is a matter of social justice... Social injustice is killing people on a grand scale” (The Commission on Social Determinants of Health, 2008).

According to the WHO (2013a), the poor health of the poor, the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services, globally and nationally, the consequent unfairness in the immediate, visible circumstances of people’s lives – their access to health care, schools, and education, their conditions of work and leisure, their homes, communities, towns, or cities – and their chances of leading a flourishing life. The WHO further asserts that, this unequal distribution of health-damaging experiences is not in any sense a



‘natural’ phenomenon but is the result of a toxic combination of poor social policies and programs, unfair economic arrangements and bad politics. Together, the structural determinants and conditions of daily life constitute the social determinants of health and are responsible for a major part of health inequities between and within countries (WHO, 2013a).

Countries that report similar levels of overall coverage for essential interventions may differ in terms of equity. Interventions delivered through static services (facility-based) tend to be the most inequitably distributed while those that are delivered at the community level (through outreach programs and campaigns) tend to be much more equitable (Barros et al., 2012). Other factors that may influence equity include but are not limited to location and organization of health facilities, cost and cultural perceptions on interventions such as contraceptives and breastfeeding.

Inequity in MNCH coverage can be presented in terms of absolute and relative inequalities. The absolute inequality is defined as the percentage coverage difference between economic groups, whereas the percentage coverage ratio between groups is a measure of relative inequality (Balarajan, Selvaraj & Subramanian, 2011). The ‘Coverage’ is defined as the percentage of people receiving a specific intervention out of those who need it (Whitehead, 1992, Countdown Equity Analysis Group, 2008). This is an important output of health care services and is regarded as an essential part of any strategy to monitor progress in program implementation (Whitehead, 1992).



According to Barros and colleagues (2012), in 54 countries worldwide, the most inequitable health indicator is skilled delivery while the most equitable is early initiation of breastfeeding; unlike in high-income countries, in many low-income countries breastfeeding is more prevalent among the poor than the rich (Bhutta et al., 2010). HPSR is also more context specific than other health-related research to the extent that it is linked to equity. Health policy and systems research linked to equity often focuses on the effects of poverty and material deprivation and their social consequences of powerlessness, vulnerability and loss of self-esteem on the health of individuals and communities.

The conceptualization of HPSR in terms of health equity results in linking the health of individuals to the health of communities and ultimately leads to measures to improve equity in health status of communities. HPSR seeks to promote strategic improvements in health that are particularly of concern to the poor, as the driving force to economic productivity and human development. It seeks to develop health systems to equitably improve health outcomes and reveals the impact of alternative health policies. It focuses on mechanisms that redress market failures and emphasizes the public-good characteristics of health research, which can lead to substantial improvements in the health status of individuals and communities (Balarajan, Selvaraj & Subramanian, 2011).

A policy that is animated by human rights, including the right to health, is likely to be more effective, equitable, inclusive, non-discriminatory and participatory. In the context of maternal mortality policies, these features help to empower women. On account of its grounding in law, widespread acceptance by



the international community and detailed framework of relevant norms and obligations, the right to health and other relevant human rights provide legitimacy and a legal framework for policies and programs that prevent maternal mortality. The widespread acceptance of human rights can mean that they are a useful platform for building consensus among a range of stakeholders – governments, international organizations, donors and civil society – with respect to developing and implementing policies (WHO, 2008).

Equity-focused approach accelerates the progress towards achieving the health MDGs, especially MDGs 4 and 5 related to reducing child and maternal mortality respectively, faster than the current path in a more cost effective and sustainable manner (Zere et al., 2012). Concerted global efforts are now being made to address growing inequities in MNCH. This implies minimizing those variations in health across gender, occupation and race/ethnicity that are related to social determinants of health including income, education, access to health care, power relationship, community structures. A strategy that addresses inequities in health by focusing on the most excluded, vulnerable and hard to reach has been recognized as the most practical and cost-effective way to avert maternal and child deaths and to reduce the burden of disease (UNICEF, 2010).

Approaches to an equity-based strategy include expanding maternity services at the primary level and upgrading selected facilities that deliver maternal and newborn care at the referral level; eliminating user charges and introducing cash transfers to the poorest to cover transportation costs; strengthening outreach services, and mobilizing community-based promoters of health and nutrition; and



where appropriate, introducing task shifting which involves use of community health workers (CHW) and trained volunteers to deliver basic health services outside health facilities, in the community and at people's homes (IFRC, 2013).

While states are primarily responsible for human rights under international law, human rights can be integrated into the policies and programs of a range of actors, not just states. Given the benefits of a human rights-based approach, human rights should inspire changes in the work of other actors including health professionals, international organizations, the private sector and civil society (Balarajan, Selvaraj, & Subramanian, 2011).

The human rights and equity based approaches discussed above is particularly useful to this study because, the CHPS model being examined was underpinned by some of the principles and recommendations of this approach. As such, the study explored linkages between CHS' MNCH activities and how they reflect the human rights and equity approach. Of particular interest was whether the model, its implementation, performance and outcomes met the aspirations of human rights and equity principles.

The emphasis was to critically examine how the CHPS model, implementation processes, and outcomes meet equitable service delivery, adequate community participation and owners, gender equity, health for all and other rights as enshrined in the human rights and equity approach. It was imperative to find out the extent to which CHPS could be used to strengthen human rights and equity guarantees for healthy persons across and with social, economic and geographical barriers.



2.8.3 Continuum of Care Approach in MNCH

The final theoretical framework that underpinned this study is the continuum of care theory. According to Kerber et al.(2007), the term was initially applied in the 1970s to the integration of research and practice for provision of a continuum of care for elderly people. In subsequent decades, the use of the term has broadened, although it most commonly refers to individual patient care and case management, and to promotion of appropriately directed care with a series of linkages to ensure that no patient is lost to follow-up.

Women, their newborns and older children are inseparably linked in health care needs. In the past, maternal and child health policies tended to address women and children separately. This resulted in gaps in care and lives lost. The challenge was to address these gaps – in particular during birth and the first days of life – and at home. Policy attention has shifted towards an MNCH *continuum of care*, which focuses on universal coverage of effective interventions, integrating care throughout the life-cycle and building a comprehensive and responsible health system (PMNCH, 2009).

The continuum of care has recently been highlighted as a core principle of programs for maternal, newborn, and child health, and as a means to reduce the burden of half a million maternal deaths, 4 million neonatal deaths, and 6 million children who die between the ages of 1 month and 5 years (WHO, 2005; Tinker et al., 2005; de Graft-Johnson, Kerber & Tinker, 2006). A *continuum of care* could meet these challenges and improve the health and survival of women, newborns, and children worldwide.



There are two dimensions of the continuum of care – the maternal, newborn, child health (MNCH) continuum of care and the household to hospital continuum of care (HHCC). The goal of the HHCC approach is to ensure availability and access to quality maternal and newborn care that is provided in a seamless continuum that spans the home, community health center, and hospital (Otchere, Powers & Elizabeth, 2006).

The continuum of care is a recurrent theme in the *World Health Report 2005* and *The Lancet Neonatal Survival Series* (Tinker et al., 2005). The continuum also provides the foundation for the conceptual framework of the Partnership for Maternal, Newborn and Child Health (PMNCH, 2006) and Opportunities for Africa’s Newborns (PMNCH, 2007). The Global Business Plan for Millennium Development Goals 4 and 5, which was called for at the World Health Assembly 2007, also emphasizes the continuum of care.

The concept of an MNCH continuum of care is based on the assumption that the health and well-being of women, newborns, and children are closely linked and should be managed in a unified way. This model calls for availability and access to essential health and reproductive services (a) for women from adolescence through pregnancy, delivery, and beyond; and (b) for newborns into childhood, young adulthood, and beyond; because a healthy start can lead to a healthier and more productive life (de Graft-Johnson et al, 2005). The new global Partnership for Maternal, Newborn, and Child Health (PMNCH) has adopted the continuum of care as one of its guiding principles to bring needed interventions to mothers, newborns, and children to improve their health and survival (de Graft-Johnson et al, 2005).



According a report authored by the *International Federation of the Red Cross*, the “continuum of care” principle was proposed by the World Health Report in 2005 and has since evolved to be a more encompassing concept. The consensus now is that the continuum of care for RMNCH includes the seamless and integrated service delivery for women and children throughout the lifecycle – from pre-pregnancy to delivery, the immediate postnatal period and childhood – and across all places of care, including families and communities, outpatient services, clinics and other health facilities (IFRC, 2013).

The life-cycle dimension of the continuum of care starts before pregnancy to encompass the reproductive and sexual health of women. It extends through pregnancy and birth to the baby’s childhood and the mother’s health. All these stages are interdependent as reproductive health has an impact on pregnancy, and the health of the newborn child is dependent on the health of pregnant women. The link between maternal and newborn health is particularly strong. This interdependency explains why it is imperative that the interventions throughout the life cycle are closely linked and mutually supportive. MNCH is also closely linked to a right to a safe and satisfying sex life, to information on sexual and reproductive choices, to reproductive health services and to the freedom to decide when and how often to have children.

The place-of-care dimension recognizes the importance of the health system as a whole and of each of its levels. Health education at the family and community level helps prevent disease; quality primary care reduces the need for hospitalization, and functioning referral systems allow timely treatment for acute



conditions (IFRC, 2013). With respect to the place-of-care dimension of the continuum, MNCH interventions can be delivered;

- At a household and in a community – *community level/home services*;
- Through outreach from first-level facilities (includes immunization, antenatal, postnatal care delivered from/at village health posts) – *first level/outreach services*;
- At district or referral hospitals – *referral level services* (includes diagnostics, treatment, care, counseling and rehabilitation).

The continuum-of-care approach encourages the delivery of mutually supportive interventions across both its dimensions and efficient use of scarce human and financial resources. It helps to avert deaths by ensuring that appropriate care is available to every women and every child whenever it is needed; and that it is effectively linked to other levels of care. As stated by WHO: “Interventions and strategies for improving MNCH and survival are closely related and must be provided through a continuum of care approach. When linked together and included as integrated programs, these interventions can lower costs, promote greater efficiencies and reduce duplication of resources” (cited in IFRC, 2013, p. 12).

On their part, Kerber et al. (2007) assert that the health of mothers, newborn babies, and children consists of sequential stages and transitions throughout the lifecycle. Women need services to help them to plan and space their pregnancies and to avoid or treat sexually transmitted infections. Pregnant women need antenatal care that is linked to safe childbirth care provided by skilled attendants. Both mothers and babies need postnatal care during the crucial 6 weeks after birth;



postnatal care should also link the mother to family-planning services and the baby to child health care. Adolescents need education and services for nutritional, sexual, and reproductive health. They go on to declare that if women, babies, children, or adolescents experience complications or illness at any point, continuity of care from household to hospital, with referral and timely emergency management, is crucial (p.1359).

The continuum can be defined over the dimension of time (throughout the lifecycle), and over the dimension of place or level of care (PNMCH, 2006). The continuum of care over time includes care before pregnancy (including family-planning services, education, and empowerment for adolescent girls) and during pregnancy. During childbirth and the days immediately afterwards, mothers and babies are at highest risk of death; over half of all maternal and neonatal deaths occur during this period (Stanton et al., 2006).

The continuum of care over the dimension of place or level includes the home, the first-level facility, and the hospital. An effective continuum would ensure that appropriate care was available wherever it was needed, and linked, where necessary, to other levels of care (Kerber et al., 2007). The place dimension of the continuum can be defined as the physical location where care is provided. The operational levels of different health systems vary widely, but three distinct approaches can be differentiated on the basis of the skill and intensity of service delivery and the obstacles to care (World Bank, 2003).

The first approach—clinical care—consists of individual-oriented case management of mothers, babies, and children with illness or complications, which



is typically provided through facility-based care at primary and referral sites. These services, such as emergency obstetric care, are the most challenging and costly to provide, but also have the highest potential to save lives. Clinical care should therefore be available for 24 h per day, and providers must be adequately trained, equipped, and supervised. Normal childbirth also demands skilled clinical case management and continuous availability of health-care professionals (Kerber et al., 2007).

The second approach—outpatient and outreach services—consists of population-oriented services, delivered on a routine scheduled basis, either through static clinics (for example routine antenatal or postnatal care) or through mobile services (for example immunization campaigns or child-health days). These services are commonly standardized, in that clients receive the same care, and therefore the skills needed by providers are easier to learn than those for clinical case management.

The third—family and community care—consists of home-based care practices. Programs to improve family and community care, by promoting adoption of healthy behaviors and empowering individuals and families to demand quality services, should be tailored to specific social and cultural environments through formative research. Community health workers need negotiation skills (e.g., to promote breastfeeding or use of oral rehydration salts) and skills to address basic health needs across the lifecycle (Haines et al., 2007). In some health systems, provision of clinical case management to communities might be the most feasible



way to increase access to essential interventions, at least in the short term (Kerber et al., 2007).

Kerber and colleagues reviewed about 190 different interventions on MNCH suggested some packages along the continuum of care. They grouped these interventions into eight service packages which in their view appeared feasible in low and middle income countries and provided already by the health systems of most countries. These eight distinct packages, which include an integrated family and community package; four outpatient and outreach packages (reproductive health care, antenatal care, postnatal care, and child health services); and three clinical-care packages (reproductive health care, childbirth care, and care of sick babies and children).

They conclude that, the content of the packages will probably vary by country and context. Some interventions will be necessary and appropriate everywhere; for example, during labor all women should be monitored with use of a partograph. Other interventions might be situational; for example, malaria prevention and treatment is necessary only in endemic regions. Each package can increase in complexity over time, with phased introduction of additional interventions; some interventions within a package might have a small marginal effect, and might therefore not be cost-effective until mortality has been reduced and health systems strengthened. For example, evidence shows that screening for bacteriuria in pregnancy is effective but is costly to implement; therefore, it could be added to the antenatal package once coverage of basic interventions has been achieved and the capacity of health systems improved (Lawn et al., 2006;



Darmstadt et al., 2005). This phased selection of interventions, from more simple to more complex, is similar to the so-called diagonal approach implemented in Mexico (Sepulveda et al., 2006).

The continuum of care framework facilitates the development and implementation of interlinked MNCH initiatives and balanced programmatic approaches, thus ensuring that women, newborns and children all benefit and that all components of the health system are addressed, including the role of the community, NGOs and the private sector (PMNCH, 2005).

2.9 Applying the three perspectives to the study context

The foregone section elaborately reviewed three key theoretical areas which could be used to inform or underpin the design and implementation of some MNCH interventions. It begun with a systems thinking framework culminating in health systems research. A key highlight of this framework is that it views health as a universal commodity which should be provided in a holistic manner. The approach emphasized multi and inter-disciplinary dimensions which allowed for a combination of various facets of health care delivery, infrastructure, policy, financing, governance and many more into a holistic archetype for analysis and discussion. By so doing it made it possible for researchers to conceptualize health systems broadly in order to undertake comprehensive reviews as envisaged by this study. It also provided the right dimensions for linkages to be made to other conceptual models like the human rights and equity approaches.



Relative to this study, it is necessary to employ a systems framework because, according to Agyepong, et al. (2017), weak health systems are one of several factors blamed for slow progress towards attainment of health-related goals in sub-Saharan Africa (Sambo & Kirigla, 2014; Kirigla et al., 2016). Interventions to improve MNCH outcomes are implemented within health systems hence it would be prudent to situate this study within that context to interrogate whether the factors within these systems are conducive or limiting to the effective implementation of these interventions (Agyepong et al., 2017)

The second theoretical approach is indeed the rights based approach which contextualized the health care services, policies and interventions as a basic human right. As used in this study, it sought to link health care policy to the whole system and draws attention to issues of rights, equity and inequities which occur in the health systems of many least developed nations. This aspect of the theoretical framework allowed the researcher to connect HPSR interventions in MNCH to those in a general development framework which addressed all systemic and institutional foundations of human rights abuse and social inequalities which tend to result in poor health among vulnerable groups. This framework utilized a systems thinking approach to examine the extent to which the implementation of CHPS model, and its outcomes address pertinent health equity and inequities. Of particular interest was how it had impacted on women, children and the poor in rural communities.

The final theory, draws from a Life Course Perspective and has been used variously in the social sciences. Its link with the rest of the study lies in the fact that



an effective continuum is especially important for maternal survival, since timely linkage to referral-level obstetric care is necessary to reduce maternal mortality. Monitoring implementation of the continuum of care for health of mothers, neonates and children will also track the performance of health systems, since a functional continuum depends on public-health planning and strengthening of health systems. As such, the assessment of CHPS' outcomes on MNCH indicators was also explored along the lines of the standards of the continuum of care.

To conclude, it will be poignant to clarify that these theoretical frameworks were to mainly guide conceptualizations, selection of indicators and variables of interest. It also assisted in defining a distinct study context, selection of an appropriate design and measurement of variables for the study. As the study's theoretical underpinning, they guided the scope and direction of the discourse. The individual shortcomings of each perspective was minimized by the combination of usage and the recognition that they were only used to the extent to which they supported the explanation of the main variables of interest.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research methodology of the study. It highlights the profile of the study area, the approach and context of the study. It also presents a description of the study design, data sources, target population, sampling, data collection procedures, measures, indicators and variables for the study. It also explains how data analysis was carried out, its interpretation and how findings are presented. The final aspect deals with ethical issues and limitation of the study.

3.1 Study Area

The Daffiama Bussie Issa District was established in 2012 under the Local Government Law 1988 (PNDC Law 207). The Assembly is empowered as the highest political and administrative body in the District charged with the responsibility of facilitating the implementation of national policies. Under section 10 of the Local Government Act 1993 (Act 426), the Assembly exercises deliberative, legislative and executive functions in the District. By this act, the assembly is responsible for the overall development of the District by way of the preparation of development plans and budget related to the approved plans.

Daffiama Bussie Issa District is centrally located in the Upper West region of Ghana. It lies between latitude $11^{\circ} 30^{\circ}$ and $10^{\circ} 20^{\circ}$ north and longitude $3^{\circ} 10^{\circ}$ and $2^{\circ} 10^{\circ}$ west. It is bordered on the south by Wa Municipal, on the west by Nadowli-Kaleo, on the north by Sissala West District and on the east by the Wa



East District. It covers a total land area of 567.6km² and extends from the Billi Bridge (4km from Wa) to the Dapuori Bridge (almost 28km from Nadowli) on the main Wa –Tumu road and also from West to east it extends from the Black Volta to Daffiama. The distance between the District and the regional capital is about 57km. The location of the District promotes international trade between the District and neighboring Burkina Faso. Adversely the District faces the threat of HIV/AIDS and cattle rustling which it must take active steps to deal with.

According to the 2010 population census, the District had a total population of 42,081 with a growth rate of 1.7% which is basically low compared to 2.3% and 2.7% that of the region and National respectively. Out of the current estimated total population of 42,081, males make up 20,073 while females are 22,008, thus giving male/female ratio of 44:51. The situation amplifies the need to mainstream gender in the pursuance of development in the District, as they constitute majority of the population.

The District depicts a typical rural economy dominated by the agriculture sector with the commerce and industrial sectors least developed. Agriculture alone accounts for about 85% of the labour force while commerce/service and industry account for 14% and 1% respectively. The District is a deprived one in terms of social, educational and health infrastructure. In terms of health, the district can boast of only four health centers, no hospital and a 12 CHPS compounds. Although 17 CHPS zones have been demarcated only 7 is said to be functioning as at the end of 2014 (GHS, 2017). As at the end of 2016, there were a total of 12 CHPS facilities in operation throughout the district.



In view of the very nature of the district, its rurality and poor state of infrastructure among others, maternal and child health activities in the district are severely hampered. This state of affairs makes the implementation of CHPS crucial to the wellbeing of all those concerned. The main justification for the selection of the district is that if a key health care model such as CHPS was making any gains, examining these claims within the context of the most vulnerable and deprived communities would provide the best test scenario for that policy. That is, lessons drawn from the implementation of the model in the toughest of terrains and under the harshest possible circumstance provides the best opportunity to really examine the model's program theory, feasibility, weaknesses and strength.

3.2 Research Context and Approach: *Health Policy and Systems Research*

This study was carried out in the context of the Health Policy and Systems Research (HPSR). The Alliance for Health Policy and Systems Research (AHPSR) defines HPSR as “the production of new knowledge to improve how societies organize themselves to achieve health goals. It encompasses how societies plan, manage and finance health services as well as investigation of the role and interests of different actors in the health system” (WHO, 2014). This definition encompasses goals, structures and processes. One of the most common representations of a health system that spells out these various dimensions is the WHO Health System Framework.

Health system research is also a knowledge generation approach to improve how societies organize themselves to achieve health goals, including how they plan, manage and finance activities to improve health, as well as the roles,



perspectives and interests of different actors in this effort. It contributes to sound, socially relevant and ethically acceptable guidelines for more effective, efficient and sustainable health policies and systems (Bhandari, 2013). Health systems research includes research on health policies, though this is sometimes separately distinguished, as in the phrase ‘health policy and systems research’. It also includes health services research, which could be seen as a subset of health systems research, focusing on service delivery (AHPSR, 2004).

Health Policy and Systems Research (HPSR) is defined by (AHPSR, 2011) as a field:

That seeks to understand and improve how societies organize themselves in achieving collective health goals, and how different actors interact in the policy and implementation processes to contribute to policy outcomes. By nature, it is interdisciplinary, a blend of economics, sociology, anthropology, political science, public health and epidemiology that together draw a comprehensive picture of how health systems respond and adapt to health policies, and how health policies can shape – and be shaped by – health systems and the broader determinants of health

This definition also highlights its key characteristics policy, that is, research for policy (AHPSR, 2007; Mills, 2012). The following are key characteristics of HPSR outlined by Lucy Gilson in *Health Policy and Systems Research: A Methodology Reader* (2012);

- i. It is a multidisciplinary research field, distinguished by the issues and questions addressed through the research rather than by a particular disciplinary base or set of methods;
- ii. It includes research that focuses on health services as well as on the promotion of health in general;



- iii. It includes concern for global and international issues as well as national and sub-national issues, as global forces and agencies have important influences over health systems in low- and middle-income countries;
- iv. It encompasses research on or of policy, which means that it is concerned with how policies are developed and implemented and the influence that policy actors have over policy outcomes – it addresses the politics of health systems and health system strengthening;
- v. It promotes work that explicitly seeks to influence policy, that is, research for policy.

Health systems research aims to provide information which will improve the functioning of the health system and ultimately lead to improved health status. It provides policy options and practical information to role players in the health system. These role-players may range from policy makers at a national level to clinic managers at the primary care level. Health systems research is applied health research. Health systems research exists in order to improve the quality of health service delivery. The key feature of HSR is its link to decision-making. It must inform a decision within the health system to achieve its goal.

According to Alliance for Health Policy and Systems Research, Health Systems Research, perhaps more than other areas of health research, has to be shaped by the need to ensure that research topics meet the needs of decision makers and that knowledge production and communication is managed in such a way that



it maximizes the chances that the knowledge generated will be used. It is, therefore, useful to think in terms of a research to policy and practice cycle (AHPSR, 2004).

From a functional point of view, Health Systems Research can, therefore, be understood as a search for knowledge which contributes to health systems strengthening and our understanding of health systems. Health systems research is a field of study that can largely be characterized by the questions it poses and the answers it provides that can help strengthen health systems or better understand the context in which they function. One of the field's greatest strengths is how multiple disciplines, knowledge paradigms, research designs and methods are all contributing to this endeavor (Hoffman et al., 2012).

The ultimate goals of a health system are not only improved health, but also greater responsiveness to citizens and household protection from social and financial risk. HPSR can be particularly useful in improving the process of health policy making. It assists in identifying present and potential problems of a health system and the opportunities relevant for addressing them through an analysis of the socioeconomic and political environment for policy formulation and implementation (Bennett, 2007). In doing so, HPSR analyzes the values and goals of specific social settings including their economic relations, political cultures, and the distribution of power and authority relations. HPSR is also concerned with the analysis of costs, inputs and resources required for policy implementation, and the extent and levels of participation by stakeholders to ensure ownership (Gilson, 2012).



The basic justification for the utilization of HPSR for policy making and systems development is that policies that are informed by research will be better than otherwise would have been the case (Hanney et al., 2002). HPSR addresses both research for policy and research on policy. Research for policy seeks to tackle health and health system problems that are likely to be useful in a wide range of settings and situations and to find solutions to them as an integral part of the overall process of development. HPSR assists in identifying urgent and potential problems that need to be addressed by policy makers and the resources or inputs required for addressing these problems.

Research on policy improves understanding about the stakeholders in research. It addresses social reality and identifies the perceptions of people about health problems. It assists in consensus building about the nature of the problem and ways of finding solutions to it for the benefit of all stakeholders. It assists in identifying power structures, authority relations, and interest groups associated with a health problem (Bennett, 2007). It helps in recognizing the political, social and economic dimensions of a problem and the analysis of the perceptions and expectations of community members, health managers and professionals and policy makers. It also assists in the development of alternative models for addressing health problems and their respective implications (Gilson, 2012).

HPSR ultimately leads to action to improve the health of communities, by enhancing the efficiency and effectiveness of the health system as an integral part of the overall process of socio-economic development. HPSR, therefore, provides health managers, investors and community leaders with relevant information for



decision making on current health problems to enhance health development. Problems at one level of a health system are usually interrelated or connected with problems or deficiencies at other levels. HPSR relates to national health priorities that emanate from the research needs of the health system. It addresses problems from the different perspectives of all those directly or indirectly involved with the problem (AHPSR, 2012).

This study finds the HPSR an appropriate approach with the right philosophical underpinnings, the requisite methodologies and concepts relevant for carrying out a successful examination of a MNCH intervention in Ghana. More specifically, the CHPS model is studied using a systems approach. Thus, the study examines the various facets of CHPS, its implementation process, its performance and health outcomes within the framework of a larger health system.

3.3 Study Design

The choice of design has implications for what will count as evidence, how that evidence will be gathered, and what kind of claims can be made (including the internal and external validity of conclusions). This was essentially a case study design employing mixed methods. The approach allowed for qualitative and quantitative techniques to be employed in line with the HSPR approach.

The district was considered a case and hence a case study design was utilized. A case study is a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context (Crowe et al, 2011). A case study refers to the study of a social phenomenon, carried out within



the boundaries of one social system (the case), or within the boundaries of a few social systems (the cases), such as people, organisations, groups, individuals, local communities or nation-states, in which the phenomenon to be studied exists, in the case's natural context (Green & Thorogood, 2009).

It involves the situation in which the researcher using several data sources, the main ones being available documents, interviews with informants and (participatory) observation (Yin, 1994), focuses on process-tracing: the description and explanation of social processes that unfold between persons participating in the process, people with their values, expectations, opinions, perceptions, resources, controversies, decisions, mutual relations and behaviour, or the description and explanation of processes within and between social institutions (Zucker, 2009).

In contrast to experimental designs, which seek to test a specific hypothesis through deliberately manipulating the environment (like, for example, in a randomised controlled trial giving a new drug to randomly selected individuals and then comparing outcomes with controls), the case study approach lends itself well to capturing information on more explanatory 'how', 'what' and 'why' questions, such as 'how is the intervention being implemented and received on the ground?'. The case study design can offer additional insights into what gaps exist in its delivery or why one implementation strategy might be chosen over another (Crowe, et al, 2011). Case study research can be based on any mix of quantitative and qualitative approaches. Typically, it uses multiple data sources including two or more of: direct detailed observations, interviews, and documents. In addition, case studies can involve single or multiple cases (Rowley, 2002). Within the district,



multiple case studies emerged as each selected community represented a sub-case under investigation. In the end all the data from the individual cases were aggregated to paint one large picture representing that of the entire district.

Qualitative data is used to corroborate quantitative findings or vice versa in mixed methods studies (Tashakkori & Teddlie, 2009; Bryman, 2012). Hence quantitative and qualitative approaches can be viewed as complementary methods in the sense that they use multiple measures to uncover variances or patterns in the data which a single methodological approach may not have identified (Creswell, 2009). In this study quantitative data is used to support the largely dominant qualitative data.

The main justifications for the choice of using mixed methods in this study are that in the first place mixed methods improve the accuracy of the data; secondly, mixed methods helps to produce a more complete picture when information from complementary kinds of data or sources i.e., health care records, WIFA respondents perspectives, CHO information and views from TBAs are combined. Finally, mixed methods is used as a means of avoiding biases intrinsic to single-method approaches—as a way of compensating specific strengths and weaknesses associated with particular methods (Denscombe, 2008).

The study employed the use of a qualitative dominated concurrent mixed method. In this design, the quantitative and qualitative data were collected during the same stage, although priority was given to qualitative data. The purpose of concurrent triangulation design was to use both qualitative and quantitative data to more accurately define relationships among variables of interest.



3.4 Data Sources, Study Population and Sampling

Sources of evidence in a health care intervention research are the persons, documents or observations that provide information for the inquiry (Babbie, 2008). More than one source might be used to gather evidence for each indicator to be measured. Selecting multiple sources provides an opportunity to include different perspectives regarding the program and thus enhancing the evaluation's credibility. An inside perspective might be understood from internal documents and comments from staff or program managers, whereas clients, neutral observers, or those who do not support the program might provide a different, but equally relevant perspective. Mixing these and other perspectives provides a more comprehensive view of the program.

The main criteria for selecting sources were its potential to contribute significant information towards the study. The integration of qualitative and quantitative information increased the chances that the evidence base was balanced, thereby meeting the needs and expectations of diverse users (de Vries, Weijts, Dijkstra, & Kok, 1992).

This study employed a multi-level assessment involving process and outcomes of the CHPS model's implementation. The main approach was a systematic observation and assessment using primary and secondary data. Primary data was obtained from the field, while secondary data came from various sources including Annual Regional Health Reports, the Demographic and Health Surveys, and CHPS Annual Reports. Both qualitative and quantitative data were collected. Qualitative data included views and perceptions of the implementation process,



perceived benefits or impact, performance and challenges of the CHPS program relative to MNCH, while quantitative information was in the form of statistics on key MNCH indicators, trends and correlations.

Primary respondents included various stakeholders and beneficiaries of the intervention, clients, and officers of the Ghana Health Service (GHS) among others. Specifically, Community Health Officers (CHOs) featured prominently in the study. Others included, Community Health Volunteers as well as Community Health Committee members. The Regional and District Coordinators of CHPS, and Women in Fertility Ages (WIFA), were included. Traditional Birth Attendants were also contacted.

Sampling begun with the selection of appropriate study sites across the district. Purposive sampling was used to select communities across the district. The criteria for selecting communities were as follows. First, communities with a functioning CHPS facility in operation for not less than 24 months; Secondly, communities with a health center in existence for 3 three or more years; Thirdly, communities without CHPS or Health Centres. In all, 13 communities made up the study sites, 7 communities with CHPS facilities, 4 communities with Health centres and two communities with neither. The justification for this inclusive criteria was to ensure that a broad spectrum of potential respondents and sites were taken into consideration. The minimum of 24 months was considered because two years was deemed long enough to assess an intervention's implementation process as well as anticipate the key performances resulting thereof. Health centres were selected because they provided oversight responsibility for the CHPS implementation and



also operated under certain instances as CHPS facilities. Selecting communities without any health facility was to allow views on how such communities were coping without such facilities and also to compare CHPS and non CHPS communities to help ascertain certain contributions CHPS was making since the study could not collect data on pre-CHPS health outcomes.

After communities were selected, sampling for each of the targeted respondent groups was then carried out. Pregnant women in particular and those who had recently given birth were preferentially targeted in all selected communities. Aside this, other women in their fertility ages were included to augment the number of pregnant women and nursing mothers. The next set of respondents were health officials from the various health centres and CHPS facilities within the district. For these, the entire population of health workers at the CHPS compounds were targeted, while at health centres, all staff in charge of relevant units were targeted. These included, maternity and child health units as well as ANC and community outreach units.

The remainder of respondents from the various communities were selected from membership of community health committees and community health volunteers. Additionally, TBAs from each community were included in the sample to complete the community level respondents. The final category of respondents was drawn from the district and regional health directorates. These included the District Director of Health Services, the District Coordinator for CHPS as well as the Regional Coordinator for CHPS. These represented key stakeholders in charge of policy and program implementation of CHPS in the Region and District.



In all, 635 women comprising women within their fertility age participated in the study (mostly nursing mothers and pregnant women). A total of 30 health workers comprising nurses, midwives, community health nurses, auxiliary nurse assistants and field technicians took part in the study. A total of 21 CHC/CHVs, 13 TBAs and 3 management staff of GHS were included in the sample. Thus, a total of 699 respondents participated in the study. Each of these respondents was selected for his/her ability to provide relevant information pertinent for the evaluation of the CHPS programme in the district. The table below show the categories of respondents for the study.

Table 3.1: Categories of respondents and communities

Community	TBAs	WIFA	CHO/Midwife/Nurse	CHV/CHMC
Tabiesi	1	80	2	2
Sazzie	1	30	0	0
Duang	1	25	1	2
Wogu	1	25	2	2
Issa	1	55	5	2
Bussie	1	80	5	2
Daffiama	1	80	5	2
Jenpensi	1	40	2	2
Challa	1	30	2	2
Kojopkeri	1	65	3	2
Touri	1	60	0	0
Owlo	1	40	2	2
Kamehego	1	25	1	1
Total	13	635	30	21

Source: Field Data, 2015



3.5 Tools for Data Collection

Just as respondents were varied, so were the instruments used to collect data for this study. Semi-structured interview guide, questionnaires, observation checklist, and key informant interview guides were used to collect primary data. Secondary data was collected using information fact sheets. Relevant numeric and narrative information were extracted through this tool.

The semi structured interview guide had seven distinct sections. The first section sought to collect data on the demographic profile of the respondent. The second and third sections dealt with the CHPS facility data and daily work routines of health workers respectively. The fourth section concentrated on community collaborations while the fifth section highlighted issues related to relationships between the health workers and their respective district and sub district health management teams. The last two sections dealt with overall impressions and suggestions for the way forward.

There were two types of questionnaires for the study, one for WIFA respondents in CHPS communities while the other was designed for those in non CHPS communities. The content were however almost the same with slight differences. While CHPS community respondents described CHPS activities in their locality, the rest reported on health centers or any other facility that they utilized. The instrument had sections on demographic data, community participation, maternal and child health activities and the assessment of the CHPS models by respondent.



The TBA interview guide was made up of three distinct sections. Section one captured their demographic details, while section two focused on their practices. The final section highlighted their relationship with the CHPS model and how they assessed its MNCH activities. The key informant interview guide for the regional and districts directors of CHPS incorporated themes around the main research questions. Some of the issues were focused on the program theory of CHPS, its implementation guidelines, community relations, infrastructure, human resources among others. They were also asked to make an assessment of the MNCH components of CHPS and what their views on challenges and the way forward.

3.6 Procedure for Data Collection

Data was collected from June to August, 2015. Data collection was carried out in three phases. Phase one involved staff of the Ghana Health Service who were directly involved in CHPS and other health care activities across the various communities. These included Community Health Officers (CHO), Midwives and Nurses at the various health facilities. The researcher and team conducted interviews during visits to these facilities. Each CHO was interviewed individually while group interviews were conducted during visits to health centres. At health centers, interviews tended to involve three or more respondents at the same time, hence the term-group interviews-as opposed to individual interviews. The participants included midwives, enrolled nurses, senior registered nurses, field technicians and auxiliary health assistants. During this phase of the data collection, data from files, charts and other recorded information relevant to the study was collected. Facility and equipment auditing was done during this phase. On the



average, individual interviews lasted 45 minutes, while group interviews lasted about 75 to 90 minutes. The first phase lasted about four weeks.

The second phase involved data collection from selected members of the community. Four groups were involved in this phase, namely TBAs, WIFA, CHV and CHCs. The WIFA response group comprised pregnant women and women with young children. These formed the core beneficiaries of the CHPS MNCH interventions and hence represented a critical source of data for the study. The main instrument for these women was a questionnaire. However, in view of the anticipated high illiteracy rate among that population, most of them provided responses via administered questionnaire. The interview sessions took place across various locations including homes, farms, the health centres, CHPS compounds and place of business. The average duration for these interviews was 60 minutes. These, like the in-depth and group interviews of the health workers were audio recorded and later transcribed. This phase lasted six weeks.

The final phase of data collection involved key informant interview sessions with persons with oversight responsibility of the CHPS program in the Region and District. Three interviews were conducted with the District Director of Health, the District Coordinator for the CHPS as well as the Regional Coordinator for CHPS. Interviews were on the various thematic areas including the program theory of CHPS, services and activities, financing and facilities as well as the contributions of CHPS to MNCH and general wellbeing of the population. Additional annual reports and other CHPS documents were requested from these stakeholders for



review and synthesis with the initial data already collected. This phase lasted about one week.

Table 3.2: Phases of data collection

Phase	Activities	Respondents	Instrument/Tool
One	<ol style="list-style-type: none"> 1. Data collection 2. Data extraction and document review 3. Facility visitation 	<ol style="list-style-type: none"> 1. CHOs 2. Midwives 3. Enrolled Nurses 4. Field Technicians 	<ol style="list-style-type: none"> 1. Interview Guide 2. Observation Check list 3. Audio Visual Equipment
Two	<ol style="list-style-type: none"> 1. Community visits 2. Survey 3. TBA site/ facility visit 	<ol style="list-style-type: none"> 1. CHV 2. CHMC 3. WIFA 4. TBAs 	<ol style="list-style-type: none"> 1. Questionnaire 2. Interview Guides 3. Audio Visual Equipment
Three	<ol style="list-style-type: none"> 1. Key informant interviews 2. Document Review 3. Information Synthesis 	<ol style="list-style-type: none"> 1. District Director of Health 2. District Coordinator for CHPS 3. Regional Coordinator for CHPS 	<ol style="list-style-type: none"> 1. Key informant interview guide 2. Audio Visual Equipment 3. Information fact sheet template

Source: Field Data, 2015



3.7 Variables, Indicators and Measures

This study was a formative and summative assessment of the CHPS model's contribution to MNCH in the district, as such, variables were selected based on the critical aims of the study. In line with the HSPR approach adopted by the study examined the implementation processes of CHPS to determine if it was in fidelity with the models' program theory.

The first level of assessment examined CHPS with regards to a) maternal and child health minimum package of interventions, health care delivery, b) health work force, equipment, logistics and supplies, and c) local community participation and support for CHPS activities. The variables for measuring health care delivery were the various activities carried out within the CHPS intervention relative to MNCH. These included all reproductive health care activities namely, family planning, pre and post-natal activities, antenatal, delivery service among others. For child health, the activities included IMCI, EPI, neonatal and other child health care.

On health work force, the key measures were the requisite number and appropriate qualification mix to successfully implement the intervention as designed, that is, whether each CHPS Zone had the requisite number of appropriately trained health workers posted to serve at their facilities. On Equipment, Logistics and Supplies, the variables focused on medical equipment and supplies requisite for the CHPS facility. Finally, Local Community Support and Partnerships was assessed by examining the level and nature of cooperation between the community members and the implementers of the intervention. This study explored the use of local community health structures and stakeholders as a



means of ensuring participation by community members as well as eliciting stakeholder support for programme oversight, monitoring and evaluation.

The second level of assessment targeted performances using output and outcomes. At this level, assessment focused on the main objectives of CHPS with respect to activities, targets and outcomes. Here, the focus was on specific indicators like access to and utilization of skilled delivery, antenatal and postnatal care, prevention and management of pregnancy/birth complications; thus basic emergency obstetric and neonatal care. Additionally, basic nutrition, neonatal and newborn care, levels of immunization, prevention and management of newborn and early childhood diseases were included. For all these indicators the standard, WHO and national indicators were used.

An overall assessment was then made on the basis of performance on the two levels of assessment. This overall assessment was geared toward indicating whether the processes for the CHPS initiative has been excellent, good, average, poor or very poor on the basis of outputs and outcomes. Additionally the final evaluation draws conclusions on performance outcomes using health indicators and trends of MNCH health outcomes.

3.8 Data Handling, Processing and Analysis

Primary data collected were carefully, sorted, cleaned, edited and coded in preparation for processing. The preliminary handling include producing transcripts for all audio recorded interviews and comparing them with the manually written transcripts for reconciliation. After this, all collected data was synthesized and



prepared for coding. Qualitative and quantitative data were separated to make analysis easier. Secondary data was incorporated with primary data for analysis.

Coded and synthesized data was then inputted into computer software programs. Coded questionnaires was inputted into the SPSS Version 21, while qualitative data, were typed into Excel Spread Sheets. Once processed, data was presented in various formats and analyzed according to the objectives of the study. Quantitative data were presented in graphs and tables, while qualitative data were presented in narratives, verbatim responses and thematic discussions. Text boxes were also used to present some qualitative data. Frequency tables and other graphs are used to present some of the quantitative data. Chi Square statistic and correlation analysis were carried out to determine associations between some variables.

3.9 Ethical Issues

Principally, ethical issues considered included obtaining permission and consent from stakeholders, seeking and obtaining consent from all research participants and where applicable their spouses, ensuring maximum anonymity and confidentiality where applicable. Before commencing field work, ethical clearance and permission were sought from the UDS Ethics Committee and the Ghana Health Service, Upper West Regional Directorate. The research instruments and protocols were presented for thorough vetting for scientific soundness and ethical clearance.

Each interviewee was contacted before the interview. The details of the study were explained, and verbal assent to participate was requested. Participants



who were interviewed provided verbal informed consent before the commencement of the interview. A confidentiality statement was provided. Participation was voluntary, and data protection procedures were observed throughout the study. Participants had the right to withdraw at any time during the data collection if they so desired.

The researcher in the best way possible ensured that no participant was exposed to harm, physically or psychologically before, during and after the data collection. On occasion where data collection process tended to stir negative and painful emotions, the process was immediately discontinued to give the respondent respite.

Where there was the need for anonymity and confidentiality, the researcher ensured that this was achieved by aggregate data analysis; in the case of narratives, pseudonyms and adopted names were employed to safeguard the identity of the respondents. All audio recordings were preceded by asking for consent for it. When participants were reluctant to have the interview audio recorded, manual written records were taken instead.

3.10 Limitations of the Study

A number of methodological limitations emerged during the data collection, processing and analysis. The first major limitation was with the design itself. Most intervention assessments in health research usually rely on quantitative tools and experimental or quasi experimental designs. This study adopted the case study which utilized mixed method approach. Much of the quantitative information in



this mixed methods was largely focused on trends and descriptive statistics with very little inferential statistics. Additionally, the district in which the study was based is fairly young, because it was carved out of the former Nadowli District. Hence, trend analysis could only be carried out using data of just three years, thus from 2013 to 2015.

Data analysis also presented some limitation to the study. Synthesizing qualitative information and quantitative data gleaned from both primary and secondary sources proved rather cumbersome in the beginning. However, after a clear framework of constant comparative and grounded analysis approach was adopted, the data synthesis become more meaningful and easier to handle. Categorizations into thematic areas around the study objectives and according to the conceptual framework made it easier to analyze, present and discuss the data in a coherent manner.

A final limitation had to do with the scope of the study itself. The CHPS programme was not designed for MNCH services. Hence limiting the assessment to only MNCH activities and outcomes proved a little tricky. Some respondents found it difficult to separate the MNCH issues from other general issues and gave their assessment of the program based on their perception on how the program has performed generally. On some instances it was difficult to isolate only MNCH issues from the other areas or mandate of the programme. However, a detailed list of indicators and measures crafted from the conceptual framework allowed for the extraction of MNCH relevant data from that of the larger pool.



CHAPTER FOUR

IMPLEMENTATION PROCESSES OF CHPS IN DBI

4.0 Introduction

This chapter presents and discusses the results of the study with regards to the first three research questions. These research questions examine the minimum package of interventions being implemented by the CHPS model in relation to maternal, newborn and child health in the district, the human resources and logistics to back the model and the community participation practices utilized for effective service delivery. The first part of the chapter presents the demographic characteristics of respondents (especially survey participants), after which data on the three other research questions are presented. The final section of the chapter discusses the results presented

4.1 Demographic Characteristics of Survey Respondents

This section presents the age, educational background, occupation, reproductive state and religious background of women in their fertility ages (WIFA), who participated in the survey aspect of the study. The first demographic feature is the age composition.

4.1.1 Age of Respondents

The first major demographic feature of the respondents presented is their age distribution. Since WIFA as a category refers to women in the fertility ages, the



typical age range was from 15 as the lower age bracket to 49 as the upper bracket. The age distribution is presented in the following figure.

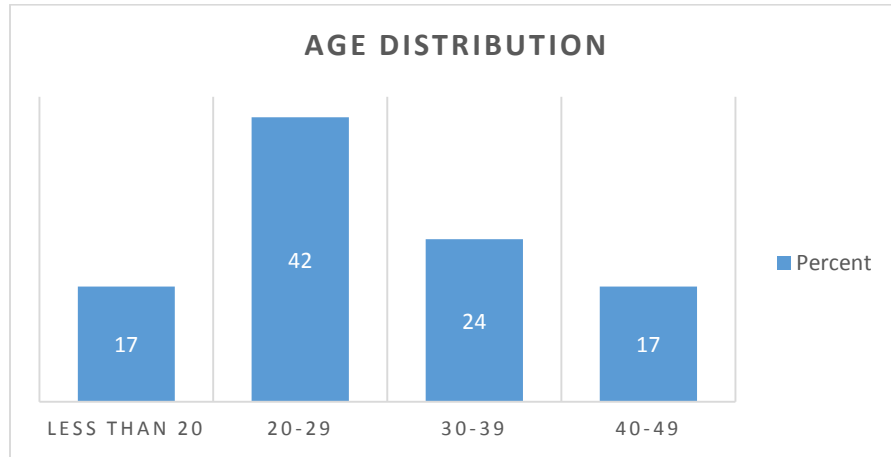


Fig. 4.1: Age Distribution of WIFA Respondents, Field Data, 2015

Figure 4.1 presents the distribution of respondents according to age. The WIFA population comprises persons within the age brackets of 15 and 49 years. As the chart indicates, the highest number of respondents fell between the age of 20 and 29 constituting a total of 42%; the next group of women were between the age of 30 and 39 with a total of 24%, while those below 20 as well as those between 40 and 49 age bracket each constituted 17%. The indication here is that the study population was a relatively young one since about 59% were between the ages of 15 and 29.



4.1.2 Marital Status

The next demographic feature of the WIFA respondents was their marital status. The categorizations included married, single/never married, divorced or separated and widowed. Table 1 presents the results.

Table 4.1: Marital Status of WIFA Respondents

Marital Status	Frequency	Percent
Married	454	71.5
Single/never married	146	23.0
Divorced/ separated	12	1.9
Widowed	23	3.6
Total	635	100.0

Source: Field Data, 2015

From Table 4.1, it can be seen that the overwhelming majority of respondents were married (71.5%); while only a relatively small number (1.9%) were either divorced or separated. The remaining respondents were distributed as follows, 23% were single or never married, while 3.6% were widowed.

4.1.3 Educational Attainment of WIFA Respondents

The next demographic variable presented is the educational level of the WIFA respondents. Their educational status were coded as none, basic, secondary, tertiary and other. Figure 4.2 presents the results.



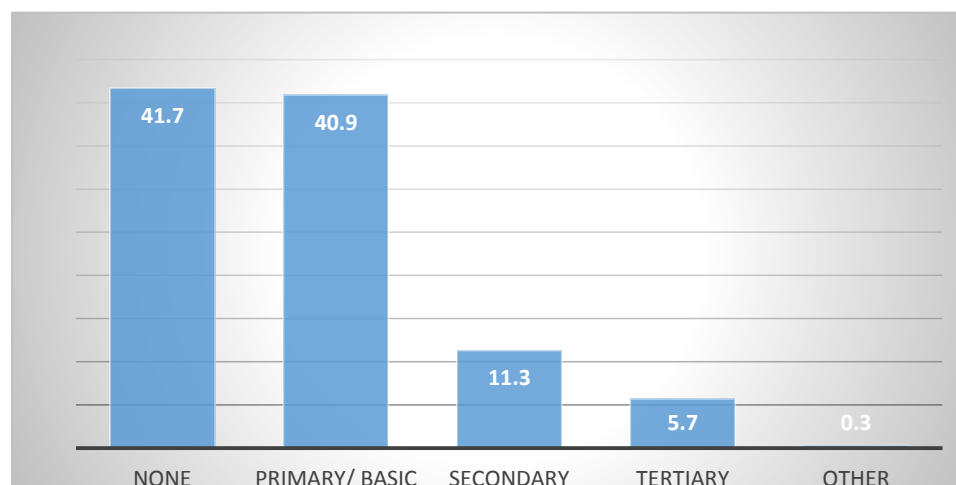


Fig. 4.2: Educational Level of Respondents, Field Data, 2015

From figure 4.2 it is clear that nearly 42% of respondents had no education at all, while another 40.9% had only primary and basic education. For the rest of the respondents, 11.3% had at least a secondary education, while one 5.7% had up to tertiary education. Only 0.3% reported that they have had other levels of education apart from those stated. Indeed, this negligible number reported that their educational attainment could not be classified into any of the above categories.

4.1.4 Occupation of WIFA Respondents

The next demographic variable is the occupation of workers. This was coded as student, agricultural, trade/artisan/craft and public servants. Those who engaged public service included teachers, nurses, caterers among others, while the trade/ artisan/ craft, occupations comprised of traders, dressmakers, and hairdressers, craft makers among others.



Table 4.2: Occupational Distribution of WIFA Respondents

Occupation	Frequency	Percentage
Agriculture	313	49.3
Trade/Craft/Artisan	187	31.0
Public Servant	26	4.1
Student	99	15.6
Total	635	100.0

Source: Field Data, 2015

Table 4.2 reveals that agriculture represents the highest occupational mainstay engaged in by nearly 50% of the respondents. Petty trading, crafts and artisanal work was the second highest occupation for respondents with about 31%. Students made up 15.6% of the respondents while public servants accounted for the remaining 4.1%. It must however be pointed out that the number for nonagricultural occupations may be misleading since some respondents indicated that in addition to their regular jobs they occasionally engaged in agriculture as well. The figure reported for agriculture represents persons engaged exclusively in agriculture.

4.1.5 Religion

Another demographic feature of the WIFA respondents explored was their religion. This was coded as Christian, Muslim or Traditional African Religion. The distribution is presented in the following figure.



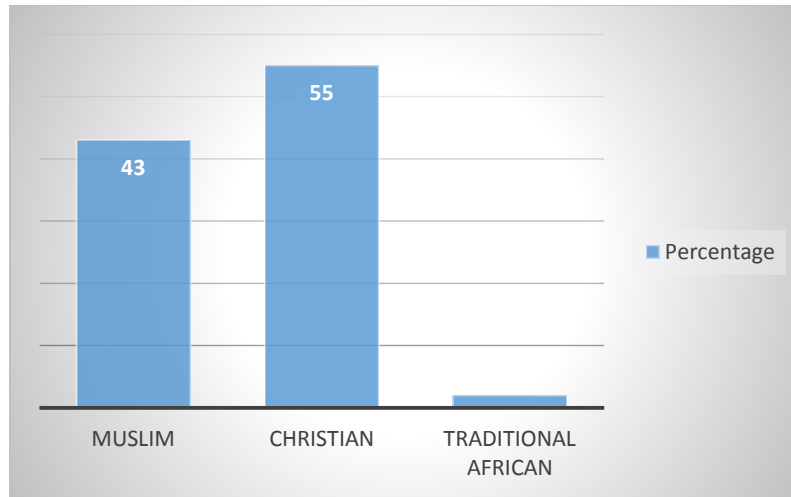


Fig. 4.3: Religious Distribution, Field Data, 2015

Figure 4.3 clearly demonstrates that Christians constituted the majority of the sampled respondents with a total of 55%, while Traditional African religion adherents had the smallest representation making up only 2% of the sample. The remaining 43% identified themselves as Muslims.

4.1.6 Current Reproductive status

A final demographic characteristic presented is the current reproductive status of the respondents. This was aimed at ascertaining whether they were as at the time of the study pregnant, nursing a young child or currently neither pregnant nor nursing any child.



Table 4.3: A Cross tabulation of Reproductive state and Age

Reproductive state	Age				Total
	15-19	20-29	30-39	40-49	
Pregnant	11	38	20	4	73
Child 1-12 months	12	85	42	8	147
Child 1-3 years	5	51	25	9	90
Child more than 3 years	1	14	22	22	59
Not nursing a child	76	80	44	66	266
Total	105	268	153	109	635

Source: Field Data, 2015

From Table 4.3, it can be seen that 12% or 73 respondents were currently pregnant, while 42% or 266 of them were not nursing any children. The remaining respondents constituting a combined percentage of 46% were currently nursing children between the ages of 0 to five years. The breakdown is as follows: 23% or 147 had children from one year and below, 14% (or 90 respondents) had children between the ages of 1 and 3, while the remaining 59 respondents (or 9%) had children between 3 and 5 years.

4.2 Assessment of CHPS Minimum Package for MNCH Services

The first research question was geared toward an assessment of the various implementation processes that have been undertaken as part of the CHPS program within the district. The aim was to ascertain the various MNCH activities carried out and whether they were in tandem with the intervention design.

The health care delivery services stipulated under the CHPS model included activities like treatment of Child illnesses, Family Planning services, Post-natal



services, Antenatal care, Basic and Comprehensive Obstetric Care and Immunization. These were part of a package of basic interventions required to be delivered at each CHPS facility.

From the facilities studied, CHPS and health centres alike, it was revealed that there are a variety of services geared towards MNCH. At a typical CHPS facility within the district, the daily schedule of activity revolved around three main sessions. The morning session which begun from approximately 7:00 am usually involved carrying out minor curative services such as treatment of minor injuries, uncomplicated malaria and other infections. This usually went on till around 11:00 am when CHOs switch to home visits. The home visits usually lasted till late afternoon (3:30 to 4:30 pm). The third leg of activities involved a return to the facility to continue other facility-based activities.

The organization of these activities however varied from one facility to the other. For instance, the number of health personnel available, as well as their skills mix usually dictated what activities are carried out and when they are carried out. The responses and observation data indicate that home visits for instance while being a daily affair for some CHPS compounds, was undertaken bi-weekly or in some, twice monthly, at other compounds. At facilities where midwives were present, a lot more visits were undertaken. At facilities with two or more health workers, CHOs took alternate turns in manning the facility and doing home visits simultaneously.

They were typically two types of home visits, the routine or scheduled visits and the defaulter tracing visits. Routine visits were typically part of the pre-planned



arrangements where the CHNs/CHO/Midwife paid a visit to the members of the community in their household. This afforded them the opportunity to provide services close to client, one on one health care service to members of the community. This usually involved a number of activities including health promotion, family planning and other reproductive health discussions, child treatment and immunization. Another activity included household and community sanitation issues.

The unscheduled home visits typically reflects the flexible nature of the CHPS model and this afforded the CHO/CHN/Midwife the opportunity to attend to clients in their homes, within the communities or even places of work. Defaulter tracing typically applied to clients who in one way or the other missed scheduled appointments. The health worker followed up on them to ascertain the reasons for missing the appointment and provided a make up for the session missed. This enabled clients who in one way or the other failed to turn up for scheduled appointments to be put up to date on required health care services. The following text box presents some verbatim responses on the MNCH activities or services delivered under CHPS.



Text Box 1: Description of Typical MNCH activities at CHPS Facilities

- *On a typical day, we dust up and clean our facility including our leaving quarters and clinical area. Then we get ready to receive clients. From 7 am onwards we attend to minor injuries and illnesses. This goes on till 11 or 12 midday, after which we do home visits. The visits last till late afternoon then we return to the facility. On our return we attend to any other clients waiting for us. Usually we deal with cases including but not limited to treatment of malaria, fever, Acute Respiratory Infections, and measles, among others for children. For pregnant women, we undertake ANC sessions, family planning, Postnatal and delivery referral (CHO, Key Informant Interview Respondent, DBI)*
- *We undertake two key activities that are daily and others which are monthly or yearly. The daily activities include clinical sessions where we treat minor ailments and injuries presented to us by clients at the facility. The second is the household or home visits. This is done to provide health education and promotion services, undertake disease surveillance, provide family planning services, nutrition and finally advice on sanitation and hygiene practices (CHO, Jenpensi).*
- *On the monthly/yearly activities, we have activities like community outreach durbars, Child Welfare Clinics, Mother-to-Mother support Club meetings and Special Immunization sessions. Like the home visits, these activities are normally carried out within the homes or environs of the community. However, the regularity with which we undertake these activities is different. Home visits are more regular, they could even be carried out daily or weekly. But the other form of home visits are typically monthly or bi annually or sometimes even annually (CHO, Key Informant Interview Respondent).*
- *CHPS provides family planning and reproductive health services, Antenatal care, Postnatal Care, Skilled Delivery including emergency, basic and comprehensive obstetric care, immunization and nutrition services. Some are routine daily activities while others are scheduled intermittently (Key Informant Respondent).*
- *We receive many services from the small hospital (CHPS Compound). Ever since they started, we have been attending ANC and doing family planning. They also come around the house or even pass by our farms to give us health advice or inject our children (WIFA Respondent, Wogu).*

More specifically, respondents reported that, the services provided under the CHPS for maternal health included family planning services which encompassed counselling clients on good reproductive health practices. Clients



were taken through the best ways to plan a family, sex education, birth spacing, healthy/safe sexual practices and appropriate uses of contraceptives. Those who accepted to use contraceptives were provided with contraceptives of their choice including injections, pills and condoms.

Another maternal health activity typically undertaken at the CHPS level was ANC services. According to the respondents, these routine ANC begin immediately pregnancy is confirmed. Suspected pregnancies were usually confirmed through various ways such as a rapid test or a blood test. When pregnancy is confirmed, ANC activities begin immediately afterwards. Women were encouraged to get registered for ANC as soon as possible. To this end, incentives such as free distribution of Insecticide Treated Nets are given to early registrants to encourage others to do same.

Typical ANC activity under the auspices of CHPS has shifted from the usual ‘pregnancy classes’ concept to a more individual client focused activity. It was also reported that, although the pregnancy classes were still carried out, a more rigorous, one on one and flexible system was the new norm. Pregnant women could walk in at any time for ANC service. Pregnant women received advice on good nutrition and healthy eating habits, underwent routine screening for danger signs and complications, and were provided with birth preparedness plan and emergency routines among others during these sessions.

Another important maternal health activity within the CHPS program was delivery services. A direct activity geared toward safeguarding the lives of pregnant women and their children was the provision of safe and sound delivery. To this end,



CHPS model was geared towards skilled delivery. Thus, as much as possible, all pregnant women should be delivered by a qualified health care worker. At the facility level, CHPS provide only emergency deliveries, only lifesaving emergencies deliveries were permitted at CHPS facilities. The presence of a qualified midwife however allowed routine deliveries and the referral of complicated cases to the nearest facility with the requisite staff and logistics.

The key service in this regard was therefore the provision of skilled delivery at birth where midwives are present and the promotion of same when referrals are made. Health workers and their local community counterparts encouraged health facility deliveries while strongly discouraging home deliveries. The ultimate aim was to attain a zero home delivery, while delivering children at places with the requisite facilities and appropriately trained personnel.

Another MNCH service offered at the CHPS facility was PNC. Women irrespective of their place of delivery were required and encouraged to visit CHPS as soon as possible after delivery for postnatal services. This was to ensure that the appropriate care and preemptive measures are provided for mother and child. Various activities conducted during PNC include ensuring proper chord care, ensuring that mothers are not experiencing any complications after child birth, that babies are receiving the proper post-delivery nutrition, hygiene and medication.

For newborn and child health, in addition to PNC, promotion of exclusive breastfeeding for the first six months of life, timely introduction of appropriate complementary feeding at 6 months with continued breastfeeding till 24 months or more, Vitamin A supplementation are some of the key activities provided. Other



relevant services also include, immunization (including PENTA 2, 3 and BCG), growth promotion and nutrition rehabilitation, curative care for minor ailments and injuries.

4.3 Assessment of Health Workforce and Infrastructure for CHPS

The second objective of the study was to examine the workforce and infrastructure currently deployed to deliver the various health outcomes under the CHPS.

4.3.1 Health Work force

From the program, key human resources required are community level health workers and their support network of volunteers and committee members. These were to be aided and supervised by the sub-district health management teams. The following table summarizes the data on health workforce, their experience and skill mix. The total number of health workers, their designation and qualification, as well as their experience and duration of service is presented in table one.



Table 4.4: Health Workforce Information

Community	N	Qualification	Work Experience
Kamehego	1	CHN	One year
Challa	2	CHN and Enrolled Nurse	Two years/ one year
Jinpensi	3	CHN, Enrolled Nurse and HEW	Four years, two years and one year
Owlo	2	CHN and Enrolled Nurse	Two years
Wogu	2	Midwife and CHN	3 years and one year
Tabiesi	2	CHN	Two years
Duang	1	CHN	Two years

Source: Field Data, 2015

From Table 4.4, it can be seen that a total of 13 health workers operated the seven CHPS facilities. This falls short of the minimum of 14 required for the 7 facilities. Two of the facilities had only one health worker, while only one facility had the ideal of 3 health workers at a facility. The remaining four facilities had the minimum number of two health workers per facility.

For the skills mix, qualification and experience of the health workers, it can be gleaned that, only one of the facilities had a midwife and a CHN paring. The rest of the facilities had one paring of two CHNs, and two parings of a CHN and an Enrolled Nurse, one facility had a CHN, and Enrolled Nurse and a Health Extension Worker. As indicated earlier, 2 facilities were managed by single CHNs. Experience wise, the minimum number of post qualification experience was one year. The majority of staff had at least two years of post-qualification work experience. The longest post qualification experience was up to four years.



Statistics from the 2015 Annual CHPS report indicates that, there are 2 midwives for the 12 functioning compounds, 26 CHOs, 10 CHNs and 13 Enrolled Nurses. The average number per facility is 4. However, comparing this to the seven facilities selected for the study, the average number per facility was 2.

4.3.2 Health Infrastructure

Another important variable which enabled the assessment of implementation processes of the CHPS in the district was to scrutinize the facilities, equipment and supplies available for operations. Aside health workforce, it is critical to ascertain whether the available tools were adequate and consistent with standard practice. Facilities were visited and audit of all requisite facilities, equipment, supplies and logistics undertaken. The following table presents data on characteristics of some selected facilities.



Table 4.5: Characteristics of CHPS Compounds by Community

Facility characteristics	Community						
	Kamehego	Challa	Jenpensi	Owlo	Wogu	Tabiesi	Duang
Year	2002	2007	2013	2011	2011	2009	2014
Recovery Room	No	No	No	No	No	No	No
Examination Room	No	Improvise	Yes	No	Improvise	Improvise	No
Reception Area	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Consulting Room	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Court Yard	No	Yes	Yes	Yes	Yes	Yes	Yes
Living Area	No	No	Yes	Yes	Yes	Yes	Yes
Bedrooms	Not in use	Yes	Yes	Yes	Yes	Yes	Yes
Kitchen	No	Yes	Yes	Yes	Yes	Yes	Yes
WC and Baths	No	Yes	Yes	Yes	Yes	Yes	Yes
Electricity/Solar	No	Yes	Yes	Yes	Yes	Yes	Yes
Couch	No	No	No	No	No	Yes	No
Overhead tank	No	No	Yes	Improvise	Improvise	Yes	Yes
Visitors toilet	No	No	No	No	No	No	No
Motorbike	Yes	Yes	Yes	Yes	Yes	yes	Yes
Refrigerator	No	Faulty	No	No	Yes	Yes	Yes
Overall State	Dilapidated	Functional	Good	Functional	Good	Good	Good

Source: Field Data, 2015

From the table 4.5, it can be observed that the oldest facility was Kamehego, established as far back as 2002, while the most recent within the sample was Duang, which was completed in 2014. The rest were Challa established in 2007, while Tabiesi was established in 2009. The remaining facilities, Owlo and Wogu, were established in 2011 and Jenpensi, 2013.

The data in the table indicates that generally most facilities are functional by the conventional practice. Unsurprisingly, the oldest compound was rather dilapidated and barely functional; it lacked most of the fundamental facilities to



function effectively. Amenities required included, recovery, examination and consulting rooms, a court yard, bedrooms, kitchen, electricity and water tank, among others. Aside bedrooms and a motorbike, the Kamehego CHPS, compound did not have any of these. It was in poor physical condition compelling the lone CHO to relocate to Bussie.

The remaining facilities were relatively in good condition. As could be seen in the table, apart from a few missing items, almost all facilities had the basic amenities required to operate. The most widely missed amenity was a recovery room, visitors couch and a toilet facility for guests. Although the absence of these facilities did not hamper the provision of services significantly, their absence posed quite a bit of inconvenience to health workers and clients. For instance, the lack of couches and toilet facilities for guest and clients posed a problem for community members when they visited the facility.

On a few occasions, some facilities improvised for the absence of some amenities. For instance, the lack of examination rooms at Challa, Wogu and Tabiesi, were dealt with by converting part of the reception area into examination areas. Similarly, the lack of overhead water tanks in Owlo and Wogu was solved by the used of large water receptacles popularly known as poly-tanks.

The next issue examined was the state of equipment at the various Compounds and facilities. Among the essential equipment requirement for a functioning CHPS facility are resuscitation kits, weighing scales, blood pressure apparatus, placenta bowls, forceps, galipots and vaccine carrier, among others.



Table 4.6: Equipment at CHPS Facilities

Equipment	Community						
	Kamehego	Challa	Jenpensi	Owlo	Wogu	Tabiesi	Duang
Resuscitation Kit	Yes	No	Yes	Yes	Yes	Yes	Yes
Salter Weighing Scale	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Blood Pressure Apparatus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bowl to receive Placenta	Yes	No	Yes	Yes	Yes	Yes	No
Demonstration Tray	No	Yes	Yes	Improvised	Yes	Yes	No
Fetoscope	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Forceps, dressing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Galipots	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Screen or Curtain	No	Yes	No	Yes	No	Yes	Yes
Fridge Thermometer	No	No	No	Yes	Yes	Yes	No
Adult weighing scale	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vaccine Carrier	Borrow	Yes	Borrow	Yes	Yes	Yes	No
Clock or Watch with second hand	Yes	Yes	Yes	Faulty	Yes	Yes	Yes

Source: Field Data, 2015

The table 4.6 indicates the presence or absence of key equipment required to operate at optimal levels in a CHPS facility. The list above represents a sample of the key equipment required. However, these are the main equipment needed to support efficient provision of MNCH services. From the data, it is quite obvious that the basic essential equipment were largely available.

With the exception of the fridge thermometer, which was absent in four (Kamehego, Challa, Jenpensi and Duang) out of the seven facilities visited, almost every other equipment was available. Two facilities (Kamehego and Jenpensi) borrowed vaccine carriers and one facility (Duang) did not have any. Two communities did not have demonstration trays (Kamehego and Duang) as well as placenta bowls respectively (Challa and Duang). Three facilities, namely, Kamehego, Jenpensi and Wogu did not have a curtain or screen for examination.



Critical equipment like resuscitation kits, salter weighing scales, fetoscopes, and blood pressure apparatus were all readily available in all facilities inspected.

Aside general facility conditions and equipment audits, logistics and supplies at various facilities were also examined. Key logistics required at the facilities included: aprons and gloves of all types, tape measures, mackintosh sheets, chlorine buckets, among others. Additionally, supplies required were, methylated spirit, alcohol hand rub, chlorine solution, cotton swabs, gauze and syringes of all sizes. Although this list does not represent the exhaustive list of all logistics and supplies needed at CHPS compounds, they represent the very relevant ones. The presence of these could make the functioning of CHPS smooth, while their absence will conversely lead to the inability of CHOs to function optimally. The following table presents results on the logistics and supply audit at the various CHPS compounds used for the study.

From the Table 4.7, it is realized that a number of facilities were missing a couple of logistics. For instance, logistics like linen sheets and chlorine buckets, were missing in all but two facilities (Challa and Jenpensi), while only the Jinpensi facility had an ORS cup. With regards to the mackintosh sheet, only three facilities were in possession of such sheets, namely Owlo, Wogu and Tabiesi. Aside these, other logistics like tape measures, weighing pants, thermometers, scissors and waste containers were in present in all facilities.



Table 4.7: Logistics and Supplies

Logistics and Supplies	Community						
	Kamehego	Challa	Jenpensi	Wogu	Owlo	Tabiesi	Duang
ORS Cup	No	No	Yes	No	No	No	No
Chlorine Bucket	No	Yes	Yes	No	No	No	No
Waste Bucket	No	Yes	Yes	Yes	Yes	Yes	No
Mackintosh Sheet	No	No	No	Yes	Yes	Yes	No
Tape Measure	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Weighing Pants	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Methylated spirit	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alcohol Hand Rub	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Plastic Apron	No	No	Yes	Yes	Yes	Yes	Yes
Bandages/Plaster	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chlorine solution or powder	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cotton Swabs/ Gauze	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Disposable Syringes 1cc and 5cc	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gloves-sterile, utility and disposable	Only disposable	Yes	Yes	No for utility	No for utility	Yes	Yes
Malaria RDT	Yes	Yes	No	Yes	Yes	Yes	Yes
Scissors	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Linen Sheets	No	Yes	Yes	No	Yes	No	No
Thermometer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Waste Containers	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Field Data, 2015

With regards to supplies, most facilities were in possession of almost all required items such as methylated spirits, alcohol hand rub, bandages and plaster, chlorine solution, disposable syringes gauze and swabs as well as malaria test kits.

The data in the tables above were largely corroborated during key informant interviews. For instance, during the interviews CHOs and other health workers at the facilities lamented the state of some of the facilities, while admitting the adequacy or inadequacies of supplies and some logistics. The overall impressions from the investigation of facilities, equipment, logistics and supplies reveals a pattern that older facilities had major problems with the physical state of the buildings, while their relatively newer counterparts had no such problems.



Conversely already established facilities tended to be better equipped than their relatively newer counterparts. Additionally certain equipment were generally missing from all facilities irrespective of year of establishment.

4.4 Community Participation in CHPS Activities

Another objective of the study was towards the interrogation of the level of community support and partnerships. This was achieved by investigating the level of local participation in CHPS activities, local health care structures and their contributions to the CHPS implementation and the nature and type of collaborations that existed between the various stakeholders at the grassroots. To this end, data was sought on how, why and in the way(s) community members participated in CHPS programs and in MNCH in particular.

The first aspect of the community involvement was the assessment of their level(s) of participation in CHPS activities. The first issue in this regard sought to ascertain from WIFA respondents whether they participated in the construction of their present CHPS compounds.

The data revealed that slightly more than half (52%) of respondents answered in the negative to the question of participation in the construction of their community's CHPS compound, while the remaining 48% admitted to taking part in the construction of the CHPS facility. The level of involvement in CHPS construction was actually very high. Although the results appear to be contrary to this fact, the explanation is that the majority of respondents were not present when the early facilities were constructed. Facilities in Kamehego, Challa and Tabiesi are



relatively older hence respondents could not readily recall events and their participation during their construction. Those who participated in the construction of the relatively newer facilities, recalled how they contributed manual labour and other activities towards the construction of the facilities within their locality.

Aside participation in compound construction, the efficient running and administration of the facilities require constant support from members of the community. For instance the staff of each facility, especially the CHO, could commence work only after s/he has been duly reoriented and properly installed in the community. The installation is usually heralded by a durbar where s/he is introduced and the schedule of activities discussed and presented. Interaction with all the CHOs and members of the community indicated that all these were done for all seven CHPS facilities studied.

Apart from the introductory durbar that marked the handing over of the facility and the commencement of operations of a CHPS facility, the CHO together with other Ghana Health Service staff, in consultation with the community stakeholders, recruited volunteers to serve as Community Health Volunteers (CHVs). These were usually, senior or junior high school graduates from the community who assisted the CHOs, Midwives and Nurses in providing health care to the members of the community. Their duties included, disease surveillance and monitoring, immunization, health promotion campaigns and household visits. They kept basic health records and reminded community members about the need to maintain healthy lifestyles and effect utilisation of health care services. They also performed any other functions as may be deemed fit by the CHO and the SDHMT.



Further interrogation of the roles of the CHVs in CHPS implementation process revealed that they were duly constituted and present in all CHPS communities and even in communities with health centers. For instance there were CHVs in all seven CHPS communities as well as in Bussie, Kojokperi, Daffiama and Issa. In most instances there were between four to six volunteers per community.

Another critical community level support examined was Community Health Management Committees or CHMCs. Like the CHVs they were drawn from members of the community. Their main task however was to see to the effective management of the facility. Together with the staff of the facility and other stakeholders, they performed planning functions for the day to day running of CHPS facilities. It is this committee that actually gives meaning to the 'P' in the acronym for CHPS. Their main output is the development of a Community Health Action Plan or CHAP. These are yearly and quarterly strategic plans that outlines the health needs of a particular zone and maps out the activities and interventions geared toward meeting these health needs. It includes drawing up plans that match available resources, such as personnel, supplies and medicines as well as finances with acceptable and effective interventions.

In these plans, needs are assessed and specific health targets set. All community outreach schedules are drawn and various activities for a year or six months are finalized for implementation. Except for clinical activities which are determined by the Ghana Health Services, all other day to day CHPS services are stipulated in the CHAPS.



Supporting the implementation of CHPS activities at the grassroots level is a cadre of Traditional Birth Attendants. TBAs have over the years served as an important community health institution. Their services have been particularly useful in MNCH. With a relatively large retinue of practitioners, there was at least one TBA present in each of the 13 sites visited. Traditionally, this group of people, mostly women, were part of the local community health structures that provided MNCH services to clients. With the advent of a modern health care system, attempts were made to integrate them into the new modern system. This integration has been met with varying degrees of success. In the course of this study, the role of TBAs in the provision of MNCH services as part of the CHPS program and on their own was thoroughly examined. Respondents were asked whether they sought and utilized the services of TBAs. The results are presented below.

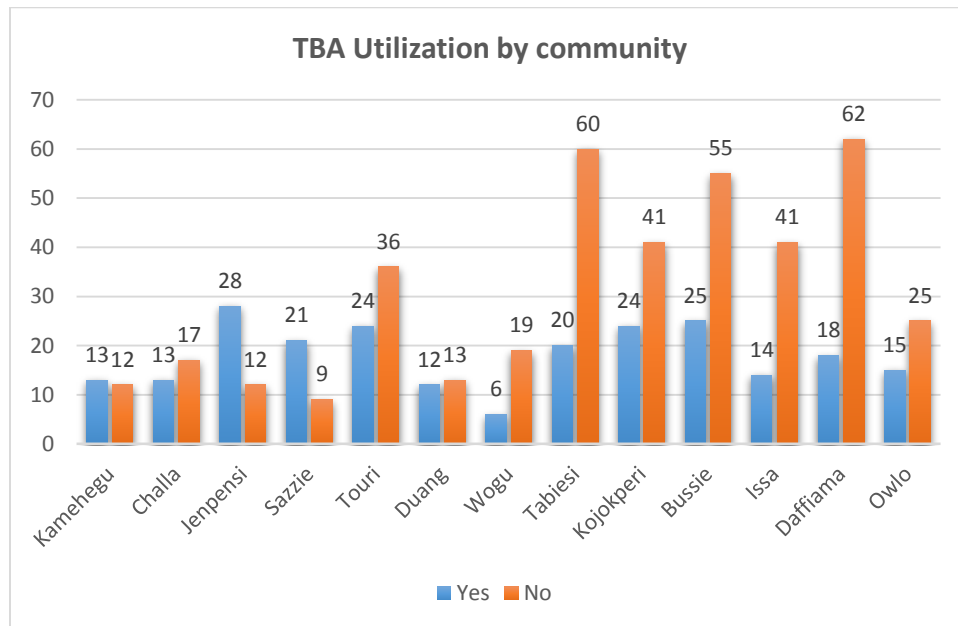


Fig. 4.4: TBA Utilization by Community, Field Data, 2015

The results in Figure 4.4 indicate the level of TBA utilization and the services that are regularly being utilized. From the data, only Jenpensi and Kamehego from CHPS sites had more than 50% of WIFA respondents reporting utilization of TBA services in the past one year, while Sazzie also recorded similar attendants to TBA service because they had neither CHPS nor a health centre located within their boundaries. The remaining communities had utilization rates ranging from 48% to 22%. The average utilization rate across the district was 37%. A number of reasons were proffered for the utilization and non-utilization of services of TBA. Some of the compelling reasons are summarized in the following box.

Text Box 2: Reasons for Utilization and Non-utilization of TBAs

Factors that encourage TBA service Utilization

- *Because they provide services which are easily accessible and convenient. She lives very close by and sometimes pays me regular visits*
- *Compared to the modern health service, TBA services come at very low or no cost at all*
- *I attend the TBA place because over the years I have come to trust in the efficacy and reliability of her service. She has not lost a single woman in her many years of practice*
- *We understand the philosophy behind some of the thing she does: she is patient and has a lot of time for us, since most often than not her clients are few.*

Reasons for Non-Utilization of TBA Services

- *I have never visited the TBA because am scared of her. She looks very old and appears quite frail.*
- *I do not have confidence in the practice of TBA; I don't believe their practice follow any standards or whether it is even compatible with modern science*
- *My religion prohibits visiting spiritualists. I consider TBA spiritualists hence am unable to patronize their services*
- *They don't have the requisite training in modern MNCH training so I don't trust their methods. Their instruments are crude and not sterilized appropriately.*



Table 4.8: Services Sought from TBAs

TBA Services Sought	Frequency	Percent
Did not seek any TBA Service	402	63.3
Maternal, Pregnancy, and Child health advice	118	18.6
Delivery	108	17.0
Postnatal Services	7	1.1
Total	635	100.0

Source: Field Data, 2015.

The main services patronized from the TBAs were grouped into three main clusters. From the data in the table above, only 1% of all respondents sought TBA services for post-natal services; nearly 19% visited TBA for maternal, child health and pregnancy advice, while 17% visited TBAs for purposes of delivery. As indicated earlier, the remaining 63% of respondents did not report patronizing TBA services.

From the selected responses from respondents (summarized in the text box), it can be concluded that key among the reasons informing the patronage of TBA services are convenience, perceived efficacy, culturally consistent, cost, trust in the ability of the practitioner and accessibility. While reasons for non-utilization include, incompatibility with modern practice, fear and mistrust and religious prohibitions, among others.



4.5 Discussion

The foregoing reveals a number of interesting issues worth discussing. The first major issue is with regards to the minimum package of interventions provided under the auspices of CHPS. Admittedly, the CHPS program has outgrown its MNCH roots, even though a large part of its services are still geared towards improving maternal and child health. An examination of the specific services offered under the CHPS initiative reveals a clear strategy geared toward reducing child and maternal mortality as well as morbidity. Adherence to the original CHPS model developed at Navrongo has however, reduced with passing time and a scaling-up phenomenon which Awoonor-Williams et al. have noted (Awoonor-William et al., 2013).

According to the operational policy for CHPS, the basic package of interventions to be delivered by the CHO is in line with the concept of Primary Health Care defined as "essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and the country can afford" (GHS, 2005: 12).

The policy also stipulates that the package should include at least the following elements: health education related to prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; provision of an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization programmes against the major infectious diseases; prevention and control of locally



endemic diseases; appropriate treatment of common ailments and injuries; and provision of essential drugs.

With specific reference to MNCH, the CHO were mandated to undertake, community and compound level education on primary health care; Immunizing and providing pre and post-natal care delivery; provision of nutrition education and care; primary care for simple cases of diarrhoea, malaria, acute respiratory diseases, wounds and skin diseases among children; providing referrals for more serious afflictions especially birth complications; Provision of education on prevention and management of STDs and HIV/AIDS; provision of family planning services and referrals.

Results indicated that all CHPS facilities were actively rolling out these services. Thus, the range of services and activities were found to largely be in harmony with what was stipulated in the operational policy. An analysis of the daily work routine showed that there was genuine determination to religiously execute work routines geared towards the provision of all the essential services stipulated by the policy. It must, however, be conceded that not all work schedules/routines followed the same patterns. This could be attributed to factors such as staffing, nature and location of the communities; the extent of cooperation between members of the community and health workers, availability of requisite equipment and supplies; among others.

The range and extent of MNCH services provided are directly and indirectly determined by the causes of poor MNCH. As alluded to in the literature, medical causes of poor MNCH include high incidence of malaria, measles, pneumonia,



diarrhoeal diseases (or a combination of such diseases) and malnutrition. In addition to these, factors such as socio-economic status, fertility behaviour, environmental health conditions, nutritional status and infant feeding, and the use of health services have all been identified as strong risk factors which contribute to child mortality (Bryce et al, 2000; Liu et al, 2012; UNICEF, 2014; Grantham-McGregor, et al, 2014).

Direct medical causes of maternal mortality and morbidity highlighted in the literature also include, haemorrhage, infection, eclampsia, obstructed labor and unsafe abortion (WHO, 2008, 2013a, 2014a; Sari, 2009; UNFPA, 2010), and with around 80% of all maternal deaths being direct obstetric deaths. According to Nieburg (2012), indirect complications of pregnancy such as anemia, malaria, sexually transmitted infections, viral hepatitis, tuberculosis and cardiovascular disease are aggravated by the physiological effects of pregnancy and may also lead to maternal mortality.

Aside these medical causes, non-medical causes such as social, economic, psychological and political factors contributes significantly to poor MNCH outcomes in developing countries. As presented earlier in the literature review, classical elucidation of how the above listed factors contribute to poor MNCH is exemplified in the Three Delays Model.

This use of the three or four delays model has the advantage of highlighting some of the underlying cultural, socio-economic, geographic, and health system challenges to ensuring women's access to emergency care in pregnancy (Senah, 2003; Nieburg, 2012). These include, the limited ability of some pregnant women



and their family members to recognize pregnancy related emergencies; culturally determined gender norms that deny women the ability to decide when and where to seek care, without their husband's or other family members' permission; health facilities that are difficult to reach from women's usual residences; the absence of any vehicle to use for emergency transport and/or lack of money to pay for emergency transport or to buy medicines or other supplies after reaching a health facility; and finally, weak health systems, as reflected by inadequate staffing, training, equipment, medications, or other commodities at many health facilities.

The point from the discussion so far is that, health care delivery services under CHPS are informed by the problems pertaining to a particular region or locality. The CHPS interventions mainly translate into responding to the problems and risk factors that tend to bring about or heighten poor MNCH outcomes. Hence if the package of interventions are in conformity with the program theory, then positive outcomes of MNCH are to be expected. Is this really the case? The performance of CHPS is duly presented in the next chapter of this thesis.

Aside service delivered, the study also incorporated other aspects of the health care system that contributes to the success or failure of MNCH. The health work force is a significant contributor to the implementation process of CHPS. Without the requisite personnel, CHPS' implementation would be a nine day wonder. The finding in this regard indicates that a number of critical health personnel were key to the implementation of the program. At the centre of these personnel was the CHO, defined by the policy as a reoriented health personnel, usually a nurse or midwife placed in charge of a demarcated CHPS zone. The



minimum number of personnel required to run a CHPS facility was two. The findings revealed that this was not always the case since some facilities were handled by just one health personnel. This had some adverse implications on health care delivery. In facilities where the number fell below the required minimum, one person was compelled to perform minor curative services, undertake family planning and ANC services, embark on emergency delivery or stabilize and refer pregnant women, carry out scheduled community outreach programs, among many other duties. Definitely such work routine was bound to leave that individual overwhelmed and hence underperform or work inefficiently. This was in line with a similar finding by Ziblim (2015) to the effect that, the 24% of CHOs who did not organize home visits attributed the challenge to high attendance at the compound by clients and lack of community volunteers to assist them. Given such situations, they preferred to stay at the facility and attend to the clients. This, however, defeats the objectives of CHPS focusing on preventative healthcare rather than curative care (Ziblim, 2015).

Another issue with the staffing was the skills mix of the health personnel. The nature of the activities expected to be performed under the program required diversity of training, skills and experiences. A critical strategy for reducing maternal mortality is to have all pregnant women attended to by skilled health personnel (UNICEF, 2016). In rural areas midwives serve as the most reliable skilled personnel in the absence of medical doctors and physician assistants. Sadly only one midwife was stationed as part of the critical staff in the seven CHPS facilities where the study was carried out. This, once again portend poor



implications for the quest to improve MNCH. This finding was also consistent with, Banchani and Tenkorang (2014) who assert that, one of the major reasons why so many countries still have inadequate numbers of skilled midwifery providers is because those grappling with human resources have not paid attention to the need for 'proficiency' in the various competencies required to assist women and newborns (Banchani & Tenkorang, 2014).

Another dimension of the second objective also documents the state of the CHPS facilities, equipment, logistics and supplies available for enhanced service provision. The findings on the various facility audits revealed a mixed bag of issues. On the physical state and usability of the facilities, only one out of the seven could be said to be non-functional. The remaining six were relatively usable and functional. However the absence of some key amenities such as visitor's washrooms at most facilities sometimes hampered the smooth operations of the place. Complaints about the absence of some amenities had the likelihood to not only inconvenience clients but affected effective service delivery. Similarly, on equipment, logistics and supplies, some facilities could be said to have a near full complement of what they needed. However, as the results indicated, there were certain missing items and regular shortages of essential supplies. Again such a situation implied that service provision was sometimes significantly hampered. A case in point was the absence of a vaccine carrier in two of the communities. This seriously affected child immunization programs since they had to wait for other facilities to finish their scheduled vaccinations before they could embark on their



own. This had adverse effects for the timely roll out of the vaccination to those who required it.

As in many endeavors, inadequate or regular shortage of essential supplies adversely affects many aspects of service delivery. Sometimes, these shortages demoralized health workers. At other times, clients who needed these supplies were left frustrated. The overall effect of this was the tendency for clients to lose faith in the ability of facilities to provide their health needs. When this happens, there was always the tendency of a reversion to low utilisation and patronage of modern health care services. Other times they were forced to contend with bad local health care practices that posed a health risk to them.

The third objective examined community participation practices within the study sites. The role of community members in the successful implementation of CHPS are critical and numerous. Right from the demarcation of the CHPS zone, through to the selection of a site for putting up the CHPS compound require extensive involvement and community stakeholder awareness and buy-in. After construction of the compound/facility, the recruitment and installation of staff, as well as the provision of security and other essential materials to make the facility livable and functional also require substantial community activity. Since CHPS is community-centered, all activities or programs are designed to revolve around the communities in each zone. Hence, participation in CHPS programs is inevitable for members of the community.

From the results, it is clear that local community health structures were largely available and supportive of the system. Many zones had well constituted



volunteers and duly constituted health communities. There was also a cadre of TBA and Mother to Mother Support Groups (MTMSG), who comprised experienced women providing support services to would-be pregnant women and nursing mothers within their community. Mostly, these services included counselling and health education mainly on reproductive, maternal and child health topics. These volunteers assisted the formal health sector workers by impressing upon pregnant women, especially first time mothers to attend ANC services early and regularly. They also saw to it that family members and relatives of pregnant women became part of the appropriate health care utilization agenda.

For the TBAs, their involvement in direct deliveries has seen an appreciable decline. As the results indicate, only 17% of WIFA respondents reported to have been delivered by a TBA in their last pregnancy episode. This implies that the directive by health officials to TBA to cease deliveries unless they are emergencies is being largely complied with. Without conducting deliveries on their own, TBAs have now been obliged to carry out other services namely counselling clients, identifying early signs of pregnancy and recommending the commencement of ANC immediately pregnancy is confirmed, assisting MTMSG with reproductive, maternal and child health promotion activities. Another key contribution of the “modern” TBA is their cooperation with CHOs to undertake MNCH activities, key among them is PNC. TBAs are still an important resource for helping first time mothers to bath their babies and some to perform circumcisions.

Volunteers and members serving on local health committee were mostly available and properly constituted. In the district, most CHPS zones had a



functioning volunteer and committees in place contrary to other findings elsewhere (GHS, 2016). This implies that local components of support services for CHPS were largely intact. It stands to reason to assume therefore that there would be smooth operations of CHPS when it comes to the contributions of local community members. Indeed, this was largely so. There was ample goodwill among community members to see the CHPS initiative succeed within their localities. The key challenge, however, laid with duty bearers whose responsibility it was to see to the appropriate mobilisation and utilization of local partnerships. Governance and management of the initiative was weak and posed a major challenge to service delivery. This will be elaborated on in chapter six.



CHAPTER FIVE

CONTRIBUTIONS OF CHPS TO IMPROVED MATERNAL NEWBORN AND CHILD HEALTH IN DAFFIAMA, BUSSIE, ISSA DISTRICT

5.0 Introduction

This chapter presents and discusses the results of the study relating to the contributions of CHPS to improved MNCH in the study district. It utilized both primary and secondary data. It begins with the presentation of results on key indicators relating to outputs followed by the key outcomes resulting thereof. The final section of the chapter outlines main findings emanating from the data on performance and discussion of the findings.

5.1 Health Output

A major objective of this study was to examine the contributions of CHPS, if any, towards improved MNCH in the district. To achieve this, key measures and indicators were split into output, conceptualized as main activities or actions carried out under the aegis of the model and outcomes, defined as the results or consequences of these output. The output variables included ANC, PNC, management and treatment of childhood illnesses, Expanded Program on Immunization and skilled delivery. Additionally, household visits by CHOs and CHVs and utilization of CHPS services by WIFA clients were also analyzed.



5.1.1 Household Visits by CHPS Personnel

Data from both field work and secondary sources were used to assess the number of household visits made by health workers in the study area. The following table show the results.

Table 5.1: Number of Household Visits by CHO (2014-2015)

HH visits by CHO	Frequency	Percent
None	246	38.7
Once	90	14.2
Twice	83	13.1
Thrice	70	11.0
Four to six times	69	10.9
Seven to ten times	33	5.2
More than ten times	44	6.9
Total	635	100.0

Source: Field Data, 2015

From Table 5.1, it can be seen that nearly 39% of the respondents reported no household visits at all in the past year. The remaining respondents (61%) however reported that household visits by CHOs did take place. The number of visits however varied ranging from just one visit to more than ten visits. From secondary data, the 2015 Annual Regional CHPS Report, indicates that out of a total of 3,102 households in the district, 1,860 were visited at least once. This



represents a household visitation coverage of about 60%. This figure is marginally lower than the 61% reported by survey respondents for this study.

5.1.2 ANC Utilization

The next output variable was the utilization of antenatal services by the WIFA population. Two key measures were of interest here: the utilization rate and the minimum number of visits. From the data, 69% or 441 respondents reported utilizing ANC services while the remaining 31% or 194 of them said they had not sought any ANC services in the past three years. This doesn't paint a complete ANC utilisation rate though. A further analysis reveals that out of the 194 respondents who did not utilize ANC services, 157 of them were neither pregnant at the time or had ever being pregnant before, hence they would not have any need for ANC services. The real non-utilization figure will, therefore, be 37 respondents. With this, the actual utilisation percentage among women who actually required ANC will be 92.3%, while only 7.7% are non-utilizers.

According to the Annual Regional Health Report 2014, out of a target of 90% ANC coverage rate, the District chalked 81% in 2013 but dropped slightly to 74.7% in 2014. The 2015 report indicates a figure of 75.1% which is a marginal improvement over the previous year.

5.1.3 Number of ANC Visits

In addition to this, the number of ANC visits by utilizers was also analyzed. The results range from no visit to more than four visits.



Table 5.2: Number of Antenatal Care Visits

Number of ANC Visits	Frequency	Percent
One visit	20	4.2
Two visits	21	4.4
Three visits	71	14.9
Four visits	69	14.4
More than four visits	260	54.4
No visits all at	37	7.7
Total	478	100.0

Source: Field Data, 2015

The data reveals that more than half (54.4%) of respondents who attended ANC sessions actually made more than four visits. Only 4.2% reported only one or two visits, while only 7.7% did not seek ANC at all. About 14.9% and 14.4% sought ANC services three and four times respectively.

According to the Annual Health Report for the region, in terms of first trimester registration for ANC services, the DBI obtained 63% in 2013, 2014, and 2015 emerging as the second best performing district in the region, next to Wa municipal which recorded 66% in 2015. The regional average for the past three years had been 54%, 56% and 56.9% respectively for 2013, 2014 and 2015. On the 4+ ANC visits, the district recorded, a total of 660 representing 62% in 2013, and



a total of 695 women representing 66.2% and increase of about 4.2%. In 2015 there was a further increase to 69.3% almost same as the regional average of 69.7%.

In terms of CHPS' contribution to the ANC services, the region and district has seen a steady rise. The following graph indicates the percentage contribution of CHPS to ANC in the past three years compared to the region.

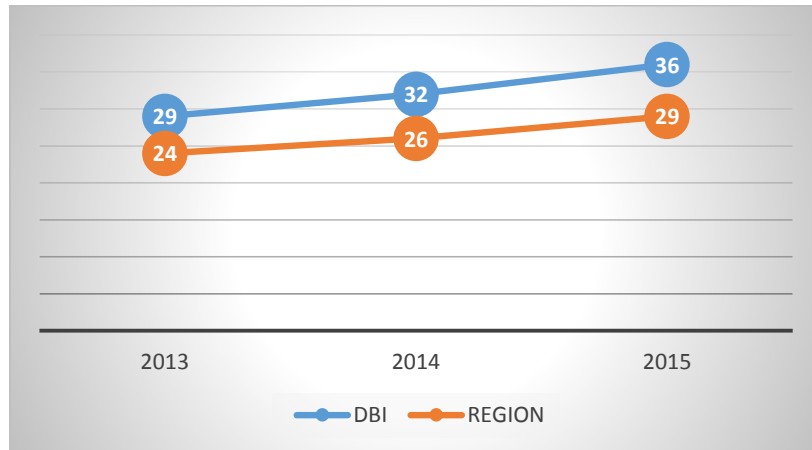


Fig. 5.1: CHPS' Contribution to Antenatal Care in DBI and Upper West, Annual CHPS Report, 2015

From the graph above, we can notice a progression in the percentages of both the regional and district level. From 29% in 2013, the district in 2015 recorded 36% in CHPS contribution to ANC. Interestingly, DBI recorded higher averages than the region.

5.1.4 Post-natal Services

Another output indicator used to examine the performance of CHPS within the district was PNC utilization among the WIFA. Generally, PNC utilization rates



were measured by rate of attendance among women with newly delivered babies. The results are presented in the following table.

Table 5.3: Postnatal Care Utilization by WIFA Respondents

PNC Utilization	Frequency	Percent
Yes	386	80.7
No	92	19.3
Total	478	100.0

Source: Field Data, 2015

From Table 5.3, it is clear that slightly above 80% of respondents who required PNC services actually made use of it. Only 19% of such respondents apparently did not utilize PNC services when they had to. Comparing that to the district and regional data, it was realized that in 2013, out of total CHPS services delivered, PNC services represented 20%, while in 2014 and 2015, it was 10% and 16% respectively. The regional average was 9%, 10% and 10% for 2013, 2014 and 2015 respectively. This indicates that the DBI still performed slightly above the regional average.

Additionally, on total PNC registration, the target for 2013 and 2014 was 80%. However, a total of 781 women were registered in 2013 representing 60%. In 2014, 831 registrations were recorded indicating 59%, a slight drop from the previous year and still below the target. The regional average was 60% and 76% respectively for 2013 and 2014 (GHS, 2016).



5.1.5 Integrated Management and Treatment of Child Illnesses (IMCI)

Another output variable used in this study was CHPS' contribution towards the management and treatment of child illnesses. In the first instance, respondents in CHPS communities were asked to indicate if any child had received any treatment in the past year from CHO or at a CHPS facility. The results are presented in the following table.

More than half of the respondents (376, 59%) reported that at least one child received one form of treatment or another for an illness from a CHO. However, about 41% or 259 reported that no such treatment had taken place over the past year.



Table 5.4: Cross Tabulation of Community and Child Treatment by CHO

community	Has any child received treatment from the CHO in the past year?		Total
	Yes	No	
Kamehego	15	10	25
Challa	24	6	30
Jenpensi	25	15	40
Sazzie	12	18	30
Touri	28	32	60
Duang	15	10	25
Wogu	14	11	25
Tabiesi	37	43	80
Kojokperi	50	15	65
Bussie	38	42	80
Issa	30	25	55
Daffiama	59	21	80
Owlo	29	11	40
Total	376	259	635

Source: Field Data, 2015

The data in table 5.4 provide a further breakdown of communities and their responses to childhood treatment. A further analysis of the data in the table indicates that out of 376 respondents who reported that their wards received



treatment from CHOs, 159 of them were drawn from CHPS communities. Those from CHPS communities whose children did not receive any treatment numbered 106. In percentage terms it shows that 60% of respondents in CHPS communities received child treatment in the past year while 40% did not. This is reflective of the figures obtained in the larger sample.

Table 5.5: Chi-Square Tests for Child treatment received by community

	Value	df	Asymp. (2-sided)	Sig.
Pearson Chi-Square	43.134	12	.000	
Likelihood Ratio	44.445	12	.000	
Linear-by-Linear Association	1.881	1	.170	
N of Valid Cases	635			

Source: Field Data, 2015

Table 5.5 provide an analysis of Chi-Square for child treatment received. The Chi Square statistic was computed to determine if there were any differences between communities and treatment of children by CHOs. The test produced a chi square $X^2 = 43.1$ and a p-value of .000, which is less than 0.05 at α level, indicating that there is a statically significant difference between the communities with respect to childhood treatment received from CHOs.

Following childhood treatment received, another main output indicator of CHPS contribution to child health was the Integrated Management of Childhood Illnesses (IMCI). The IMCI strategy has three components namely; (1) Case



Management, (2) Community IMCI and (3) Improvement in the Health System. Data from the Regional Health Report (2014) indicates that, the integrated approach for the sick child was adopted and Community Base Agents (CBAs) were trained to handle simple malaria, diarrhoea and Acute Respiratory tract infection (ARI) at the community level for children under-five. Clinicians were also trained in IMCI case management protocols to equip them with the requisite skills to identify life-threatening diseases in children.

The CBAs manage simple or uncomplicated malaria, diarrhea and ARI cases in children aged between 6 months to 5 years using pediatric ACT, ORS/zinc and amoxicillin. The CBAs also do home visits, health education, referral among others. A total of 11,628 patients were seen by CBAs in 2014 across the entire region. Under clinical IMCI, 23,879 patients were managed in 2014 under IMCI protocols as compared with 50,033 in 2013 (Regional Health Report, 2014). Out of a total of 9,165 child malaria cases managed in the region in 2013, DBI cases accounted for 998 of them. In 2014 the figure reduced to 734 out of 11, 628 for the entire region.

5.1.6 Expanded Program on Immunization (EPI)

The next variable used to assess CHPS' output in the district was the Expanded Program on Immunization (EPI) which is aimed at reducing childhood morbidity and mortality by controlling, eliminating or eradicating vaccine-preventable diseases (VPDs) through immunization. The programme currently vaccinates against 12 VPDs in the routine immunization. The main objective of EPI is to protect children against childhood killer diseases.



For the purpose of this assessment, two out of the lot, namely, BCG and Pentavalent (PENTA), were conveniently selected for analysis. Hence both primary and secondary data on these immunizations were sought. WIFA respondents were also asked to indicate whether any child in their households had received any immunization over the past year.

According to the recent GDHS (2014), for BCG, the national average was 96.6% coverage for children 0-12 months, while the Upper West Regional average was 98.6%. For PENTA 3, the national average was 87.7 while the region recorded an average of 96.7%. In both cases the Upper West Region seemed to have performed above the national average.

But the key question is: what was CHPS' contribution to these immunization figures? The following graphs shows a comparison of data from DBI and the Region in terms of CHPS' contribution to BCG and PENTA coverage.

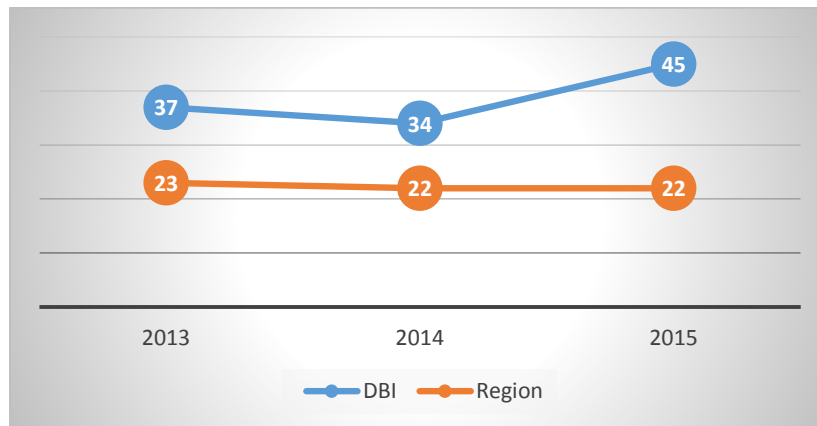


Fig. 5.2: CHPS Percentage Contribution to BCG, Annual CHPS Report, 2015

The data show that while the contribution of CHPS to BCG in the region seems to have stagnated, the DBI district figures seems to appreciate significantly.



Thus, from 37% in 2013, a slight drop to 34% in 2014, it rose sharply to 45% in 2015.

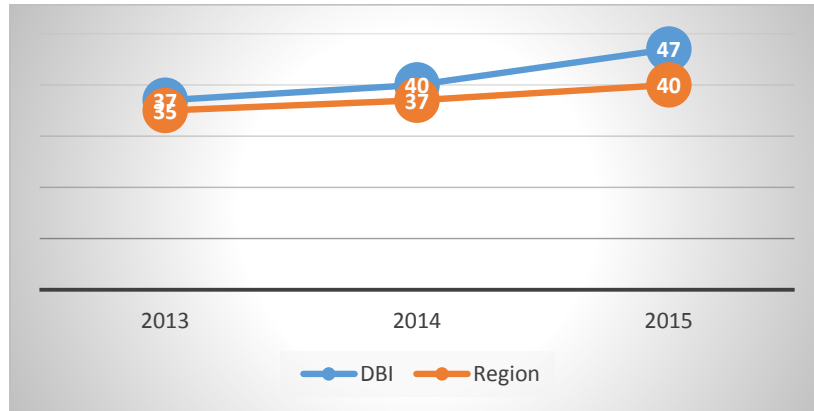


Fig. 5.3: CHPS' contribution to PENTA 3 Coverage, Annual CHPS Report, 2015

For PENTA 3, the story seems to be different since both regional and district figures depict a steady rise with the district still performing better than the regional average. From the figure, the contribution of CHPS to PENTA immunization has risen steadily between 2013 and 2015. CHPS now contributes nearly 50% of all PENTA immunizations in the district.

5.1.7 Skilled Delivery

According to the Annual Regional Health Report, in 2014, a total of 19,204 skilled deliveries constituting 63.9% of the expected deliveries were recorded. This was an improvement over 2013 performance of 58%.



Table 5.6: Skilled Delivery versus TBA Deliveries

DISTRICTS	2013		2014	
	SKL DEL	TBA DEL	SKL DEL	TBA DEL
DBI	644	75	777	52
Jirapa	2,274	205	2260	249
Lambussie	727	20	770	90
Lawra	980	13	1154	52
Nadowli	1,739	67	1938	47
Nandom	1,576	75	1722	57
Sissala East	1,327	463	1569	389
Sissala West	877	347	935	334
Wa East	653	808	717	720
Wa Municipal	5,379	116	5944	61
Wa West	1,109	479	1418	511
Reg Total	17,285	2,668	19204	2562

Source: Regional Health Report, 2014

However, a comparison of skilled deliveries by formal health workers and TBAs paints a better picture. The data in the table reveals a decline in TBA delivery across the region and in the DBI district in particular. In DBI, TBA deliveries has consistently declined, from 75 in 2013, to 52 in 2014.



Data from the field and from the annual CHPS report indicate that CHPS' contribution to skilled delivery in the district is on the increase. From 2013, the contribution of CHPS to total deliveries was 11%. This fell sharply to 6% in 2014 and rose again to 14% in 2015, while the contribution to the regional average was 4% in 2013, 3% in 2014 and 5% in 2015. The following table also presents data from respondents on deliveries in the last pregnancy episode by WIFA respondents.

Table 5.7: Place of Delivery in last pregnancy

Place of delivery in last pregnancy	Frequency	Percent
Home	134	28.0
TBA facility	16	3.3
CHPS Compound	38	8.0
Health Center	174	36.4
Hospital	116	24.3
Total	478	100.0

Source: Field Data, 2015

The data indicate that for all respondents who had ever given birth with in the last three years prior to the survey, nearly a third (28%) delivered at home. TBAs accounted for only 3.3% of those deliveries while health centers and hospitals jointly accounted for nearly 61% (that is 36.4% and 24.3% respectively). The percentage of deliveries at the CHPS facility was 8%. A further interrogation of the home deliveries, however, revealed that about half of those were actually carried out by CHOs, Midwives and/or TBAs under emergency situations. This



usually happened when referral to health centers or hospitals are delayed or not heeded to by the pregnant women. Hence the actual contributions of CHPS to these deliveries could actually be close to 15% or 16%.

5.1.8 Association between CHPS utilization and selected output variables.

In line with the mixed method approach, some non-parametric statistical analysis was carried out to support the qualitative responses acquired. Correlations analysis was deemed most appropriate because of the nature of the study itself and the variables involved. In view of the fact that only the survey generated largely ordinal data, the best correlation possible was the Spearman's Rank Correlation. Correlations although cannot indicate if one variable caused the other, they could give us an idea as to whether there were any associations between the outputs and CHPS utilization, hence its usage. Spearman Rank Correlation is a non-parametric test that is used to measure the degree of association between two variables. Spearman Rank correlation test does not make any assumptions about the distribution of the data and is the appropriate correlation analysis when the variables are measured on a scale that is at least ordinal.



Table 5.8: Utilization of CHPS and Selected Associations

Spearman's Correlation		Utilization of CHPS
Post-Natal Care Received	Correlation Coefficient	.224**
	Sig. (2-tailed)	.001
Antenatal Care Attendance	Correlation Coefficient	.256**
	Sig. (2-tailed)	.001
Reported Child Death	Correlation Coefficient	-.019
	Sig. (2-tailed)	.641
Child received treatment from the CHPS	Correlation Coefficient	.217**
	Sig. (2-tailed)	.001
Reported maternal death	Correlation Coefficient	.030
	Sig. (2-tailed)	.454
Child Immunization	Correlation Coefficient	.266**
	Sig. (2-tailed)	.001

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

From Table 5.8, it can be seen that among the six variables paired with the utilization of CHPS, four of them have some correlation. Reported child and maternal deaths were the two variables that did not have any significant association with utilization of CHPS. On the other hand, postnatal attendance, antenatal care visit, child immunization and child treatment all had some degree of positive association with utilization of CHPS. That is, the higher the utilization of CHPS



services, the likelihood that there will be a higher usage of antenatal care, postnatal services, child treatment and immunization. However, it must be indicated that the figures show that these association are relatively weak.

A further analysis of association between ANC and PNC showed a strong positive correlation between the two with a coefficient of 0.729. This means that, there is a positive relationship between attending ANC during pregnancy and seeking PNC after birth. Other positive correlations found were between ANC and place of delivery ($\rho=0.330$) as well as PNC and place of delivery ($\rho= 3.36$).

5.2 Health Outcomes

The essence of every health care intervention is to improve the health indicators of the population for whom that intervention is implemented. As such, the CHPS strategy towards improving MNCH was assessed on the contributions of the various outputs on the final outcomes. Thus, the key question was, how to investigate the various intervention outputs impact on the health of the people concerned. To ascertain this, mortality rates were used. For maternal health, maternal mortality was the main variable used, while for newborn and child health, still births, neonatal, infant and under five mortalities were used. The following section presents results of the outcomes variables.

5.2.1 Maternal Deaths

WIFA respondents were asked to indicate if over the last five years they had been any maternal deaths within their communities. This was used to gauge the frequency of maternal deaths in the community. This approach is usually called the



sisterhood method and has the advantage of helping researchers to have a feel of the nature of the situation on the ground. It is different from other measures like the institutional maternal mortality ratio or estimated maternal mortality ratio. The setback with this approach is that the fallibility of human memory and the tendency for multiple respondents to be reporting on a single case as though it was multiple cases thereby leading to double counting. In view of this, the institutional maternal mortality ratio was also used to determine the extent of occurrence of maternal deaths in the district over the three year period. This however has also been criticized due to shortfalls of data and errors in data collection procedures.

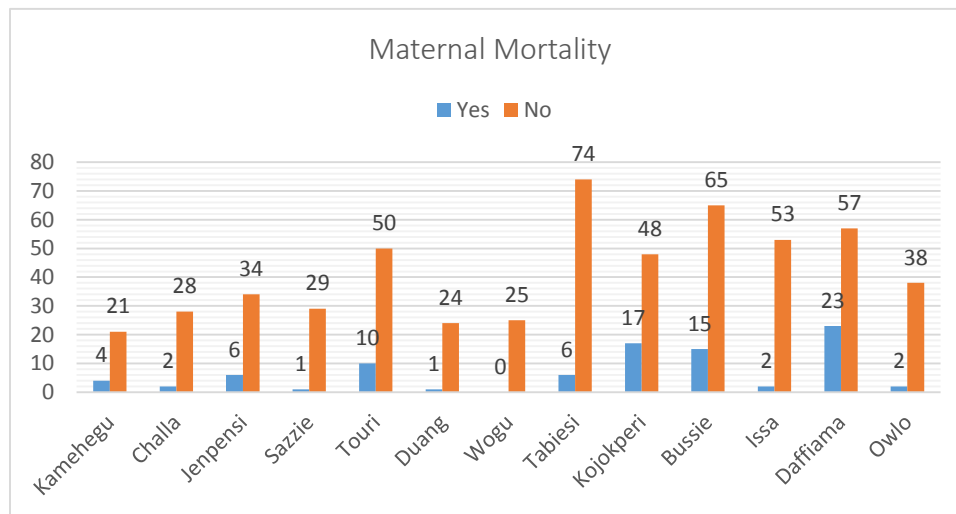


Fig. 5.4: Incidence of Maternal Mortality by Community (2010-2015), Field Data, 2015

From Figure 5.4, it can be seen that only Wogu had no respondent reporting any maternal death in the past five years. The remaining communities had cases ranging from 1 reported case in Sazzie and Duang to as many as 23 for Daffiama. Kojokperi and Bussie also had relatively high reported cases. Incidentally, the



communities where high maternal deaths were reported happened to have health centers and not CHPS facilities.

In Table 5.9, the analysis shows if there were differences in the reported maternal deaths by various respondents from the communities. The results indicate that, at alpha value of 0.05, the Pearson Chi Square $X^2 = 45.084$ and a p-value of 0.000. Since the p-value is less than the alpha, we can conclude that, the observed differences in the reported maternal deaths across the communities is statistically significant.

Table 5.9. Chi-Square Tests on Maternal Deaths by Community

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.084	12	.000
Likelihood Ratio	49.350	12	.000
Linear-by-Linear Association	2.922	1	.087
N of Valid Cases	635		

Source: Field Data, 2015

5.2.2 Still Births

The next outcome indicator examined was the number of still births recorded over the period. Still births paint a picture of how well maternal health intervention are working or not. A consistent decline in still births shows that measures put in place to forestall them are working. Still birth is regarded as an indirect measure of quality of management during pregnancy, labour and delivery.



The region recorded 359 stillbirths⁷ in 2013, 366 in 2014 and 308 in 2015. The district accounted for 3 of these still births in 2013 and 2014. In 2015 the still births rate for the district was 5.1 per 1000 births. This figure was second only to Lambussie with a rate of 4 per 1000 births. The 2015 regional still birth rate was 16 per 1000 births.

5.2.3 Neonatal Mortality

There is increase an in neonatal mortality rate from 7.8 (98/17,624) in 2013 to 5.1 (98/19,243) in 2014 and then 7.4 (143/19258) in 2015. The details are shown in the following graph. Assessing the 2015 performance by districts shows that Wa Municipal recorded the highest 14.1 (80/5,667), followed by Sissala West with 8.9 (8/898), Lawra with 8.4 (9/1,068), Jirapa with 8.1 (18/2,215, Nandom with 6.9 (12/1,749), Nadowli with 6.5 (13/1,987), Wa East with 2.3 (2/886) and Daffiama Bussie Issa with 1.3 (1/773). Lambussie, Sissala East and Wa West recorded no neonatal deaths during the year 2015.



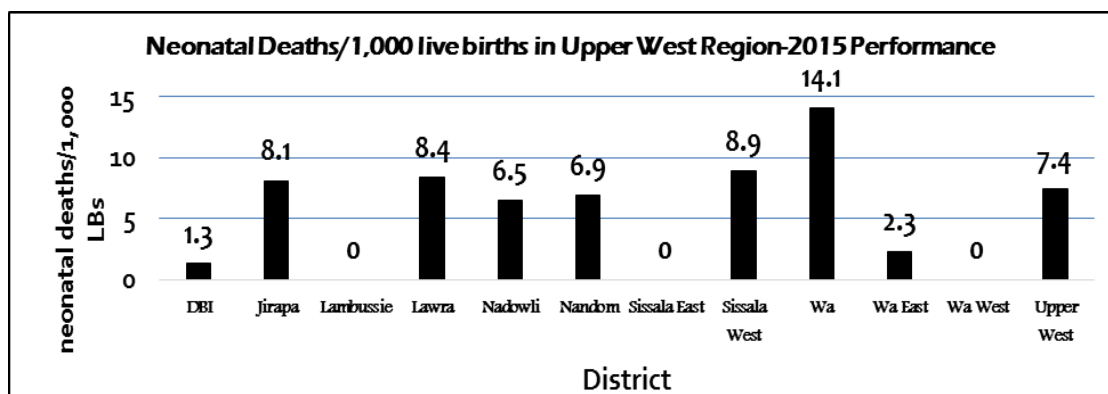


Fig. 5.5: Neonatal Deaths in the Upper West Region, Regional Health Report, 2015

The causes of these neonatal deaths in the region according to the Regional Health Report are asphyxia, jaundice, sepsis of the cord and others. In 2015, there were 100 deaths from asphyxia, jaundice recorded 13, while sepsis of cord recorded 10. Nine deaths were attributed to other causes.

5.2.4 Infant and Child Mortality

Infant mortality refers to the probability of a baby dying between birth and exact age one, while child mortality is the probability of baby dying between exact ages one and five. Under-five mortality has been defined as the probability of dying between birth and exact age five (GSS, GHS, ICF, 2015).

Nationally, the recent GDHS reports that, infant mortality rate is 41 deaths per 1,000 live births and under-5 mortality is slightly higher at 60 deaths per 1,000 live births. This means that, one in every 24 Ghanaian children dies before reaching age 1, and one in every 17 does not survive to his or her fifth birthday (GSS, GHS, ICF, 2015).



For the district, the survey asked respondents if they had witnessed any child deaths within their households in the past year. This was used to proximate the total number of child deaths occurring during the past twelve months in the various study communities. The data is presented in the following chart and table.

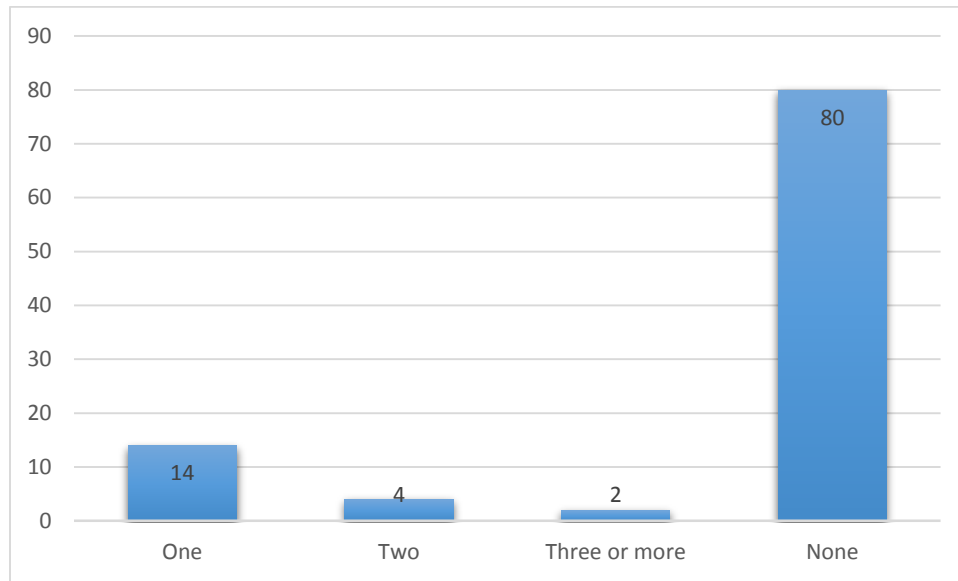


Fig. 5.6: Number of Child Deaths, Field Data, 2015

Figure 5.6 indicates that, about 80% (507) of survey respondents did not report any child deaths within their households in the preceding year. Fourteen percent (89) of the respondents reported one child death, while 4% (26) and 2% (13) reported two and three or more deaths respectively. Thus, in all, 128 respondents reported child deaths.



Table 5.10: Reported Child Deaths in Selected Communities

Community	Has there been a death of a child in the past year?		Total
	Yes	No	
Kamehego	5(20.0)	20(80)	25
Challa	5(16.7)	25(83.3)	30
Jenpensi	9(22.5)	31(77.5)	40
Sazzie	1(3.33)	29(96.70)	30
Touri	22(36.7)	38(63.3)	60
Duang	7(28.0)	18(72.0)	25
Wogu	6(24.0)	19(76.0)	25
Tabiesi	11(13.8)	69(86.2)	80
Kojokperi	22(33.8)	43(66.2)	65
Bussie	18(22.5)	62(77.5)	80
Issa	4(7.30)	51(92.7)	55
Daffiama	14(17.5)	66(82.5)	80
Owlo	4(10.0)	36(90.0)	40
Total	128(20.2)	507(79.8)	635

Source: Field Data, 2015

Data from Table 5.10 indicates that in Sazzie, only one respondent reported a child death in the preceding year, this represented just 3.33% of the sample from that community. In Issa the district capital, only 7.30% of the respondents reported any child deaths, while in Kojokperi and Touri, 33.8% and 36.7% respectively, reported the occurrence of child deaths. The average number of respondents reporting child deaths across all communities was 20.2%. Unfortunately, respondents could not readily recount the exact ages of the dead



children hence a clear distinction between neonatal, post neonatal, infant, child and under five mortalities could not be established.

Table 5.11. Chi-Square Tests for Reported Child Deaths by Community

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.456	12	.000
Likelihood Ratio	37.293	12	.000
Linear-by-Linear Association	2.036	1	.154
N of Valid Cases	635		

Source: Field Data, 2015

Similar to earlier tests, a Chi Square statistic was computed to ascertain if there were any differences in reported child deaths from the sampled communities. As Table 5.10 indicates, with $X^2 = 35.5$, and a p-value of .000, which is less than the specified 0.05 α level, the differences in reported child deaths from the various communities was statically significant.

5.3 Discussion

The Ministry of Health and the Ghana Health Service recognize the following practices related to pregnancy, delivery and newborn care as essential for child and maternal survival: focused antenatal care (FANC) attendance, tetanus vaccine during pregnancy, intermittent preventive treatment for malaria in pregnancy (IPTp), skilled attendant at delivery, initiation of breastfeeding within 30 minutes of birth and contact with a trained health provider within two days of



delivery (GHS, 2009). These formed the basis for selecting the various output variables upon which a determination was made on CHPS' contribution.

The first was household visits by CHOs and volunteers. The household visits routine is one of the very key pillars of the CHPS concept. The visitation allowed for increased interaction between client and service provider which ultimately leads to improved service delivery. Among others, household visits was envisaged to improve the way ailments among community members are identified and treated, provide the opportunity for the CHOs to identify pregnant women and recruit them for ANC services, to easily identify defaulters of requisite treatments or immunizations and rectify the situation. Household visits also provided the requisite platform to engage with the male spouses regarding family planning and other reproductive health activities. In all, regular household visits aimed to improve health service delivery, community engagement, participation among others.

With this in mind, household visit as an output variable was regarded as a key indicator in the evaluation of performance of CHPS. The findings on this indicate that about 39% of the survey respondents reported that they had not been visited by any CHO in the past year. The remaining 61% however had received visits ranging from as few as one visit to as many as ten or more visits. On the average the majority of respondents who had any visits at all were visited between four and six times, within the year. One will conclude that this was a fairly good output. However, it leaves much room for improvement; 39% not receiving any visit at all is a worrying issue for health care authorities, community members and



all other stakeholders involved. Further interrogation into the reasons for this finding reveals a number of challenges that constrain the CHOS and volunteers from carrying this very important exercise. These challenges will be examined in detail much later. Suffice it to say these challenges include transportation difficulties, overwhelmed staff due to concentration on clinical services and the lack of understanding of the work roles and routines, among others.

The next output variable was ANC utilization. The provision of antenatal care services is a crucial part of preventing birth complications and death of mothers and babies. The key reasons for ANC are: to provide health education on key issues; to provide evidence based interventions and care which can prevent and treat complications of pregnancy. The rest are to encourage skilled attendance at delivery; to discuss plans for emergency transport and funds in the case of an emergency; to identify the nearest site of Emergency Obstetric Care; and to provide a link between women and the health care system.

Good care during pregnancy is important for the health of the mother and the development of the unborn baby. Pregnancy is a crucial time to promote healthy behaviours and parenting skills. Good ANC links the woman and her family with the formal health system, increases the chance of using a skilled attendant at birth and contributes to good health through the life cycle. Inadequate care during this time breaks a critical link in the continuum of care and affects both women and babies (UNICEF, 2016).

Essential interventions enshrined in ANC include identification and management of obstetric complications such as pre-eclampsia, tetanus toxoid



immunization, intermittent preventive treatment for malaria during pregnancy (IPT) and anemia and identification and management of sexually transmitted infections including HIV and syphilis. ANC is also an opportunity to promote the use of skilled attendance at birth and healthy behaviors such as breastfeeding, early postnatal care, and planning for optimal pregnancy spacing (UNICEF, 2016). What this means is that the more women utilize ANC services, the greater the likelihood of detecting any pregnancy complications and treating them on time. The increased utilization of ANC services, may have led to a reduction in the risk of birth complications, utilization of skilled delivery and patronage of PNC services. Women are more likely to give birth with a skilled attendant if they have had at least one ANC visit (Lincetto et al., 2013). The overall effect is safer child bearing and healthy mothers and babies.

The CHPS model envisaged curbing mortality and morbidity of women and children through increased utilization of ANC. The results of this study indicate that only 7.7% of pregnant women over the past three years had not utilized any ANC service. The remaining 92.3% had made use of ANC. With respect to the recommended 4 or more ANC visits, it was found that nearly 69% of the respondents complied with this recommendation. Only 23.6% of respondents who utilized the service made between one and three visits. Comparing this to the secondary data, it was found that the district in 2015 recorded a 4+ ANC visits of averagely 69.3% slightly higher than the figure recorded for the survey respondents. This figure was, however, slightly lower than the regional average of around 69.7%.



This finding represents a significant improvement in ANC service utilization (GSS, 2015).

What is the contribution of CHPS to this significant leap in the ANC utilization? The data reveal that, from 2013 to 2015, the contribution of CHPS facilities to ANC services has been on a steady increase. As shown in the graph earlier (page 175), it has creased from 29% in 2013 to 32% in 2014 and had increased further to 36% in 2015. This was well above the regional average. This means that, improved utilization of ANC visits offer an entry point for integrated care, promoting healthy home practices, influencing care seeking behaviors, and linking women with pregnancy complications to a referral system. Similarly, Pervin et al. (2012) investigated the association between antenatal care, facility delivery and perinatal survival and found that ANC patronage is associated with an increase in the uptake of health facility based delivery and improved perinatal survival.

The results show that the number of antenatal visits has a significant positive effect on skilled birth care use, suggesting that contact with health services during pregnancy, whether because of complications or for routine checks, leads to a higher likelihood of giving birth with a skilled health worker. This is a common finding and confirms previous studies in Ghana and elsewhere (Amoako, Padmadas, & Matthews 2013; Johnson et al., 2015).

A much related variable explored alongside ANC was the utilization of postnatal services. According to the 2014 GDHS, a large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Thus, prompt postnatal care for both the mother and the child is important to cater for any



complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. Safe motherhood programmes recommend that all women receive a check of their health within two days after delivery. Women who deliver at home should go to a health facility for postnatal care services within 24 hours, and subsequent visits (including those by women who deliver in a health facility) should be made at intervals of three days, seven days, and six weeks after delivery. It is also recommended that women who deliver in a health facility should be kept there for at least 48 hours (up to 72 hours depending on the capacity of the institution), so that the mothers and infants may be monitored by skilled personnel (GSS, 2015).

PNC includes a variety of activities that occurs from the first minutes of birth to about seven days after birth. The most vulnerable time in the life of a baby is immediately after birth and a few days afterwards. Their environment changes from the womb to a new environment. At this stage, the baby and mother need careful and dedicated care to ensure that they have all the requisite tools to ensure their survival. Postnatal activities include clean cord care and hygiene, temperature management, ensuring that the baby is breathing properly, ensure the baby is properly nourished and also ensure that all vital organs are working properly. Early detection of defects and anomalies have proven very useful in treating or managing certain conditions for both baby and mother. Proper postnatal period activities could enhance overall maternal and infant health (Sibanda et al., 2009).

The data show that CHPS' contribution to the PNC services in the District continues to increase, from 10% in 2013 to 20% in 2015. Thus, PNC under CHPS



has seen a 100% appreciation over a three year period. However, the findings also reveal that, although nearly 81% of survey respondents utilized PNC services within the past year, the secondary data suggests that PNC utilization target of 80% of all new mothers for both 2013 and 2014 were missed. Thus, only 60% (2013) and 59% (2014) of targeted new mothers actually utilized postnatal services. This does not bode well for efforts to improve MNCH within the district. An interrogation of the issue reveals that the main factors that caused this include distance between health facility and homes of the new mothers, reliance on TBAs, some negative cultural practices, and complacency.

It was clear that CHPS facilities only delivered babies in emergency. Hence, a good number of skilled delivery is done at the nearest referral centers which are the health centers or hospitals, most of which are located some distance from the client's homes. This situation does not encourage the return to the health facilities for postnatal checkup. Thus, the only services such clients receive are those given during and immediately they give birth. In situations like this, TBAs are often relied on to provide the services that would hitherto have been provided at the health center. The TBA services rendered to these mothers are usually not officially recorded as PNC service utilization (AbouZahr & Wardlaw, 2003).

Cultural practices such as those that prohibit the open display of newborn babies or going out of the homes with them are quite prevalent in parts of the district. These practices may serve as a good method of preventing babies and mothers from infections likely to emanate from their numerous visitors or even reduce exposure to adverse weather. However, these practices have the tendency to



hamper the utilization of PNC services, leading to the reliance on homemade remedies which prove to be dangerous sometimes.

On the part of complacency, it emerged that women who had given birth at home tended not to visit the health facility to have themselves or their babies checked. They felt that once they successfully went through home deliveries, they and their babies were out of any danger. This has often led to disastrous consequences as a number of potential debilitating conditions are overlooked. Again, women who had multiple children were less likely to go for any further checks beyond the ones provided during child birth. They feel they are experienced enough to detect and take care of any complications on their own. This has not portended well in some case.

Other output indicators were IMCI and EPI basically for children. The WHO, African Region initiated IMCI implementation among its member countries in 1995. The strategy was adopted by Ghana in 1999 as a key strategy for reducing childhood deaths and improving the health of children under five years. Additionally, the major objective of the EPI programme is to increase the coverage of all antigens to at least 95%, reduce the morbidity and mortality, control, eliminate or eradicate vaccine preventable diseases through immunization as an essential component of Primary Health Care (PHC) (GHS, 2016).

The management of childhood illnesses through clinical and non-clinical practices have proven to be a very effective way of reducing mortality. As such health care officials have expended resources to attempt to see to it that childhood illnesses are treated and/or managed with dispatch. The roll out of these programs



within the CHPS initiative involved the use of CHVs as agents for management of uncomplicated ailments such as malaria and diarrhea. Others such as ARI are dealt with by the more experienced and trained health professionals. Immunization also formed a key strategy in the prevention of diseases for children. The EPI was also rolled out with the help of CHOs and CHVs.

The findings reveal that at least 60% of children across the selected communities received one form of treatment or the other. CHPS' contribution to the treatment and management of childhood illnesses as well as immunization was very significant. Specifically, for BCG vaccinations, CHPS' contribution to the district coverage increased from 37% in 2013 to 45% in 2015. On PENTA3, over the same period, the increase was from 37% to 47%. Thus nearly 50% of the PENTA3 vaccinations is carried out under the auspices of CHPS. The story was not different for the numerous other vaccines such as OPV3, Rota 2, PCV 13 3, and TT2+. Same with the management of illnesses such as measles, fever and diarrhea. This finding can be considered a very significant one indeed since it puts the region as well as district on course to achieve the goals of PHC.

The final output variable as presented was skilled delivery. According to health care practitioners, obstetric care from a health professional during delivery is critical for the reduction of maternal and neonatal mortality. Children delivered at home are usually more likely to be delivered without assistance from a trained provider, whereas children delivered at a health facility are more likely to be delivered by a trained health professional (GSS, 2015).



Three-quarters of births in Ghana (74 percent) are delivered with the assistance of a skilled health professional: 14 percent are assisted by a doctor, 57 percent by a nurse/midwife, and 3 percent by a community health officer/nurse. Data further show that 16 percent of births are delivered by a traditional birth attendant, 7 percent are assisted by a relative or other persons, and 3 percent of deliveries are not assisted by anyone. It is notable that, even though nationally, only 3 percent of births are assisted by a community officer/nurse, this is true for almost one in five births (18 percent) in Upper West, indicating the crucial role of these providers in this region. Furthermore, data show that traditional birth attendants play an important role in the Northern Region, assisting in the delivery of 4 in 10 births (41 percent) (GSS, 2015).

From the study, it was found that, among the WIFA respondents, only 16 deliveries or 3.3% were made by TBAs, while about 64% of all deliveries in the district was attended to by either a doctor, nurse, midwife or a community health officer. In fact home deliveries in the selected communities represented only 28%. CHPS facilities contributed directly to only 8% of the births. This is in line with the policy directive that deliveries at the facilities should only be carried out under emergency situations only. However, indirectly, the majority of expectant mothers from these communities went ahead to deliver at the health centers, hospitals or polyclinics on the referral and advice of their CHO as required. Hence one can safely assert that any improvement in skilled deliveries as well as facility deliveries are partially attributable to the CHPS programme.



This is a very important point because two of the approaches to safe motherhood are the assistance of a trained person at all births and access to the essential elements of obstetric care for women at higher risk (Lattof et al., 2014, Galaa, 2012). Hence the reduction in home deliveries is regarded as positive news for health care officials in their attempts to improve MNCH outcomes.

It is important to indicate that skilled delivery is also known as skilled attendance which is a process by which a woman is provided with adequate care during labour, delivery and in the post-partum periods. Skilled attendant refers exclusively to people with midwifery skills (for example doctors, midwives, nurses) who have been trained to be proficient in the skills necessary to manage normal deliveries and diagnose, manage or refer complications. They must be able to manage normal labour and delivery, recognize the onset of complications, perform essential interventions, start treatment and supervise the referral of mothers and baby for interventions that are beyond their competencies. Overall, it can be asserted that outputs for the MNCH aspects of CHPS were principally performed and could be considered to have been reasonably successful in most cases. However, a number of these outputs raises issues which are of concern and need urgent attention.

The above discourse examined the various activities geared towards improving MNCH within the CHPS intervention. The individual interventions when successfully carried out, will lead to an improvement in health outcomes. It is safe to surmise therefore that, when the outputs have been successfully carried out, there would be a corresponding reflection on the outcomes as well.



Infant and child mortality rates are important indicators of a country's socioeconomic development and quality of life as well as its health status. Measures of childhood mortality also contribute to a better understanding of the progress of population and health programmes and policies. Analyses of mortality measures are useful in identifying promising directions for health and nutrition programmes and improving child survival efforts in Ghana (GSS, 2015).

With regards to the performance of CHPS relative to neonatal, infant, and under five mortality, the results reveal an inconsistent or mixed performance in the rates within the district. For instance, neonatal mortality recorded a decline between 2013 and 2014, but rose again in 2015. It was, however, not clear what accounted for this downward-upward scenario. The main causes of neonatal deaths were however consistent with findings from elsewhere. For instance, according to one study, most neonates died within 24 hours of birth with prematurity, birth asphyxia, neonatal sepsis, neonatal jaundice and respiratory distress identified as the five topmost causes of these deaths (Siakwa et al., 2015).

Responses to questions on child deaths within the past year was used to proximate infant and under five deaths. The findings indicate a reduction in child deaths over the period since about 80% of respondents reported no deaths among children in the preceding year within their households. This in contrast to previous years where it was intimated that “*in the past, almost every household reported at least one child death within a year if not more*”. The rate of still births, another indicator of child survival, were positive, with a steady decline from as high as 31/ 1000 to just about 5.1/ 1000. It safe therefore to assert that there have been some



marked improvement in child mortality overall. This can be attested to by the results from the GDHS 2014.

On maternal deaths, the overall institutional maternal mortality rates have also seen a decline. In fact there was only one recorded institutional maternal mortality in the district in 2014 and none in 2013 and 2015. This does not imply that women from the district did not die from child-bearing activities. It means that no deaths were recorded at the various health facilities in the district. Thus, if any deaths were recorded at all they happened in health facilities outside the district or happened at home or within the community. To appreciate the institutional maternal mortality rate as a good measure for determining performance in MNCH outcomes, the overall figures for the region were to be used. The figure indicates show a steady decline between 2011 up to 2015. From as high as 202/100,000 to 156/100,000 in 2015.

To deal with the acknowledged weakness of the institutional measure for maternal deaths that indicate that some deaths may not have occurred at the health facility, we employed the sisterhood method to augment the IMMR. With this respondents were asked to indicate if any maternal deaths had been recorded over the past five years in their household. The figure present an additional angle from which to measure MNCH outcomes. As indicated by the results, a total of 89 maternal deaths were reported over the five year period across the study communities. This comes to approximately 18 deaths a year from 13 communities selected.



How did CHPS contribute to these performance? Although direct attributions cannot be made without advanced statistical tests, it would not be out of place to surmise that these performance would not have been possible without the successful implementation of CHPS' package of interventions on MNCH. As found by other studies, the patronage of ANC is instrumental in boosting the attitude of pregnant women to seeking skilled assistance at birth (Bullough et al., 2005; WHO, 2005). The use of the skilled birth attendant has proven to significantly reduce maternal mortality (Campbell & Graham, 2006) and moreover, timely and appropriate ANC was found to be important for the health of newborns (Halim, et al.2010). This can be said to be the overall effect of CHPS on MNCH outcomes where all these interventions are successfully implemented.

In sum, it could be inferred from the chapter that both outputs and outcomes of CHPS on MNCH has been positive. On several indicators, there has been either considerable or slight improvement. This was corroborated by the key informants and survey respondents when asked to assess the CHPS model with regards to MNCH. The findings presented in the chapter clearly indicate that the CHPS model in spite of its challenges (which will be discussed in the following chapter) can be affirmed to have contributed to some improvements to MNCH in the district.



CHAPTER SIX

CHALLENGES OF CHPS AND ITS IMPACT ON MATERNAL, NEWBORN AND CHILD HEALTH CARE

6.0 Introduction

The final objective of this study was to examine the implementation challenges confronting the CHPS model in the district. Data for this objective was obtained from primary respondents as well as through the review of documentary sources. The findings are presented and discussed alongside each other under six interrelated themes namely; program design, inadequate requisite training of personnel and the unresolved TBA conundrum. The rest are undefined funding sources and resource constraints, infrastructure, logistics and equipment challenges and unclear governance, management and strategic leadership of the programme.

6.1 Program Design Challenges

Right from inception, the CHPS concept was confronted with several policy level difficulties. The Ghana Health Service, admitted that, implementation of CHPS was fraught with several policy and systems level challenges. Different reviews pointed to a lack of clear policy direction, unclear definitions and an unending conceptual debate (GHS, 2016). The fundamental problem was that CHPS was originally conceived as a community-based trial, focused on identifying the best way of delivering services and sustaining community engagement for primary health care, rather than a system's initiative that involved interventions for developing district and regional leadership (Awoonor-Williams et al, 2013).



According to Banchani and Tenkorang (2014), the implementation of any policy requires that those involved in implementing such a policy have adequate knowledge of the policy. Those engaged in the implementation of a policy must be engaged in the formulation process of the policy. This according to them, will ensure the success of such a policy as their commitment and support will be high (Banchani & Tenkorang, 2014). Most of the policies in developing countries tend to be implemented through a top-down approach and are not communicated to those engaged in direct service delivery of health services.

Conversely, the CHPS policy was rather designed to be a bottom-up approach. Yet communication which was an essential ingredient for the success of every policy was found to be weak. Failure to communicate a policy effectively lead to implementation problems. It has been suggested that specifying and providing clarity on the policy and ensuring that the policy is transmitted to the appropriate personnel, leads to successful implementation (Makinde, 2005). In the case of CHPS lack of communication and engagement has led to community members not understanding the distinction between community-based health service and services at a higher level health facility (Tierozie, 2011).

The net result of this policy design challenge is the misunderstanding of the roles, the scope of activities as well as responsibilities of various stakeholders towards the roll out of the initiative. For instance, Awoonor-Williams et al, (2013), reports that, the package of services was also often incomplete and proven life-saving components were needlessly excluded from the regimen, citing the example



that supervision of nurses and volunteers was inadequate in many districts and information systems were so cumbersome that they were useless to CHOs.

In this study, some respondents during the interviews were not very certain of the scope of activities CHPS facilities were mandated to provide. There were constant referral to CHPS compounds as “small hospitals”. Hence there were expectations that all ailments presented should be attended to. Similarly, Ziblim, (2015) in a study on CHPS in three regions of northern Ghana also found that most community members lacked understanding of the CHPS concept resulting in a situation where they refused referrals (which is a key component of the CHPS programme) and insisted that they are treated at the compounds irrespective of the degree and type of ailments afflicting them. This was attributed to the focus of the orientation provided to the community during the introduction of CHPS. For instance, in the local languages, the CHPS compounds were literally translated as smaller hospitals. Therefore community members would not understand why smaller hospital will not perform the duties of bigger hospitals. According to that study, a chief in one of the communities in the Upper West region insisted that CHOs should provide curative services to his people and failure to do so will lead to “war” in the community (Ziblim, 2015).

This challenge has persisted since 2009 when an initial review found that, the understanding of CHPS differs among MOH and GHS leadership at all levels. This has led to skewed implementation toward curative services to the detriment of promotive and preventive services. The overemphasis on building of CHPS



compound has also painted a picture in the community of a static service delivery point. Districts and communities are all looking for “clinics” (GHS, 2009).

According to the GHS, service delivery was in a constant flux with ever changing definitions of the standard basic package of interventions to be delivered in a CHPS zone (MOH, 1999, GHS, 2005, GHS, 2010 and GHS, 2013, cited in GHS, 2016). New services are constantly layered onto existing ones with supervisors and communities coming to expect an increasing variety and complexity of clinical services to be delivered at the CHPS level. All disease specific programmes see the CHPS platform as an opportunity to reach the communities with their programmes. There was also a push for CHOs to include deliveries in the CHPS portfolio of services. Communities expect a facility to deliver clinical care when required (GHS, 2016).

The term ‘functional CHPS zone’ introduced further complication to the concept. Under the functional CHPS zone concept, compounds were no longer a mandatory requirement. Zones were now ranked on a scale of fractional degrees of partial or incomplete depending on how many of the six steps have been completed. Under the new definition, it was difficult to determine precisely what ‘functional’ meant (Awoonor-Williams et al., 2013).

The GHS also indicated that, at the implementation level, technical, health and local government officers referred severally to the confusion in directives received from the centre. Written guidelines were not adequately disseminated, and were difficult to understand and implement. While local government and district



assemblies are willing to take on the challenge of scale up, there is still no clarity in roles and responsibilities (GHS, 2016).

6.2 Inadequate requisite training and skill mix of personnel

A very recurrent emerging theme from the discussions with respondents and from documents reviewed was the issue of the skills mix of CHOs, most particularly the inadequate midwifery knowledge/experience of CHOs and lack of training for CHVs. Some respondents lamented that their CHOs did not possess the requisite skills to attend to obstetric cases even in times of emergencies. To make up for this deficiency, they tended to refer pregnant women to the nearest higher level facility several weeks before their due date. A respondent stated that:

In my last child birth, I was referred to Bussie Health Centre, three clear weeks before I was due. This caused a lot of inconvenience for my family since I had no relatives in Bussie and the health centre did not have adequate bed space to keep me there for that long. Eventually I had to live with a distant relative in the community till I was in labour, then I was rushed to the clinic where I delivered safely (A WIFA respondent, Kamehego).

Some CHOs admitted that their midwifery skills were indeed basic and they lacked the experience to undertake some delivery procedures required. Some admitted that they were posted to their communities freshly out of school and had not actually experienced any delivery situation before. This made them really nervous.

Ziblim (2015) reports that CHOs are only permitted to do “emergency” delivery i.e. when the baby’s head is in the perineum. However, the reality on the ground was that, many of the CHOs had been called upon to assist delivery under emergency circumstances on several occasions. This implies that, the CHOs need



to obtain some basic skills in midwifery to administer delivery. In recognition of this reality, the CHPS policy makes it mandatory for CHOs to at least, obtain considerable level of training in midwifery before they are posted to the CHPS compounds (GHS, 2005). However, Ziblim (2015), found that 68% of CHOs in his sample did not have midwifery skills required to effectively deliver pregnant women even in emergency situations and nonetheless, some CHOs conducted normal and routine deliveries at the compounds (Ziblim, 2015). In the DBI, such was the situation as well.

Banchani and Tenkorang (2014), also reported that, consistent with findings of several studies, they also found that the clinical competencies of health providers in providing basic emergency obstetric care (BEmOC) were very low (MOH, 2008; Al Serouri et al, 2009; Nyango et al, 2010). They bemoaned the fact that, for too long it had been accepted that as long as the health workers received some (often too little) training in midwifery, it was sufficient (Fauveau, Sherrati & de Demis, 2008). They rightly conclude that, there has to be clarity as to the understanding of competence- ability to perform aspects of the job and competencies, the basic knowledge skills and behaviours required of a midwife to practice safely in any setting (Ireland et al, 2007, cited in Banchani & Tenkorang, 2014).

The problem with CHO midwifery competencies has also been commented on by Awoonor-Williams et al (2013). They make the point that, owing to official National Nurse and Midwife Council objections, CHO training excluded emergency obstetric care — life-saving skills, such as the management of asphyxiation and haemorrhaging, and proven approaches to saving newborn lives



(Awoonor-Williams et al, 2013). This further compounded the problem of skills and competencies to deliver efficient services.

The lack of training did not affect only CHOs; in some cases, other persons in the CHPS workforce were either poorly trained or not trained at all. For instance, similar to what pertains in some of the communities visited, Ziblim (2015), discovered that, although the training manual of CHVs stipulated two refresher trainings per year in each CHPS zone, 71% of the volunteers admitted that no refresher courses or trainings had been organized to upgrade their skills and knowledge after their initial training. The effect was that, although most CHPS compounds had volunteers, the majority of the CHVs in his study lacked the required skills and knowledge to work efficiently and effectively. This had a lot of implications on the quality of services provided by these CHVs in their operational areas (Ziblim, 2015). The case for the DBI wasn't very different.

According to the revised CHPS policy document, the selection, training and retention of volunteers have received the least attention in the CHPS deployment framework (GHS, 2016). It is estimated that 55% of CHPS zones have no regularly trained active volunteers working with CHOs on a regular basis (MOH, 2014). Volunteers provide a bridge for the services between patients and the CHNs without affecting the national wage bill. The low availability can be attributed to several factors. Different programs drawing on volunteer services have led to volunteers implementing different uncoordinated services (GHS, 2016).



6.3 The Unresolved TBA Conundrum

Another related challenge was the issue of TBAs. Historically, TBAs have provided invaluable MNCH services to a wide spectrum of clients in the rural and peri-urban areas where access to modern healthcare was limited (Oshonwoh, Nwakwuo and Ekiyor, 2014). TBAs are usually older women who learned their skills from their seniors, and are appreciated in the society for their knowledge and experience (Sibley, et al. 2007). TBAs are different from village midwives in regards to their education attainment, ages, and preferred method of payment. Most of the TBAs are older woman with low educational attainment or even illiterate. They often acquired the skills to assist mothers to deliver their babies merely from the previous traditional birth attendants in their family lines. In addition, the payment method for the TBAs was more flexible when compared to method of payment for village midwives (Hermawan, 2016). Clients (i.e. pregnant mothers and family) can make an installment plan for the payment. Clients can also substitute the use of money with crop produces (e.g. rice, corn, cassava) to pay the service provided by TBAs. In the Upper West Region, they could also be paid with live animals such as chicken, goats or sheep or parts of the meat of these animals (Galaa, 2012; Rishworth et al, 2016).

However, according to Oshonwoh, Nwakwuo and Ekiyor (2014), there has been a debate about the usefulness of TBAs in maternal and child health care. They stressed that opponents of TBAs accuse them of doing little to improve maternal health, while at the same time frustrating governments in sub-Saharan Africa in their efforts to reduce maternal mortality. In contrast, however, supporters of TBAs



have countered that modern health care system should rather partner TBAs especially in rural areas to curb maternal and child deaths (Ebuehi & Akintujoye, 2012). TBA's continued attendance at home deliveries suggests, however that they still possess great influence on maternal and neonatal outcomes in rural communities.

The role of TBAs remains significantly important at the community level as well as to pregnant mothers. Several qualitative studies in developing countries suggest that for many women, TBAs are the preferred community-based providers to consult and to help during delivery. This phenomenon might stem from either the role of TBAs in helping pregnant mothers during delivery; supporting services for household chores in the week after delivery; or the perception that the majority of birth outcomes are positive after getting help from TBAs. Additionally, the spiritual role of TBAs in appealing for the blessing of the spiritual ancestors of the community and family is also thought to be important (Hermawan, 2016).

To reduce the maternal and neonatal mortality rate caused by TBAs practices, several developing countries conducted TBAs' training (Ray & Salihu, 2004). This training has been directed either by governments often through the Ministry of Health or Non-governmental Organizations (NGOs). The scope of the TBAs' training includes preparing them to recognize maternity health issues; taking care of newborns babies; conducting a safe home birth for low-risk women; and referring women considered to be at risk or to have recognized obstetric complications to health facilities (Kruske & Barclay, 2004).



As far back as 1992, the WHO, UNICEF, and the United Nations Population Fund (UNFP) made a joint statement to make sure all women and children had access to acceptable, professional, and modern health care services. One of the goals of the joint statement was to promote TBA training in order to reduce maternal and neonatal mortality rate across the globe (Hermawan, 2016). In view of this, several steps were established as the global recommendation to achieve effective TBAs training program. These included involving community as a whole (opinion leaders and the women); performing local needs assessment and resources; developing a specific plan to set in all the necessary elements of infrastructure; developing methods of evaluation, curriculum and training materials; conducting training of trainers and supervisors; establishing education program for community, and implementing regular evaluation (WHO, 1992). The WHO's guidelines for the practice of TBAs suggested that providing companionship and support during pregnancy and birth in addition to health promotion were the roles best suited to TBAs skills (WHO, 2002). The training of TBAs had been widely promoted as an essential strategy to improve reproductive health in some developing countries (Hermawan, 2016). Rishworth, et al. (2016) contend that the training and use of TBAs was considered to be an interim measure until all women and children could have access to accessible, professional, modern health care services.

With the advent of modern health care practice and facilities, patronage of their services began to wane in some areas. A general attempt to integrate traditional and modern medical practices in Ghana some decades ago also saw attempts to incorporate TBAs into the modern healthcare system. This integration



was however not very successful. With the introduction of the CHPS, TBAs were described as a core human resource for the model. However, their services in line with WHO recommendations were to remain peripheral to the modern health care system.

Text Box 3: Comments about TBA and CHO relationship and challenges

- *When I was posted to this community, I was introduced at the durbar as the one responsible for health care provision in this zone. The members were asked to accord me the necessary courtesies and corporation. I was asked to consult all existing traditional health practitioners so that we could work together. However, the TBA refused to corporate with me, she refused to refer pregnant women to the facility for ANC. She doesn't participate in MTMSG meetings among others. She claims I am only a small girl and inferior to her (26 year old CHO)*
- *My TBAs are very bitter, they claim we have usurped their functions and taken away their glory. They refuse to assist us in anything we plead with them to help us to do. They say since we know it all we should carry out everything on our own. But my problem with them is that they don't keep records like we do. So when they sometimes refer a patient reluctantly and in some cases very late, we find it difficult to offer the appropriate care (27 year old nurse at a health centre)*
- *I was prepared to assist the government nurse posted to this village. I wanted to pass on all the experience about pregnancies and child bearing to her. But I found out that she was rude and didn't respect my traditions. She is young enough to be my granddaughter so why should she disrespect us (53 year old TBA)*
- *I trained a TBA some 49 years ago. For several years I have successfully delivered babies without any difficulties. I believe my methods and herbs are quite good and potent. All of a sudden I am told I should stop delivering babies but refer them to a health facility. What do they want me to do with the knowledge I diligently acquired over a long period of time. I feel disrespected by people young enough to be my grandchildren (61 year old TBA).*
- *Some years back we were provided with some modern training in midwifery and given some tool kits which include soap, gloves, antiseptic and other things. We thought that was meant to improve our work. But these things were never replaced when we exhausted them. Neither did the training continue. Now we are told we should stop home delivery, because it is unsafe and dangerous. Well, I have complied but let no one wake me up in the middle of the night to deliver a woman who is in labour (70 year old TBA).*
- *Indeed we are old and tired. But no one is willing to take over from us, because they think our methods are crude and archaic. What do the hospital people know, can they shape a baby's head into the right shape? Can they do all the things we do to keep mother and baby safe and healthy? Can these nurses/hospital staff treat laboring*



women with the same respect, patience, and accommodation as we TBAs do? (70 year old TBA).

- *I have a very cordial relationship with the two TBAs in this community. They have been very helpful to me in my routine home visits, health education campaigns and reproductive health care. They assist in identifying pregnant women who don't even realize they are pregnant yet and recommend them to us to commence ANC. For this I give them a bar of soap and some other consumables from our store. They are also helpful in the emergency deliveries we have carried out here at this facility (31 year old CHO).*

Source: Transcripts of interviews from the Field, 2015

The introduction of CHPS and its scale up to rural areas in the country presented mixed fortunes for TBAs. Some efforts were made to tap into their wide array of experience and practice of providing delivery and postnatal care to women. As such, as part of the community engagement, the CHOs were required to seek out and actively engage all community level health practitioners, particularly TBAs. TBAs were to form part of all efforts geared toward health promotional and preventive activities within their catchment area. In practice, however, the study found that rather than collaborating, the TBAs and CHOs rather established a competitive relationship. Whiles CHOs pointed to the regulations preventing TBAs from conducting delivery, TBAs referred to their long history of unblemished safe deliveries to indicate their superiority. In some communities the collaborations between CHOs and TBAs seemed to be working quite well, while other communities saw a fractious relationship between them. In communities where cordial relationships existed, the main reason was that CHOs respected the TBAs right from the start.



It is clear from the data that there remains a critical question of how best to utilise the services of TBAs within the CHPS concept. A number of challenges confront TBAs in the CHPS implementation. The challenges with TBAs within the CHPS initiative can be summarized as follows;

- i. TBA training varies significantly, sometimes there is none or inadequate training of TBAs
- ii. Poor treatment of some TBA's by nurses, midwives due to poor staff attitudes, hence some TBAs do not feel respected as an important part of healthcare delivery, they are clearly disgruntled;
- iii. There is also the difficulty in obtaining a complete and accurate history from TBAs and patients due to the nature of their practice and;
- iv. Finally, delayed referrals by TBAs. (i.e. Some TBAs do not refer vaginal lacerations)

The implication of all these is that there is a massive conundrum confronting stakeholders of health in the district as to what to do with this group of people. As modern medicine penetrates developing countries, TBAs and more skilled healthcare professionals need to form collaborative relationships to work effectively to provide the best maternal/infant care and not to engage in a superiority-inferiority war between them.



6.4 Undefined Funding Sources and Resource Constraints

Another key challenge with regards to CHPS' implementation is funding. Initially, the Ministry and GHS had no specific budget to support the CHPS programme. According to the revised CHPS policy, financing CHPS is still not clear. Different development partners usually put up funds to support the development and scale up of CHPS but there is no coordination and harmonisation of the various funds. The NHIA does not reimburse for CHPS services directly. Where services are provided and qualify for NHIA reimbursement, the revenue is claimed through the Health Centres as part of the services provided by the Health Centre.

In an interview with key informants at the health directorate in the district, respondents admitted that clients have been sensitized not to pay for the services rendered to them at the CHPS facility. Hence no CHPS facility generated any income from direct cash payments from clients.

This situation leads to the regular unavailability of money to undertake basic purchases. The only way out of this is to fall on NHIS and to attach all CHPS facilities to their mother subs (various health centres) so that they could draw some revenue from claims made from their facilities when clients visited. This resulted in CHPS facilities relying on NHIS revenue to operate (Key informant at the Directorate of Health).

This situation according to the key informants brought about some additional challenges. In the first place claims from NHIA were not paid on time.

As is widely known, sometimes claims are redeemed after a year or more. Again, since multiple CHPS facilities are attached to health centres it is always cumbersome to disburse the resources received from NHIS equitably and efficiently. Additionally, due to the referral systems, it is difficult for CHPS facilities to claim any payments for services rendered



before clients were referred to a higher level facility (Key informant at the Directorate of Health).

Another more serious problem was the tendency for CHPS facilities, in the quest to rake in more revenue, to run, concentrate on curative clinical services to the detriment of health promotion and educational services as stipulated in their mandate. A new structure was emerging where CHOs have started running static clinics, without outreach services as originally envisioned by CHPS. Some CHOs completed fewer and fewer home visits and more and more facility-based, curative care.

This new structure according to Ntsua, Tapsoba, Asare and Nyonator (2012) has altered CHO operations, and by default, CHOs' FP role and delivery of other convenient, home care is inevitably shifting to CHVs, although CHVs are ill equipped to provide them. CHPS facilities become static clinics where CHOs spend little or no time visiting homes, resulting primarily from increased client load at CHCs. This situation not only overburden the dual cadre model but also dilutes, or even defeats, its purpose (Ntsua, et al, 2012). This poses a serious problem for MNCH services because since most of them are included in the free service bracket, they tend to be the ones regularly neglected. Also clients with expired or no NHIS cards were turned away from CHPS facilities which hitherto provided services for free.

The unresolved funding mechanism for CHPS has resulted in incoherent partnership and overemphasis on building CHPS compounds to the detriment of the other components of the initiative. In the past, the MOH constructed compounds, but experience from other districts showed that when District Chief



Executives become sensitized about the benefits of CHPS they readily constructed the compounds. The original CHPS model encouraged communities to construct health posts for CHOs from donated materials with volunteer labour. Construction of permanent facilities was meant to be a reward for this community activity. However, some district managers delayed nurse deployment until revenue became available for financing outside contractors to construct health posts. Consequently, construction has become a constraint to implementation rather than an incentive for community action. Using funds to hire outside contractors also substantially raised the potential cost of scaling up, creating a further disincentive for donors and others to support the project (Awoonor-Williams, et al, 2013).

6.5 Infrastructure, Logistics and Equipment Challenges

Related to the funding and resources challenge is the problem of poor infrastructure, inadequate logistics, and lack of appropriate equipment. The study found that MNCH outputs and outcomes were hampered severely by the nature of infrastructure within the district. These could be described as direct health care infrastructure and indirect or auxiliary infrastructure.

In terms of the direct health infrastructure, CHPS compounds and laboratory facilities were cardinal. In some of the surveyed communities, CHPS facilities and health centres could be said to be in a deplorable state. They were not fit for habitation and in one instance a facility had to be completely abandoned. Some of those that were not abandoned lacked the needed ancillary amenities to make them conducive for health care provision and habitation by the CHOs. There was lack of space to conduct ANC clinics, lack of recovery rooms for women who



had been delivered through emergency, no placenta pits or disposal sites, and lack of water storage facilities among others. Due to these challenges, some of the MNCH services could not be provided effectively and in some cases had to be completely abrogated.

In the MOH 2014 rapid assessments in both the Western and Central regions, about 77% of CHPS compounds were found to be in a poor state of repair. The report stated that some districts had commissioned CHPS compounds which had not as yet started operations after several years of commissioning. Most of the compounds (about 60%) were partially equipped and without accommodation. In that study, most CHOs also complained of lack of operations running budget (MOH, 2014, cited in GHS 2016).

Linked to this was the fact that as at the time of data collection, no single functional laboratory could be located in the entire district. This posed a very herculean hurdle for MNCH and other general health care services. For instance, part of the ANC required pregnant women to undergo a battery of laboratory examinations so as to provide the health care providers with a complete picture of their health profile in order to recommend the appropriate birth preparedness plan for them. In the absence of laboratory services in the districts, pregnant women had to travel to nearby districts such as Wa, Nadowli or Jirapa to have these tests carried out. According to respondents, this situation sometimes led pregnant women to either delay in doing those tests or abandoning them altogether. In such instances the lives of women and babies were always at risk. The following were the words of a key informant on the issue.



The lack of a Lab in this district hampers our efforts to improve maternal and child health in this district. We always refer clients to Nadowli or Wa to undertake laboratory investigations. Due to the distance and sometimes cost involved, most often, the clients refuse to go or it takes too much time to get a results back. (A 29 year old, Registered Staff Nurse, Key Informant).

With regards to the indirect infrastructure, the main issues in the district was roads and telecommunication network. With the exception of the Wa-Fian and the Nadowli-Daffiama roads, the district could not boast of any first class roads linking communities to one another. About 95% of roads in the district are classified as feeder roads most of which are in bad shape, becoming unusable during large periods of the year. Some communities are actually cut off from the rest of the district during the rainy season. Most of the MNCH services carried out under CHPS required movement from one place to the other. Without good roads these services come to a total stand still. Referral of women from CHPS facilities to Health Centres or other higher level health facility is greatly hampered by this situation. As part of the home visit and defaulter tracing components of the CHPS services, health workers are required to make regular routine household visits to their clients to provide ANC and other services to them. However, due to the deplorable nature of the roads as well as the inaccessible nature of some of the communities, this aspect of service delivery was regularly omitted by some health workers. Per the policy document, CHVs are required to be provided with means of transportation since most of their work involved home visits or public education. Ziblim's (2015) study noted that 64.4% of CHVs did not have bicycles.

Communication is seen as an essential ingredient in the provision of health care especially in emergency situations. Modern technology has made



communication via the use of mobile devices very efficient, fast, reliable and cheap. This innovation has brought about life-saving remedies and practices. One such technologies is the use of the mobile phone or cell phones. Unfortunately, however, due to poor reception in parts of the district, the advantage of using this technology to improve health care delivery has not been utilized. Respondents complained that due to poor phone reception they were unable to call critical health care staff in times of emergency. They could not also place calls to health centres and hospitals to brief them on referred patients who were enroute to their facilities. In such instances patients arrived at referred centres without any prior preparation awaiting their arrival. This tended to put some critical patients in danger since a call ahead could have brought about some preparation prior to their arrival to avoid delays in service provision. This is really a critical issue because as discussed earlier one of the delays that prove deadly to pregnant women is delays at the health facilities.

Logistics, equipment and supplies are complimentary to human resources in the delivery or relevant and timely MNCH care. The CHPS initiative provides for a minimum set of these equipment, logistics and supplies for the smooth operation of the facilities. The study found that some of these were regularly in short supply, unavailable or unusable. There were also issues of security and availability of water and electricity in some of the communities.

WIFA respondents, CHOs, CHNs, midwives and even nurses at health centres also complained about the regular shortage or inadequate logistics needed for expedient health delivery. One of the key logistics needed to facilitate home visits was motorbikes. Although almost all facilities had these, there was the



complaint of lack of fuel and cash to service them. This challenge was closely linked to the lack of clear cut funding regime that the programme was faced with. A very significant finding related to this was that as at the time of data collection, there was no single functional ambulance within the district. Not even the five health centres were spared this constraints as the vehicles they had were either unserviceable or not adequate to carry out key health provision duties.

In addition to lack of vehicles, there was also the complaint of absence or malfunctioning equipment, such as cold chain facilities and midwifery equipment. This finding was consistent with findings of earlier reviews and studies. Ziblim (2015), found that, most CHPS compounds lacked the CHOs Toolkit containing basic clinical tools such BP apparatus, weighing scales and thermometer. Furthermore some compounds did not have solar fridges, television and basic furniture to create a congenial atmosphere in rural areas that would motivate health professionals to accept postings, as well as motivate them to stay in such deprived communities (Ziblim, 2015).

He concludes that, “with some CHPS lacking basic service delivery logistics such as cold chain, torch lights, communication items, working gears and delivery consumables quality healthcare is likely to be compromised. This is because these are the minimum logistics required to deliver basic primary healthcare. Furthermore, the availability of these logistics encourages the CHOs to give off their best and thus motivates them to stay and work in their communities. In the absence of these logistics the likelihood of CHOs staying in their respective communities through the week is minimal” (Ziblim, 2015: 6). The net effects of all



these inadequacies and irregular supply of logistics was that service delivery was hampered and health outcomes affected negatively.

6.6 Unclear governance, management, strategic direction and leadership

The final challenge confronting the implementation of the CHPS in the district was the issue of governance, leadership and management of the operations of CHPS. The operational policy did not clearly outline the responsibilities that each of the numerous stakeholders of the policy was to be responsible for. The initial policy had 15 activities and six milestones that was required to make a place fully operational. Stakeholders included the MOH, GHS, MMDAs, traditional rulers, CBAs, NGOs as well as beneficiary community members. Each of these groups are required to contribute to critical portions of the programme to make its implementation a success.

As discussed in the challenge of policy design, lack of clarity on the exact scope of the concept led to misunderstanding of what each person was responsible for and the timelines expected thereof. This led particularly to issues regarding compound construction, equipment, logistics and supply issues, community engagement and participation, funding and general oversight. The main question is who owns, controls or manages a CHPS facility? Was it the health authorities, district assemblies or the community members or donor agencies who have been critical in the construction of these compounds?

On this, Awoonor-Williams et al. (2013) wrote that, “by focusing on community health activities alone and neglecting the larger political and



development context, CHPS was unable to mobilize needed district leadership, budgeting, finance, and planning components. And, even where it went to scale, its impact was often impaired by the absence of capabilities to manage emergencies and save newborn lives” (Awoonor-Williams et al., 2013:11).

The GHS acknowledged in the revised CHPS policy that there were issues in relation to effective leadership and technical direction, planning and budgeting for CHPS at the national, regional and district levels. Planning as a process at the community level was said to be inadequate (GHS, 2016). Again, there were issues related to CHOs recruitment, motivation and retention. The initial assumption was to have one CHO per CHPS zone. It is now considered to have at least two CHOs per zone. This presents logistic challenges in terms of accommodation and amenities resulting in many CHNs not residing in CHPS zones. The CHN training program was developed with no prospects of career progression. Many CHNs desire to continue their education, leading to dissatisfaction with the location and length of their current placement. There is no policy on how long a CHN can remain in a deprived community or incentives in place to reward those serving in deprived areas like the DBI.

There is no policy on reward and incentives for volunteers leading to volunteer fatigue. This has distorted the volunteer system in several communities resulting in some volunteers demanding cash for services. Elsewhere, some sub-districts are waiting for funding to become available for hiring community members to perform volunteer services (Awoonor-Williams et al., 2013). There are proposals



from the Ministry of Health to retool existing volunteers and regularise the payment system by providing some monetary payment (GHS, 2016).

Another issue on weak governance and leadership was Community Health Management Committees (CHMCs). Though they were formed in most CHPS zones, members were inactive or not trained in 65% of the CHPS zones (MOH, 2014). The field survey by Ziblim (2015), revealed a number of challenges associated with the CHMCs. For instance, he found that most of the committee members lacked organizational, mobilization and communication skills. Also, many of the committees did not have women representatives. Out of the ten committee members of the Tampala CHMC, none of them was a woman. In instances where women are represented in some committees, they constituted less than 20% of the entire membership. Given the fact that, the majority of the clients of the CHPS are women, participation of women in the committees would help gain better appreciation of women health issues and thus meet their needs effectively (Ziblim, 2015). This finding was also in concert with what pertained in the DBI.

In short, weak governance and leadership issues resulted in the inability of the programme to harness the requisite human and financial resources to see to the proper implementation of the initiative. For instance, due to this problem, the district assembly did not see it necessary to support the programme as much as required. Fortunately, most of the compounds completed or under construction were being executed by JICA, hence that aspect was being taken care of. But the challenge was after construction and tooling, who and how are the facilities managed? The policy requires active community engagement which this study



proves was very much available but required leadership to put it to its best use. An attestation of the willingness of the communities to participate in CHPS activities was evidenced in the preparation of the Community Health Action Plans (CHAPs) and the establishment of Community emergency transport systems (CETS) in the absence of ambulatory services.



CHAPTER SEVEN

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.0 Introduction

From its inception, CHPS has become a major national programme focused on promoting primary health care in deprived communities. The initiative was one of the major services designated to improve access to primary health care in rural communities and also to expand the uptake of maternal and child health care services. The strategic goal was that the initiative would promote among others, skilled delivery attendance, improved reproductive services, preventive and promotive health care as well as the management of minor ailments through community participation, health promotion activities and timely referral services.

After nearly two decades of implementation of the initiative and its scale up to quite a large number of rural communities, it was imperative to assess its usefulness within the modern health care system. A number of reviews have been carried out to ascertain the contributions the CHPS model has made towards improving universal access to primary health care and promoting the utilization of relevant health services by members of vulnerable communities. In spite of past reviews on the performance of CHPS, there are still some knowledge and practice gaps on the actual contributions of the model to MNCH services, community participation efforts within the model as well as the human resource and infrastructure capacities required for the model to succeed. This is the gap this study sought to fill. The aim of this study was therefore to assess the contributions of



CHPS to improved MNCH care in rural communities. It focused on three key aspects - processes, performance and challenges - of the model in relation to MNCH.

The study relied on the pragmatic philosophical underpinning which espouses the utilization of whatever approach was practical and works best for a researcher. The study was anchored on Systems framework and situated in the context of Health Policy and Systems Research (HPSR). A rural district in the Upper West Region of Ghana was selected because it was a highly deprived, largely inaccessible and with minimal health care infrastructure. It was very recently created, making it a perfect archetype for appraising the CHPS model.

A case study design using a mixed method approach was deemed appropriate for this study. A survey, interviews, field visits, observations and document reviews were the main approaches used to collect the requisite data. With the entire district as the target area, communities were purposively selected on the basis of the type of health care facility operating within each community. Target respondents for the study included, community members especially beneficiaries of MNCH services, health workers and community stakeholders. More specifically, the respondents included WIFA, CHOs, CHVs, CHMCs, TBAs and supervisors of the programme. Interview guides, questionnaires and facility information fact sheets were the main tools used to collect primary data, while systematic desk reviews of secondary data augmented the primary data.

Analysis involved synthesizing primary and secondary data along the lines of the research questions. Three layers were pertinent: the first layer covered



processes involving activities, resources and systems; the second layer measured performance, using output variables and outcome indicators; and the third ascertained and discussed the challenges confronting CHPS.

The key findings of the study include:

1. *Service delivery:* almost all MNCH services were being provided according to the package of interventions in spite of the different situations on the ground. Home visits, health promotions, ANC and PNC services, referral of all non-emergency obstetric cases and uncomplicated deliveries by midwives were readily undertaken
2. *Human resources for health:* staffing was generally adequate with average of two or more CHO per zone. However, their skills mix was inappropriate since only a few were midwives. The majority were CHNs who generally lacked midwifery training and experience.
3. *Infrastructure:* on the average most facilities could be said to be in a functional state, although one facility was very deplorable. A few were actually fairly new hence their facilities were in good condition. However, some lacked the needed spaces and amenities to function efficiently. Supplies were generally available. With regards to equipment and logistics, most facilities were faced with shortages, obsolete equipment and in some unavailability of requisite tools.
4. *Community participation:* local community health structures were largely available and supportive of the initiative. This was evidenced by the presence of MTMSG and regular preparation of CHAPs in most



communities. Secondly, TBAs in the communities were reoriented to perform other roles apart from delivery. They could only deliver babies under cases of emergency and with the supervision of a CHO or midwife. Finally, CHVs and CHMCs in spite of little motivation and training, were found to be generally available, properly constituted and assisting the authorities to implement the programme successfully. Unlike elsewhere composition of the CHMCs were largely acceptable.

Outputs

1. *Home visits*: the study found that, 61% of respondents claimed to have had home visits from CHOs and CHVs, meaning that 39% of the respondents sampled were left out. This indicates that more work need to be done to ensure everyone is duly covered by these health care providers
2. *ANC*: Generally there was a promising scenario with ANC services. In 2015, 92% of women who needed ANC services were able to utilize the services, with 87% of clients making two or more visits. The critical measure of 4+ visits also saw a sharp increase. Sixty three percent of ANC registrants did so within the first trimester. CHPS contributed 36% of all ANC registrations in the district up from 29% in 2013.
3. *PNC*: there has been an appreciable improvement over the years. In 2015, 81% of all clients had utilised PNC services and CHPS contributed to 16% of the total PNC service in DBI. This is much higher than the regional average of 9%



4. *IMCI*: About 60% of children from selected communities were treated in the past year. CBAs, CHVs and CHOs were also actively involved in the management of several illnesses among children.
5. *EPI*: the study found that CHPS was leveraged to improve coverage of critical immunizations such as BCG and PENTA 3. For BCG in the region, the CHPS contributions declined, from 23% to 22% between 2013 and 2015. The opposite was the case for the DBI, which saw an 8% increase from 2013 to 2015 (that is, from 37% to 45%). Similarly for PENTA 3, a 10% improvement was recorded between 2013 and 2015, thus 37% to 47%.
6. *Skilled delivery*: the finding reveals that, in 2015, CHPS contributed to 14% of deliveries, an increase from 11% in 2013. However, the critical finding was that through CHPS, TBA deliveries had reduced to only 3.3% in 2015. Hospital and health centres were the site for 61% of all deliveries, while there was still a high number of home deliveries, (28%).

Outcomes:

1. *Maternal mortality*: the district recorded only one institutional maternal death for the past three years, one of the best scenarios in the region. However, using the sisterhood method, it was found that only one community had not recorded a maternal death in the past five years, while the remaining communities had deaths ranging from one woman to as high as 23 deaths in the community in the five-year period.



2. *Still births*: this saw the district recording a still birth rate of 5.1 per 1000 births, the second best in the region. The regional average was 16/1000 births.
3. *Child mortality*: The findings in this regard showed there has been only modest improvements with regards to the various indicators. In fact neonatal mortality across the region saw an increase, although the DBI recorded just 1 death out of 773 in 2015. Under-five and infant mortality rates did not record any significant changes in the past three years.

Challenges

1. *Programme design*: There were significant issues with how the programme was designed. Among other issues, a number of the activities, resources and systems to support the operations of CHPS have over the years either been misconstrued or proven cumbersome to execute especially during scale up.
2. *Unresolved TBA issue*: the study found that beneath the seemingly cordial partnership between CHOs and other community-based traditional health practitioners lay tense disquiet between CHPS officials and TBAs. This has left both sides jostling for superiority instead of collaborating to deliver essential health care for members of rural communities.
3. *Funding and resources issues*: It was discovered that CHPS' operations were hampered by resource constraints. This was due to the unclearly defined funding source(s) earmarked for the programme. This has led to prioritization issues since resources were always scarce and this has watered



down the effective implementation of highly impactful health care interventions

4. Poor infrastructure, logistics and equipment: related to the financial challenges was the generally poor nature of infrastructure in the district; particularly roads, laboratories and telecommunications. These tended to hamper CHPS activities significantly. Also, unserviceable motorbikes, inadequate vaccine carrier, unavailability of fuel and inadequate cold chain facilities were some of the key logistics and equipment issues found to be encumbering CHPS operations.
5. Unclear governance, management and strategic leadership direction: The study found that there were too many stakeholders who were clueless about what exactly their responsibilities were. Sometimes, even the extent of their authority and supervisory roles remained unclear. The District Assembly, the GHS, chiefs and community members all had roles to play in the execution of the mandate of CHPS but were at a loss as to which of them was actually expected to provide strategic direction, leadership and governance

7.2 Conclusions

CHPS clearly represents one of a few successful attempts in Africa to translate findings from a research initiative into a national health program. This study examined the CHPS model after nearly two decades of implementation. The model was established with essential components such as mobilised volunteerism, resources and cultural institutions for supporting community-based primary health



care, through planning with communities, effective community entry and mobilisation, deploying the CHO supported by volunteers to deliver services, and the acquisition of the CHPS compound and the provision of essential equipment and supplies.

This study focused mainly on the MNCH aspects of CHPS which in reality forms the greater aspect of interventions within the model. It was clear from the study that the model had a wide-ranging, efficient, cost effective and potentially high impacting package of MNCH services. This study clearly establishes that in the DBI, the processes expected to be undertaken and continuously rolled out were largely accomplished.

Additionally, it can be concluded that CHPS was performing modestly in most of its stated goals, outputs and outcomes. The evidence from this study, indicates that the model in the district have made modest gains in the area of access, utilization and service provision in maternal care. This has culminated in a general reduction in maternal deaths. However, very little or moderate improvement in child health has been recorded. Overall, CHPS was found to be contributing meaningfully to improved MNCH care in DBI.

However, the gains could be eroded if some very significant bottlenecks are not addressed decisively and swiftly. These include issues relating to tweaking the programme design to reflect the exigencies of scale up and to make it clear for all stakeholders on what needs to be done, by whom, when and how. Other issues of training and skills development, incentives, TBAs conundrum as well as equipment, logistical and supply issues were also found to be major hindrances to



the progress of the initiative. Additionally, poor infrastructure within the community as well as funding challenges were discovered to be essential problems for the programme.

7.3 Recommendations for Policy and Programme Improvement

In view of the findings of the study, the following recommendations are offered to help build on the current successes, improve the services and performance, as well as ensure the sustainability and expansion of the model.

CHOs, Midwives and CHVs

1. Pre-deployment training in community entry, community relations and midwifery skills for all CHPS personnel must be sustained and where necessary improved to ensure nurses, midwives and other health workers possess the requisite skills and experience to perform their duties within the community.
2. To ensure successful implementation of community-based programs and engagements, CHOs/nurses and midwives should cultivate a habit of positive human relations. This will engender good relations among them and also ensure that they are able to relate well with their fellow CHOs, TBAs and other community health structures and groups.
3. Similarly CHVs must be trained prior to recruitment and must receive on-the-job training whiles in service. They must also learn to collaborate effectively with their community members and CHOs to ensure there is a cordial relationship between them. This will go a long way to make their



work more exciting and beneficial to themselves and the members of the community at large

4. CHOs who are midwives should endeavor to sharpen their skills and to pass some of their knowledge onto their colleagues who may lack midwifery training. They must be active in facilitating the formation and running of the self-help groups within the community.
5. All CHPS personnel must endeavor to understand their roles and responsibilities within the CHPS model before they are posted to the communities. They must seek clarification on issues they do not understand or any improvisations they may wish to make.

TBA's

1. It is recommended to the TBAs that until a definitive policy regarding their continuous involvement in MNCH in rural communities is implemented, they should endeavour to collaborate with CHOs and CHVs to enhance MNCH services in their communities.
2. They should share their knowledge and experience of practice with their GHS counterparts, while learning modern practices as well. Through this process, they should also interact regularly with Nurses/CHOs and develop a strong partnerships in order to be able to serve their communities better.
3. They should also be keen to pass on their experiences and skills to all younger and willing persons and safeguard their skills for posterity



Community Members, Chiefs, Elders and CHMCs

1. All persons should try to understand the tenets of the CHPS initiative and embrace it completely. The chiefs and elders of the various communities within the district are further encouraged to continue to participate and engage actively in CHPS activities and to encourage their subjects to do same. They should, among others, attend community durbars regularly, encourage the formation of FTFSGs, MTMSGs, and make their CHMCs active.
2. Additionally, members of the community and their elders should endeavor to make their communities a conducive place for the conduct of health outreach services, health promotion and immunization campaigns as well as home visits by the health workers
3. They should engage their district assembly to take active part in CHPS, especially supporting the facilities in the area of provision of some logistics and equipment.
4. Chiefs and their community members must ensure they also supervise the CHVs and CHMCs activities to ensure efficient delivery of services

Government, MOH and GHS

1. Government must make the provision of basic social amenities in deprived rural communities a priority to ensure that health care provision is not unduly hampered by poor or lack of these amenities
2. MOH/GHS should provide policy direction and strategic leadership at all levels from national to regional to district to the sub-district level.



Ensure that the policy is well structured, goals are clarified and responsibilities clearly assigned. Punishment and rewards provided for persons who deserve any.

3. Central government, must raise and sustain the funding for the programme. They should make adequate provisions for continuous funding so as to prevent shortage of funds meant for CHPS activities. They can do so by increasing revenue generation, and streamlining the NHIS to make it more efficient and financially viable. They can also make a dedicated allocation of funds for the entire CHPS programme and move away from the donor driven and activity centred allotments of funds
4. Supply chain management system of the GHS should be improved to prevent the shortage of essential logistics and supplies, so as to keep the smooth running of CHPS operations
5. Should engage in training of adequate number of midwives so that the communities have a fair distribution of such staff to improve obstetric and neonatal care. This can lead to a revitalising of the dual cadre CHPS model, accommodating static clinic services and daily outreach services without over stretching the existing staff.
6. The PPME unit of the MOH/GHS, should intensify M&E as well as FSV activities to ensure that the operations of CHPS are smooth and challenges detected and corrected



7. Finally, GHS/MOH should develop a strong collaboration with the necessary stakeholders to regularly assess the interventions of CHPS to ascertain what works, for whom and when.

7.4 Recommendations for further research

- A nationwide replication of this study using a wider sample could provide additional insights into the contribution of CHPS to MNCH across the country. This will provide invaluable generalizable findings that could help modify or enhance the implementation of the programme and similar ones.
- Two important variables (family planning and child nutrition) in the assessment of MNCH were left out due to time and data constraints. Subsequent researchers could attempt to address this by including them in their further studies to provide a larger picture of the situation.
- The role of non-governmental organizations and agencies in the design and implementation of health care policies in the rural areas can be explored to ascertain their contributions or otherwise to programs such as CHPS. This can throw further light on whether they obfuscate or facilitate the delivery of health care services in rural communities.



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APPENDICES

Appendix A: Study Instruments-Interview Guides

Instrument 1: Community Health Volunteers Interview Guide

Part One: Demographic Characteristics

1. Gender
2. Age
3. Marital Status
4. Educational Qualification
5. Home Town
6. Other occupation(s)

Part Two: Working With CHPS

7. How long have you been engaged in your present role?
8. How did you get recruited
9. Have you received any training
10. What are your key activities
11. How active are you in these activities
12. Have you been provided with any logistics? If yes name them
13. Do you undertake any joint programs with the CHO and other community members?
14. In what ways do the members of the communities enhance your conduct of your duties?

Part three: MNCH Issues

15. List the MNCH activities you participate in?
16. Describe how you go about your duties/tasks
17. What are the main challenges you encounter in performing your duties
18. What can be done to reduce or eliminate these challenges

Part four: Evaluation of CHPS

19. How would you describe the MNCH situation in the community before the introduction of CHPS
20. What is the state of MNCH since the introduction of CHPS
21. How has CHPS contributed to the current state of MNCH indicators
22. Are there any measures or activities that can be put in place to improve the operations of CHPS? State them
23. What is your overall impression of CHPS intervention towards improving MNCH
24. Do you have any other comments to add?



Instrument 2: Community Health Committee Interview Guide

Part One: Demographic Characteristics

1. Gender
2. Age
3. Marital Status
4. Educational Qualification
5. Home Town
6. Other occupation(s)

Part Two: Working With CHPS

7. Can you kindly give us a brief history of this CHPS facility?
8. How long have you been engaged in your present role?
9. How did you get selected to work as a committee member?
10. Have you received any training regarding your role as a health committee member?
11. What are your key activities
12. Describe how you go about your duties/tasks
13. How active are you in these activities
14. Have you been provided with any logistics? If yes name them
15. Do you undertake any programs with the CHO and other community members?
16. Are you aware of any MNCH activities available in this community? List them
17. What are the main challenges you encounter in performing your duties
18. What can be done to reduce or eliminate these challenges

Part Three: Evaluation of CHPS

19. How would you describe the MNCH situation in the community before the introduction of CHPS
20. What is the state of MNCH since the introduction of CHPS
21. How has CHPS contributed to the current state of MNCH indicators
22. Are there any measures or activities that can be put in place to improve the operations of CHPS? State them
23. What is your overall impression of CHPS intervention towards improving MNCH
24. Do you have any other comments to add?



Study Instrument 3: TBA Interview Guide

Part One: Demographic and Personal Details

1. Gender
2. Age
3. Marital Status
4. District of Origin
5. Educational Attainment
6. Duration of Practice

Part Two: Details of Practice

7. How did you learn to be a TBA?
8. Where do you carry out your practice?
9. Have you received any additional formal training?
10. What MNCH activities do you usually engage in?
11. What are the main tools or equipment you use in your practice?
12. What is the philosophy behind your practice?
13. Have you had any case fatality in your practice?
14. Have you had to attend to any patient referred from a formal health care facility?
15. Have you ever received any referred patient from another TBA? If yes what was the nature of the ailment?
16. Have you ever referred any client to a health facility or another TBA?
17. What was the reason(s)

Part Three: Relations with and Assessment of CHPS

18. What has been your role in the community since the inception of CHPS?
19. Have you been working with the CHOs in your zone?
20. What activities have you jointly engaged in with the CHPS officials?
21. How would you describe your relationship with CHPS and its officials?
22. How would you rate CHPS performance towards improving MNCH outcomes?
23. Do you think CHPS can be designed to integrate your model with theirs?
24. Suggest ways that this can be done



Study Instrument 4: Health Workers' Interview Guide

Part one: demographic characteristics

1. Age
2. Marital Status
3. District of Origin
4. Educational Attainment
5. Previous Work Experience
6. Training Received
7. Duration at Current Post

Part two: CHPS zone/ compound information

8. How long have this zone/ compound being in existence?
9. Have you being inaugurated and introduced at a Durbar?
10. Is this compound fully/ completely established?
11. What are the available relevant equipment and facilities (list them)
12. What is your opinion on adequacy of equipment and logistics
13. Besides yourself are there other CHOs, how many?
14. Do you have any Community Health Volunteer group/Community Based Associations?
15. Do you have a functioning Community Health Management Committee?
16. Do you keep an up to date Community Health Records as required?

Part three: MNCH services, outputs and outcomes

17. Describe your typical/ routine daily activities
18. Do you undertake curative services? If yes, list them
19. Outline the various MNCH activities you undertake as part of your routine activities
20. Explain the extent/level to which MNCH activities are carried out
21. Enumerate your community outreach services
22. Explain any home visits routines and state their frequency or regularity
23. Are any TBAs around, describe any collaboration you have with them



24. What MNCH records are available (Maternal Mortality, ANC attendance, PNC services, Expectant mothers, Infant, Child and Neonatal Mortalities, Skilled Deliveries, EmONC data, Immunizations etc.)
25. Comment on performance on MNCH outcomes over the past few years (before and after CHPS' introduction)

Part four: Community collaboration and relationship with DHMT/SDHMT

26. Is there a Community Health Action Plan (CHAP)?
27. How many CHAPs have you worked with over the years?
28. How involved are the community stakeholders in CHAP design and implementation
29. What other ways do you cooperate with the Community?
30. Please comment on the extent of community members' involvement in your work
31. How often do you refer MNCH cases to the Sub and mother districts facilities?
32. Are there adequate measures and logistics in place to ensure a smooth referral?
33. What is the nature of the relationship between you and the SUB and District health facilities?
34. Comment on ways that DHMTS/SDHMTS are involved in CHPS

Part five: challenges, overall impression and way forward

35. What are the main challenges with the CHPS in the area?
36. What are the main MNCH Challenges?
37. In what way(s) can CHPS improve the situation?
38. Do you face/ encounter any personal challenges working in the community?
39. What can be done to improve CHPS implementation and MNCH outcomes in the community
40. Kindly provide any other comments and your overall impression of CHPS and MNCH



Appendix B: Study Instruments-Questionnaires

Questionnaire 1: WIFA Questionnaire (CHPS Communities)

University for Development Studies, Faculty of Integrated Development Studies, Department of Social, Political and Historical Studies, Wa Campus

*This is an academic study conducted to **examine the CHPS model, its implementation processes, performance and challenges in your community.** Please fill out or answer all relevant portions as candidly as possible. Remember that your identity will be kept confidential throughout this process so do not indicate your name or any other means of identification on any part of the questionnaire. Your responses will be analyzed together with others in an aggregate manner to ensure maximum confidentiality and anonymity. You may direct all enquiries or concerns to the research team. You may withdraw from this study at any point if you do not wish to continue. Thank you for your participation.*

Kindly Tick (✓) or write in the spaces provided.

Part One: Demographic Features

1. Age
 - Less than 20 []
 - 20-29 []
 - 30-39 []
 - 40-49 []
 - 50-59 []

2. Marital Status
 - Married []
 - Single/ never married []
 - Divorced/ Separated []
 - Widowed []

3. Highest Educational attainment
 - None []
 - Primary / Basic []
 - Secondary []
 - Tertiary []
 - Other specify []

4. Respondent's Number of Children
 - None []



- 1-3 []
- 4-6 []
- 7-9 []
- Above 10 []

5. Respondent's Occupation

6. How long have you stayed in the community

- Less than one year []
- 1-3 years []
- 4-6 years []
- 7-9 years []
- 10 and more []

7. What is your Religion, specify denomination or sect

- Christian.....
- Moslem.....
- ATR.....
- Other specify.....

Part Two: Awareness and Participation in CHPS activities

8. What is your current reproductive state

- Pregnant []
- Last child is 1 to 12 months []
- Last child is between 12 - 36 months []
- Last child is more than 36 months []
- Currently not nursing any child []

9. Have you or anyone in your household utilized the services of CHPS in the past 12 months?

- Yes []
- No []

10. Kindly list the services you utilized over the period

.....
.....
.....
.....
.....
.....
.....

11. Have you or anyone in your household participated in any program organized by or in conjunction with your CHPS officials?

- Yes []



No []

12. If yes, kindly state which program(s)

.....
.....
.....
.....
.....
.....
.....

13. How many times have your household been visited by the CHO in the past 12 months?

- None []
- Once []
- Twice []
- Thrice []
- Four to six times []
- Seven to ten times []
- More than ten times []

14. What was/were the reason(s) for her visit?

- Routine household visit []
- Treatment of minor child ailment/injury []
- EmONC []
- ANC promotion/ reminder []
- PNC checkup []
- Treatment of adult ailment []
- Vaccination []
- Distribute health / nutrition supplies []
- Health Education []
- Sanitation Education []
- Family Planning Service []

Part three: CHPS and Maternal Newborn and Child Health

15. How many children are present in this household?

- 1-4 []
- 5-9 []
- 10-14 []
- 15-20 []
- Above 20 []

16. Has any of these received any immunizations in the past 12 months?

- Yes []
- No []



17. Have you or anyone in this household lost any child below the age of five years in the past five years?
Yes []
No []
18. If yes, How many?
19. What was the cause(s) of death?
.....
20. In the last 12 months, have any child been treated by the CHO for any illness or injury?
Yes []
No []
21. In the past five years, have you heard of any woman dying while trying to give birth or within forty two days after child birth?
Yes []
No []
22. If yes, how many?
23. Where was your last child delivered?
At home []
TBAs place []
At the CHPS []
Nearby health Center []
At a hospital []
24. Have you ever attended ANC services?
Yes []
No []
25. If yes, how many times did you attend ANC in your last pregnancy?
.....
26. Did you attend PNC services?
Yes []
No []
27. Do you or anyone in your household make visit a Traditional Birth Attendant?
Yes []
No []
28. If yes, what services does she offer?
Maternal Health Advice []
Child Health Advice []
Deliveries []



Other general services, list them.....

29. Have you or anyone in your household been referred to a bigger health facility by your CHO?

Yes []

No []

30. If yes what was the ailment for which you were referred?

.....
.....

31. Have you received any of the following items from the CHPS officers in the past 12 months?

ITNs []

Immunization []

Food supplements []

First Aid items []

Contraceptives []

Others specify.....

Part four: Evaluation of CHPS Performance in MNCH

32. What is your general assessment of the performance of CHPS relative to Maternal, Newborn and Child Health in this community?

Very Impressive []

Quite Impressive []

Average []

Not impressive []

Very Poor []

33. Explain the reason(s) for your answer(s) in the previous question

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.....

34. In your opinion, how will you describe the current state of MNCH compared to five years ago?

Vast Improvement []

Slight Improvement []

Stagnant []

Retgression []

Other specify.....



35. Explain the reason for your choice

.....
.....
.....
.....
.....

36. How would you rate the performance of the following officers of CHPS
(1= very poor, 2=poor, 3=average, 4=good, 5=excellent)

CHO	1[]	2[]	3[]	4[]	5[]
CHV	1[]	2[]	3[]	4[]	5[]
CHMC	1[]	2[]	3[]	4[]	5[]
Coordinator	1[]	2[]	3[]	4[]	5[]
Local opinion leaders	1[]	2[]	3[]	4[]	5[]

37. What are the main challenges confronting CHPS in this community?

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.....
.....
.....
.....

38. What can be done to solve these challenges?

.....
.....
.....
.....

39. Please suggest ways of using the CHPS initiative to improve MNCH



Questionnaire 2: WIFA Questionnaire (Non CHPS Communities)

University for Development Studies, Faculty of Integrated Development Studies, Department of Social, Political and Historical Studies, Wa Campus

*This is an academic study conducted to **examine the CHPS model, its implementation processes, performance and challenges in your community.** Please fill out or answer all relevant portions as candidly as possible. Remember that your identity will be kept confidential throughout this process so do not indicate your name or any other means of identification on any part of the questionnaire. Your responses will be analyzed together with others in an aggregate manner to ensure maximum confidentiality and anonymity. You may direct all enquiries or concerns to the research team. You may withdraw from this study at any point if you do not wish to continue. Thank you for your participation.*

Kindly Tick (✓) or write in the spaces provided.

Part One: Demographic Features

1. Age
 - Less than 20 []
 - 20-29 []
 - 30-39 []
 - 40-49 []
 - 50-59 []

2. Marital Status
 - Married []
 - Single/ never married []
 - Divorced/ Separated []
 - Widowed []

3. Highest Educational attainment
 - None []
 - Primary / Basic []
 - Secondary []
 - Tertiary []
 - Other specify []

4. Respondent's Number of Children
 - None []
 - 1-3 []
 - 4-6 []
 - 7-9 []



Above 10 []

5. Respondent's Occupation

6. How long have you stayed in the community

Less than one year []

1-3 years []

4-6 years []

7-9 years []

10 and more []

7. What is your Religion, specify denomination or sect

Christian.....

Moslem.....

ATR.....

Other specify.....

Part Two: Awareness and Participation in Health Center activities

8. What is your current reproductive state

Pregnant []

Last child is 1 to 12 months []

Last child is between 12 - 36 months []

Last child is more than 36 months []

Currently not nursing any child []

9. Have you or anyone in your household utilized the services the Health Center/CHPS in the past 12 months?

Yes []

No []

10. Kindly list the services you utilized over the period

.....
.....
.....
.....
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.....
.....

11. Have you or anyone in your household participated in any program organized by or in conjunction with your Health Center officials?

Yes []

No []

12. If yes, kindly state which program(s)



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.....

13. How many times have your household been visited by a Nurse/Health Officer in the past 12 months?

- None []
- Once []
- Twice []
- Thrice []
- Four to six times []
- Seven to ten times []
- More than ten times []

14. What was/were the reason(s) for this visit?

- Routine household visit []
- Treatment of minor child ailment/injury []
- EmONC []
- ANC promotion/ reminder []
- PNC checkup []
- Treatment of adult ailment []
- Vaccination []
- Distribute health / nutrition supplies []
- Health Education []
- Sanitation Education []
- Family Planning Service []

Part three: Maternal Newborn and Child Health

15. How many children are present in this household?

- 1-4 []
- 5-9 []
- 10-14 []
- 15-20 []
- Above 20 []

16. Has any of these received any immunizations in the past 12 months?

- Yes []
- No []

17. Have you or anyone in this household lost any child below the age of five years in the past five years?

- Yes []



No []

18. If yes, How many?

19. What was the cause(s) of death?

.....

20. In the last 12 months, have any child been treated by a health officer for any illness or injury?

Yes []

No []

21. In the past five years, have you heard of any woman dying while trying to give birth or within forty two days of doing so?

Yes []

No []

22. If yes, how many?

23. Where was your last child delivered?

At home []

TBAs place []

At the CHPS []

Nearby health Center []

At a hospital []

24. Have you ever attended ANC services?

Yes []

No []

25. If yes, how many times did you attend ANC in your last pregnancy?

.....

26. Did you attend PNC services?

Yes []

No []

27. Do you or anyone in your household make visit a Traditional Birth Attendant?

Yes []

No []

28. If yes, what services does she/he offer?

Maternal Health Advice []

Child Health Advice []

Deliveries []

Other general services, list them.....



29. Have you or anyone in your household been referred to a bigger health facility by any health officer?

Yes []

No []

30. If yes what was the ailment for which you were referred?

.....
.....

31. Have you received any of the following items from the health officers in the past 12 months?

ITNs []

Immunization []

Food supplements []

First Aid items []

Contraceptives []

Others

specify.....

Part four: Evaluation of Health Center performance in MNCH

32. What is your general assessment of the performance of your Health Center relative to Maternal, Newborn and Child Health in this community?

Very Impressive []

Quite Impressive []

Average []

Not impressive []

Very Poor []

33. Explain the reason(s) for your answer(s) in the previous question

.....
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.....
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.....
.....
.....

34. In your opinion, how will you describe the current state of MNCH compared to five years ago?

Vast Improvement []

Slight Improvement []

Stagnant []

Retgression []

Other specify.....



35. Explain the reason for your choice

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.....
.....
.....
.....

36. What are the main challenges confronting health care delivery in this community?

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37. What can be done to solve these challenges?

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.....
.....

38. Please suggest ways to improve MNCH outcomes within this community

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.....
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Appendix C: Observation Checklist

Observation Check List for Facility Inspection

Type of Facility			
Year of Establishment			
Number of Personnel			
Facility Infrastructure	Present	Absent	Improvised
1. Recovery Room			
2. Examination Room			
3. Reception Area			
4. Consulting room			
5. Court Yard			
6. Living Area			
7. Bed Rooms			
8. Kitchen			
9. W'C and Baths			
10. Electricity/ Solar			
11. Couch			
12. Overhead Tank			



Appendix D: Introductory Letter from Ghana Health Service

In case of the reply the number and date of this letter should be quoted.

My Ref. No GHS/UWR/ *SP* 51
Your Ref. No.....



GHANA HEALTH SERVICE
REGIONAL HEALTH ADMIN
P. O. BOX 298
WA UWR
GHANA

June 22, 2015

Tel: +233 07 56 22 204 or 22 016
Fax: +233 07 56 22 471
Email: ghs-uwr@africaonline.com.gh

THE DDHS
DAFFIAMA BUSSIE ISSA

INTRODUCTORY LETTER: MR UMAR HARUNA

The above named candidate is a Lecturer at the Department of Social, Political and Historical Studies, of the Faculty of Integrated Development Studies, UDS Wa campus. He is currently pursuing his Ph.D in Social Administration and writing a dissertation on the topic: **Evaluating Maternal, Newborn and Child Health Interventions in Ghana: A case study of CHPS in Daffiama, Bussie, Issa District.**

Kindly accord him the necessary support and cooperation and take the necessary steps to ensure that the privacy and confidentiality of the clients and staff who will be participating in the study are guaranteed.

Thank you.

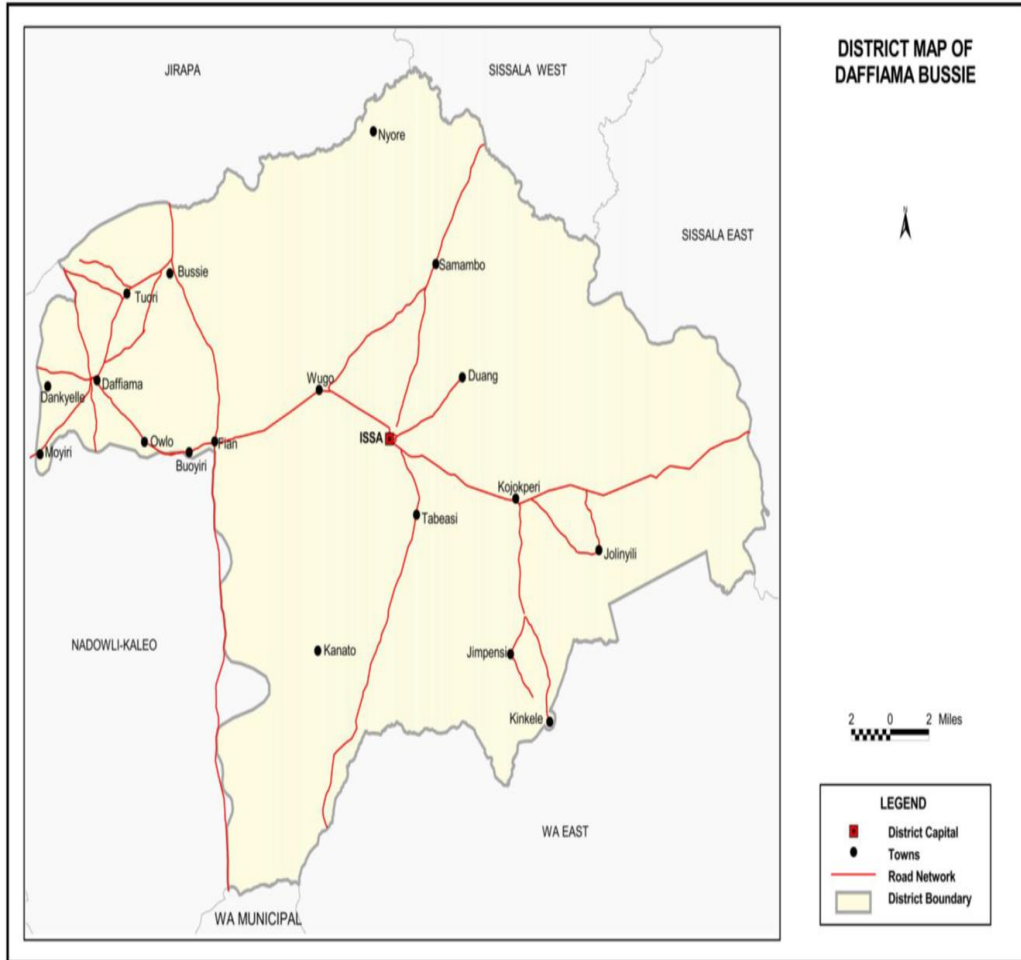

BASADI RICHARD
PRINCIPAL HEALTH RESEARCH OFFICER
FOR REGIONAL DIRECTOR OF HEALTH SERVICES

Cc: Mr. Umar Haruna ✓
Research file

UNIVERSITY FOR DEVELOPMENT STUDIES



Appendix E: Map of DBI



Appendix F: Conceptual Framework

