Paradoxes of factors influencing maternal health outcomes in rural northern Ghana

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Certificate of Authorship

I, Joshua Sumankuuro,

Hereby declare that this submission is my own work and to the best of my knowledge and belief, understand that it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this thesis be accessible for the purpose of study and research in accordance with normal conditions established by the Executive Director, Library Services, Charles Sturt University or nominee, for the care, loan and reproduction of thesis, subject to confidentiality provisions as approved by the University.

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Signature                                      Date
List of Abbreviations

ANC  Antenatal care
AIDS  Acquired Immune Deficiency Syndrome
BP/CR  Birth Preparedness and Complication Readiness
CBSVs  Community-based disease Surveillance Volunteers
CCMC  Couple-Centred Maternity Care
CHFP  Community Health and Family Planning
CHPS  Community-based Health Planning and Services
DBID  Daffiama-Bussie-Issa District
DHA  District Health Administration
DHMT  District Health Management Team
SDHMTs  Sub-District Health Management Teams
EDD  Expected Date of Delivery
EPPICS  Encouraging Positive Practices for Improving Child Survival
EST  Ecological Systems Theory
FGDs  Focus Group Discussions
GDHS  Ghana’s Demographic and Health Survey
GHS  Ghana Health Service
GSS  Ghana Statistical Service
HIPC  Highly Indebted Poor Country
HIRD  High Impact Rapid Delivery
HIV  Human Immunodeficiency Virus
ICM  The International Confederation of the Midwife
IPTp  Intermittent Preventive Therapies for malaria in pregnancy
JICA  Japanese International Cooperation Agency
LBs  Live Births
LCT  Life Course Theory
LIs  Legislative Instruments
MDGs  Millennium Development Goals
MEM  Maternal Ecological Model
MET  Maternal Engagement Theory
MMR  Maternal Mortality Rate/Ratio
MNCH | Maternal, Newborn and Child Health
MNH | Maternal and Newborn Health
MoH | Ministry of Health
NHIS | National Health Insurance Scheme
NHA | National Health Insurance Authority
NKD | Nadowli-Kaleo District
PPH | Postpartum Haemorrhage
PNC | Postnatal care
SBA | Skilled Birth Attendants
SDGs | Sustainable Development Goals
SSA | Sub-Saharan Africa
SMI | Safe Motherhood Initiative
SPAN-CSU | Spatial Analysis Network, Charles Sturt University
TBAs | Traditional Birth Attendants
TPB | Theory of Planned Behaviour
TRA | Theory of Reasoned Action
UN | United Nations
UNDP | United Nations Development Programme
UNFPA | United Nations Population Fund
UNICEF | United Nations Children’s Fund
UWR | Upper West Region
UER | Upper East Region
WHO | World Health Organisation
WiFA | Women in Fertility Age
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My mouth is filled with your praise… (Psalm 71:8). I thank the Lord God Almighty for His grace that has brought me this far in life. I will declare your glory all day long.

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Ethics Approval

Charles Sturt University Human Research Ethics Committee gave approvals on 12 February 2016 and on 10 January 2017 for the conduct of the research. The Upper West Regional Health Directorate and the study districts also provided letters of support for the conduct of the study. The protocol numbers issued with respect to the study are: 2016/013 and H16178 [Appendices 8, 9].
Publications arising from this thesis


Abstract

Despite an array of governmental and organisational interventions at regional, national and global levels, poor maternal and neonatal health outcomes remain as both human rights and developmental concerns in many regions of the world. The majority of the burden of maternal and neonatal morbidities and mortalities can be found in sub-Saharan Africa, including Ghana. Understanding the reasons underlying this on-going problem is essential if long-term improvements of maternal and neonatal health are to be achieved.

Drawing upon theories of ecological systems, bioecological theory socioecological model, cultural care theory, maternal engagement, human rights-based perspective and social exchange theory, this study employed a pragmatic paradigm and mixed methods approach to explore the paradoxes of factors impacting maternal health service delivery and utilisation in eight selected communities in the Nadowli-Kaleo and Daffiama-Bussie-Issa districts, two of the worst performing districts in terms of maternal health indicators in the Upper West Region of Ghana. Data was collected from three hundred and forty-two participants: pregnant women (n = 80), in the form of questionnaires; adult non-pregnant women (n = 80), opinion leaders (n = 80) and youth leaders (n = 80), in the form of focus groups; and health providers and managerial staff (n = 19, with 8 participating in Phase 1 and 2) and traditional birth attendants (n = 3), in the form of surveys, between February to June 2016 and January to May, 2017. Simple random, key informant and purposive sampling procedures were employed in selecting the participants for the data collection. Qualitative data was analysed using themes and factors. Chi-square test was used to examine the influence of different cultural, economic and demographic characteristics and the health system on utilisation of skilled care by expectant mothers.

The results showed that antenatal care visits, age of the mother, family involvement, and intake of local oxytocin, as well as mothers who utilised alternative sources of care, were associated with birth preparedness and complication readiness (BP/CR) and skilled attendance at birth and place of childbirth. Expectant mothers within the ages of 26 and 40 were less likely not to plan for health facility delivery than those aged 25 years or younger (7.7% vs 17.1%). Pregnant women whose spouses were 30 years and younger were 44.3% less likely to plan to give birth at healthcare settings than those with older
husbands. Women who planned for health facility delivery were more likely to achieve it compared to those who had no intentions to give birth at a healthcare setting. Educational attainment of the mothers and the jobs they engaged in for a living had no statistically significant association with birth preparedness and complication readiness (BP/CR). Women who attained primary education or higher were slightly likely to answer “yes” to BP/CR than those who never attended (62.2% vs 58.1%) and expectant mothers who were engaged in farming activities were more likely to respond “no” to BP/CR than those engaged in other economic ventures. Pregnant women who administered local oxytocin in the pregnancy were more likely to experience obstetric complications than their colleagues who did not administer it. While seeking maternal health services was ostensibly the responsibility of the mothers, their decisions were influenced by a number of external factors, including the husband’s expectations, community customs, norms and beliefs and practices associated with pregnancy, low ANC uptake, cultural appropriateness in maternity and delivery care, herbal uterotonics intake and the services of traditional birth attendants. Physician/midwife and health facility logistical shortages were also barriers to service delivery, as were culturally inappropriate maternal health education and promotion activities.

Drawing upon these insights, a new model for understanding the factors influencing maternal health service delivery and uptake in rural Ghana and other low and middle-income countries is presented. Specific strategies that can address the barriers above are identified.
Chapter 1 - Introduction

1.1 Maternal healthcare in perspective

The vast majority of societies expect women to bear children and some will honour women for their role as mothers (Atuoye et al., 2015; August, Pembe, Mpembeni, Axemo, & Darj, 2015). Yet in many low and middle-income countries, pregnancy and childbirth is a risky journey. Notably, every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or her infant (Khan, Jahan, & Begum, 1986; Webster, 2014).

For this reason, maternal health outcomes; maternal health outcome relates more to pregnancy and birth outcomes, including miscarriage, prenatal, labour, birth, abortion, stillbirth, maternal near misses, maternal death, remain a topical issue of discussion and research at global, national and down to regional levels. This is reflected in a number of priorities for improving MNH which have been developed over the last 30 years. A global campaign to improve the safety of mothers and newborns began with the Safe Motherhood Initiative (SMI) in Nairobi, 1987, as an attempt to address 500,000 maternal deaths annually in low and middle-income countries (DeJong, 2000). Other strategies have developed alongside this initiative, emerging out of the International Conference on Population and Development in Cairo (1994), the Fourth World Conference for Women in Beijing, and the Social Summit in Copenhagen (1995), and more recently, the United Nations Millennium Development Goals four and five (2000-2015) and the Sustainable Development Goals three (2015-2030) (UN, 2015).

As a result of these initiatives, a 44% reduction in global maternal deaths occurred between 1990 and 2015 (WHO, 2017a, 2017b). This included a 49% reduction in maternal mortality in sub-Saharan Africa (SSA) region between

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1 MDG four and five respectively seek to reduce under-five mortality rates and maternal mortality ratio by two-thirds and three-quarters.

2 The SDG three: targets one and two respectively aim to reduce the global maternal mortality ratio to less than 70/100,000LBs, and end preventable deaths of newborns aiming for at least as low as 12 per 1,000 live births by 2030).

3 The International Statistical Classification of Diseases, 10th edition (ICD-10) defines maternal death to mean the “death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy excluding accidental or incidental causes” (WHO, 2012; Say & Chou, 2011).
1990 and 2013 (Thomas et al., 2014; UN, 2015). The adoption of these initiatives made significant impacts in reducing morbidities and mortalities in the high-income countries between 1990-2015. This included a 47% reduction in maternal deaths and a 39% decline in neonatal mortality in sub-Saharan Africa over the same time period, from 90 to 54/1,000 live births (UNICEF, 2016; WHO, 2017b; WHO et al., 2014). Nonetheless, an annual maternal death toll of 300,000 occurred over the same period (Koblinsky et al., 2016; WHO, UNFPA, WBG, UNDP, 2015), especially in SSA and South Asia, where an estimated 830 mothers still die each day from pregnancy and related causes (WHO, 2017b; WHO et al., 2015). More than half (about 66%) of all maternal mortalities occur in sub-Saharan Africa (SSA) (Gebre, Gebremariam, & Abebe, 2015; WHO, 2017b).

Whilst the highest global MMR was recorded in Afghanistan of 1400/100,000LBs, rates also remained high in SSA between 1990 and 2015 (WHO, UN, UNFPA, World Bank Group, UNDP, 2015; WHO, 2017), with an overall MMR of 620/100,000LBs (Gebre et al., 2015; WHO, 2017b). That is, SSA accounts for more than a hundred times the maternal mortalities of developed regions (Seale, Mwaniki, Newton, & Berkley, 2009; Brighton, D'Arcy, Kirtley, & Kennedy, 2013; Say et al., 2014), and the situation in Ghana is a case in point.

At present there are considerable discrepancies in maternal morbidity and mortality data from Ghana, but the overall national trends remain similar to broader SSA trends between 1990 and 2015 [Table 1.1]. That is, maternal deaths fell from 740 to 395/100,000LBs in 2015 (Galaa, Haruna, & Dandeebo, 2016; WHO, UNFPA, WBG, UNDP, 2015). Nonetheless, maternal mortality was found to account for 14% of all female deaths, and was the second highest cause of women mortality in Ghana (Ganle, 2015).

Data collected on MMR by the Ghana Statistical Service (GSS) is somewhat different to the WHO figures, estimating mortalities of 214 in 1992 and 350 in 2012 (Ghana Statistical Service, 2013; Oduro-Mensah et al., 2013). Regardless of the figures used [Table 1.1], it represents an improvement over a twenty-year time frame (GSS, 2013; World Health Organisation et al., 2014).
Table 1. 1: Summary of maternal mortality ratio (MMR) in Ghana*

<table>
<thead>
<tr>
<th>Year</th>
<th>MMR (per 100,000 LBs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>740</td>
</tr>
<tr>
<td>1995</td>
<td>590</td>
</tr>
<tr>
<td>2000</td>
<td>540</td>
</tr>
<tr>
<td>2005</td>
<td>560</td>
</tr>
<tr>
<td>2008</td>
<td>451</td>
</tr>
<tr>
<td>2010</td>
<td>350</td>
</tr>
<tr>
<td>2012</td>
<td>350</td>
</tr>
<tr>
<td>2013</td>
<td>380</td>
</tr>
<tr>
<td>2015</td>
<td>395</td>
</tr>
</tbody>
</table>

Sources: Ghana Statistical Service (2013); UNFPA (2014); Galaa et al. (2016).

*Confidence intervals were not in the source documents.

These figures are likely to be underestimations, given that they are entirely based on institutional maternal mortalities to the neglect of silent deaths in the very remote communities in the country (Buor, 2005; Der et al., 2013; Galaa et al., 2016). Thus, it was very unlikely that, the rate of reduction in maternal deaths in the country could reach the 75% reduction target of 190 per 100,000 LBs by the MDG five (Lawn, Kerber, Enweronu-Laryea, & Cousens, 2010; United Nations Population Fund, 2014).

Despite there being free maternal health services in all public (government) and mission (faith-based) health facilities in the country since 2003 (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007; Witter, Garshong, & Ridde, 2013) and the establishment of increasingly decentralised health service delivery outlets such as the Community-based Health Planning Service (CHPS) compounds, the high MMR remains particularly problematic in peri-urban and rural Ghana. The majority of Ghanaian women reside in these communities (GSS, 2014b), where fewer than 23% of pregnant women utilised skilled delivery services (Sakeah, McCloskey, et al., 2014; Sumankuuro, Crockett, & Wang, 2017a). This is of
particular concern given that the majority of the causes of maternal deaths could be avoided through birth preparedness and complications readiness, and early and appropriate utilisation of skilled maternity services (WHO, 2017c).

The reasons for these differences are profoundly complex and it is only by understanding them that it will be possible to further significantly reduce mortality rates (Rishworth, Dixon, Luginaah, Mkandawire, & Prince, 2016).

The WHO classifies the causes of maternal mortality into two broad categories; direct and indirect (Say & Chou, 2011). The literature identifies direct obstetric mortalities as those resulting from obstetric complications of the pregnant state (thus, pregnancy, labour and the puerperium), from interventions, omissions or incorrect treatment, or from a chain of events resulting from any of the above (Galaa et al., 2016). Say and colleagues (2014) identified that direct causes claimed 73% of lives worldwide, mostly in SSA and South Asia. Haemorrhage, sepsis, unsafe abortion and hypertension were identified as the most common direct causes of maternal deaths in low and middle-income countries (Say et al., 2014; Seale et al., 2009).

Indirect obstetric causes are attributed to previous existing disease or a disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by the physiological effects of pregnancy (Cross, Bell, & Graham, 2010; WHO, 2004). These account for an estimated 20% of the global burden of deaths and include malaria, HIV/AIDS, hepatitis, anaemia, sickle cell disease, meningitis, cerebrovascular diseases and others (Galaa, Haruna & Dandeebo, 2016; Say & Chou, 2011; Say et al., 2014). Overall, it is estimated that up to 80% of the morbidities causing MNH deaths are preventable if advance preparations for complications during pregnancy, birth and the postpartum stages are made and skilled delivery services are used (Rishworth, Dixon, Luginaah, Mkandawire, & Prince, 2016; WHO, 2017c). As a result, WHO and UNICEF recommends at least four ANC visits for low risk women (mostly the industrialised countries) and up to eight for pregnant women in SSA (Brighton, D’Arcy, Kirtley, & Kennedy, 2013; Ekabua, Ekabua, & Njoku, 2011; Gudu & Addo, 2017). The leading causes of neonatal deaths are identified as infections (36%) which includes sepsis/pneumonia, tetanus and

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4 For the purposes of this discussion, a skilled health provider is a person with midwifery skills and trained to proficiency to manage normal births and diagnose or refer obstetric complications (Rishworth et al., 2016).
diarrhoea, pre-term (28%), and birth asphyxia (23%) in developing low and middle-income countries (Galaa et al., 2016; UNICEF, WHO, World Bank Group, & UN, 2015).

1.2 Barriers to Ghana’s maternal and neonatal healthcare efforts

The barriers to maternal and neonatal healthcare delivery in Ghana is a complex topic, and while there are countless barriers that have been documented, a few of the most prominent ones include: sociodemographic characteristics of the mothers and spouses, sociocultural influences, health system challenges and policy initiatives (Abdullah et al., 2011; Atuoye et al., 2015; Rishworth et al., 2016). Consequently, the reasons for maternal and morbidities and mortalities may also be alluded to medical problems, many of these conditions are underpinned by, or contributed to, by risky income generating activities (high informal sector participation and unsafe work environments) and a diverse array of cultural influences (Ganle, Otupiri, Parker, & Fitzpatrick, 2015; Rishworth et al., 2016). Service delivery factors, such as distance to healthcare facilities and poor surface of roads coupled with the shortages of midwives also impact significantly on birth outcomes in many locations (Abdullah et al., 2011; Atuoye et al., 2015; Rishworth et al., 2016), and the failure of the National Health Insurance Scheme to cover all the costs of pregnancy and delivery appears to place a heavy financial burden on expectant mothers (Buor, 2005; Ganle, Parker, Fitzpatrick, & Otupiri, 2014; Witter et al., 2013).

1.3 Policies to address maternal morbidity and mortality

Essential to addressing these barriers are adequate antenatal care (ANC) and birth preparedness and complication readiness (BP/CR). ANC is a timely programme in the gestation of the pregnancy that provides routine but essential care to ensure the health outcomes for expectant mothers. The ANC package aims to: identify and manage obstetric complications and associated risks factors such as pre-eclampsia, provide intermittent preventive therapies for malaria in pregnancy (IPTp), and to identify and manage infections such as HIV, syphilis and other sexually transmitted diseases (Finlayson & Downe, 2013; Maru et al., 2016). The majority of the communities in Ghana have long been underprivileged in terms of access to ANC and skilled delivery, due in part to
poor roads, inadequate health facilities, staff shortages and the unsustainable health insurance scheme.

The Ministry of Health formally launched Community-based Health and Planning Services (CHPS) in 1999. The goals of the initiative were to increase communities’ access to skilled care, reduce geographical distances to health facilities and to engage under-utilised nurses (in urban health facilities), with the aim of reducing infant mortality and fertility rates (Sakeah, Doctor, et al., 2014a). Most of the CHPS facilities were located in communities which were previously out of reach of health services because of poor roads and vehicular cost and unavailability (Parnigoni, 2013; Sakeah, Doctor, et al., 2014a). Referrals to the relevant and nearest facility were done by carrying the patient on a bicycle or donkey which almost always resulted in poor outcomes (Sakeah, Doctor, et al., 2014b). Therefore, the ministry sought to bring healthcare to the doorsteps of the rural populace, with a particular focus on increasing skilled maternal healthcare (Parnigoni, 2013; Sakeah, Doctor, et al., 2014a).

In light of this, and in order to facilitate Ghana’s commitment to maternal and neonatal healthcare problems, a safe motherhood task force was instituted in 1993 to support and fast-forward the implementation of MNH care policy interventions. Knowing the severe staff shortages in rural Ghana, the ministry established seven Midwifery training colleges in the country. This increased the annual national enrolment of nurses/midwives by 13% between 2007 and 2009 (GHS, 2010; MoH, 2014b).

Subsequently, a fee-exemption policy for healthcare delivery was introduced in 2004, to cover all intrapartum costs funded by debt relief funds - the Highly Indebted Poor Country (HIPC) initiative (Witter et al., 2013) - although there were still financing challenges. The persistent challenges prompted the introduction of the Making Pregnancy Safer (MPS) initiative in 2003 to address the general health problems of women and newborns and to reduce maternal mortality and morbidity in Wassa West District of the Western region (Asante, Avotri, & d’Almeida, 2004). The programme was designed to utilise local content, such as community volunteers and traditional birth attendants, to conduct community-level engagements for increased utilisation of skilled maternal health services.
Notwithstanding their potential to increase skilled maternity service uptake, both service delivery windows were financially unsustainable and were replaced by the National Health Insurance Scheme (NHIS) in 2004 (Witter, Arhinful, A. Kusi, & Zakariah-Akoto, 2007). The NHIS similarly provides free universal access to maternal healthcare in a policy reform for women and children in 2008, to ensure increased access to prenatal and postnatal care, to increase the utilisation of maternal and newborn services and bridge the inequity gap (Ganle, Parker, Fitzpatrick, & Otupiri, 2014; Witter et al., 2013). Other MNH interventions that were introduced by private and public stakeholders include: a) Ghana VAST Survival Programme and b) Prevention of Maternal Mortality Programme (PMMP). Despite the various maternal and neonatal health improvement interventions, general health was deteriorating in some parts of the country.

The High Impact Rapid Delivery (HIRD) initiative adopted in 2005 is a cost-effective and complementary strategy to reduce maternal and under-five mortality. It was a strategy to reduce maternal and child mortality through rapid scale-up of maternal health programs to achieve universal coverage (at least 80%) in key priority (starting with Upper West, Upper East, Northern and Central regions) and cost-effective interventions by 2010 and 90% by 2015 (MoH, 2015a). HIRD replicates and fast-tracks the best practices of MNH interventions to other locations with same or similar programmes, using local level structures at the community and household levels. The approach further strengthens health delivery strategies, broad enough to include every aspect of the country, to address socio-cultural and economic factors affecting the SDG intervention areas (DeVoe & Ali, 2016; Hembling et al., 2017; MoH, 2014a).

Ghana Health Service (GHS) also introduced a partograph tool in 2010 based on WHO protocol, to measure and promote nurse confidence and to reduce prolonged labour, caesarean sections and intrapartum stillbirths (Floyd, 2013). Midwives subsequently received training on the use of the partographs to record relevant details of the mother and foetus and to monitor the progress of labour (Ollerhead & Osrin, 2014; Opoku & Nguah, 2015).

Another related package was the mother and child support programme (MCSP) funded by the USAID to assist in the areas of HIV, malaria, nutrition, family planning and maternal, newborn and infant health services in Ghana. The strategy was later changed to Maternal and Child Health Integrated Program
(MCHIP) directed and supervised by JHPIEGO (from 2010-2016), with the aim of supporting the Government of Ghana (GoG) to facilitate its priority interventions on maternal and newborn healthcare services, through support in skills training of midwives and nurses, enabling them to deliver higher-quality care (DeVoe & Ali, 2016).

The MCHIP activities centred on pre-service training for thirty-two midwifery schools across Ghana, using e-learning to convey and reinforce lessons about newborn resuscitation and essential newborn care (Hembling et al., 2017). The main achievements of the MCHIP were to standardise and approve relevant strategies, guidelines and training materials for nurses and midwives, tools, and monitoring systems for MNH services/programmes in the beneficiary districts and communities. The various programmes recommended a coordinated system of MNH data management (DeVoe & Ali, 2016). The first referral policy guideline for the country was drafted in 2012 and enforced in 2014 to ensure efficiency in maternal healthcare delivery interventions between the levels of health provision (MoH, 2014c). To augment national efforts and realign the focus of private and civil society organisations’ involvement in healthcare delivery, a National Newborn Health Strategy and Action Plan (2014-2018) was developed with the aim of reducing neonatal mortality rate to 21/1,000 live births (LBs) by 2018.

Another broad ranging beneficial initiative was the Encouraging Positive Practices for Improving Child Survival (EPPICS) project funded by USAID and implemented by the Catholic Relief Service from 2011 to 2014. The project implementers, together with the GHS, worked to implement high-impact, evidence-based interventions to address the numerous barriers to improved MNH care (Hembling et al., 2017). EPPICS project strategy departed from the traditional focus on facility-level care for all problems, and used local community members to raise community awareness, and supported and empowered the health staff and community-based agents through capacity building and professional skills upgrading and monitoring through a facilitative supervision approach. Community health volunteers received training to persuade community members, particularly husbands and mothers-in-law, to actively involve mothers in household decisions and choosing healthier birthing practices. It focused on two strands; facility and community-based levels.
However, opposition from traditional authorities and household heads consistently undermined the programmes (DeVoe & Ali, 2016; Hembling et al., 2017).

To further strengthen and enhance achievements, GHS embarked on a skills upgrading exercise for the Community Health Officers in the various sub-district health settings, especially the CHPS compounds, focusing on midwives’ ability to manage and conduct deliveries, thereby addressing the gap between skilled delivery care in rural and urban Ghana (Rishworth et al., 2016; Sakeah, Doctor, et al., 2014a).

Other international donor initiatives which supported Ghana to address MNH care programmes were: Prevention and Management of Safe Abortion Programme by the Japanese Government (JICA); Maternal and Neonatal Health Programme; Roll Back Malaria Programme - Intermittent Preventive Treatment (IPT) and Emergency Obstetric and Neonatal Care (EmONC) which were implemented in all 10 administrative regions.

Another significant module of the ANC package is the birth preparedness and complication readiness (BP/CR) strategy. It encourages, guides and supports pregnant women, their families, and communities to effectively plan for births, and also to deal with emergencies, if they occur. Both perinatal care packages provide respectful and sympathetic support to pregnant women, and pregnancy safety-centred clinical practices and interventions, from professional health personnel in a healthcare setting.

1.4 Research problem

Despite the introduction of the strategic policy innovations described above (Del Barco, 2004a; Witter et al., 2013), the uptake of ANC and BP/CR strategies and of skilled delivery remains comparatively low in Ghana, especially in rural areas, including the study areas upon which this research is focused. Furthermore, there are significant discrepancies between different indicators within and between regions, which makes explanation challenging (Asamoah, Moussa, Stafström, & Musinguzi, 2011; Der et al., 2013; Fofie & Baffoe, 2010; Galaa, Haruna, & Dandebo, 2016; Geelhoed, Visser, Asare, Schagen van Leeuwen, & van Roosmalen, 2003).
Predictor variables such as age, education, marital status, physical distance are known to be significant determinants of healthcare outcomes in rural communities, but they do not necessarily explain their underlying influences (Asamoah et al., 2011; Sakeah, Doctor, et al., 2014b). Nor is much known about the specific service barriers that are also often identified in Ghana (Moyer et al., 2012; Moyer, Adongo, Aborigo, Hodgson, & Engmann, 2014; Sumankuuro, Crockett, & Wang, 2017b). Even less is understood about the behavioural and cultural factors underpinning the decisions expectant mothers make in relation to ANC, BP/CR and skilled delivery, influences which literature suggests can pose greater barriers than resource constraints (Koblinsky et al., 2016; Rishworth et al., 2016; Thaddeus & Maine, 1994).

One limitation of many of these analyses is that they identify what the “causes” of the morbidities and mortalities are, rather than establishing the underlying “enabling factors” or determinants, many of which are interdependent. This, in part, reflects how these studies were designed and implemented. The majority used national survey data, which mostly do not address the expressed issues at the household level or obtain women’s views (Murphy, 2016; Moyer & Mustafa, 2013; Amzat, 2015). Meanwhile, policy initiatives in LMICs rely on such national surveys which may account for the slow progress of these countries in achieving global goals. Maternal health literature shows that, it is unusual for a barrier to have a single cause; more commonly, there are several underlying factors, which are often interdependent. Attempts to overcome a given problem are less likely to be successful if stakeholders ignore other independent issues.

Thus, primary studies are required to explore rural residents’ opinions on these cultural and other factors (for example the use of antenatal care, preparing for birth and getting ready for emergencies when they occur, and giving birth with skilled attendants) in rural communities where change in maternal health service outcomes is sought.

1.5 Research aim and questions

The identified problems in research work and the ongoing low rate of skilled birth attendance necessitate further investigations of stakeholders in maternal and newborn health service delivery and utilisation, which could help healthcare providers understand the array of challenges impacting on skilled care
utilisation as well as the patronage of TBAs services in the Upper West Region (UWR).

Therefore, the study investigated maternal and newborn health service delivery and utilisation with the focus on antenatal care (ANC) and birth preparedness and complication readiness (BP/CR) in the rural settings from the perspective of expectant mothers, their families and communities and healthcare providers (professional medical staff and traditional birth attendants). The study was guided by the following key research questions:

i. What are the determinants of maternal morbidity and mortality in the study area?
ii. What factors influence the uptake of ANC in the study area?
iii. What factors influence the status of BP/CR in the study area?
iv. What factors influence the outcomes of labour and the postpartum period for mothers in the study area?

1.6 Thesis outline

The overarching question to be answered in this thesis is: what are the factors affecting maternal health outcomes - maternal health outcome relates more to pregnancy and birth outcomes, including miscarriage, prenatal, labour, birth, abortion, stillbirth, maternal near misses, maternal death in rural Ghanaian communities? As such, the thesis comprises twelve chapters. Chapter two (2) explores the theoretical foundations for maternal and neonatal health service delivery and uptake, with a focus on ecological systems theory, maternal engagement theory, human rights-based approach to maternal decision-making and theory of social exchange, whilst chapter three (3) explores the literature identifying barriers to ANC, BP/CR and skilled maternal health services delivery and uptake.

Chapter four (4) elaborates on the research paradigms and the methods used in this study, incorporating the choice of the methods, the reasons for the study design and sampling and data collection techniques. Descriptions of pragmatic and critical paradigms together with the mixed methods approach employed in the study are provided in this chapter. Chapter five (5) gives a detailed description of the geographical and demographic characteristics of the study communities, thereby creating a linkage between the evidence in the literature and the appropriate methods and theories to choose.
The results of the study are contained in chapters’ six to ten. Chapter six (6) covers the results and discussions on ANC delivery and utilisation found from the study, and chapter seven (7) presents the results on BP/CR; its implementation, the challenges, and the health outcomes. Health service issues affecting maternal health outcomes in this study are presented in chapter eight (8). Chapter nine (9) provides the results of childbirth services and the postnatal care uptake. Precise reasons for skilled and unskilled attendance at birth and the barriers to health facility care are explained in this chapter. The study participants gave insightful suggestions that could help improve maternal service delivery and utilisation outcomes pertaining to pregnancy, labour and birth in the study area, and these are presented in chapter ten (10).

The synthesis of the entire findings in this study are presented in chapter eleven (11). The factors identified in the results impacting on health delivery and use are discussed, with relevant reference to previous evidence and theoretical perspectives. Although geographical, economic, health system and policy issues were significant barriers to access, other relevant factors were rooted in the culture of the families and communities, creating a dissonance with health system protocols and procedures. Linkages between these factors have been incorporated into a maternal ecological model. Chapter twelve (12) concludes the thesis by providing recommendations to improve maternal health outcomes in the study area and similar other rural communities, describing the study limitations, and identifying possibilities for further research.
Chapter 2 - Theoretical underpinnings of the study

2.1 Introduction

Theories, models and approaches are essential in research, policy and clinical practice, assisting development practitioners and health professionals to understand the effectiveness of and levels of utilisation of specific services provided to expectant mothers. In determining the relevance of a particular theory, model and approach to underpin this type of inquiry, Duffey and Muhlenkamp (1974) identified such considerations as the potential to inform policy and guide practice, the extent to which they (theory, model, approach) contain identifiable assumptions and scope (broad or narrow). For example, situation and location specific theories, models and approaches are put in social, historical and geographic contexts but have a narrow focus (for example, maternal engagement theory), whilst other theories, often identified as grand or foundational theories such as ecological systems theory, have a broader focus (Cragin, 2004; Im & Meleis, 1999). For health professionals, theories are often grouped into grand and practice-based theories, models and approaches 5, premised on the nature, the mission and expected outcomes of the profession (Im & Meleis, 1999).

An array of theoretical perspectives has emerged which are used to help understand, explain and make predictions about poor maternal and neonatal healthcare outcomes, particularly in relation to uptake of antenatal care and birth preparedness and complication readiness interventions. The tenets of three-delay model, Levine’s conservation model, ecological systems theory, the behavioural theories (reasoned action and planned behaviours) helped in the study design, whilst six of these theories/approaches were used in relation to the discussion of the findings- socioecological and bioecological models, life course theory, maternal engagement theory, and transcultural care and human rights-based approach. Following a discussion of these theories, which include life course perspective, maternal engagement theory, human rights-based approaches, social exchange theory, bioecological and socioecological theories,

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5 Grand theories, models and approaches deal with the constructions of the nature, mission and goals of nursing care, whilst middle-range theories are theories that have more limited scope and less abstraction, address specific phenomena or concepts, and reflect practice (Im & Meleis, 1999).
cultural care theory, the theory of reasoned action and theory of planned behaviour, an assessment of the evidence to support them will be the focus of chapter 3.

2.2 Life course theory (LCT)

Life course theory is an integrated approach that incorporates both medical and public health principles in the daily life of a person for improved healthcare outcomes (Black, Holditch-Davis, & Miles, 2009; Jack, DiCenso, & Lohfeld, 2005). Thus, LCT borrows from other established physical, biological, and social sciences to explain the social and biological morphology of human well-being, with the intent of demystifying stand-alone healthcare philosophies on the well-being of an individual (Black et al., 2009; Gentry, Nolte, Gonzalez, Pearson, & Ivey, 2010; Jessop, Craig, & Ayers, 2014).

Life course perspective first emerged during the 1960s as a means to explain the life course of individuals beginning with the formative years to the present, operating within the social and cultural nexus (Alwin, 2012; Reid, 2012). It does this by addressing the sequence of socially defined events and roles that the individual experiences over time (Elder, Johnson, & Crosnoe, 2003). These events and functions do not necessarily proceed in a given sequence, but rather constitute the total experiences of the person (Elder et al., 2003). Continuity and change, social structures, and the relationships between time, place and lives, as contexts for developmental processes, are of primary concern in the life course approach (Black et al., 2009; Elder et al., 2003).

In relation to maternal health, life course theorists suggest that healthcare programmes investigate and combine the views of many types of individuals about their experiences and obstetric histories and records of life in different situations and follow groups of individuals into the future, for a continuous record of experiences over time (Elder et al., 2003). Rather than focusing on the existing health situation of mothers, LCT suggests a detailed examination of obstetric and pre-obstetric histories of women, to analyse and establish the possible causes of the problem.

2.2.1 Key principles of life course theory

Six building blocks and principles were developed to analyse and explain the main components of LCT (Black et al., 2009):
Socio-historical and geographical location explains how geopolitical and economic events including development policies and social and cultural ideologies such as patriarchy, could shape people's perceptions and choices, posing a threat to future health and livelihood conditions (Black et al., 2009; Elder et al., 2003).

The timing of lives indicates how changes such as political and economic changes, war and technological innovations impact on individuals and families over time. The timing of lives consists of three subcategories. The transition is a change in life, e.g., from a single to married state; nulliparae to pregnancy. Trajectory also explains the diverse pathways or transformational processes or change (Elder et al., 2003) while turning point refers to the specific outcome of the change along a given path over time (Black et al., 2009).

Variability explains the diversity in structures or processes such as age cohorts, skilled maternal health service uptake, social class, family support and economic background among others which could have a profound impact on a person’s life and health outcomes (Black et al., 2009; Elder et al., 2003).

"Linked lives” and social ties is a tenet that emphasises how people’s lives are interdependent and reciprocally connected on several levels (Reid, 2012).

According to the principle of human agency and personal control, individuals are assumed to have the capacity to engage in planned competence, i.e. the thoughtful, proactive, and self-controlled processes that underlie one's choices about institutional involvement and social relationships (Black et al., 2009; Reid, 2012).

Finally, how the past shapes the future reflects how a person’s early life course decisions, opportunities, and conditions affect future healthcare outcomes (Black et al., 2009).

2.2.2 Application of life course theory to maternal and newborn healthcare

When applying these principles to a study of high-risk pregnancy outcomes, Black et al. (2009) found a pattern of gestation outcomes and preterm births in typical rural communities which agreed with the concepts of LCT. Black et al. (2009) noted that cultural influences, geographical location, past obstetric and sexual reproductive lifestyle, health seeking decisions and behaviours, medical practices and literacy of women and families act as
trajectories which could ultimately influence final health service delivery outcomes. In a recent study, Fraser (2013) concluded that as the living situations of people changes, they must be modified accordingly to achieve safe pregnancy and newborn healthcare. These outcomes will be assisted by trajectories such as public policies, individuals’ and families’ involvement and healthcare leadership coming together in a coordinated manner.

Some researchers also observed that pregnant women live in a community as a social entity embedded in specific values, norms and culture⁶, and their “linked-lives” influence perceptions of maternal and child healthcare interventions (Russ, Larson, Tullis, & Halfon, 2014). This means that the life-span development of the mother and the foetus could be affected by the “linked-lives” of their geographical locality and cultural values and practices (Black et al., 2009). Thus, the theorists pre-suppose that a pregnant woman’s approach to healthcare-seeking ought to be carefully monitored to ensure obstetric safety and efficient management of the gestation up to the postpartum (Elder et al., 2003; Russ et al., 2014).

Also, for positive maternal and newborn health outcomes to be achieved, the community, healthcare providers, the family, and the pregnant women must take-up timely planning for complications, obstetric attention and possible skilled attendance at birth. The use of maternal health services over time could inspire body system response to health interventions and the associated outcomes (Mallette, 2005; Reid, 2012; Thaddeus & Maine, 1994). The key principles of LCT undermine “static” approaches to healthcare provision by embracing the developmental stages, ecological changes and cultural influence on the individual’s health. Changes in a society which necessitate modification of the daily life activities and the healthcare interventions, as well as the socio-cultural norms attached to health at its most broad, and to maternal health more specifically, promote health outcomes (Munhall, 2007; Reid, 2012). For example, to meet the changing dynamics of obstetric risks, the theorists propose continued revision of the course contents used in training midwives and other healthcare paraprofessionals to accommodate the changing complexities of

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⁶ Cultural and social aspects include factors related to values, traditions, beliefs, spirituality, social structure, political concerns, economics, educational patterns, technology, cultural values, and ethno history that influence cultural responses of people within a cultural context (Leininger, 1988).
mother and child healthcare challenges (Black et al., 2009; Glass & McAtee, 2006; Roberts, Wood, & Smith, 2005).

2.2.3 Criticisms of life course perspective

The life course theory exposes the explicit environmental, social and cultural barriers that could have ultimate influence on the obstetric history of women and therefore affect maternal and newborn health service delivery and utilisation outcomes over time. To address these barriers, LC theorists suggest continued revision at policy and programmatic level are required, for example in training health professionals and the increasing use of neonatal technologies that are ‘core components’ of maternity service (Black et al., 2009; Hutchison, 2010). However, such initiatives could lead to unbearable cost implications in developing nations. For example, many communities in low and middle-income countries (especially sub-Saharan Africa where maternal deaths are highest), can hardly afford potable water and essential life-saving equipment, let alone commence extensive spending on advanced technology.

The technical and medicalised culture of both obstetric and neonatal care could also influence women’s experiences of high-risk pregnancy and subsequent mothering (Black et al., 2009; Reid, 2012). The current healthcare trajectories have created a culture that includes a language of laboratory values, ventilator settings, and feeding volumes that replace conversations typical of parents, relatives, and friends after the birth of a full-term infant (Black et al., 2009) in any country, including in Ghana. Thus, LCT appears better suited to explaining maternal and neonatal outcomes in industrialised countries (Knight, Self, & Kennedy, 2013; Sumankuuro et al., 2017b), at least at this point.

The notion that people of same age cohorts share health perspectives is inherent in LCT, but this has been heavily criticised. Indeed, generations or cohorts do not have similar characteristics as individuals (Frey, Farrell, Cotton, Lathen, & Marks, 2014). Instead, they differ regarding critical characteristics such as gender, social class, family structure, ethnicity, and religion, location, literacy, income levels, and so on. Thus, life course change is influenced by other factors not necessarily considered in LCT, particularly, the resources and life decisions of individuals and communities (Alwin, 2012; Frey et al., 2014).
2.4 Feminist theories

These theories explore maternal health from a feminist perspective. That is, they draw upon core feminist principles which seek to counter the dominant ideology of patriarchy, a system of society in which men hold power, and which affects women’s freedom to decide on when, where and from whom to seek and receive appropriate maternal health services (Amzat, 2015). In many countries, women continue to be deprived of their basic civil and maternal rights and privileges, particularly in hard-to-reach communities. Two relevant feminist theories, the theory of maternal engagement and the human rights-based approach to decision-making, are considered in this study.

2.4.1 Theory of maternal engagement (MET)

The United Nations Population Fund (UNFPA), the World Bank (WB), and WHO sponsored the International Safe Motherhood Conference in Nairobi, Kenya in February 1987 (Sai & Measham, 1992), following which increased attention was given to issues surrounding maternal engagement. This was premised on Rosenfield and Maine’s (1985) argument that an increased focus on the health of infants failed to address the horrific risks pregnancy posed to women in low and middle-income countries.

Maternal engagement theory (MET) is synonymous with family-centred care (Phillips, 2003) or patient-centred care theory (Caputi, 2013; Jimenez, Klein, Hivon, & Mason, 2010), and focuses on taking a systematic approach to nursing care of a pregnant woman and her family based on an understanding of the client (the pregnant woman) as an individual with specific needs (Albanese, 2007). Engaging women and family in passionate discourse during pregnancy to childbirth was advanced by Douglas and Michaels (2004) in a book; The New Monism, which considers the journey in childbirth in the post-millennium era as a wicked exchange of wealth for human life. Consequently, the International Confederacy of the Midwife (ICM) emphasises family-centred maternity care as fundamental to good maternity care services (Phillips, 1996).

2.4.1.1 Key components of MET

The theory of maternal engagement is a flexible approach for providing safe, high-quality healthcare adapted to the physical and physiological needs of the client (pregnant woman), the client’s family, and the newly born offspring (Kuo
et al., 2012), and is grounded on six primary principles (Petersen, Cohen, & Parsons, 2004; Phillips, 1996):

- **Openness**: Open communication is necessary to provide the highest quality of care.

- **Respect**: respect for pregnancy as a regular, healthy event in a woman’s life (Phillips, 1996). Kuo et al. (2012) added that when pregnancy is acknowledged as a healthy life event rather than a condition that must be treated, interventions needed and complications will be minimal.

- **Knowledge**: it is necessary for women to be frontline decision-makers, and equally necessary for healthcare providers to provide quality care (Zwelling & Phillips, 2001).

- **Atmosphere**: Theorists propose that engaging with women enables them to choose the caregiver and place of birth that is most beneficial. Thus, she can decide on the healthcare providers and other advisers that she prefers (Zwelling & Phillips, 2001), and refuse routine procedures that may not be necessary for her well-being (Petersen et al., 2004).

- **Confidence**: giving the woman and family confidence in pregnancy management is essential to safe pregnancy and birth outcomes (Petersen et al., 2004).

- **Outcomes**: The women and relatives would have participated in the decision-making process, which will increase their self-confidence. The care process will also validate their learning with real-life experiences, and subsequently, the nurse that engages a mother and the family in caregiving will also experience higher satisfaction in her profession (Zwelling & Phillips, 2001).

### 2.4.1.2 Application of the theory of maternal engagement

A core component of the syllabus for training nurses and midwives is family-centred maternity care, where the primary mandate is to promote midwives-client/family interactions in preparation for safe delivery and consequently providing quick redress to unexpected obstetric conditions (Perry, Hockenberry, Lowdermilk, & Wilson, 2014; Petersen et al., 2004). Midwife home visits are often a core element of the engagement process. Theoretically, maternal engagement will also tune the minds of the family to reduce adverse behavioural problems and unintentional injuries, depression and other preventable causes of morbidities and mortalities (Jack et al., 2005; Sychareun
et al., 2016). Some theorists conclude that close contact with pregnant women and their families during the antenatal period has the potential to positively influence pregnancy and childbirth outcomes (Jack et al., 2005; Petersen et al., 2004). To achieve improved maternal health outcomes, the nurse-client relationship can be enhanced by putting theory from the classroom into practice at the community level, leveraging active engagements with expectant mothers and the families for maternal health service utilisation and management of obstetric emergencies (Jack et al., 2005).

Despite substantial evidence to support the use of nurse home visitation programmes, many governments and agencies have failed to implement the strategy using both nurses and community level volunteers (Pedercini & Barney, 2010), at least partly because of the expense of such programmes.

Previous studies in low and middle-income countries on the effectiveness of skilled and village health workers’ interrelationships with clients and the families, notwithstanding, suggest this was partly due to lack of coordination between the nurses and the village volunteers (Jack et al., 2005; Petersen et al., 2004; Pollard, 2006), with difficulties emerging over their respective roles.

2.4.1.3 Challenges of Maternal Engagement Theory

Jack et al. (2005), like a number of other proponents of MET, do not appear to have thought through the ideal blueprint for achieving maternal engagement in rural settings, particularly in low and middle-income countries where there are significant backlogs in nurses attending to the most basic of maternal health issues (Thaddeus & Maine, 1994). That is, staffing levels are entirely insufficient to support its full implementation. While hygiene education is provided under the model, it does not recognise other social and cultural barriers that inhibit service uptake at healthcare facilities. MET has not also recognised that most maternal deaths occur in low and middle-income countries where there are fewer nurses and paraprofessionals. It is simply not possible in many locations for existing staff to attend all pregnant women individually, including the public and other health facility admissions, in a reasonable timeframe (Lozano et al., 2012). Also, engaging with mothers in ways that increase their empowerment might mean that expectant mothers make decisions that appear contrary to health service delivery recommendations and international protocols and conventions, even where they have the requisite
knowledge. Furthermore, the model fails to acknowledge the deeply held cultural beliefs which underpin the disempowerment of women in many developing nations, particularly in sub-Saharan Africa. Changing these values is going to require profound cultural shifts that are unlikely to be achievable in the short term.

For this reason, the theory is perceived to be a very Western-centric approach, and many of these health facility preferences may not necessarily be culturally appropriate in some locations in the less developed and developing communities. Conversely, if a woman prefers to be delivered by a TBA because it is her personal preference, it should be accepted as a reasonable decision and fully supported.

2.4.2 Rights-based approach to maternal health

Like maternal engagement theory, human rights-based thinking in health has its foundations in self-determination, self-rule, freedom, autonomy, humanness, humanity, sexuality and reproductive health among others. The rights-based approach has two primary dimensions: human rights-based perspective and the feminist perspective (Amzat, 2015; Gabrysch, McMahon, Siling, Kenward, & Campbell, 2016), although they align in their beliefs focusing on women’s health, rights and livelihood. From the perspectives of Amzat (2015) and Gabrysch et al., (2016), they are both explicitly associated with the determinants of maternal morbidity and mortality in LMICs. Research into women’s freedom and their ability to utilise relevant healthcare has received greater attention over the last two decades (Amzat, 2015). The majority of studies focused on gender equality, equity, women empowerment in politics and leadership, with just a handful on “maternal autonomy”, “maternal freedom” and healthcare” in low and middle-income countries (Gabrysch et al., 2016; Matthews, Ramasubban, Rishyasringa, & Stones, 2003; Moyer et al., 2014).

Maternal autonomy is a component of human rights-based thinking to health which has its foundations in self-determination, freedom, humanness, and so on. Recent studies in both high and low to middle-income countries has highlighted “maternal autonomy” as a fundamental principle in human rights perspectives (Bloom et al., 2001). In the context of maternal health, it means that the pregnant woman has the freedom to make decisions in line with how
she wants her pregnancy and healthy life to progress (Amzat, 2015; Jat, Deo, Goicolea, Hurtig, & San Sebastian, 2015). Recent studies have found that lack of autonomy to utilise timely and appropriate maternal care have had significant impact on service use and positively associated with the outcomes. Conversely, maternal autonomy is associated with mothers having control over their lives, being able to make decisions pertaining to their health – pre-pregnancy, pregnancy, birth and the postnatal and empowered to act upon those decisions without intimidation from their environment (Gabrysch et al., 2016).

Thus, as Murphy (2016) argues, maternal autonomy can be defined as allowing women to make their own reproductive choices beyond abortion, and trusting women to make decisions in their best interests once they have been given sufficient information to understand maternal health risks. Diaz-Tello (2016) extends this understanding further, identifying mistrust between mothers and care givers, abuse, bullying and coercion of pregnant women as underpinning the lack of autonomy mothers hold pertaining to healthcare.

Human rights-based approach to health has different dimensions, but the most common categories include; autonomy, relationships, finances, healthcare seeking, control and violence (Amzat, 2015; Gabrysch et al., 2016). In the United States, women’s lack of freedom motivated their choices in birth care, and those who rescind appointments and health provider reported undue coercion (Diaz-Tello, 2016). However, Gabrysch et al. (2016) found skilled maternal care use was significantly associated with maternal autonomy, and other studies identified lack of freedom as a determinant of health facility delivery in sub-Saharan Africa (Moyer & Mustafa, 2013).

The human rights-based approach to health is in line with global goals (the MDGs 3 and 5), and the reason technical guidance was introduced by the UN Human Rights Security Council to assist policymakers development professionals adopt a rights-based cycle of policymaking programme planning, budgeting and implementation and monitoring and evaluation on the centrality of women’s rights as a measure to improving maternal health (Yamin, 2013). The initiative aims among others to address sociocultural and socio-political beliefs affecting women’s freedom, health and right to enjoyment by seeks to increase skilled attendance at birth as a measure of reducing avoidable morbidities and mortalities especially in low in-income settings. Implicit
theoretical findings on rights-based theories states that the more autonomous pregnant women are, the more likely it is that they will make prompt care seeking decisions in Asia and SSA (Gabrysch et al., 2016; Moyer & Mustafa, 2013). Thus, looking through the human rights lens, maternal mortality has been linked to maternal mortality given women’s decision-making power at the household level in many low and middle-income countries. That aside, a pregnant women’s power to choose a care giver, act on her preferences, and financially empowered to lead in deciding on reproductive and pregnancy care has counterproductive effects on service utilisation outcomes.

For example, in one study in the Northern Region of Ghana, men decided on when a pregnant woman could honour an appointment (Moyer et al., 2014). Other studies in Northern Ghana correlated mothers’ lack of freedom to receive appropriate care, to religious and cultural beliefs and practices and were more aligned to sociocultural preservation (Ganle et al., 2015; Ganle, 2015). In the Upper West Region, women did not have the freedom to seek care during the farming season (Sumankuuro, Crockett, & Wang, 2017), and similar reasons were reported in Ethiopia for mothers who missed out on their plans to give birth at a health care setting (Bayu, Fisseha, Mulat, Yitayih, & Wolday, 2015).

Overall, the scant literature on maternal autonomy and skilled care-seeking has described the phenomenon as lop-sided especially in LMICs, with fewer than expected primary studies explicitly reporting on this subject in SSA (Moyer & Mustafa, 2013) and South Asia (Ghani, Crowther, Kamal, & Wahab, 2018). This is despite its being a central theme in skilled maternal care in these locations (Ganle et al., 2015; Ganle, 2015; Sychareun et al., 2012; Sychareun et al., 2016).

Thus, women’s freedom to choose, and act of their health preferences is the central theme (Gabrysch et al., 2016). The foundation of this model originates explicitly from the experiences, dignity and aspirations of women and concludes that pregnant women can judge their healthcare needs and meet those needs better if they are empowered (Pairman, Tracy, Thorogood, & Pincombe, 2010).

The approach also contends that the extent of a woman’s autonomy will influence her use of healthcare and other relevant services (Furuta & Salway, 2006; Sumankuuro et al., 2017b). This is reflected in the statement from the
International Conference on Population and Development Programme of Action (ICPD) in 1994 that improving the status of women also enhances their decision-making capacity at all levels in all spheres of life (DeJong, 2000).

The human rights-based approach (RBA) for improving upon the right to healthcare is foundational to the United Nations Constitution (Article 12) - international and regional human rights instruments widely endorse the International Convention on Economic, Social and Cultural Rights. All of these conventions and other instruments are premised on respect for human dignity, integrity, and protection of the vulnerable, women and children (DeJong, 2000).

However, in practice, particularly in sub-Saharan Africa, women are systematically disempowered, limiting their ability to make decisions related to their healthcare, leaving them vulnerable to undignified and abusive treatment (Amzat, 2015; Ghani, Crowther, Kamal, & Wahab, 2018). While thousands of women continue to die of pregnancy and related factors, men (and or other family members) continue to be the primary decision makers in the family (Amzat, 2015; Ganle et al., 2015; Ghose et al., 2017; Sumankuuro et al., 2017b). The woman’s lower social position may significantly affect her ability to make decisions that would affect her pregnancy and general health particularly in terms of ANC uptake, saving money, utilising a skilled birth attendant, arranging for transport and blood donors in the case of possible complications of birth (Buor, 2003; Ganle et al., 2015; Sumankuuro et al., 2017b; Yahaya, 2014). Conversely, her autonomy and freedom to initiate prompt decisions relating to her healthcare is fundamental to receiving early and quality healthcare (Fotso, Ezeh, & Essendi, 2009; Ghose et al., 2017).

Human rights-based approaches (RBA) to maternal decision-making define the capacities of women to have the freedom to decide on and be able to utilise appropriate health services without fear and intimidation. Issues of autonomy could include reception and treatments at health facilities, the community and household levels (Amzat, 2015; Moyer et al., 2014). Therefore,

7 The States party to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health ....The steps to be taken by the States party to the present Covenant to achieve the full realization of this right shall include those necessary for: the provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child; the creation of conditions which would assure to all medical service and medical attention in the event of sickness (DeJong, 2000).
women’s freedom to decide on and utilise appropriate maternal health services without undue controls is an example of autonomy that significantly influences health service uptake and the ultimate outcomes (Ghani et al., 2018; Ghose et al., 2017). That is whether women were required to obtain permission and to what extent – full control, partial or no control over maternal health decision-making and provider and care preferences (Ghani et al., 2018; Gabrysch et al., 2016).

The challenges of educating women and providing them with sufficient economic resources to make health (and other) decisions in the face of deeply held religious beliefs and cultural practices in most communities of low and middle-income countries especially in sub-Saharan Africa, cannot be underestimated (Amzat, 2015). Thus, maternal rights and freedom may not be guaranteed without mapping out clear pathways to change these profound cultural constructs.

2.4.2.1 Critiques of the human rights-based approach to decision-making

A clear gap in the theory is the way the critical issues are constructed. While most researchers agree that the impact of women’s autonomy on demographic and healthcare delivery systems should be assessed more broadly to reflect women’s degree of control in their lives (Caldwell & Caldwell, 1993), women’s control over financial resources, health-seeking decision-making power and the extent of freedom of movement among others are yet to be clarified. Cultural imperatives of the area may also be undermined by the demands of RBA proponents (DeJong, 2000; Fotso et al., 2009); there is a very delicate balance between empowerment and maintaining important cultural distinctives.

2.5 Levine’s Conservation theory

Pregnancy and childbearing require ongoing supportive and regular care for the mother across her multiple contacts with prenatal services, family and community environments, for the stable health of the mother which then transcends to the neonate. Levine’s conservation theory contends that outcomes for mother and child will be determined by their interactions with health services and non-healthcare environments. It is premised on the view that nursing is a
human interaction which aims to promote adaptation and maintain wholeness of the client. As such, it is a holistic and integrative theory of nursing practice (Schaefer, Pond, Levine, & Fawcett, 1991) that is centred on three fundamental concepts: wholeness, adaptation and conservation of the client (Cragin, 2004; Im & Meleis, 1999; Mefford, 2004; Schaefer et al., 1991). When a person is in a state of conservation, it means that the individual has been able to effectively adapt to the health challenges, with the least amount of effort (Levine, 1967).

The theory is grounded in four operational assumptions: a) nursing intervention is based on conserving the client’s energy; b) the profession is based on conserving the client’s integrity; c) nursing practice elevates the structural integrity of the client; and d) nursing intervention further conserves the social integrity of the patient/client (Cragin, 2004; Levine, 1989; Levine, 1967; Schaefer et al., 1991). As such, it focuses primarily on the processes by which health professionals can achieve a balance between efforts invested in seeking healthcare and the ultimate outcomes after providing care. Key issues include how clients’ physical, emotional, social, hygiene and treatment needs are factored into care plans and processes when attending to and providing care (Abumaria, Hastings-Tolsma, & Sakraida, 2015; Levine, 1989).

The model views nursing interventions as centred on collaborative care (Abumaria et al., 2015; Mefford, 2004). The interaction helps define care plans on which treatment decisions depend, to fathom the precise problem that is explained by the client, recognising the cultural diversity, social and environmental integrity within which services are provided (Mefford, 2004).

The professional ethics of midwifery draw upon these principles as espoused in the literature (Cragin, 2004), encapsulating them in the idea of the

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8 Wholeness (integrity or health) is the state in which the internal environment and the external environment have the best fit (Levine 1989, p. 330), or exist in a smooth interface.

9 Adaptation – focussing on the biological, psychological and social environment of the client in providing care (Cragin, 2004).

10 Conservation refers to attentiveness to client’s integrity, privacy and safety of client (Schaefer et al., 1991). It is the product of adaptation (a way by which a person maintains integrity within the environment), and wholeness is the ultimate result of conservation (Abumaria, Hastings-Tolsma, & Sakraida, 2015).

11 Decency and privacy of client in care provision (Cragin, 2004).

12 Human interaction and aim to promote adaptation and maintain wholeness of the client (Schaefer et al., 1991).
integrity\textsuperscript{13} of the client (Levine, 1989). Concerning safe motherhood, the model emphasises that the expectant mother should be at the centre of healthcare practice and professional ethics.

Cragin (2004) noted that health professions should consider the relationship between the mental/psychological state of the client, the understanding and experience of the woman and develop holistic plans in conjunction with her. From the foregoing discussions, Levine’s conservation model provides crucial insights for policy and health interventions design to foster and promote appropriate environments for health service delivery and use.

2.5.1 Environmental factors of Levine’s theory

The practice of midwifery particularly in the twenty-first century emphasises the integrity and ability of every woman to access and be empowered to utilise relevant health services, including those in deprived communities. According to Levine, the individual has both an internal and external environment. The internal environment combines physiological and pathophysiological aspects of the individual; which constantly changes by the influence of the external environment (Levine, 1989; Mefford, 2004).

The external environment includes factors that impact on and challenge the individual – perceptual (perceived by the senses), operational (environmental factors not directly perceived but which physically affect individuals), conceptual (cultural factors) (Levine, 1989; Mefford, 2004). The perceptual factors are within the control of the individual, whereas the operational and conceptual environments are out of the pregnant woman’s control. The operational aspects pertain to daily life activities including menial jobs, means of transport and other forms of accessibility issues to healthcare, heat from the kitchen and the sun’s radiation, all of which contribute to the cumulative effects on the pregnancy and birth outcomes. The conceptual environment is explained by the psychological, emotional, spiritual and cultural diversities – beliefs, norms, values and practices which may have particular influence on the health service use and the outcomes (Im & Meleis, 1999; Levine, 1989; Mefford, 2004).

\textsuperscript{13} Wholeness and completeness (Schaefer et al., 1991).
The model has been employed in many types of research and the evidence points to the fact that it has long-term impacts on health outcomes including aged-care, health promotion for preterm babies, and so on (Abumaria et al., 2015; Mefford, 2004).

2.5.2 Criticisms of Levine’s model

The followers of Levine’s model have withdrawn support for many key themes of the conservation model. For instance, the personal and social integrity aspects of the nursing practice require administration of treatments in a culturally appropriate manner. The model encourages proper communication and interaction between service provider and the client (Abumaria et al., 2015). These have been criticised as burdensome and over-demanding given the cultural diversities in a specific geographical location, and the fact that the profession follows laid down procedures vis-a-vis the required workload (Abumaria et al., 2015).

Draper (1993) reacted to the recommendation to base nursing interventions on models, and demonstrated that the models including Levine’s do not point to measurable benefits the professional will gain by following a specific intervention, and thus lacks evidence. Arguably, the model is more suitable for long-term healthcare goals and not appropriate for medium to short-term healthcare needs (Abumaria et al., 2015). Employing the model to investigate adult-gerontology nurse practitioners’ roles in promoting long lives for adults in the US through its conservation principles, Abumaria et al. (2015) identified the staff numbers and core competencies needed to implement aged-care interventions using the model. Whereas significant benefits were achieved through the application of its principles, it is found not suited to low-income countries where there are general low staff competencies and numbers to execute interventions. Levine’s model, therefore, is not a pro-poor development and cost-effective model in nursing practice. Conserving the social integrity of the client through social interactions with the family, friends and the appropriate circles of the client may pose an additional burden on health providers (Mefford, 2004). With regards to middle to low-income countries where, for instance, pregnant women mostly seek healthcare alone when they finally get permission from family etc, achieving a balance regarding social integrity may not be guaranteed.
There are a number of problems with this model, including the presumption that the client (i.e. expectant mother in this study) is broken and fragile (which is demeaning to the woman), and the assumption that the client’s integrity will always be maintained – that is, all midwives engage in exemplary practice which excludes disrespect and abuse. The validity of this assumption must be open to question. Finally, it places the responsibility for breakdowns in care on the negligence of pregnant women to prepare in advance for birth and emergencies, to the neglect of other geographical, and sociocultural and economic factors which may influence service delivery and utilisation (Draper, 1993; Mefford, 2004).

2.6 Social exchange theory

Social exchange theory examines marital responsibilities of spouses and familial relationships (Miller, 2005). In doing so, it draws on principles from behavioural psychology, sociology and classical economics to explain the development, maintenance and decay of exchange relationships, particularly within families. The theory pertains to the balance between the rewards and costs that relationships bring to all parties involved (Lawler, 2001). It was first introduced by Homans in 1958 (Cook & Rice, 2001), who argued that marriage confers on the parties benefits and costs arising from the social bond (Nakonezny & Denton, 2008), which would impact on their ability to interact successfully with each other.

2.6.1 Components of the exchange

The exchange contains two elements: costs and rewards. Cook, Cheshire, Rice, and Nakagawa (2013) define costs to mean the injectors such as time, money, efforts, into the relationships, whilst the associated rewards (benefits) include a sense of acceptance, support, and companionship among others (Nakonezny & Denton, 2008).

2.6.2 Homans’s assumptions of social exchange theory

Social exchange theory is not one theory but a frame of reference within which many theories can speak to another, whether in an argument or mutual support (Cook et al., 2013). It is based on some assumptions summarised in the table [Table 2.1].
Table 2. 1: Homan’s assumptions of social exchange theory

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Conceptual meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulus proposition</strong></td>
<td>The more incentives received from past efforts; the more committed people are to future efforts</td>
</tr>
<tr>
<td><strong>Success proposition</strong></td>
<td>Rewarded actions are worth repeating</td>
</tr>
<tr>
<td><strong>Deprivation—satiation proposition</strong></td>
<td>The more of a reward received in the recent past, the less valuable any further amount of that reward becomes</td>
</tr>
</tbody>
</table>

Source: Cook et al. (2013).

2.6.3 Past application of social exchange theory in maternal healthcare

Social exchange theory finds human relationships to be formed and consolidated by the use of a subjective cost-benefit analysis and evaluation of the alternatives (Nakonezny & Denton, 2008). Kossek, Pichler, Meece, and Barratt (2008) in a situational analysis of the linkage between family, friends and healthcare providers indicated that the links provide characteristics to intended child care quality and psychological well-being of the mother (Byrd, 2006). When estimating the cost component of social exchange theory, Nakonezny and Denton (2008) said families, friends, community and care providers must be prepared for planned and emergency costs associated with the relationship. Both parties in a social exchange take responsibility for one another and depend on each other.

Whilst this sounds ideal in theory, the value of the theory must be questioned in the sub-Saharan African context. In the traditional communities, especially in northern Ghana, women are married to families and communities, not individuals; their healthcare is, therefore, the responsibility of families and communities (Ganle et al., 2015; Odame, 2014). Thus, the theory breaks down where families and communities do not fulfil their responsibilities of caring for the expectant mother (for a diverse range of reasons), who may therefore derive little reward from the marital union (Nakonezny & Denton, 2008).

The literature demonstrates that for families to receive the high rewards minus the costs associated with safe pregnancy and birth outcomes, they must develop solidarity with the pregnant woman (Nakonezny & Denton, 2008; Pollard, 2006). However, as will be seen in the next chapter, this is uncommon in many sub-Saharan countries.
Furthermore, there is much evidence to suggest that relationships between pregnant women and nurses during antenatal care in these locations may also be fundamentally compromised (Moyer et al., 2014; Owino, Legault, Mumbo, Odera, & Ayugi, 2013; Sumankuuro et al., 2017b) in their own right and also because they are influenced by the complex rural context of marital arrangements.

2.6.4 Critique of social exchange theory

The theory of social exchange is criticised for being premised on Western world principles (Lawler, 2001) and for therefore failing to acknowledge other predictors of maternal health service delivery and utilisation already identified, such as social-cultural, family income levels, illiteracy, women autonomy, poverty and religious beliefs and geographical location differences (Amodu, Salami, & Richter, 2017; Amzat, 2015; Kaso & Addisse, 2014; Rishworth et al., 2016).

Social exchange theory also lacks information on the various exchange rules (Cook et al., 2013). Further, as Miller (2005) observes, the theory assumes that the ultimate goal of a relationship is intimacy and that all exchange relationships operate linearly, which is often not the case in many rural settings where women are often in subservient positions and who bear the brunt of the domestic violence.

2.7 Ecological systems theory

Ecological systems theory (EST) was propounded by Bronfenbrenner (1979) as a means to further the understanding of the dynamic interrelations among various individual and environmental factors in the context of human development (Bronfenbrenner, 1979, 1992; Kossek et al., 2008). It sought to bridge the gap between behavioural theories which have relatively small scope, and anthropological theories with a more extensive scope in focus. The theory was introduced as a conceptual model in the 1970s and received formal recognition as a theory in the 1980s (Rosse, 1994).

2.7.1 Fundamental components of ecological systems theory

Ecological systems theorists acknowledge the existence and influence of different environmental factors on an individual’s growth and well-being,
beginning from the family structures, institutions surrounding the individual and to community cultural beliefs and practices (Bronfenbrenner, 1979, 1992; Kossek et al., 2008). Many of these factors are location-specific factors which change over time. There are five main components of EST: microsystem, mesosystem, exosystem, macro system and chronosystem (Bronfenbrenner, 1992).

The microsystem represents the immediate environment with which a person interacts daily. The daily influences and life- and health-shaping contacts on a person occur at this level (Onwuegbuzie, Collins, & Frels, 2013). Bronfenbrenner defines it as the pattern of activities, roles, and interpersonal relations experienced by the person in a given setting with particular physical and material characteristics (Bronfenbrenner, 1992; Stokols, 1996). The mesosystem refers to the interrelations between two or more settings which impact on the development of the individual. For instance, a person’s work, neighbourhood experiences or family/community relationships.

The third level (exosystem) is a setting in which a person does not relate to a particular context but is nonetheless affected by the interrelationships between the settings or circumstances. For example, the mood or behaviour of a person at a given time could be determined by adverse situations outside of the person’s current location or environment.

The macro-level comprises the broader context, which influences the other systems or could also be influenced by the activities of the other sub-systems (micro, meso and exo systems). Within and between each ecological system (levels of interaction), there are bi-directional (functioning in two directions) influences on the given environment (Bronfenbrenner, 1992) [Figure 2.1].
2.7.2 Application of ecological systems theory to health contexts

Stokols (1996) employed the theory to study community health promotion and indicated that individuals access the environment:

- to live;
- to be interdependent with others;
- due to the finite life cycle and timeliness (Urie et al., 2015);
- to have the innate tendency to preserve; and
- to expand life and capacity for behavioural variability (Stokols, 1996).

The components of EST can also be related to pregnancy, and these are outlined in table 2.3. This illustrates how the pregnant woman resides in family/household (microsystem) within which an array of cultural and
economic issues operate; these are exacerbated by community cultural perspectives and health systems and national policies with different levels of impacts on the health outcomes (Urie et al, 2015; Stokols, 1996).

Table 2.2: Components of ecological systems theory from the perspective of pregnancy

<table>
<thead>
<tr>
<th>Ordered components</th>
<th>Contextual meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microsystems</strong></td>
<td>Institutions, community and individuals that most immediately and directly impact on the pregnancy e.g. family members</td>
</tr>
<tr>
<td><strong>Mesosystem</strong></td>
<td>The influence of the social setting and geographical location on safe motherhood. Factors of a social setting on which the individual does not have an active influence (Stokols, 1996).</td>
</tr>
<tr>
<td><strong>Exosystem</strong></td>
<td>Pregnant women and nurse interrelationships, workplace activities</td>
</tr>
<tr>
<td><strong>Macrosystem</strong></td>
<td>The culture in which individuals live. Social and cultural ideologies and beliefs. Religious beliefs, genital mutilation, warm water bath in early postpartum, and so on (Bronfenbrenner, 1992).</td>
</tr>
<tr>
<td><strong>Chronosystem</strong></td>
<td>Patterning of environmental events and transitions over the life course over time, e.g. poor communication and divorce in relationships is one transition into depression in pregnancy, a silent but pertinent recent cause of stillbirths.</td>
</tr>
</tbody>
</table>


Thus, from the ecological systems perspective, individuals, families, communities, healthcare workers and other institutions (such as political, economic, educational institutions) form an ecological system.

The interaction between the microsystem and the chronosystem has profound influences that could affect the outcome of pregnancy or safe motherhood management (Urie et al., 2015). For example, place (a given location), the social interactions in society, socioeconomic status, historical life of the mother, and other trajectories were found to influence birth outcomes (Black et al., 2009). The influence of these trajectories is affected by the ecology or environment where the pregnancy is managed, including the living situation of the mother over time (Viken, Lyberg, & Severinsson, 2015).

In exploring coping strategies for safe pregnancy outcomes among migrants in Norway, Viken et al. (2015) suggested it was necessary for pregnant women to obtain support from their family and community as the microsystems, and the healthcare providers as their mesosystem. Balaam et al. (2013) also
conducted a qualitative study in Europe to observe migrant pregnant women’s ability to cope with the new birthing environment. They found that caring relationships between the expectant mother and her family and friends acted as a source of strength, and that had a positive influence on their psychological well-being, physical health and on prenatal and postpartum care outcomes.

2.7.3 Strengths of ecological system theory

Ecological systems theory is a holistic and foundational theory that recognises that human-ecological activities are multifaceted; that is, they involve social, cultural, environmental and economic characteristics. Key strengths of the model are that it is resilient to the changing dynamics of human endeavour. EST influences the individual’s and the community’s cultural norms and also explains the development processes and patterns of human development. As a broader theory on human development it explores (and explains) how human beings interact with different aspects of life, thereby providing diverse opportunities which may also widen their safety nets and life and healthcare choices. Individual behaviours and national policies may be influenced by interpersonal interactions, religious and livelihood activities on a daily basis, as well as the kinds of educational content they are exposed to consistent with EST. The influence of development policies, positive cultural norms, values, beliefs and provision of community support services may increase the likelihood of improving health outcomes and help during emergencies, which is a key advantage (Bronfenbrenner, 1992; Spencer, Dupree, & Hartmann, 1997). EST proponents, therefore, suggest that an expectant mother will have links to all the different systems, to a greater or lesser extent.

The theorists note that policies within the different components of the sectors can be developed to be in harmony with each other, as a proactive measure to meeting goals, and to sustain the benefits and contain shortcomings (Mayer, 2008).

2.7.4 Critique of ecological systems theory

Whereas EST is a foundational theory, its broad purview also exposes it to several criticisms. It is criticised as not recognising the increasing numbers of the population, which will ultimately affect every behaviour of the people. The first environment (microsystem) of people is peers and family, with
different cultures and level of influence on women. The changing dynamics of communities will ultimately affect these factors. Whilst development programmes and community support services may positively influence the culture\textsuperscript{14} of communities, it [the services] may not be sufficient for the population needs due to abuse and over demand, which may potentially affect lifestyles (Spencer, Dupree, & Hartmann, 1997; Stokols, 1996). EST proponents suggest increased health education to create awareness of the harmful impacts of negative beliefs and practices on health outcomes. Nevertheless, critics demonstrate that increase in population growth and globalisation (which contributes to the breakdown of the family system) can cause family/community issues and institutional failures with an ultimate impact on the vulnerable, including expectant mothers and neonates (Bronfenbrenner, 1992; Stokols, 1996).

The theory also looks at how an intervention conserves and manages local systems, including the resources (people, settings, events) of the system, or, on the other hand, potentially contradicts local systems (Hawe & Riley, 2005).

EST considers bi-interrelationships between the different components of the ecological system and has therefore been criticised for its multidimensionality. This means that for development activities such as maternal health services and livelihood and community support schemes to be carried out in a community, there will be the need for all professionals to ensure holistic and friendly coexistence, and sustainable growth, development and management of the diverse facets of society/systems. Sustaining originality alongside personal and community development may fail, especially regarding health service delivery in developing regions (Spencer et al., 1997).

With regard to the social viewpoint, communities and families have distinct characteristics, therefore the resilience perspective of EST could place untold challenges on sectoral employees, as it may not be possible for individuals to understand and coexist with different dynamics of workplace and policy environment, in addition to the given social, cultural and economic variations that abound in different settings and communities (Tudge, Mokrova, Hatfield, & Karnik, 2009). Although there are global strategies to improve

\textsuperscript{14} the values, norms, beliefs, and general way of life of a group of people (Leininger, 1988).
health service delivery, there are also unknown factors within each locality; therefore, from the discussions above, EST proponents suggest that there should be an increase in resource allocation to achieve a balance for healthy lifestyles in these communities (Stokols, 1996). The value of ecological systems approach lies in its ability to consider these external factors, which is something that many other theoretical approaches are unable to do (or ignore).

2.8 Bioecological model

The bioecological model by Bronfenbrenner (1979) was propounded to fill gaps identified in EST, particularly the extent to which those using the theory focused on the physical environment to the neglect of the well-being of individuals who were affected by the development activity. Thus, the revised model specifically focuses on the role of and effects on the individual in the context of development (Bronfenbrenner & Ceci, 1994), and also the importance of time. The latter is reflected in the addition of the chronosystem component to the original model (Bronfenbrenner, 1979). The chronosystem explains the changes through the various processes that occur in the person and the environment over a period (Bronfenbrenner & Ceci, 1994). The revised model uses four key concepts: process -person – context - time (PPCT) and has since served as the foundation for many scientific investigations related to human well-being and their interactions with their environment.

a) Process is explained to mean proximal processes which should serve as the foundation for human development and is thereby categorised as – propositions

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15 proximal processes – defined as increasingly complex reciprocal interactions between an individual and the environment; the individual characteristics of each person, including their experiences, resources, temperament and motivation as well as their agency; the context, or systems including those in which individuals interact (microsystems), overlapping contexts (mesosystems), that influence their actions even though they are not direct participants in these contexts (exosystem), and the broader societal and cultural context (macrosystem); and time, which incorporates both what occurs during a specific activity or event, interactions that occur consistently as well as the chronosystem, that is, the specific historical context in which people and processes are located (Bronfenbrenner & Morris, 2006).

16 “The form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the developing person; of the environment—both immediate and more remote—in which the processes are taking place; the nature of the developmental outcomes under consideration; and the social continuities and changes occurring over time through the life course and the historical period during which the person has lived” (p.996) (Bronfenbrenner & Morris, 1998).
Proposition 1 indicates that development occurs through given processes at all times and by interactions between an individual and the immediate external environment, e.g. family members, school, objects, symbols. For instance, educational environments interact with a person for a protracted period which ultimately shapes the way they [individual] behave and reason (Bronfenbrenner & Ceci, 1994; Tudge et al., 2009). The theorists indicate that these processes are theoretically interdependent and subject to empirical test, and a research design that allows their simultaneous investigation is referred to as a Process-Person-Context-Time model (Bronfenbrenner & Morris, 1998).

Proposition II deals with the manner in which processes interact, and the social changes and characteristics that may occur in the individual during the socialisation with the person’s immediate and external environment (Bronfenbrenner & Ceci, 1994).

b) Person: This component recognises the biological and genetic characteristics of the human being and demonstrates their influence in every social environment. For example, the role and characteristics of the individual in social interactions over the life course are crucial because they influence the person’s way of thinking and responding to issues (Bronfenbrenner & Morris, 1998). The theorist grouped the characteristics into three as: i) demand (e.g. age, gender, and so on); ii) resource\(^\text{17}\) such as past experiences, intelligence, skills; and iii) force characteristics e.g. motivation, temperament (Bronfenbrenner & Morris, 1998). The characteristics somehow influence their developmental and initial interactions as a result of expectations to cause bi-directional influence between the person and the environment (Tudge et al., 2009).

c) Context emerged from the five interrelated systems of the ecological system theory (section 2.7). However, the bioecological model emphasises the chronosystem component, which deals with historical circumstances that can affect the context of each of the other four (micro, meso, exo and macro) systems.

d) Time\(^\text{18}\) factor in the PPCT model is explained at the micro, meso and macro levels. Micro-time refers to the short and regular development processes of the

\(^{17}\) Resource characteristics, by contrast, are not immediately apparent, though sometimes they are induced, with differing degrees of accuracy, from the demand characteristics that are seen. These are characteristics that relate partly to mental and emotional resources (p. 201) (Tudge et al., 2009).

\(^{18}\) Time, as well as timing, is equally important because all aspects of the PPCT model can be thought of in terms of relative constancy and change. This is true whether one is thinking
person, whilst meso-time refers to the magnitude of the changes/developments that occur in the person’s environment, e.g. within days, weeks, and so on. Macro-time (chronosystem) is viewed as the broader focus on the well-being and development processes, with crucial consideration of the effects on future generations in the life course.

2.8.1 Application of bioecological theory

The bioecological model, as a more progressive theory, encourages change in development concepts, approaches and designs to meet the changing needs of individuals over time. Thus, research involving humans should be more longitudinal than cross-sectional and should involve real interactions with the human dwelling such as homes, workplaces, schools, health facilities and so on rather than be laboratory-based. Scientific studies using a bioecological model should at least include one of the four elements (PPCT) in the design, or this will be acknowledged as a limitation if the study seeks to thoroughly test the model (Tudge et al., 2009).

In health service delivery and utilisation, the model recognises the various systems or contexts in which expectant mothers, families and communities are located, as well as paying attention to specific life course activities, patterns of interactions among the diverse cultures and structures and the historical context of healthcare in the communities. Thus, the Bioecological model provides impetus for exploration of continued service delivery and behavioural change, in terms of the women [expectant mothers], the nature of experiences and socialisations they have received, the people with whom they interact on a daily basis and with the health system and the environmental contexts in which the mothers and health services are located. It also recognises that social and cultural contexts are dynamic, affected by processes of continuity and change (Bronfenbrenner & Morris, 2006).

2.8.2 Criticisms of bioecological model

Despite its holistic emphasis, critics argue that the PPCT model does not provide sufficiently for the diversities of the individual’s life or the long-term about developing individuals themselves, the types of activities and interactions in which they engage, or the various microsystems in which they are situated. Moreover, cultures also are continually undergoing change, although at some periods of historical time the rates of change are much faster than at others (p.201) (Tudge et al., 2009).
development processes and life trajectories (Perry, Dockett, & Petriwskyj, 2013).

Also, the model does not provide sufficient boundaries between the systems. Thus, it assumes all individuals, families and communities have the same characteristics within the microsystem, which is entirely an error (Vogler, Gina, & Woodhead, 2008). A further criticism of bioecological theory is that locating a certain individual (for example, an expectant mother) at the centre does not necessarily reflect the actual priorities of the particular bioecological system and contexts, or the social constructs and power relations in which they are located (Vogler et al., 2008).

2.9 Socioecological model

Also using a systems approach, but from a different perspective to ecological systems theory and the bioecological model, is the socioecological model (SEM) (Friedman & Wachs, 1999; Susser & Susser, 1996). SEM emerged to understand how individual behaviours are influenced by personal and environmental characteristics and means to addressing them, using multifaceted approaches (Susser & Susser, 1996). The model draws upon a variety of theoretical perspectives to explore the complex interactions and high level of interdependency among individuals, relationships, communities, and institutions and policy initiatives which impact behavioural change, with a focus on social, institutional and cultural contexts (Krugg, Dahlberg, Mercy, Zwi, & Lozano, 2002; McLaren & Hawe, 2005). SEM consists of five hierarchical levels: individual, relationship/interpersonal, community, organisational and policy/enabling environment (Krugg et al., 2002).

2.9.1 Individual

The individual level comprises the biological and personal history factors (such as education, age, income, social disadvantage, cultural influences) that may engender certain behaviours in a person. Targeted communication to promote behaviour change in personal attitudes, beliefs, behaviour, ethnic identity and so on, through community education programmes, job creation, for healthy relations and communities may ameliorate the impact of these factors on the person and the immediate environment (i.e. peers, families, communities, and so on).
2.9.2 Relationships/interpersonal

This explains the formal and informal social networks and support systems that can influence individual behaviours. Thus, the relationships aim to identify the close contacts that may increase and expose the individual to specific risks of sicknesses or behaviours (Bronfenbrenner, 2005; Golden & Earp, 2012). These closest associates may include their social circles such as partners, peers, and family members, among others. To prevent unanticipated behaviours from a person’s social networks, intervention strategies such as mentoring, peer education, increased problem-solving for individuals and promoting healthy social associations may be employed (Golden & Earp, 2012).

2.9.3 Community

The model at this level explores the organisational settings such as schools, neighbourhoods, community groups at community level, where social relationships occur. The model seek to identify the characteristics of these settings that may influence specific behaviours in an individual (Bronfenbrenner, 2005). For example, violence and negligence of men against their spouses may be explored within the associations or informal social networks that these men may closely relate with, to understand if it is common among their peers. Interventions to prevent adverse influences may include community support systems, improving economic and job opportunities, and creating healthy workplace relations (Friedman & Wachs, 1999; Golden & Earp, 2012).

2.9.4 Institutions

SEM considers social institutions to have rules and regulations for operations which may affect service delivery and interrelationships with the broader community; for instance, whether a given service is properly provided to a client (Golden & Earp, 2012; McLaren & Hawe, 2005).

2.9.5 Policy/enabling environment

SEM refers to policy level as the large societal factors such as national and global laws and policies, economic resource allocations, restrictive policies, access to health services, educational and other social policies that help to maintain livelihoods of people (Bronfenbrenner, 2005; McLaren & Hawe,
For example, health systems have international protocols and national regulations to comply with, versus the community norms and cultures that clients desire to abide by (Golden & Earp, 2012; Krugg et al., 2002).

The overlapping boundaries in the model illustrate that factors in one level can influence factors at another level [Figure 2.2].

![Figure 2.2: Socioecological model](source)

Source: Bronfenbrenner (2005); Golden & Earp (2012).

2.9.6 Application of social ecological model – communication for development (C4D)

SEM as mostly a preventative framework for development is applied through the “communication for development” (C4D). C4D encompasses the

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C4D is a tool for social and political transformation. It promotes participation and social change using the methods and instruments of interpersonal communication, community media and modern information technologies. C4D is not an add-on, but rather a cross-cutting activity in project management, aimed at strengthening dialogue with beneficiaries, partners and authorities in order to enhance local ownership of programmes and generate a sustainable impact (CDC, 2009).
principles for the effective communication required to foster the objective of development activity. It involves understanding people, their beliefs and values, the social and cultural norms that shape their lives as well as engaging communities and listening to identify problems, propose solutions and act appropriately. The strategy therefore utilises a two-way process for sharing ideas, and uses a variety of appropriate communication tools and approaches that empower individuals and communities to take actions to improve their lives (Golden & Earp, 2012).

C4D uses multiple tools of interpersonal communication targeting specific groups of people in specific locations within a defined social and cultural environment, identifying their problems and needs and fostering their participation in addressing those needs using multifaceted interventions to improve livelihoods (CDC, 2009; Golden & Earp, 2012). This has particular applicability to helping address complex health challenges in a variety of community settings.

2.9.7 Criticisms

Despite the centrality of SEM in human development, it has some shortfalls. Key among them is that it encourages a systematic approach to inquiry, as do the other systems-based models. Therefore, it is too broad and expensive to apply successfully in practice, thereby posing a profound challenge to using all components in an empirical study. It acknowledges that communities and cultures are capable of change. Thus, in the case of health service delivery, interventions such as community education and health promotion programmes, which are meant to improve the health outcomes of service users, may need to be constantly changed to meet the behavioural and cultural change of communities. Thus, adapting SEM principles to health practice may require high budgetary allocations, which makes it unsuitable for smaller economies of low and middle-income countries (Krugg et al., 2002).

2.10 The theory of reasoned action

Theory of reasoned action (TRA) was developed by Martin Fishbein and Icek Ajzen in 1975 in order to explain the discrepancy between attitude and voluntary behaviour (Fishbein & Ajzen, 1975). It sought to understand the individual's voluntary behaviour and was widely applied to diverse
interventional programmes for effective communication of aims to intended beneficiaries (Ajzen & Madden, 1986).

The theorists based their arguments on the grounds of an individual’s motivation to perform tasks including their mandatory responsibility. Intention to perform certain behaviour precedes the actual behaviour (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992); intentions are influenced by attitudes and perceived norms which will determine intentions and willingness to take prime actions (Ajzen & Madden, 1986). Ajzen (1991) defined a perceived norm as an individual's perception or opinion of what important others believe the individual should do. This intention is known as behavioural intention and comes about because of a belief that performing the behaviour will lead to a preconceived outcome. In a study comparing the theories of reasoned action and planned behaviour Madden, Ellen, and Ajzen (1992) stressed that the ability to predict the outcome of an issue at stake is mostly dependent on the interplay of the human intentions and behaviours.

2.10.1 How does the theory of reasoned action relate to maternal health?

The theory of reasoned action is centred on individual’s behaviours and attitudes to performing a given responsibility (Ajzen & Madden, 1986). From the perspective of TRA, positive maternal and neonatal health outcomes are achievable only when concerted efforts and initiatives are taken. For example, BP/CR may be effective when women, spouses and communities have intentions to ensure safe pregnancy and childbirth. Conversely, families and communities who do not prepare for birth and emergencies may not necessarily expect positive outcomes of the pregnancy (Ajzen & Madden, 1986; Bosompra, 2001). However, researchers in health policy could undermine this statement based on governments’ inability in low and middle-income countries to provide comprehensive maternal healthcare (Avan, Berhanu, Umar, Wickremasinghe, & Schellenberg, 2016; Buor, 2005; Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007), which means that regardless of intent, it may not be necessarily possible for all pregnant women to access services. Furthermore, not all poor maternal and neonatal health outcomes can be prevented by BP/CR.

Additionally, families who are not prepared for birth and emergencies in pregnancy do not necessarily have a lower level of intent to perform their
responsibilities. For example, an expectant mother may fully intend to attend a health facility for delivery but innumerable other factors may impede this, such as cost of service and transport, skilled staff shortages and geographical distances (Atuoye et al., 2015; Bayu, Fisseha, Mulat, Yitayih, & Wolday, 2015; Rishworth et al., 2016). The ‘perfection’ presumed by TRA simply does not exist in reality.

2.11 The theory of planned behaviour

The theory of planned behaviour (TPB) was developed from the principles of the theory of reasoned action (TRA) in 1980 by Martin Fishbein and Icek Ajzen (Ajzen, 1991; Gillmore et al., 2002). The new theory emerged from the recognition that human behaviour was not completely voluntary and under an individual’s control, leading to the addition of perceived behavioural control - the theory of planned behaviour (TPB). The theory of planned behaviour predicts deliberate behaviour because behaviour can be deliberative and projected (Ajzen, 1991). It is based on the assumption that only specific attitudes toward the conduct in question can be expected to predict that behaviour (Vallerand et al., 1992). In addition to measuring the outcome of a given behaviour, people’s values, beliefs, attitudes and norms associated with the behaviour ought to be considered because all have a role to play in a person deciding to initiate an action (Ajzen, 1991; Fishbein & Ajzen, 1975; Vallerand et al., 1992).

2.11.1 Components of the theory of planned behaviour (TPB)

The key element of the TPB model is behavioural intent, which is influenced by the attitudes, values and norms attached to the likelihood that a given behaviour will have the expected outcome, as well as a subjective evaluation of the risks and benefits of that result (Ajzen & Madden, 1986). TPB opines achieving a behaviour or tasks depends on both motivation (intention) and ability to control the behaviour (Madden et al., 1992).

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20 Values – a person’s judgement on an issue (Fishbein & Ajzen, 1975).
21 Belief – a person’s perception and trust about an issue (Ajzen & Madden, 1986; Fishbein & Ajzen, 1975).
22 Attitude – a person’s disposition about an issue (Ajzen & Madden, 1986; Fishbein & Ajzen, 1975).
23 Norm – a person’s trait or pattern (Fishbein & Ajzen, 1975).
2.11.2 Lessons from TPB for improved maternal health

The theory holds significant importance for individuals aiming for a given behaviour pattern. Safe motherhood cannot be achieved without the collective and directed efforts of the parties involved. It means that deliberate decision-making to have a safe pregnancy and childbirth must be an intention of all stakeholders to ensure it is achieved. TPB also contends that irrespective of factors such as location and financial status influencing a person to act with a given behaviour, it is only made possible when initiated.

2.11.3 Limitations of the theory of planned behaviour

The theory of planned behaviour has some potential to explain maternal health service utilisation especially among mothers and families in rural settings, nevertheless, it is criticised on the grounds that it assumes the person who behaves in a given manner has acquired the opportunities and resources to be successful in performing the desired behaviour or task, regardless of the intention (Ajzen, 1991). While social influence is significant over behavioural and lifestyle patterns, the theory is silent on deterministic influences on decisions to perform a given behaviour, such as location and economic factors. TPB also assumes behaviour as the result of a regular decision-making process but fails to acknowledge other factors that could influence and change plans over time.

2.12 The three-delay model

WHO estimated that between 88 to 98% of maternal deaths could be prevented with timely access to existing, emergency obstetric intervention (Brighton et al., 2013).

By and large, these figures suggest that delay in deciding, reaching and receiving appropriate and timely maternal and neonatal health services contributed to poor maternal outcomes, particularly in rural communities (Knight et al., 2013; Thaddeus & Maine, 1994). In acknowledgement of these constraints, Thaddeus and Maine (1994) proposed the three-delay model, an integrated maternal health approach which recognises the different barriers women face in receiving the timely and efficient medical care needed to prevent deaths occurring in pregnancy and childbirth (Thaddeus & Maine, 1994) [Figure 2.3].
Figure 2. 3: Diagrammatic view of the “Three - Delay Model.” Adapted from Thaddeus and Maine (1994)

<table>
<thead>
<tr>
<th>Factors affecting service utilisation and outcome</th>
<th>Phases of delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socioeconomic and cultural characteristics</td>
<td>1: deciding to seek care</td>
</tr>
<tr>
<td>Accessibility of health facilities</td>
<td>2: Identifying and reaching</td>
</tr>
<tr>
<td>Quality of care</td>
<td>3: receiving adequate and appropriate treatment</td>
</tr>
</tbody>
</table>


According to this theoretical approach, which draws heavily on the principles of life course theory, maternal engagement theory and theory of planned behaviour, poor outcomes are believed to occur as a result of the undue delays in pregnant women, spouses, families and communities reporting health problems to appropriate health facilities. While the benefits of timely health service utilisation may be known to some community members, barriers such as low economic status, illiteracy, inadequate health education, sociocultural beliefs, poor road infrastructure and difficulty accessing transport services during an emergency, alongside inadequate health facilities, caused the delays among clients in many locations, including SSA and Southern Asian regions (Cheptum, Omoni, & Mirie, 2017; Knight et al., 2013; Raj, Manthri, & Sahoo, 2015; Thaddeus & Maine, 1994). According to the model, in order to address the delays it is necessary to coordinate efforts of the family and communities to encourage them to seek care early, identify and reach a desired and equipped health facility, as well as ensuring health professionals provide timely and quality care (Knight et al., 2013; Sychareun et al., 2016; Thaddeus & Maine, 1994).

2.12.1 Strengths of the model

Strengths of the model include its acknowledgement of social and cultural characteristics. The BP/CR strategy emerged from this model, which offers families and communities the opportunity to save money for routine maternal service utilisation and during emergencies. Therefore, considering the avoidable causes of maternal deaths occurring in poor families in SSA and parts of Asia, the model is a pro-poor initiative aimed towards advanced preparation.
for pregnancy safety and delivery outcomes. Governmental and non-governmental agencies have mapped out different referral policy guidelines based on this model. This suggests that it can serve as the foundation for maternal health policy-making.

2.12.2 Criticism of the three-delays model

Like its precursor theories, the three-delay model has been judged as overly simplistic for a number of reasons, many of which are related to the lack of attention given to individual behaviours of expectant mothers and family members, and of medical practitioners, nurses and paraprofessional staff (Barnes-Josiah, Myntti, & Augustin, 1998; Coast, Jones, Lattof, & Portela, 2016; Gillmore et al., 2002). The model has also been criticised for being more “prescriptive” than practical, and for focusing on rationality rather than the reality of decision making (Albert, Aschenbrenner, & Schmalhofer, 1989). That is, it fails to consider the different development challenges and cultural preferences/influences in the communities (Albert et al., 1989). Thus, while the model may be technically feasible, existing determinants of health such as cost, traditional norms, risks, objectives and other explicit barriers may limit the ability of the individual to follow through the course.

Another limitation is the model’s failure to consider factors such as ecological variation of the communities, number of foetal kicks, sleep patterns of pregnant women, eating habits and lifestyle factors such as smoking, substance abuse before and during pregnancy, all of which are potential risks to the pregnancy and could cause stillbirths (Flenady et al., 2016; Homer, Malata, & ten Hoope-Bender, 2016).

Maternal mortalities caused by the challenges women experience in coping with loss and pain in childbirth is found to be one of the leading causes of unnoticed mortalities in both developing and developed countries. Thus, achieving the three phases without postpartum coping and resilience strategies to support women may lead to poor maternal health. These are not acknowledged by the model (Flenady et al., 2016; Homer et al., 2016).

2.13 Culture care theory or transcultural nursing theory

In response to a lack of cultural emphasis in existing nursing theory, the theory of cultural care diversity and universality was propounded in the 1950s
by Leininger (Leininger, 2007; Leininger, 1988). The theory explored a body of knowledge to help nurses in providing culturally appropriate care (Boyle, 1999). The main aim of the theory was to discover, document, interpret and explain care in a culturally relevant manner (Leininger, 1997), based on two fundamental premises. First, that nursing is about caring not only for the individual but also for families, groups, institutions and communities, in ways that help, support, facilitate or enable patients to maintain or regain health in culturally meaningful ways, or to help them face serious health problems or death (Leininger, 1988, 2007). Second, that providing culturally based care enhances health, healing and well-being by engaging with and satisfying the cultures and subcultures of individuals, families and communities.

Leininger’s theoretical approach assumes that culture is the same across the entire community, ethnic group or race, whether that be the local geographical community or the professional community (Leininger, 2001; Leininger, 1988). The theory differentiates between “culture” and “care” as emic knowledge (local, indigenous, and insider/care seeker culture) and as etic knowledge (the outsider/care provider, researcher, world or professional view) (Andrews & Boyle, 2002; Leininger, 2007; Murphy, 2006).

For Leininger, cultural nursing care involves the study of cultures to understand similarities and differences and their impact on service provision and utilisation and using these understandings to provide culturally appropriate healthcare without comprising the quality. In so doing, she outlines three modes to guide nurses’ judgements, decisions and actions: preservation and/or maintenance; accommodation (client’s convenience) and/or negotiation (seeking for alternative ways that will satisfy the client); and re-patterning and/or restructuring (changing care plan or adjusting procedures) (Leininger, 2002, 2007).

Assessing studies that employed the transcultural theory in health service delivery, Andrews and Boyle (2002) observed that nurses would have high capability to serve the health needs of clients if they were able to combine their critical thinking and skills with the appropriate cultural dimensions of the patients/clients (i.e. the expectant mother in the case of this study). Examples of

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24 It is unique in its incorporation of social structure factors, such as religion, politics, economics, cultural history, life span values, kinship, and philosophy of living; and geo-environmental factors, as potential influencers of culture care phenomena (Leininger, 2007).
cultural issues identified include client’s food restrictions, candle burning, wearing objects around their waist or neck for spiritual protection, respect for client’s space when providing care, among others.

The theory asserts that the client’s culture transcends beyond immediate values and beliefs to financial capability (Andrews & Boyle, 2002; Leininger, 2007). Economically, joblessness, homelessness, hunger and inability to feed themselves in individual health facilities, lack of health insurance, poverty and the like inhibits clients from seeking care. Also, in some cultures, women are discriminated against during service delivery, which nurses need to be aware of and sensitive to.

2.13.1 Application of the theory in maternal nursing

Leininger’s theory, which was based on her field practice notes, applies to every context of healthcare (Murphy, 2006). Some of the key areas to consider in nursing practice according to the theorist are: first, the practice of nursing demands that nurses identify and meet the cultural needs, understand the cultural beliefs, values and norms of the client, family, and community, and strategise and use appropriate care procedures and plans using resources acceptable to the client (Leininger, 2007).

Second, nurses should understand and respect the diversity of the mother regarding her beliefs, values and spiritual dimensions in order to appropriately address them. Service delivery should begin with evaluation of herself and the mother, to understand the mother’s context and background and religious beliefs and practices.

Thirdly, an understanding of the mother’s race and ethnicity will provide more information about her emotional relationship with the community and its beliefs and values about certain kinds of care and caregivers. Fourth, interaction with the mother’s socioeconomic status may provide further information regarding her perceived health and wellbeing.

2.13.2 Criticisms

With the evidence available on barriers to skilled healthcare use, transcultural nursing care theory elaborates on the causes of the mismatches and contradictions in many cultures and communities, and is appropriate for the
current global goals and ongoing challenges in maternal care (Bohren et al., 2014; Leininger, 1988; Shakibazadeh et al., 2017). Nevertheless, there are a number of criticisms regarding the theory. Cultural care theorists assume culture is unchanging, whilst in reality culture can change over time (Burnard & Naiyapatana, 2004).

It also does not recognise cultural diversities within and between communities, within groups and between generations (Burnard & Naiyapatana, 2004). This may result in inaccurate perceptions about communities and possibly lead to the development of inappropriate general care plans for them (Williamson & Harrison, 2010).

The need for nurses to constantly upgrade their cultural competency skills may pose a significant challenge to them (Boyle, 1999). Better still to encourage use of indigenous nurses, as in a community, they often tend to have stronger attachments to cultural beliefs and preferences than the non-indigenous population (both groups will have specific cultural preferences), and this is common in both developed and low and middle-income countries (Kruske, Young, Jenkinson, & Catchlove, 2013; Williamson & Harrison, 2010).

### 2.14 Agency, structure and culture

At the heart of these theoretical discussions is a debate about the extent to which expectant women are able to make their own decisions (i.e. the extent to which they have agency) and the extent to which their decisions are constrained by societal structures.

Culture has previously been defined as the values, norms, beliefs, and general way of life of a group of people (Williamson & Harrison, 2010), and is arguably manifest in a society’s social structure25 (Levi-Strauss, 1964; Mary, 1975; Sewell Jr, 1992). The social structure exemplifies the idea that social relations are organised along patterned lines that endure over time and that act as a constraint on the individuals living within them, even though they may not be aware of it. It is fashioned by various social institutions, such as the family, the education system, the health system, the economic system, the political system (Gusfield, 1981), in ways that define the collective views of individuals in a particular society (Kane, 1991). Structures are both enabling and

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25 Agency is, therefore, culture opposed to structure although other scholars argue that culture is an aspect of structure (Kane, 1991).
constraining; they are the very basis of power and self-understanding (Giddens & Dallmayr, 1982). On the other hand, agency can be viewed as unpatterned behaviour, belief, values and so on which can be changed, and deals with an individual in a given society. That is, individuals acting as agents may have the capacity to collectively shape structures through deliberate and non-deliberate actions when engaging with social structures (i.e. institutions), although the agents of the change are themselves affected and shaped by the structures they institute (Durkheim, 1976; Giddens & Dallmayr, 1982; Levi-Strauss, 1964). Sociologists further demonstrate that culture arguably fosters individual freedom and resistance to structural barriers.

2.15 Conclusion

The theories, models and approaches above have identified multiple factors impacting on maternal outcomes such as cultural, economic, political, geographical, service related and so on (which influence both intent and behaviour). There is insufficient evidence to support any single theory, model or approach in explaining maternal health service delivery and utilisation in the context of developing communities. Before coming to more definitive conclusions regarding the value of each theory, model and approach and how to apply them to the research design, it was first necessary to explore the many factors contributing to poor maternal outcomes in more detail.

Based on the theoretical review, it is apparent that these theories, models and approaches have tensions and contradictions in their beliefs, for example, the tensions between family centred-care and individualised care, individual autonomy and community centrality, and individual autonomy and cultural imperatives. In theoretical terms, this is exemplified in the different foci of maternal engagement theory which emphasises individualism, and rights-based approaches which advocate for collectivism in care giving.

There are also many other contradictions. Cultural care theory recognises the underlying values that underpin the likely satisfaction of the client/patient, but recent studies are critical of fulfilling values borne of the larger community and their family where they act to the detriment of individual patient. Patient centred care placed the expectant mother at the centre of the
decision making process, with health care providers working together with the woman in a team focused on improving outcomes and enhancing patient satisfaction, but this runs the risk of upsetting partners and community members to the detriment of other aspects of the expectant mother’s wellbeing.

Furthermore, although advocates for rights of women encourage collectivism benefits it can contradict the concept of partnerships and holism which have been known to meet the real health needs of patients/clients. Overall, these and other views generate substantial tensions between individualised and collective perspectives in maternal healthcare.

Overall, these tensions and diversities of the theories, models and approaches used to explain maternal outcomes motivated the need to consider both individualistic and collective determinants in maternal health and explore how these contradictions manifest themselves in the reality of the study communities. This is the purpose of the next chapter.
3.1 Introduction

As the introduction noted, increased use of ANC and BP/CR can have a significant impact on maternal and neonatal outcomes (Soubeiga, Sia, & Gauvin, 2014; Thaddeus & Maine, 1994). The relative importance of ANC and BP/CR is reflected in some of the theoretical perspectives described in the previous chapter, which also draws attention to a number of barriers which contribute to poor outcomes. This chapter provides an overview of ANC and BP/CR and the barriers to their implementation, drawn from the research literature. Some of the barriers discussed include: rights based – place of women in society (patriarchy, religion, low status, low autonomy, male involvement, poor general health); education (low literacy, related to women’s position in society); other cultural (family, community, preference for traditional medicine); economic challenges (low income); age; geographical (distance, lack of transport); health system (poor facilities; low staff numbers; low skills; failure of health insurance system). These issues are discussed at length, first from a broad perspective and then from a regional perspective.

3.2 Antenatal care and birth preparedness and complication readiness initiatives – an overview

Antenatal care and birth planning and emergency readiness are essential pillars for improved maternal and newborn healthcare outcomes. Antenatal care is the term used to describe medical consultations and interactions with the health system throughout the period of pregnancy for the purposes of detecting risks, educating on danger signs, promoting healthy lifestyle, encouraging the use of skilled care throughout the pregnancy and ultimately giving birth under skilled supervision (Ekabua et al., 2011; WHO, 2006).

ANC incorporates BP/CR components as part of antenatal care services in every clinic setting and includes increased use of skilled care in the event of newborn morbidities, approved infection control procedures during umbilical cord care and early initiation of breastfeeding (Soubeiga, Gauvin, Hatem, &
Johri, 2014; Souza et al., 2013). Postnatal home visits to counsel mothers, provide newborn care and facilitate referrals are also included in the ANC model to enhance the application of the BP/CR principles (Soubeiga, Gauvin, et al., 2014).

As such, the BP/CR strategy comprises elements of antenatal, intrapartum and postpartum care (Hembling et al., 2017). The model contains a broad and integrative strategy, constitutes easy-to-do, yet salient interventions that would create and build the enabling environment for normal and emergency maternal healthcare (Soubeiga, Gauvin, et al., 2014a; Thaddeus & Maine, 1994). BP/CR draws upon the “three-delay model” by Thaddeus and Maine (1994) and consists of three chronological components: deciding to seek medical attention, identifying and reaching the medical facility and receiving adequate and appropriate treatment (Calvello, Skog, Tenner, & Wallis, 2015; Thaddeus & Maine, 1994).

BP/CR addresses three foundational areas: the mother/family, the community and the healthcare provider (Del Barco, 2004; Soubeiga, Gauvin, et al., 2014a; Thaddeus & Maine, 1994). To help achieve birth preparedness and complication readiness at the provider level, nurses, midwives and doctors must have the knowledge and skills necessary to treat or stabilise and refer women with complications, and they must employ sound normal birth practices that reduce the likelihood of preventable complications (Mbalinda et al., 2014; Soubeiga, Sia, et al., 2014). Expectant mothers, the family and the community in general are also required to make advanced preparations for the safety of the pregnant woman (WHO, 2006b).

Despite the importance attached to ANC and BP/CR (which is usually embedded in ANC) in the literature, evidence related to the implementation of BP/CR and ANC is scarce (Soubeiga, Gauvin, Hatem, & Johri, 2014b; Soubeiga, Sia, et al., 2014). Soubeiga, Gauvin, et al. (2014a) conducted a meta-analysis involving randomised trials using evidence from low and middle-income countries, and observed that exposure to prenatal care (ANC and BP/CR) could result in a significant reduction in neonatal mortality. The subgroup analyses concluded that in at least 30% of women who participated in any of these interventions there was an approximately 24% significant reduction
in neonatal mortality risk, and a further 53% significant decrease in maternal death risk (Soubeiga, Gauvin, et al., 2014a).

3.3 Potential determinants of successful maternal health outcomes

Despite the many benefits, ANC and BP/CR have often been ignored in the policy dimensions (design through to implementation) of the health sector in Ghana (Knight et al., 2013; Rishworth et al., 2016), and it is not uncommon to find women who have had all their childbirths in rural communities without ever attending a single episode of prenatal care (Rishworth et al., 2016). The many determinants to uptake of ANC and BP/CR strategy in low and middle-income countries are now discussed on six broad categories – sociodemographic, cultural, geographical, economic and health service delivery contexts.

3.3.1 Sociodemographic determinants

The key sociodemographic characteristics identified include the age and educational attainment/maternal literacy of mothers and spouses.

3.3.1.1 Low literacy and formal education

Literacy refers to a person’s ability to read and write in any language (GSS, 2013). Literacy levels of expectant mothers and families may have profound influence on skilled maternal health service utilisation especially in the hard-to-reach communities of low and middle-income countries (Bayu et al., 2015; Lori, Dahlem, Ackah, & Adanu, 2014; Sychareun et al., 2016). The importance of literacy to improving health outcomes generally, and maternal and neonatal health more specifically cannot be underestimated. This is because literacy is valuable in order to be able to identify clear health needs and the available services, and to enhance obstetric knowledge on early warning signs and timely and appropriate sources of care (Acharya, Kaur, Prasuna, & Rasheed, 2015; WHO, 2006). Furthermore, maternal education and formal literacy may serve as barriers to knowledge and implementation of ANC, BP/CR and service utilisation in the rural settings (Atékyereza & Mubiru, 2014; Furaha August et al., 2015; Ganle et al., 2015). For example, Bayu and colleagues (2015) found that pregnant women in Tigray-Zone, Ethiopia with some formal education and
knowledge of obstetric danger signs were more likely to utilise skilled healthcare, as well as prepare for skilled attendance at birth (SBA) and be ready for complications (Bayu et al., 2015) than pregnant women with lower levels of formal education.

Similar observations were reported in Tanzania and Uganda (Atekyereza & Mubiru, 2014; August et al., 2015). Low-skilled care usage in rural parts of Burkina Faso was associated with low maternal literacy and low educational levels, which made women and the families unable to identify danger signs of complications (Soubeiga, Sia, et al., 2014; WHO, 2004). On the other hand, in communities which had relatively increased knowledge of danger signs, there was a corresponding increase in birth preparedness and complication readiness and skilled maternal health services uptake in Burkina Faso (Soubeiga, Sia, et al., 2014). However, having fundamental literacy skills does not always equate with higher levels of ANC and BP/CR implementation. An exploratory study in Komfo Anokye Teaching Hospital in Ghana, involving ANC attendees above 18 years who could read or write in English or Twi (the local language of the area), found that women utilised ANC services and received lessons on BP/CR but could not translate the knowledge into practice (Lori et al., 2014).

Even women who lived in relatively affluent communities with proximity to health facilities but with no formal education and low maternal health literacy failed to utilise skilled health services (Buor, 2005; Dako-Gyeke, Aikins, Ayeetey, McCough, & Adongo, 2013; Hill et al., 2007).

In order to address low maternal literacy levels in Ghana, expectant mothers are given information on danger signs in pregnancy through verbal communication, pictures on the walls in the clinic and on the back of ANC cards illustrating danger signs (Aborigo et al., 2014). Thus, pregnant women who attend ANC are expected to be competent in recognition of danger signs in pregnancy (Soubeiga, Sia, et al., 2014). Similar education campaigns in Ethiopia and Burkina Faso have resulted in increased awareness and knowledge of danger signs (Soubeiga, Sia, et al., 2014; Tura, Afework, & Yalew, 2014). Overall, increasing the knowledge of danger signs in pregnancy, labour and postpartum and for the neonate, has been one of the key reasons for campaigns to increase health literacy in rural communities in many sub-Saharan countries.
non-compliance with ANC and BP/CR was attributed to illiteracy, women’s uncertainty about the severity of symptoms or poor understanding of health messages (Asamoah et al., 2011; Mbalinda et al., 2014). An evaluation in rural Tanzania found that there was a positive correlation between men’s literacy levels and participation in BP/CR, including those who had previous contact with the health system (August et al., 2015). However, other literature showed that preparedness education does not often involve the men, community and even the TBAs (Ditekemena et al., 2012; Duysburgh et al., 2015).

Although there could be complex relationships between low literacy and status of women, the evidence suggests that they can be inextricably linked, such that when literacy rates and maternal autonomy improve, maternal outcomes often improve (Amzat, 2015; Mrisho et al., 2007). Therefore, it is important not to ‘blame’ women for low literacy, which is a reflection of the culture of these communities as much as the lack of investment in education and so on.

### 3.3.1.2 Age

Age is a significant predictor of risks in pregnancy and childbirth (Say et al., 2014; WHO et al., 2014). Sexual risk-taking youth and the extent to which this behaviour may be changing over time have been the focus of a substantial amount of research since the early 1990s (Say et al., 2014). In a study conducted on the health-seeking behaviours of unmarried youth in Ghana, the median age at first intercourse was 17 years for young people of both genders. Sexually initiated males reported an average of 1.8 lifetime partners, whereas females reported 1.4 (Karim, Magnani, Morgan, & Bond, 2003). In Ghana, 57,000 teenage pregnancies were recorded in the first half of 2017, with 31 maternal deaths occurring in the population (GNA, 2017). Sometimes teenagers die as a result of complications when they have subsequent pregnancies after earlier illegal abortions, while others may fail to utilise health facility care due to stigma from the community members, which has implications for the pregnancy and birth outcomes (Afulani et al., 2016; Bayu et al., 2015).

Age has other impacts on maternity services utilisation. For instance, younger women were less likely to utilise ANC services in their index
pregnancy. In Rufiji district, birth preparedness and knowledge of danger signs of complications was low among mothers aged 20 and younger, and thirty-seven percent of them did not also honour obstetric referrals (Pembe et al., 2010). Older women had more knowledge of danger signs of obstetric complications than younger ones but were more likely to have a homebirth than younger pregnant women in Bahirdar, Ethiopia, while the reverse was found in another study in Tanzania and Uganda (Abebe, Berhane, & Girma, 2012; Bayu et al., 2015).

The complex relationship between the ages of pregnant women and their spouses and maternity service uptake is apparent in a small number of studies. Older men were more supportive of pregnant women than younger men in Tanzania, Ghana and similar countries (August et al., 2015; Afulani et al., 2015b).

3.3.2 Cultural determinants

The key cultural characteristics impacting maternal health service delivery and utilisation includes: nature of culture; impacts of culture – status of women, status of men, spirituality and spiritual consultations, destiny, disclosure of pregnancy; preference for TBAs and preference for herbal remedies

3.3.2.1 The impacts of culture

A literature review of thirty-seven papers related to sub-Saharan Africa and Australia identified how cultural beliefs and ideas on pregnancy influenced the utilisation of ANC and final place of delivery (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008; Ford, Roberts, Simpson, Vaughan, & Cameron, 2007). The evidence available also demonstrates that many rural communities’ approaches to healthcare are culturally premised on their understanding of health, life and well-being (Coast et al., 2016; Hill et al., 2014; Tabi, Powell, & Hodnicki, 2006).

The influences of sociocultural beliefs and practices on maternal and neonatal healthcare outcomes in SSA are complex. Despite the

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26 Conceive whilst in a medical condition or under treatment for ill-health (Abdullah et al., 2011).
increasing availability and accessibility of ANC, skilled delivery in a health facility and promotion of an optimum diet aimed at improving health outcomes, utilisation is far from ideal, often perpetuated by cultural beliefs and traditional norms. Many of these barriers were related to beliefs and actions of men, particularly husbands, and the communities within which the expectant mothers reside. Seeking timely and appropriate maternity care with the full support of husbands/partners is more than a family issue; it is a rights-based issue. National, regional and local initiatives are required to address each of these cultural barriers, with an emphasis on community sensitisation programs tailored to men and opinion leaders for maximum impacts.

3.3.2.2 Status of women

The concept of patriarchy, men’s systematic domination of key structural and ideological resources and positions institutionalised at multiple levels (such as legal, medical, political), underpins many challenges women face in seeking appropriate prenatal care (Amzat, 2015). The roles men play in maternal care is reflected in the WHO ‘Protocol on focused antenatal care for low and middle-income countries’, which emphasises active involvement of husbands/partners as an enabling factor for obtaining greater net impact on prenatal care, rather than providing health messages and education to only expectant mothers (WHO, 2006; Wilmore et al., 2015). This is particularly important given that men often control the material resources of spouses including decision-making concerning choice of health service provider and time of use, the daily family activities and family size in most parts of northern Ghana, Nepal, Ethiopia, Kenya and the majority of sub-Saharan Africa (Bayu et al., 2015; Bhatta, 2013; Nanjala & Wamalwa, 2012; Rishworth et al., 2016). Patriarchy is underpinned by a diverse array of cultural beliefs and values, all of which oppose women’s autonomy and rights (Amzat, 2015).

Bayu et al. (2015) found that mothers who received timely permission to seek care and were supported by their partners were more likely to give birth at a health facility in Tigray Zone, Ethiopia. Bhatta (2013) also noted that the involvement of men at Kathmandu, Nepal in prenatal care could encourage them to provide support in readying expectant mothers for obstetric complications.
Likewise, although the majority of mothers in some communities in rural Zambia, Addis Ababa, and Burkina Faso had knowledge of complications in pregnancy and delivery, lack of free will to take timely decisions for their health and welfare limited their ability to utilise skilled care during complications and labour (Gebresilase, 2014; Sialubanje et al., 2015; Some, Sombie, & Meda, 2014). It was mandatory to receive approval from the husband (and in some locations, permission from the community) before seeking maternity care at a health facility, with mothers often relegated to the roles of ‘baby factories and chefs at home’ and barred from using maternity care (Atekyereza & Mubiru, 2014; Donmozoun, Sombie, & Meda, 2014). This affected their ability to take prompt decisions during maternity care and led to prolonged labour and other associated complications including obstetric fistula (Gebresilase, 2014).

Despite increasing health education and counselling programmes in many parts of low and middle-income countries, there exists a significant interplay of cultural issues and maternal healthcare-seeking intentions and practice with foundations in patriarchy. Household activities and care of children are perceived as the women’s job (Ganle & Dery, 2015), therefore women bear the major share of the household responsibilities in most communities of sub-Saharan Africa and South Asia (Mrisho et al., 2007; Amzat, 2015; Ganle & Dery, 2015; Ghose et al., 2017). However, men champion most decision-making in the household (Amzat, 2015), including accessing healthcare. In this district (Kassena-Nankana), where men usually have the final say, women who could make independent decisions to go to a health facility and had the means to get there were more likely to give birth at a health facility (Mills et al., 2008). That is, women’s autonomy (decision-making power) will influence decisions to utilise professional care, holding other determinants constant (Mills & Bertrand, 2005; Sakeah, Doctor, et al., 2014a). This reflects the generally low social position of women in Ghana and the family, with significant implications for their autonomy in taking decisions on their pregnancy (Ghose et al., 2017; Mills & Bertrand, 2005; Mills, Williams, Adjuik, & Hodgson, 2008; Sakeah, Doctor, et al., 2014a). Similar outcomes occur in Bangladesh (Ghose et al., 2017). The preference for male children (Dudgeon & Inhorn, 2004) worsens the plight of pregnant women in the Sissala East District, Ghana (Yahaya, 2014).
Furthermore, marital conflict and marital duress, alongside doubts of the sex of the child (Kumar & Robson, 1984), can give rise to marital misunderstandings and possible family abuse that could potentially affect birth outcomes (Dudgeon & Inhorn, 2004).

3.3.2.3 Role of men

The traditional definition of men as heads of households/families has changed over time in rural Ghana, to the extent that they are now providing only basic foodstuff and other economic activities which mostly require physical strength to carry out. In other regions, husbands/partners are encouraged to assume household activities such as fetching water, splitting firewood and cultivating land during pregnancy (Kwambai et al., 2013).

As a general rule in the Upper West Region (UWR), husbands/partners disregard participating in maternal and newborn health service utilisation especially ANC, with the view that it is women’s business (Ganle & Dery, 2015; Sumankuuro et al., 2017b).

Conversely, where men are involved in ANC and BP/CR, birth outcomes are likely to improve. In Kathmandu, males who were aware of danger signs accompanied and supported their spouses throughout the gestation of the pregnancy and the postnatal period (Bhatta, 2013). A similar pattern was replicated in a Tanzanian study (August et al., 2015). In Kenya men were willing to support women in pregnancies that were wanted, and those were more likely to be delivered at health facilities or appropriate facilities compared with pregnancies that were either mistimed or unwanted (Fotso et al., 2009).

Expectant mothers, fathers and families in urban suburbs were more knowledgeable on ANC services and BP/CR components, which made them willing to make at least one ANC visit in Turkey (Celik & Hotchkiss, 2000). In the same study, the men who had some knowledge of danger signs also supported their spouses to receive appropriate care (Buist, Morse, & Durkin, 2003; Celik & Hotchkiss, 2000). These studies show that men’s participation in ANC and BP/CR was largely dependent on their knowledge of danger signs; they were more likely to change their attitudes towards maternal health service utilisation if they had this knowledge. On the other hand, postpartum sicknesses among nursing mothers were aligned to unhealthy relationships between couples (Byamugisha, Tumwine, Semiyaga, & Tylleskär, 2010).
3.3.2.4 Other cultural beliefs and practices

There are also other significant mismatches of cultural and traditional norms and practices with modern practices and services that limit uptake of ANC and SBA. For example, in Ghana the pouring of libation at the onset of danger signs must occur before deciding to seek health facility care, consulting traditional healers before health facility care. Islamic beliefs preventing male doctors and nurses from attending labour and delivery may come into play (Ganle, 2015). In Lao PDR, herbs and “magic water” were administered to relieve pain during labour, in a process which encouraged home births, and the H’mong of Viet Nam depended deeply on the Confucian and Taoist beliefs which primarily relied on spirits, sorcery and magic to predict and understand maternal health problems and achieve pregnancy safety (Sychareun et al., 2012; Sychareun et al., 2016). Similarly, spiritual beliefs were major determinants of maternal healthcare utilisation and outcomes in almost all sub-Saharan African countries (Amzat, 2015; Ganle et al., 2015; Ganle & Dery, 2015; Iliyasu, Abubakar, Galadanci, & Aliyu, 2010; Zerfu, Umeta, & Baye, 2016), many of which suppress the freedom of women to decide for themselves (Ganle, 2015).

The causes of miscarriages and other complications in pregnancy were perceived as spiritual attacks among communities in Accra and its environs (capital city of Ghana) (Dako-Gyeke, Aikins, Aryeetey, McCough, & Adongo, 2013). In some locations, the heads of families championed maternity care decision-making on the basis of consultations with soothsayers (evil spirits/mediums) (Aborigo et al., 2015). Furthermore, some religions do not believe in contemporary medicine thus may prevent their followers from seeking ANC and skilled delivery (Ganle, 2015).

These beliefs put expectant mothers in constant fear of disclosing the pregnancies (in first trimesters) to other people. In Kassena-Nankana district, in the Upper East Region of Ghana, strong attachment to cultural norms including pregnancy cleansing/announcement delayed primiparous mothers from the uptake of antenatal care (Aborigo et al., 2014). Similar delays were recorded in the rural communities in Burkina Faso (Donmozoun et al., 2014). These rites were conducted in or after the third month of the conception, thereby affecting the number of ANC services and conventional medicines received throughout gestation (Donmozoun et al., 2014). In Tanzania, the need for
cleansing and sourcing prenatal care from prayer camps, witch doctors as well as healthcare facilities may delay the use of ultrasound, which makes it difficult to estimate their expected date of delivery (EDD) (Firth, Mlay, Walker, & Sill, 2011) and in Swaziland (Thwala, Jones, & Holroyd, 2011).

Women exhibited much concern about birth practices in health facility settings (Caulfield et al., 2016). While some women believed a warm room and family support facilitates spontaneous vaginal delivery, others refused using skilled birth attendants (SBAs) because in Laikipia and Samburu Counties, Kenya, it was culturally inappropriate for males to see their private parts (Caulfield et al., 2016).

In southern Mozambique, pre-eclampsia and eclampsia were attributed to violation of cultural norms which caused “a snake” to live inside of the expectant mothers and could be treated locally by exposing pregnant women to strong odour from shoes, lemon tree or tobacco (Boene et al., 2016). In other studies, including in Ghana, prolonged labour was attributed to infidelity of the expectant mother or harmful intentions of the birth attendants (Aborigo, Allotey, & Reidpath, 2015). Some labouring mothers were left alone in secluded rooms while traditional consultations with soothsayers and many sacrifices were carried out before the pregnant woman could receive care from relatives. Mothers were taken to the health facility only when all confessions and soothsayer consultations and animal sacrifices were concluded or failed (Mwini-Nyaledzigbor, Agana, & Pilkington, 2013).

A synthesis report by the Ghana Health Service (GHS) identified some post-birth cultural issues affecting service delivery in most health facilities in the country. Some of these beliefs were “no hot water” to bathe within the health facility after childbirth, no millet water could be given as it is believed to help production of breast milk (Farnes, Beckstrand, & Callister, 2011; GHS, 2010). In some locations home delivery was seen as a mark of bravery and faithfulness to the husband (Aborigo et al., 2014; Sakeah, Doctor, et al., 2014a), whilst a traditional belief that death in labour is perceived to be the destiny of the pregnant woman counts in worsening some birth complications (Sakeah, McCloskey, et al., 2014), and may lead to obstetric fistula or even death (Aborigo et al., 2014; Farnes et al., 2011).

Religion and spirituality also had influence on the utilisation of maternal and infant health services. It could be attributed to the fact that some religions
do not believe in contemporary medicine thus may prevent their followers from seeking this care (Ganle, 2015). For example, research in Nepal on the role of obstetric knowledge in service utilisation found women still resorting to home births, despite the availability of childbirth services, due to spiritual beliefs and traditional customs (Karkee, Baral, Khanal, & Lee, 2014). In Ghana, communities attributed the causes of problems in pregnancy to ancestral spirits and believed in the pouring of libation and animal sacrifice as a remedy for the problem (Aborigo et al., 2015). The causes of miscarriages and other complications in pregnancy were perceived as spiritual attacks among communities in Accra and its environs (capital city of Ghana) (Dako-Gyeke, Aikins, Aryeetey, McCough, & Adongo, 2013). These beliefs put expectant mothers in constant fear of disclosing the pregnancies (in first trimesters) to other people. In some locations, the heads of families championed maternity care decision-making about consultations with soothsayers (evil spirits/mediums) (Aborigo et al., 2015).

3.3.2.5 Preference for traditional birth attendants

Notwithstanding the benefits of skilled maternal healthcare, expectant mothers in many parts of the low and middle-income countries continue to prefer obstetric care from traditional birth attendants (TBAs). The reasons for this are complex. Age, education, spiritual beliefs and community and family attitudes can play a significant role (for example, in relation to placental disposal and preferred birth positions), as can negative perceptions about birth attendants and the healthcare settings (Bohren et al., 2015; D'Ambruoso, Abbey, & Hussein, 2005; Kelly & Barker, 2016; Liamputtong, Yimyam, Parisunyakul, Baosoung, & Sansiriphun, 2005; Moyer et al., 2014) and a preference for the herbal uterotics that form a major component of TBA services (John & Shantakumari, 2015; Nyeko, Tumwesigye, & Halage, 2016). Distance to a modern healthcare facility, and the occupation of the expectant mother and head of household had significant impacts on the choice of type of birth attendants (Bergström & Goodburn, 2000; Saaka & Iddrisu, 2014; Sarker, Sheikh, Mahumud, & Sultana, 2018; Sato, 2012).
### Preference for natural/herbal remedies

As noted above, one of the main reasons TBAs are preferred in some countries is their willingness to supply herbal remedies. TBAs in northern Ghana mostly obtain their plant extracts from the mistletoe plant, dawadawa tree among other plants known as “local/herbal oxytocin” (Sumankuuro et al., 2017a).

While herbal oxytocin is assumed to have positive impacts on the health of mothers (Craig, 1999), there are also much more harmful aspects. For example, studies from Korea, Ghana and Ethiopia recorded preterm births due to pre-eclampsia among mothers who utilised such plant parts in the pregnancy (Bayisa, Tatiparthi, & Mulisa, 2014; Farnes et al., 2011; Jo et al., 2016; Laelago, Yohannes, & Lemango, 2016). Chamomile and peppermint consumption increased the burden of miscarriage and preterm labour in the Middle East (John & Shantakumari, 2015). In a cross-sectional study in Ghana, the evidence demonstrated that pregnant women preferred alternative and traditional sources of prenatal and postnatal care, which was carried out mostly under poor hygienic conditions, leading to increased risks of obstetric complications which led to poor health outcomes (Aborigo et al., 2014; Abrokwah, 2013; Farnes et al., 2011).

### Spiritual consultations and practices

Many African countries have relied on spiritual practices such as spiritual consultations, pacification of gods and religious prayers to manage obstetrics and general health of expectant mothers and neonates (Farnes et al., 2011; Fofie & Baffoe, 2010). Hill et al. (2014), investigating the causes of stillbirths and neonatal healthcare in Northern Ghana, found that pregnant women patronise both allopathic and traditional health services. Tabi et al. (2006) discovered many Ghanaians combined maternity health services from both traditional healers and the mainstream health facilities. These practices and behaviours reduced efficiency in maternity services delivery and adherence to referral guidelines, with potential negative implications on outcomes even when the expectant mother finally sought skilled services (Farnes et al., 2011).
3.3.3 Geographical and environmental determinants

3.3.3.1 Geographical isolation of communities

In recent decades, hospitals and health services in many African countries have been rationalised into fewer, larger units serving wide areas and located in places that are difficult to reach without a car (Fiagbe et al., 2012; Hamlin, 2004). This means that geographical isolation plays a pivotal role in health service delivery and utilisation in rural communities, including in maternal and neonatal health services (Atuoye et al., 2015; Buor, 2003, 2005; Rishworth et al., 2016; Fofie & Baffoe, 2010). The literature demonstrates that the distance patients must travel to obtain treatment from appropriately trained personnel is a primary determinant of the use of skilled attendants during emergency deliveries (Gething et al., 2012), with delays often resulting in obstetric fistula and other complications (Hamlin 2004). The issue of distance is especially significant in the Upper West Region, particularly given the majority of patients make the journey for treatment as pedestrians (Hill et al., 2014; Rishworth et al., 2016; Tabi et al., 2006). Despite its importance, geographical access is rarely audited systematically, preventing integration in national-level maternal health system assessment and planning.

3.3.3.2 Provision of transport

A key way of improving geographical isolation is the provision of transport. The World Bank defines rural transport as all transport activities that take place at local government and community household levels (Buor, 2003). According to the World Bank report on rural roads and transport (2000), 70% of the world’s population lives in rural communities, mostly several miles away from health facilities (Porter, 2002, 2007). Within the rural travel and transport sub-sector, men and women’s experiences of transport and transport services differ. This is because they have different roles, constraints, options, needs and priorities. Although some rural communities in Ghana are now accessible by vehicles and tricycles which are affordable and readily available to families who are prepared for birth or complications in a pregnancy to transport the woman to the nearest healthcare facility (Asamoah et al., 2011; Zere, Kirigia, Duale, & Akazili, 2012), as a general rule, the majority of transportation in rural Ghana
area is done on foot and by head load. Women must also walk long distances to access regular ANC services (Fiagbe, Asamoah, & Oduro, 2012). Overall, the increased availability of tricycle motorbikes does not appear to have had any significant positive referral outcomes for expectant mothers since their introduction in the rural communities in northern Ghana (Atuoye et al., 2015; Yahaya, 2014). Rather, women with no ready access to means of transport or their own bicycle, as in Busia, Kenya, were more likely to give birth at home than their counterparts with access to transport (Nanjala & Wamalwa, 2012).

The literature show that most parts of Ghana have poor surface road conditions, which virtually “shake” pregnant women who are experiencing complications, often worsening their condition and resulting in neonatal death (Atuoye et al., 2015; Buor, 2003; Rishworth et al., 2016). Where access to roads is not available, delays of several days are often encountered as families try to raise the money necessary to pay for hiring a vehicle to transport the patient (Gudu & Addo, 2017). Emergency transport costs are an overwhelming financial burden for families, and this applies to both shorter and longer distances (Fiagbe et al., 2012; Gething et al., 2012).

Accessing health facilities for ANC and emergency situations becomes particularly challenging for people who must rely on public transport, leading to failed health appointments and associated delays in medical intervention (Fiagbe et al., 2012), often resulting in prolonged labour (Atuoye et al., 2015; Buor, 2005). In rural Ghana, public transport was available only on routine weekly market days, which did not necessarily coincide with days on which ANC was provided (Rishworth et al., 2016; Yahaya, 2014). Yahaya (2014) discovered in the Sissala East District of Ghana that women in labour could spend several hours travelling on a makeshift stretcher and over difficult terrain that could induce other health complications for the mother and child. The goal of referral transport is to address the delays in reaching the health facility, and also to provide pre-hospital care while transporting the patient to the appropriate hospital (public/private) (Raj et al., 2015; Yahaya, 2014).

Daffiama/Bussie/Issa does not have any hospital or medical doctor, and women in need of comprehensive obstetric care, such as caesarean section and blood transfusion services received at local health centres, were referred to Nadowli hospital (Daffiama-Bussie-Issa, 2015). The situation was exacerbated by non-availability of medical laboratory services, meaning all expectant
mothers began prenatal care with travel of several kilometres to Nadowli district hospital to carry out laboratory examinations before further ANC follow-ups (Daffiama-Bussie-Issa, 2015).

3.3.4 Economic influences

Income has been an important factor in the use of health services by women in low and middle-income countries such as Ghana (Asamoah et al., 2011; D’Angelo et al., 2015). Women are a particularly vulnerable group (both in rural and urban communities) for reasons outlined above (Section 3.3.3) and often do not have adequate access to health facilities due to their weak financial capacity (Buor, 2005; Ganle et al., 2015) and high poverty levels (Zere et al., 2012). For example, adolescent expectant mothers in Bangladesh who had no financial savings to afford the cost of using skilled delivery services chose home delivery (Sarker et al., 2018). Similar findings were reported in different regions of Ethiopia, Uganda and India as precursor to home births (Abebe, Berhane, & Girma, 2012; Bayu et al., 2015; Kabakyenga, Östergren, Turyakira, & Pettersson, 2012). Abrokwah, Moser, and Norton (2014) also pointed out that mothers with NHIS active subscriptions were more likely to utilise approved prenatal care services. However, despite the direct costs of pregnancy and delivery ostensibly being covered by health insurance, other related costs, such as purchase of in-bed medications and infusions, detergents and acquisition of standard delivery items (known as birth kits) can be prohibitive, thereby reducing use of skilled services (Ganle, Parker, Fitzpatrick, & Otupiri, 2014; Witter et al., 2013; Afulani et al., 2015a). For instance, at the Greater Accra Regional Hospital, checking blood level (Haemoglobin) for mothers, some midwives charged between GHS15.00 and GHS20.00 ... and Maternity Health Record Book sold for GHS5.00. One of the pregnant women had been in the house for five months without attending antenatal clinic. Her reason? She did not have money to pay for the many bills charged by Amanfrom Health Centre. But according to the Ghana Health Service, antenatal service is free (GhanaNews, 2017a, 2017b).

Thus, poorer women are more liable to have access problems, suffer from chronic illnesses, and report low overall Apgar birth scores (newborn baby's health at birth) than their higher income counterparts (Comfort, Peterson, & Hatt, 2013; Sakeah, Doctor, et al., 2014a). These differences can be observed
when comparing the number of expectant mothers in the highest wealth quintile in Ghana giving birth in a health facility (approximately 92%) to those in the lowest income group, of whom one-fifth gave birth attended by a skilled person (Ganle et al., 2014). Similar outcomes are recorded in Morocco, Mali and Benin (Witter et al., 2016). In its present state, the insurance situation is unsustainable and failing many mothers. The challenges are so significant that Witter et al. (2013) conclude that there may not be a future for the fee exemption policy for expectant mothers if the problems are not addressed urgently.

3.3.4.1 Lack of funding

Thaddeus and Maine (1994) identified three key bottlenecks (three delays – deciding to seek care at the health facility, reaching the facility and receiving timely and appropriate care) in reducing maternal and neonatal mortalities and increasing utilisation of skilled professional care in a health facility, particularly in the rural setting.

Many studies exist on social health insurance policy implementation in Ghana. These show how resource allocations in national budgets generally favour the urban rich and the higher order health facilities in comparison to rural communities, thereby intensifying inequity (Buor, 2005; Ganle et al., 2014). Similarly, although the Bangladesh government has a policy of free healthcare in place, low financial resource allocation to the health facilities makes it difficult to provide free healthcare including emergency obstetric care in rural locations (Mills & Bertrand, 2005). Similar limited resource allocation to the Benin, Burkina Faso, Morocco and Mali maternity services delivery component of their health financing initiatives also reduced the quality of services provided at the health facilities (Witter et al., 2016). Inadequate healthcare financing of maternal health services further excluded ANC services for pregnant women, which presented a profound challenge to service affordability by the rural poor (Ganle et al., 2014; Witter et al., 2016).

3.3.5 Health delivery

3.3.5.1 Healthcare resources
Health service delivery systems at the district level were faced with frequent shortage of blood, intermittent power supply, and low proportion of healthcare workers to population (Abdullah et al., 2011; Der et al., 2013). Availability of accessible emergency obstetric services (such as parenteral oxytocics, antibiotics and anticonvulsants; assisted deliveries, manual extraction of the placenta, blood transfusions, and so on) are mandatory for the continuum of quality maternity healthcare (Bossyns et al., 2006; Paxton, Maine, Freedman, Fry, & Lobis, 2005), and preference for facility-based childbirth can be high when there is the appropriate quality of care with the necessary medical facilities such as equipment for surgery and blood transfusion services (Abdullah et al., 2011; Sakeah, McCloskey, et al., 2014). However, their availability is severely limited in many locations, and the Director of Health Services (on October 16, 2011) of the then Nadowli District lamented that many stillbirths and maternal deaths resulted from obstructed labour and haemorrhage (GNA, 2011) caused by lack of resources.

3.3.5.2 Staffing related factors

a) Low staff numbers

Adequate staff numbers are essential to the successful implementation of ANC and BP/CR (Fapohunda & Orobaton, 2013; Lehmann, Dieleman, & Martineau, 2008). For example, where the ratio of healthcare workers to population is meagre, a woman with postpartum haemorrhage is at a higher risk of dying from haemorrhagic shock (Der et al., 2013). Ghana has made some progress in improving staff levels (since 2009 through the CHO-midwife initiative) (Lehmann et al., 2008; Rishworth et al., 2016; Sakeah, Doctor, et al., 2014b) but skilled staffing shortages remain throughout rural Ghana (Abdullah et al., 2011; Nesbitt et al., 2013).

For childbirth to be called skilled birth, the attendant must receive training from an accredited health institution and be licensed to practice (Abdullah et al., 2011; WHO et al., 2015). Although public and private sector efforts have recently increased skilled birth attendants (SBAs) on the global front, the opposite exists in some sub-Saharan African countries. There, the nurse/midwife to population ratio was estimated by the World Bank (for the
periods of 2008-2014) as 0.9 per 1,000 for Ghana (WB, 2016), compared to the
global standard of 2.2 per 1,000 people (UNICEF, 2016).

Ghana began an innovative decentralised health programme in 2004 aimed
at addressing problems related to utilisation of skilled birth attendants, by
upgrading the skills of Community Health Nurses (CHNs) to Community
Health Officers (CHOs) with basic midwifery skills (Sakeah, McCloskey, et al.,
2014). The essence was to equip CHNs with the core competencies in managing
labour and deliveries during emergencies (Dzakpasu et al., 2012). The policy
coincided with a ban on the utilisation of traditional birth attendants (TBAs) and
was further challenged by an ongoing shortage of physicians. For example, in
2012, the Upper West Region (UWR) had 11 times fewer doctors [0.02 doctors
per 1,000 population] compared to Greater Accra [0.28 doctors per 1,000
population] and Ashanti region [0.10 doctors per population ratio]; well over
50% of all doctors live in Greater Accra with 20% in Ashanti Region (MoH,
2014b). The remaining 30% of doctors resided in the other eight
health/geographic regions (MoH, 2014b).

a) Attitudes and behaviour of staff

While skilled birth attendants and emergency obstetric care are widely
acknowledged to be essential to combating high maternal mortality, their
provision requires functioning health systems that include trained and motivated
workers, equipped facilities and rapid referral systems for complications (Gudu
& Addo, 2017; Kruk, Galea, Prescott, & Freedman, 2007). These are largely
absent in the under-funded health systems of low and middle-income countries
(Kruk et al., 2007).

Improving the midwife and expectant mother relationship is paramount to
enhancing maternal health service delivery outcomes (Cheptum et al., 2014;
Moyer & Mustafa, 2013). In a cross-sectional study in Ghana involving
community members, women and healthcare professionals, home births were
often preferred due to a lack of confidence in health staff (Bazzano, Kirkwood,
Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008; Hussein et al., 2005). Numerous participants recounted receiving harsh treatment by nurses; others
described being turned away from the hospital after a difficult journey to reach
the facility because they were not yet in active labour. Other studies in different
parts of Ghana found nurses yelling at women who may be in pain from complications (Bazzano et al., 2008; Byrd, 2006; Moyer et al., 2014).

Bowser and Hill (2010) in a study dubbed “USAID TRAction Project,” explored disrespect and abuse of women by midwives and found that discriminatory and inhumane behaviour was a major influence on women’s decisions about where to give birth. A similar study in Ghana by Moyer et al. (2016), employing focus group discussions with final year students in fifteen Public Midwifery Training Institutions across the ten (10) regions, found disrespectful attitudes and abusive behaviours by midwives to be a significant discouragement to pregnant women’s skilled care-seeking behaviours and decisions. Disrespect and abuse could take the form of non-dignified care, discrimination based on patient attributes, physical abuse, non-consented care, non-confidential care, abandonment of attention and detention in facilities (D’Ambruoso et al., 2005; Freedman et al., 2014; Rominski, Lori, Nakua, Dzomeku, & Moyer, 2017). Poor quality of attention continues to be a major concern in most health systems in SSA, as high patient volume and limited resources combine to constrain service provision (Cheptum et al., 2014; Mills & Bertrand, 2005).

Negative staff attitudes may occur as a result of overworking and staff experiencing burnout (Cheptum et al., 2014; Mills & Bertrand, 2005), themselves the result of inadequate staffing, inadequate facilities and equipment (Cheptum et al., 2014; Moyer et al., 2014). In rural Ghana, there are few doctors, with the nearest likely to be found at district hospital level (Abdullah et al., 2011). For staff to enjoy their work, there should be accessibility to sufficient equipment so that they can provide their services professionally. Inadequate infrastructure such as staff accommodation, the internet, print media, good road network or other amenities (Buor, 2005; Cheptum et al 2014) and lack of incentive packages serve as a disincentive to doctors and midwives accepting postings to districts and undeveloped areas (Abdullah et al., 2011; Sakeah, McCloskey, et al., 2014) which compounds the problem. In a rural community, one may not be able to access amenities such as the internet, print media, good road network or other amenities (Lori et al., 2014), all of which may contribute to a high staff turnover. Similar challenges were found in various studies (Buor, 2005; Cheptum et al., 2014). In a situation where this is a challenge, it may give rise to a lack of interest in their work and fatigue, especially when they always
have to improvise (Sakeah, McCloskey, et al., 2014). Maternity staff at hospitals complained that pregnant women took so long to seek care that they were too ill to be helped (Sakeah, McCloskey, et al., 2014).

b) Lack of privacy, lack of experience

Lack of privacy was identified as an associated factor for some home childbirths (Mrisho et al., 2007). Sometimes older women give birth at home to avoid contact with younger midwives at the health facility, whom they think of as their children. Some young women also do not deliver at health facilities because of the presence of male health workers during delivery (Bayu et al., 2015; Mrisho et al., 2007).

It is well known that many women prefer the older midwives because of the perception that some of these young midwives have no experience of childbirth or that they are not friendly enough (Mrisho et al., 2007). Thus, if the older midwives are not there, the women choose not to come to the health facility (Kwagala, 2013; Kwambai et al., 2013).

3.3.5.3 Poor health facilities

The literature further observed women in urban areas had higher (84%) access to quality and professional attention during childbirth than their rural counterparts (43%) (GHS, 2010; Sakeah, Doctor, et al., 2014b). While existing evidence points to the value of skilled maternal health services in promoting safe pregnancy, less than 50% of all pregnant women in low and middle-income countries received early antenatal care in 2013 compared to 85% in developed countries within the same period (WHO, 2017c), due to the present condition of the health settings in many locations. Quality maternal health service delivery is dependent on a number of factors, ranging from spacious facilities and utilities to logistical capacities. These factors significantly influence the low skilled service uptake in many low and middle-income countries including Ghana. Whilst educated and wealthy pregnant women and families may travel longer distances to utilise services in quality health facilities, the poor are unable to do so (Afulani, 2015b).

For example, Ghana’s CHPS initiative has the potential to reduce avoidable morbidities and mortalities of mothers and newborns, but it is unlikely to achieve this objective due to the deplorable state and limited accessibility of
the facilities in many rural communities, which encourages pregnant women to prefer unskilled care (Sakeah, Doctor, et al., 2014b; Sakeah, McCloskey, et al., 2014).

Issues related to skilled staff deployment, medical equipment and logistics stocking including the supply of essential medicines, coverage of ambulance services and transportation and vehicular scarcity remain key barriers to completing the scaling-up of the CHPS program in the country (Parnigoni, 2013). The CHPS healthcare facilities are located in the remotest communities without access to services of a health centre and hospital. Ghana Health Service staff at the CHPS facilities depend on the regular source of water supply from the water installations in the community, which may often be compromised. They [health facilities] are usually located on the outskirts of the communities, which deters female nurses from staying in the facility at night, particularly if they are the only staff member in the entire zone (Gudu & Addo, 2017; Rishworth et al., 2016). The roads are mostly unmotorable all year round by cars. Therefore, the motivation to accept postings to these communities was very minimal, thereby creating persistent staff inadequacies in these health facilities, while the urban health centre remained well-resourced and staffed (Gudu & Addo, 2017). Given the current perspective which impacts on service delivery, there may not be any significant improvement in skilled care in rural communities if these barriers persist over time.

3.3.6 Psychological barriers to ANC and BP/CR

Research has shown that maternal psychosocial stress is a cause of preterm birth (Jessop et al., 2014). A body of knowledge on psychological effects of maternal stress concluded that intra-familial and livelihood activities may impact negatively on pregnancy and childbirth outcomes (Ganle et al., 2015; Jessop, Craig, & Ayers, 2014). Thus, in a study involving pregnant women of diverse ethnic, socioeconomic and cultural backgrounds, mothers experiencing some levels of emotional/psychological or social stress during pregnancy were at risk of preterm birth (Hobel, Goldstein, & Barrett, 2008). Although not all mothers reporting psychosocial stress have preterm births, previous studies suggest that the combined effects of family relationships, work strain, unhealthy living conditions, stressful daily activities and insensitivity of
partners to mothers’ emotional demands, could affect pregnancy and birth outcomes (Hobel et al., 2008; Kingston et al., 2012).

3.4 Conclusion

This chapter has considered the many barriers to improving maternal health in low and middle-income countries, with a particular focus on Ghana, especially the rural communities. The crux of the barriers revolves around explicit cultural factors (such as the inability of expectant mothers to make their own decisions regarding pregnancy and childbirth) and high costs of healthcare services for women, healthcare professional staff and logistical shortages. In light of the complexity of the issues underpinning maternal morbidity and mortality described in this chapter and the strengths and challenges of the theoretical models described in chapter 2, it is apparent the holistic and systematic approach of bioecological and socioecological models, combined with feminist theories (maternal engagement and rights-based) and two nursing/midwifery theories (cultural care in nursing and Levine’s conservation model) are appropriate foundations for the remainder of the study. As such, they have guided the research design needed to investigate the factors impacting on ANC and BP/CR identified in chapters 1, 2 and 3 from the perspectives of the communities and health professionals. The operationalisation of the project is discussed in the next chapter.
Chapter 4 - Methodology and methods

4.1 Introduction

A systematic and meticulous research procedure is mandatory for conducting quality research (Israel, Schulz, Parker, & Becker, 1998; Teddlie & Tashakkori, 2009). This chapter describes the overall research design and procedure for investigating factors influencing maternal health service delivery and utilisation in two rural districts in Ghana. From the literature, the majority of the initiatives as explained in Page 1, were attributed to avoidable causes/risks of morbidities and mortalities in sub-Saharan Africa and South Asia among other low and middle-income countries. Therefore, this study sought to find out the determinants which revolve around preventive measures, which is the primary aim of BP/CR. ANC and BP/CR are components of the continuum of care (which considers a more extensive approach to maternal and newborn health service delivery). Thus, exploring these can be achieved by first exploring the pragmatic paradigm that underpins the research, then by describing the mixed methods approach that is used to carry out the study. This encompasses sampling procedure, participant recruitment, data collection techniques (i.e. questionnaires, interviews and focus group discussions) and data analysis. Instrumentation and data validity and reliability considerations are also covered in this section.

4.2 Research theory and purpose

Research involves systematic investigation, testing and evaluation, designed to develop or contribute to generalisable knowledge on a specific topic or phenomenon (Teddlie & Yu, 2007), or to explain a phenomenon or an area of uncertainty, or to confirm a given fact. One goal of research is to shift decision-makers from intuitive information gathering to systematic and objective investigation (Teddlie & Tashakkori, 2009; Webb, Campbell, Schwartz, & Sechrest, 1966), a process which can result in new knowledge about poorly understood and complex areas of human existence (Sandelowski, 2000).
4.3 Research paradigms

Giddings and Grant (2007), in Andrew and Halcomb (2009), define a paradigm as the worldview that influences how the researcher presents the research questions, and the choice of methods and data analysis procedures to obtain answers to the research questions. Methods, on the other hand, refers to the doing tools; thus, how the data is collected and analysed (Giddings & Grant, 2007).

There are arguably four key research paradigms, each of which is underpinned by philosophical assumptions; positivism and post-positivism, constructivism, critical and pragmatism.

4.3.1 Positivism and post-positivism

Positivism takes the view that there is a single reality or truth which can be measured using reliable and valid quantitative tools. According to Aliyu, Bello, Kasim, and Martin (2014), positivists believe that “truth and reality is free and independent of the viewer and observer” (p.82). The assertion implies that reality can be observed empirically and explained with logical analysis and policies formulated from the findings of such scientific investigation (“idealist ontology”). However, this school of thought emphasises laboratory-based experiments in order to prevent the external environment from impacting on the results (Aliyu et al., 2014; Kaboub, 2008).

Unlike the positivist perspective, post-positivism is strongly against the idea that there is only a single reality; rather, it acknowledges that observation can be fallible and can contain error, whilst still acknowledging the importance of searching for scientific truth (Aliyu et al., 2014). This paradigm supports making conclusions on cause-effect relationships between different variables, using hypotheses and research questions to test possible outcomes, through careful observation and experiments with population samples. Any conclusions that are drawn can be extrapolated to broader populations. Its emphasis is on objectivity and validity. Whilst this paradigm has its strengths, it is criticised for being unable to provide in-depth understanding of participant beliefs, values and opinions regarding a particular issue because they are not readily quantifiable (Andrew & Halcomb, 2009; Creswell & Piano, 2011; Onwuegbuzie, Johnson, & Collins, 2009).
4.3.2 Constructivism

Constructivism believes there is no single reality or truth; thus, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities. This can best be achieved by collecting participants’ opinions to describe and explain the particular reality about a specific circumstance or experience. The constructivist is sensitive to the research setting and the given phenomenon being investigated in an open-ended perspective to draw conclusions (Creswell & Miller, 2000). The sample size (which can be small) does not affect the validity of the study’s outcomes, which are based more on interpretation of reality than of quantifying reality (Creswell & Miller, 2000; Denzin & Lincoln, 1994).

4.3.3 Critical paradigm

The critical paradigm emerged as a challenge to early schools of thought (sections 4.3.1 & 4.3.2) and is premised on historical realism. For critics such as Scotland (2012), “realities are socially constructed entities that are under constant internal influence” (p.13) as a result of constant interaction with the independent world which in turn comprises socially constructed entities strongly influenced by power relations within society (Denzin & Lincoln, 1994). From this perspective, research narratives are shaped by policies, gender, and social, economic, and cultural dimensions over time (Aliyu et al., 2014; Creswell & Miller, 2000). It is only by understanding these influences that solutions can be found to address the power imbalances that are causing the inequalities that usually arise as a result (Scotland, 2012). Critical theorists demonstrate that social reality is alterable through concerted human action and therefore disagree with all forms of injustices and marginalisation (Scotland, 2012).

As a body of inquiry that aims to empower the underprivileged, critical theory interrogates values and assumptions in ways that aim to expose injustice, by challenging conventional social structures and engaging in social action. This is its key strength, but also a great weakness, in that it can be expensive, and unrealistic as it collects data from the very framers of the survey questions. Further, it encourages participants-checking of the data before analysis which may be influenced by the reigning governments, especially in corrupt and volatile communities (Creswell & Poth, 2017; Patton, 2002; Scotland, 2012). Scotland (2012) asserts that critical theory is an anti-feminist approach as its
proponents have been male dominated. It is thereby criticised as not recognising the concerns of women and the marginalised it claims to advance. On the other hand, some feminists have developed their own interpretations of feminist critical theory.

4.3.4 Pragmatism

For the pragmatist, reality is constantly being renegotiated, debated and interpreted considering its usefulness in addressing unpredictable situations (Onwuegbuzie et al., 2009). As such, it is focused on solving problems. To achieve this primary goal, it draws upon the strengths of both the post-positivist and constructivist paradigms (Clark & Creswell, 2011), and at times the critical paradigm, to identify the often-multiple causes of a problem (Morgan, 2014; Onwuegbuzie & Leech, 2006; Teddlie & Tashakkori, 2003). It focuses on the “what” and “how” to address the phenomenon instead of aligning itself to a single approach that will fail to address it (Johnson & Onwuegbuzie, 2004). However, it is arguably a paradigm with its own philosophical underpinnings (Clark & Creswell, 2011) and values that encompass both subjective and objective knowledge (Creswell, 2013; Morgan, 2014).

Other pertinent characteristics of pragmatism are that: 1) it offers multidisciplinary perspectives of qualitative and quantitative methods which allow depth and coverage of investigations in the same study (Clark & Creswell, 2011); 2) the qualitative components offer some openness to ideas from various groups of participants which could lend solid grounds for study conclusions; 3) research outcomes could be resilient to changing trends of the population dynamics during implementation (Andrew & Halcomb, 2009; Creswell & Poth, 2017); and 4) it further allows the opportunity to adjust study outcomes to the local initiatives and opportunities that aim to solve the research problem (Onwuegbuzie & Leech, 2006; Teddlie & Tashakkori, 2003, 2009). As such the pragmatist approach has a number of strengths, particularly the incorporation of textual and experiential opinions through qualitative data to ensure the local community is able to “buy-in” to the research (Andrew & Halcomb, 2009).

The paradigm has some limitations also. Pragmatism is criticised for being mostly exploratory, and that any error in the design could readily be accepted into the research process. Pragmatists are also criticised for adopting
mostly complex designs that are expensive, overambitious and not suited to early career researchers (Johnson & Onwuegbuzie, 2004).

Despite these challenges, given the seemingly intractable nature of poor maternal and neonatal outcomes in rural Ghana (and in other countries), the pragmatic paradigm provides the creativity and flexibility needed to identify and adopt approaches and techniques that would give the insights needed to solve these problems (Johnson & Onwuegbuzie, 2004; O’Cathain, Murphy, & Nicholl, 2007).

4.4 Determining the most appropriate methodology

Once it was established that the research paradigm underlying the research would be the pragmatic paradigm (incorporating elements of the three other paradigms) it was then necessary to determine the most appropriate methodology. The most obvious selection was mixed methods design because it draws upon key methodological approaches of all four paradigms and suitable for investigating the research questions. This was essential because previous research had focused on either a post-positivist or constructivist approach that took a comparatively simplistic approach by exploring the experiences and opinions of single groups of stakeholders (e.g. expectant mothers, or health professionals or community members), but never all of them. The lack of a comprehensive (holistic) approach limited the value of the findings (Der et al., 2013; Galaa et al., 2016; Thaddeus & Maine, 1994), particularly in relation to the identification of solutions. Mixed methods provided an integrative approach that addressed these shortfalls identified in chapter 1 (Andrew & Halcomb, 2009; Johnson & Onwuegbuzie, 2004).

4.5 The nature of mixed methods design

Mixed method is the design that combines clear quantitative counts with the nuance of qualitative reflections in the same study (Johnson & Onwuegbuzie, 2004). Creswell, Clark, Gutmann, and Hanson (2003) and Miller and Fredericks (2006) in Padgett (2011) identify four different groups of mixed methods approaches: 1) sequential; 2) concurrent; 3) dominant/subdominant and 4) equal.
In sequential mixed methods studies, the study objectives and questions of the second (or other later) qualitative design phases should emerge from the findings of the earlier data analysis (Andrew & Halcomb, 2011). This group of mixed methods provides answers to the why and how of the quantitative findings collected in the first or preceding phase (Tariq & Woodman, 2013). On the other hand, concurrent designs perform both quantitative and qualitative data collection and analysis at the same time. Concurrent designs allow researchers to triangulate the results from the separate strands (quantitative and qualitative) components to allow both to “confirm, cross-validate, and corroborate” the findings within the same study. That is, concurrent or simultaneous mixed methods design requires the collection of both forms of data at the same time; and sequential design requires the completion of qualitative data collection and analysis before commencing the quantitative aspects (Andrew & Halcomb, 2009; Clark & Creswell, 2011). Data presentation and interpretation complement each other (Creswell et al., 2003; Creswell & Piano, 2011). In terms of dominant versus equal designs, the two methods (i.e. quantitative and qualitative) will be mixed equally or partially (Leech & Onwuegbuzie, 2009). Leech and Onwuegbuzie (2009) explain that the researcher may give equal relevance to both qualitative and quantitative components of the study (i.e. equal design) or prioritise one component over the other with respect to the research objectives (i.e. dominant status).

4.6 Methodological triangulation

Methodological or data triangulation is an investigative strategy in mixed methods study that offers evidence to inform judgements or conclusions, as opposed to being a technique that guarantees truth (Hammersley, 2008). Bazeley in Andrew and Halcomb (2009) identified two major forms of triangulation in mixed methods study: simultaneous/concurrent and sequential triangulation (Andrew & Halcomb, 2009; Bazeley, 2009b).

4.6.1 Simultaneous Triangulation

This sub-strategy to mixing methods and data combines them concurrently, collecting both quantitative and qualitative data at the same time. In this case, applying this means that data from the interviews and focus group
discussions can be collected within the same timeframe, taking turns [Figure 4.1].

Figure 4.1: Simultaneous triangulation in mixed methods research

![Simultaneous triangulation diagram](image)

Source: Clark and Creswell (2011).

4.6.2 Sequential triangulation

This approach recommends the completion of one stage before the other (Hammersley, 2008). The second phase of the same study is more of a follow-up test or backup to the first phase (Andrew & Halcomb, 2009). It could also seek confirmation or cross-examination of the behaviour of some variables identified in the first phase of the study (Creswell, 2013). For instance, the traditional sequential mixed methods procedure requires maximum allowable time to complete the first stage before designing the second phase (Johnson, Onwuegbuzie, & Turner, 2007). Diagrammatical representation of the flow of study in this form of triangulation is provided below [Figure 4.2].

Figure 4.2: Sequential triangulation in mixed methods research

![Sequential triangulation diagram](image)

Source: Andrew and Halcomb (2009).

Traditional sequential mixed methods design is criticised as a waste of time, particularly if the project is small (Andrew & Halcomb, 2009; Creswell, 2011). Brannen and Halcomb (2009) posit that the traditional sequential approach is not suitable for young and beginner researchers, who could poorly plan either of the two phases, giving defects to overall conclusions of the study (Andrew & Halcomb, 2009).
4.6.3 Strengths of mixed methods

The strength of mixed methods lies in being able to target different groups of participants and ask different but related questions (Mackenzie & Knipe, 2006; Morgan, 2007, 2014). Qualitative open-ended questions accorded a wide array of participants (expectant mothers’ immediate family, the community, traditional birth attendants and the healthcare providers) the free will to share their views on the social and cultural factors identified as potentially impacting on maternal and neonatal healthcare outcomes (Kinn & Curzio, 2005; Mackenzie & Knipe, 2006).

The combination of quantitative or qualitative methods gave a comprehensive understanding of the research questions than either method alone would have been unable to provide (Clark & Creswell, 2011; Simonovitch, 2017; Tashakkori & Teddlie, 2010); as well as providing wide data coverage and saturation. Data saturation in this context dealt with the point at which no new additional data collection was needed to address research aims (Moran-Ellis et al., 2006; Tashakkori & Teddlie, 2010).

Different reasons account for the choice of mixed methods as explained in sections 4.4 to 4.6. Sale, Lohfeld, and Brazil (2002) advocate the mixture of methods in health research for increased scope and depth on perspectives, whilst Johnson and Onwuegbuzie (2004) identify how mixed methods provide strengths that offset the flaws of both mono-methods. Together they provide insightful information and understanding on the subject investigated. Investigating community perspectives on ANC uptake and BP/CR interventions in a typical rural setting required diverse views through different data sources.

4.6.4 Rationale for adopting sequential-convergent research design

The research aims (Israel et al., 1998; Jason & Glenwick, 2016), and geographical distance to the study communities, coupled with existing literature on maternal health service delivery and uptake in the study locations (Sumankuuro, Crockett, & Wang, 2016), influenced the application of a sequential-convergent data collection strategy, which began with quantitative data collection (surveys) followed by the qualitative data collection (focus groups and interviews).

Traditional sequential design follows the principle that follow-up data collection should be carried out with a section of the same sampled participants employed in the first phase (Clark & Creswell, 2011). It also suggests that
maximum time and resources should be allocated to project timelines in phase one to ensure effective results are obtained for the second phase (Brannen & Halcomb, 2009; Clark & Creswell, 2011).

Considering the different views on triangulation in mixed methods research, this study adopted a hybrid approach based on Moran-Ellis et al. (2006) whereby quantitative data collection preceded qualitative data collection. That is, a sequential data collection procedure with a convergent data analysis approach was employed for the study (Johnson & Onwuegbuzie, 2004; O'Cathain et al., 2007). The knowledge gained from the quantitative methods identified the “emerging” issues that required investigation in the subsequent phases, which lent themselves to exploring how and why poor maternal health outcome persist from individuals’ personal experiences (Andrew & Halcomb, 2009; Jason & Glenwick, 2016). Overall, the qualitative and quantitative methods complemented and built on each other’s strengths and weaknesses (Jason & Glenwick, 2016).

In summary, the approach comprises five stages for the entire study [Figures 4.3 & 4.4].

Figure 4. 3: Research design for the study

Source: Researcher’s diary, 2017.
In contrast to traditional sequential mixed methods design, which requires that qualitative data be gathered from a section of the sample participants and analysed before the design and quantitative data collection, this study is entirely different, and involved and engaged diverse participants (with the exception of the expectant mothers) for all datasets.

The qualitative component helped to understand the phenomenon of MNH in the community, and healthcare staff and healthcare management perspectives and their “traditional” context of handling issues (Curry, Nembhard, & Bradley, 2009), which is an under-researched area of enquiry.

Also, the literature review established that the causes of maternal morbidities and mortalities and stillbirths are profoundly complex, yet there were few studies which took a comprehensive look at the multiple determinants of these causes. What was needed, therefore, was a broad-ranging and in-depth study that would employ diverse approaches to explore all relevant perspectives in their “local” context. Mixed methods provided such a strategy by combining the strengths of both qualitative and quantitative approaches in a way that enabled the problem to be looked at from multiple perspectives (Curry et al., 2009). An equally important aspect of the multimethod was the potential to demonstrate other methods’ weaknesses. As an exploratory study and the first of its kind in the area, the multimethod strategy was deliberately employed to
view community perceptions on maternal and neonatal healthcare from two lenses. It offers the research the opportunity to add information through the face-to-face interaction and cues and understanding which could have been missed using only the quantitative method.

4.7 Limitations of the methodological approach

Mixed methods presented a broad range of opportunities to the study compared to mono-method. In particular, wider and complete perspectives were obtained using the two different approaches and techniques, thereby providing informative findings and conclusions.

Despite the advantages of mixed methods, there are also limitations. These include the financial cost and time-consuming nature of data collection, particularly if undertaken by a single person. Another challenge is having to understand and apply the different approaches, ensuring that each is used appropriately and efficiently.

4.8 Overview of study

The section looks at a description of study structure and overview of the study, including an overview of data collection techniques, rather than providing information about strengths of the method and structure of the study.

There were two phases of data collection. Phase one involved quantitative data collection from 80 pregnant women, data processing and presentation of results. This was followed by the collection of qualitative data, in the form of interviews with 16 healthcare staff; and focus group discussions, with 240 community-based residents (opinion leaders, adult non-pregnant women, and youth leaders). Integrated side-by-side analysis and interpretation was then carried out.

Phase two of the data collection began with surveys with the same 80 postnatal mothers used in phase one, followed by interviews with TBAs (n = 3), and healthcare staff (13 health facility in-charges, 1 maternity in-charge, 1 medical director and 1 pharmacist of the referral hospital in the study area). Each component of the data collection and analysis process will now be discussed in detail, starting with the different types of data that were collected.
The following subsections of the chapter describe the research process in more detail, including the selection of study areas and participants, design of data collection tools, collection and processing of data, and data analysis.

4.9 Data types and sources

In order to answer the research questions, data was sourced on four broad areas: 1) antenatal care; 2) during delivery and postnatal care; 3) birth preparedness and complication readiness and 4) barriers to skilled care delivery. The details of the data types are explained further below. This is followed by a description of the data gathering process.

4.9.1 Antenatal data

Prenatal care constitutes screening of pregnant women on their basic health needs and socioeconomic conditions for improved health and pregnancy outcomes (Sumankuuro et al., 2016). Therefore, basic demographic and obstetric histories, as well as socioeconomic data, were obtained from expectant mothers. Data related to management of emergency referrals and the availability of professional nursing staff and equipment at the health facilities were gathered from health professionals [Appendix 1, 2, 3 and 5].

4.9.2 Birth preparedness and complication readiness data

Primary data on family and community support and the healthcare provider readiness for normal and emergency maternal and neonatal cases were collected from expectant mothers, community members and health professionals. This included questions regarding knowledge on, and practice of BP/CR during pregnancy and labour. Given the importance attached to the use of TBAs in both the literature and in responses to Phase 1 of the study, data on the determinants of maternal morbidities and mortalities, how they carry out prenatal and delivery services, why expectant mothers patronise their services despite the GHS ban, any collaboration with the health system, administration of herbal medicines and the reasons for increased patronage of alternative and traditional sources of care were collected from the TBAs. This explored the reasons some expectant mothers preferred to use TBAs instead of skilled health professionals, the environment in which care is provided (maternity facility) and
their perceptions on the impacts of herbal medicines (i.e. local oxytocin intake identified in Phase 1) on health outcomes [Appendix 1, 2, 3, 5 and 6].

4.9.3 Postnatal data

Expectant mothers’ pregnancy, labour and postnatal childbirth experiences were obtained [Appendix 4, 6 and 7].

4.9.4 Staffing and other health resources

Results from Phase 1 regarding staffing and logistical capacities to provide adequate childbirth and newborn care identified some inadequacies. Issues on managing emergency obstetric referrals between the sub-district health levels and the referral hospitals and the way forward, were explored in Phase 2 [Appendix 1, 3 and 7].

4.9.5 Demographic and socio-economic data

The age of mothers, educational attainment, family income range, and the jobs in which both expectant mothers and their spouses/partners were engaged for a living were collected. Data on spousal literacy and social and cultural issues related to maternity service utilisation by pregnant women, families and the community were also gathered [Appendix 2, 3, 5 and 6].

4.10 Data collection tools

Arguably, data collection techniques are relevant processes in obtaining reliable and valid results and findings to a study (Brannen & Halcomb, 2009). A harmonious mixture of techniques is required in mixed methods study, informed by the coverage and depth of data required to provide matching answers to the research questions (Campbell, Gregory, Patterson, & Bybee, 2012; Teddlie & Tashakkori, 2003).

Three data collection tools were employed during the fieldwork: questionnaire, focus group discussion guide and interview guide. A summary of the data collection tools and techniques can be found in the table [Table 4.1].
Table 4.1: Summary of data collection tools and techniques

<table>
<thead>
<tr>
<th>Research question</th>
<th>Data type/method</th>
<th>Tools</th>
<th>Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the determinants of maternal morbidity and mortality in the study area?</td>
<td>Quantitative and qualitative</td>
<td>Structured questionnaire/semi-structured guide</td>
<td>Face-to-face interviews</td>
</tr>
<tr>
<td>What factors influence the uptake of antenatal care in the study area?</td>
<td>Quantitative and qualitative</td>
<td>Structured questionnaire/semi-structured guide</td>
<td>Face-to-face interviews &amp; Focus group discussion</td>
</tr>
<tr>
<td>What factors influence the status of BP/CR in the study area?</td>
<td>Quantitative and qualitative</td>
<td>Structured questionnaire/semi-structured guide</td>
<td>Face-to-face interviews &amp; Focus group discussion</td>
</tr>
<tr>
<td>What factors influence the outcomes of labour and postpartum period for mothers in the study area?</td>
<td>Quantitative and qualitative</td>
<td>Structured questionnaire/semi-structured guide</td>
<td>Face-to-face interviews &amp; Focus group discussion</td>
</tr>
</tbody>
</table>

Source: Researcher’s diary, 2015.

4.10.1 Structured questionnaire

Structured questionnaires were used to gather data from expectant mothers in both Phases 1 and 2 [appendix 5 and 6].

A questionnaire is defined as a research document containing questions and multiple response options designed to solicit information appropriate for analysis to meet a research aim (Babbie, 1990; Schensul, Schensul, & LeCompte, 1999). The research questions were purposively coined to gather answers related to ANC and BP/CR as the variables for analysis (Acharya, 2010). Two types of questions were asked in the questionnaire: structured/closed-ended and unstructured/open-ended (Acharya, 2010; Babbie, 1990). In this study, the survey primarily adopted the structured question-type with a focus on ANC use, time of first visits and the reasons associated with the timing, BP/CR, regular and emergency transport arrangements, economic activities and family involvement in service utilisation, reasons for late reporting during labour and so on. Unstructured interview questions were also included, covering participants’ personal observations about their antenatal and
postnatal obstetric experiences, the staffing and logistical capacities of health institutions to provide appropriate and quality maternity services to clients, their perceptions of BP/CR interventions and their understanding of the determinants of maternal and neonatal deaths.

4.10.2 Pre-testing

The quantitative instruments for the expectant and postnatal stages were pre-tested (Brislin, 1986). The trial run of the survey questionnaire was conducted using randomly selected participants in two distinct rural communities in the Upper West Region which were not part of the study locations. This exercise provided the opportunity to improve the wording and ordering of questions, to identify the range of answers to multiple-choice questions, and to further appreciate how much time could be allowed to complete each questionnaire without causing any discomfort to participants (Brislin, 1986; Van Teijlingen & Hundley, 2002). Participant responses and ambiguities to the multi-choice questions were checked during this stage, before using the instruments with the sample population (Van Teijlingen & Hundley, 2002). Practical problems, including unknown and new cultural diversities within the study locations which could impact on data collection with women, were also evaluated during the pilot test period.

4.10.3 Focus group questions

The main aim of the FGDs was to explore knowledge and experiences of BP/CR and examine not only what they think about the subject, but how and why BP/CR programmes can lead to improved MNH outcomes. The main issues addressed in the focus groups are summarised in the Appendix [Appendix 2]. However, emergent issues during the face-to-face survey interviews were incorporated into the FGD sessions.

4.10.4 Interview Guide

A structured and semi-structured interview guide was used to collect data from “other nurses”, the District Directors of Health Services, Heads of healthcare facilities (health centres and CHPS compounds) and District Hospital management (medical director, pharmacist and maternity in-charge) [Appendix
Questions focused on staffing and logistical capacities to provide quality maternity services to clients, and the different strands of maternity case burden at the district (hospital) and sub-district (health centre and CHPS compounds) healthcare levels. Data was also collected on family, community and health facility aspects of the BP/CR strategy, and other reproductive cultural beliefs and practices affecting the utilisation of maternity services.

A semi-structured interview guide was used to collect data from TBAs [Appendix 4], opinion leaders, youth and adult women with previous childbirth experiences but who were not pregnant at the time of the data collection. The issues covered are discussed in section 4.9 and in the appendix [Appendix 2].

4.11 Sampling

4.11.1 Selecting communities

Under the United Nations Population Fund Country Programme five (UNFPA CP5) evaluation report for Ghana in 2012, thirty-six poor performing districts were identified in terms of three dominant pillars of maternal and neonatal healthcare outcomes (Singhateh, Dzisi, Adadevoh, Akor, & Kenu, 2010): 1) emergency obstetric and newborn care (EmoNC); 2) adolescent health and 3) family planning services. In the Upper West Region, three districts formed part of this category: 1) Wa West, 2) Sissala East and 3) Nadowli District (which was divided into Nadowli/Kaleo and Daffiama/Bussie/Issa districts in mid-2012 but enforced in 2013).

The Nadowli/Kaleo and Daffiama/Bussie/Issa districts were chosen as the locations of this study. This was partly because the 2015/2016 health sector performance review reports for the two districts showed staff and logistical shortages, with twenty-two midwives at post for the two districts, meaning some health facilities would not have midwives to provide skilled services for antenatal, birth and postnatal care.

The two districts were each divided into two strata: communities receiving care from a health centre and those receiving healthcare from a CHPS compound [Figure 4.1].

Figure 4.5: Study communities
First, a list of all communities in the study districts with health centres and CHPS compounds was made.

The purposive sampling procedure was then employed to select four communities where health centres are located and four other communities which received care at a CHPS compound, one each from the eight sub-districts (at the time this study was designed) in the two study districts.

The communities served by health centres (which had access to both preventive and curative) were readily accessible by motorable roads, while CHPS zones, with access to preventive care but not to curative care, were predominantly inaccessible by access roads all year-round. The aim was to obtain the varied experiences of participants in accessing prompt care in normal and emergency situations.

A three-stage procedure was used in choosing study communities. First, Ghana Health Service has demarcated the administrative and political District Assemblies into health sub-districts – with health centres and Community Health and Planning Service compounds (CHPS) or clinics. The health centres provide both curative and preventive services while the CHPS compounds

Source: Spatial Analysis Network (SPAN) – Charles Sturt University (CSU), August 2017.
mostly provide preventive services, health education/promotion, and obstetric first aid, antenatal and delivery care. Professional midwives manned some CHPS compounds, but the majority did not have midwives.

Therefore, from the sixteen sub-districts, the study chose to cover half of the sub-districts by selecting eight sub-districts. Within the chosen sub-districts, eight communities were purposively chosen considering their proximity to access roads and the referral hospital (Nadowli District Hospital); one community from each sub-district. Thus, four communities within proximity to access roads and four that were not readily accessible by regular vehicular transport services.

4.11.2 Participant sampling

Sampling procedure explains how communities and individuals were selected to provide relevant responses to the research questions (Creswell, 2013). Mixed methods sampling techniques comprising probability (stratified and simple random) sampling and purposive sampling were employed in the study. Purposive sampling recruited participants who could provide relevant information to address the research problem (Teddlie & Yu, 2007), i.e. expectant mothers, key informants/community leaders, managerial staff of the various health facilities and prominent TBAs mentioned in the first phase of data collection (Johnson & Onwuegbuzie, 2004). The sampling choices met the requirements for representativeness of quantitative sources and saturation of qualitative data (Jason & Glenwick, 2016; Patton, 1990).

4.11.2.1 Expectant/postnatal mothers

The women in fertility age (WiFA) data from the Districts’ Health Directorates informed the selection of 10 expectant mothers (gestational age of second and third trimesters excluding the ninth month) from each community, with 67 ANC and 13 non-ANC attendees ultimately participating.

The expectant mothers from the qualified range (second trimester and third trimester excluding those in their ninth month) were randomly selected at two levels. The first level was at the antenatal care records at the health facility. In this case, a simple random sampling procedure was adopted in choosing pregnant women whose pregnancy gestation was greater than three months and less than nine months, irrespective of age and whether primiparous or multiparous. The second level of mothers were those known (by the community
health nurses and the community volunteers) not receiving ANC, and were contacted at the community level for their consent and participation.

Table 4.2: Number of Women in Fertility Age and the expected pregnancies in the study communities, 2016.

<table>
<thead>
<tr>
<th>Sub-district (Study community)</th>
<th>Estimated WiFA (women within 15-49 years)</th>
<th>Estimated Expected pregnancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bussie sub-district (many communities)</td>
<td>1490</td>
<td>248</td>
</tr>
<tr>
<td>Duang CHPS</td>
<td>216</td>
<td>902</td>
</tr>
<tr>
<td>Woggu CHPS</td>
<td>198</td>
<td>33</td>
</tr>
<tr>
<td>Kojokpere (inclusive of Jimpensi/Kenkelley)</td>
<td>1277</td>
<td>213</td>
</tr>
<tr>
<td>Charikpong (Charikpong)</td>
<td>1929</td>
<td>322</td>
</tr>
<tr>
<td>Jang sub-district (Jang and Naro/Korinyiri inclusive)</td>
<td>2692</td>
<td>449</td>
</tr>
<tr>
<td>Nanvilli sub-district (many communities)</td>
<td>974</td>
<td>162</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8,776</strong></td>
<td><strong>2,329</strong></td>
</tr>
</tbody>
</table>

Source: District Health Information Unit, 2017.

The sample frame came from the health facility list of expected pregnancies. For the selection of the sample size, the formula below was used based on the WHO’s guide for sample size determination (Lwanga et al., 1991).

\[
n = \frac{N}{1 + N(e)^2}
\]

Where; \( n \) = the sample size,  
\( N \) = the sample frame (estimated expected pregnancies)  
\( e \) = the margin of error

For the 8 communities, the estimated women in fertility age (15-45 years) was 8776 and the estimated expected pregnancies were 2329.

\[
n = 2329
\]
\[1 + 2329 (0.10)^2\]
\[= \frac{2329}{24.29}\]
\[= 93.534\]
\[= 94\] (estimated pregnancies the nearest whole number).

4.11.2.2 Focus groups

Working in conjunction with the Assembly members and Unit Committee member (in the absence of the Assembly member), assisted in identifying potential participants for the FGDs. Ten “key informants” were purposively selected from each of the following groups to participate in focus group discussions: opinion leaders (n = 80), non-pregnant women who had previously given birth (n = 80), youth group leaders (aged 18-35, n = 80), with a focus group of each type run in each community. Three focus groups were constituted in each community: a women’s group, a youth group (five men, five women), and a men/opinion leaders group. FGDs sessions were held for the separate categories to avoid intimidation and cultural nuances that may impact on discussant freedom and opinions with respect to the culture and household set-up.

Every community was made up of suburbs. Participants were purposively selected from the suburbs across each community in conjunction with the Assembly members or Unit Committee member (in the absence of the Assembly member) using key informant sampling. With the key informants, the community representative, who is a nonpartisan but statutorily elected official representing each community at the District level, I predetermined the sample size to facilitate thorough exploration of the issues, data saturation and potential transferability of the findings to other settings.

Key informants provide profound and meaningful information about what is happening in the community. Purposive sampling was employed by the researcher, conjointly with the Assembly member, to form groups that generated meaningful discussions (Kitzinger, 1994).

The youth groups (as future leaders in decision-making on community development) constituted five males/five females within the age brackets of 18-35 and comprised the leaders of the various communities. The Assembly members were part of either the opinion leaders or the youth leaders’ groups.
during discussions. Purposive sampling was adopted to ensure the sample sizes characterised productive groups thereby generating both objective and subjective data (Teddlie & Yu, 2007).

The selection of 5 men and women (who were married at the time of survey) and any other five opinion leaders formed the opinion leaders’ groups for the FGDs. Some of the opinion leaders were youth (18-35 years of age). They were chosen using a key informant sampling procedure [Table 4.2]

Table 4. 3: Research Participants (count of individual participants in phase 1)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Age range (yrs)</th>
<th>Research Activity</th>
<th>Male No.</th>
<th>Male %</th>
<th>Female No.</th>
<th>Female %</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectant/postnatal mothers</td>
<td>18-49</td>
<td>Structured Interviews -</td>
<td>-</td>
<td>-</td>
<td>80 (twice each)</td>
<td>100.0</td>
<td>80 (each participated in both phases)</td>
</tr>
<tr>
<td>Opinion Leaders</td>
<td>18-59</td>
<td>FGDs</td>
<td>58</td>
<td>72.5</td>
<td>22</td>
<td>27.50</td>
<td>80</td>
</tr>
<tr>
<td>Non-pregnant women</td>
<td>18-59</td>
<td>FGDs</td>
<td>-</td>
<td>-</td>
<td>80</td>
<td>100.0</td>
<td>80</td>
</tr>
<tr>
<td>Youth Group Leaders</td>
<td>18-35</td>
<td>FGDs</td>
<td>40</td>
<td>50.0</td>
<td>40</td>
<td>50.00</td>
<td>80</td>
</tr>
<tr>
<td>Health Staff</td>
<td>25-59</td>
<td>Structured and semi-structured interviews</td>
<td>4</td>
<td>25.0</td>
<td>12</td>
<td>83.30</td>
<td>16 (8 nurses participated in both phases)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>102</td>
<td>23.9</td>
<td>237</td>
<td>76.10</td>
<td>336</td>
</tr>
</tbody>
</table>

Source: Research Fieldwork Diary, (2016/17).

4.11.2.3 Healthcare staff

Ghana Health Service (GHS) is the primary agency that implements maternal and newborn health policies and programmes, including in the hard-
to-reach communities, and the perspectives of staff employed by the service regarding the research questions was essential. The participants comprised of the Medical Director, Pharmacist, the Maternity Unit in-Charge (Nadowli District Hospital), and eight heads (in-charges) of health facilities from the eight research sites. The eight-healthcare facility in-charges who supervised healthcare delivery for the eight study communities provided information in structured and semi-structured face-to-face interviews with the researcher. Five were professional midwives while the other three were Community Health Nurses/Enrolled Nurses. The same staff provided information during phase two of the field work. Five other nurses (3 nurses plus the two district directors of health services), who were not directly involved in antenatal care services delivery, were purposively selected to provide information on their general experiences of MNH care delivery in their facilities, through semi-structured face-to-face in-depth interviews.

4.11.2.4 Traditional birth attendants

Three key Traditional Birth Attendants (TBAs) were identified in the first phase as providing prenatal care to pregnant women in the communities. They were included in in Phase 2 of the study because they play a role in the continuum of maternal healthcare delivery in the study districts and were the preferred attendants during some complications and childbirths. The different categories of research participants are summarised in table 4.4 [Table 4.4].
Table 4. 4: Research Participants (count of individual participants in both phases)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Age range (years)</th>
<th>Research Activity</th>
<th>Male</th>
<th>Female</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectant/postnatal mothers</td>
<td>18-49</td>
<td>Structured Interviews</td>
<td>-</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 (each participated in both phases)</td>
</tr>
<tr>
<td>Opinion leaders</td>
<td>18-59</td>
<td>FGDs</td>
<td>58</td>
<td>22</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>72.5</td>
<td>27.5</td>
<td></td>
</tr>
<tr>
<td>Non-pregnant women</td>
<td>18-59</td>
<td>FGDs</td>
<td>-</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Youth group leaders</td>
<td>18-35</td>
<td>FGDs</td>
<td>40</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Health staff</td>
<td>25-59</td>
<td>Structured and semi-structured interviews</td>
<td>4</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16.7</td>
<td>83.3</td>
<td>8 (nurses participated in both phases)</td>
</tr>
<tr>
<td>Traditional birth attendants</td>
<td>50-69</td>
<td>Semi-structured interviews</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10</td>
<td>325</td>
<td>427</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>76.1</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Fieldwork Diary, (2016/17).
4.11.3 Participant recruitment

In their study of informed consent in the African context, Tindana, Kass, and Akweongo (2006), along with Creswell and Piano (2011), observed the term recruitment contains the following intertwined components: 1) the different kinds of activities, including identifying eligible participants; 2) adequately explaining the study to the potential participants; 3) obtaining an adequate sample based on research objectives and the type of research design employed; 4) obtaining informed consent and maintaining ethical standards; and 5) retaining participants until the study is completed. These theoretical principles underpinned the recruitment of research participants in this study.

4.11.3.1 Recruitment for all three cohorts of focus groups

The chief investigator obtained the details of all the participants from the assembly members or their representatives. Based on their roles in the various cohorts, the selection was done by the researcher, who then made a follow-up visit to participants on an individual basis at their homes and explained the project rationale to them. The participant information sheet was given to them or read out to those who could not read; participants who agreed to participate received the discussion details (date, time and venue). No participant was aware of the selected members in their group until they met at the venue. Once the communities and potential participants were identified, the following process was utilised to recruit the other categories of participants. A possible strength could be that participants being familiar with each other could facilitate conversation. A possible limitation could also be that participants might not feel free to speak up in front of people they know.

4.11.3.2 Recruitment of expectant mothers

Pregnant women who were currently receiving antenatal care were initially identified and contacted by the local nurses. If the expectant mother was interested in finding out more about the study, her name was passed on to the researcher.

The community-based surveillance volunteers (they are part of the Ghana Health Service stream in every community, and usually support national immunisations, home visitations and health education and promotion activities) identified a list of women who were not receiving antenatal care; if those
identified were interested in finding out more about the study, their names were also conveyed to the researcher.

For the sampling, first, the list of pregnant women between 12 to 32 weeks of gestation was obtained from the antenatal care unit. Those who qualified to participate were contacted individually during prenatal care to explain the study rationale and obtain their consent. Third, the names of mothers who gave their approval were cut-out of paper, tightly folded and placed in a box. After a thorough shake of the box, the first ten names that were picked were included in the study. Not all communities had 10 expectant mothers who met the selection criteria, hence sixty-seven expectant mother (n = 67). Following discussions with the health facility staff, who were able to identify a number of women they knew who were pregnant but were not attending ANC, it was determined that to enhance understanding of the determinants to ANC, it would be appropriate to survey a sample of these expectant mothers. The mothers were chosen purposively (not randomly) from a list provided by community health nurses. Thirteen of the non-ANC users during Phase 1 (not a predetermined number) consented to participating in the study. For some of the selected study communities I could not get beyond 10 expectant mothers within this cohort (12 to 32 weeks)

The researcher subsequently contacted interested persons, and after reading the information sheet to them, those who agreed to participate were provided with an interview time.

4.11.3.3 Recruitment of mothers (postnatal)

During phase two of the data gathering, the same expectant mothers (n = 80) were recruited to participate in the study to provide their experiences from the time of phase one up to the postnatal stage. A midwife/community health nurse was available to provide free counselling and support to any expectant mother participating in the study.

4.11.3.4 Recruitment of focus group participants

After identifying potential focus group participants using the method described previously, the participants were provided with information on the issues to be discussed, and 240 participants (80 opinion leaders, 80 youth group leaders and 80 adult non-pregnant women who had had childbirth experiences)
gave their voluntary consent and contributed in the discussions. Once the pre-decided number of 10 participants per group had agreed to participate, a convenient date and time was arranged for the discussions.

4.11.3.5 Recruitment of healthcare professionals

There were two directors (a male and a female), eight heads of health facilities (known as in-charges) from the eight research sites, and three non-antenatal care unit nurses across the eight study communities contacted to participate in the first phase of data gathering. The pharmacist, maternity ward in-charge and the Medical Director of Nadowli District hospital (as the highest referral health facility providing care to residents of both study districts) were also contacted to participate in phase 2 of the study. Each potential participant was then provided with an information sheet about the research. The researcher gave them ample time to ask questions before deciding. Anyone who agreed to participate in the project was given the opportunity to schedule an interview time that suited their job shifts.

4.11.3.6 Recruitment of other nurses

The other three nurses from the two study districts were purposively selected, and their voluntary consent was obtained before participation in the study. Other skilled healthcare staff were included in the study to provide their opinions on the barriers to professional health services delivery and utilisation. Upon receiving written support from the Health Directorates, three “other nurses” who were providing health services but not in managerial positions were contacted and those who gave consent were included to provide further insights into expectant mother and ANC provider relationships and uptake of medical advice.

Each of them was provided with an information sheet about the study. Those who agreed to participate in the study gave their signed consent. Interviews were scheduled at a convenient time.

4.11.3.7 Recruitment of Traditional Birth Attendants

During phase one of the field work, three TBAs were identified as providing maternity services to expectant mothers in the two districts. Hence, the design of phase two incorporated them. Each was contacted verbally, and
the information sheet read to them. Their consent was obtained and an interview scheduled at their convenience.

4.12 Data collection techniques

Three techniques were combined to collect relevant data by the researcher: 1) face-to-face structured quantitative interviews; 2) face-to-face semi-structured in-depth interviews; and 3) face-to-face semi-structured focus group discussions. The use of these techniques corresponded to the mixed methods approach being used and was necessary for gathering information to explain socio-cultural and health facility perspectives affecting improved MNH outcomes through preventative approaches.

4.12.1 Interviews

Various kinds of definitions for the word *interviews* exist in the conventional and non-conventional research arena. For this study, an interview is defined as a research technique or strategy that involves one person (the researcher or the interviewer) asking someone else questions (the respondent, participant or interviewee) (Teddlie & Tashakkori, 2009), according to the questionnaires described in section 4.10. Each interview was carried out face to face, providing the researcher with the opportunity to clarify vague or unclear responses (Opdenakker, 2006), and to pick up on social cues (Opdenakker, 2006; Verd, 2004). Social cues, such as voice, intonation, body language and so on, of the interviewee, prompted the researcher to take note and were explored further, particularly those that were related to relevant information on BP/CR interventions (Opdenakker, 2006). Interviews with health professionals was completed in English whilst surveys were conducted in Dagaare.

4.12.2 Focus Groups Discussions (FGDs)

Traditionally, focus group research is a way of collecting qualitative data, which essentially involves engaging a small number of people in informal group discussions “focused” around a particular topic or a set of issues (Krueger & Casey, 2009). In this study, focus group discussions were carried out following the questions set out in section 4.10.

4.12.3 Data collection - Focus Groups
The Area Council Halls in each study community are facilities provided for any development intervention in the community. In consultation with the Assembly members, the researcher arranged for them to be used on the given dates for the focus group sessions. Where communities did not have a council hall, convenient town squares and the health centre training rooms were secured for the discussions.

FGD proceedings were audio tape-recorded, scribed/notes taken by the scribe (assistant moderator) and the moderator, and other items recalled by the moderator/researcher (Verd, 2004). FGDs were conducted in Dagaare.

4.12.4 Data collection - health facility staff

Structured/semi-structured face-to-face interviews following the data collection tool described in section 4.10 were employed to gather both quantitative and qualitative data.

4.12.5 Duration of data collection

The data collection for each community spanned ten days (Morgan, 1997). The allocation for each dataset was as follows: three days in each community for face-to-face interviews, three for FGDs and a day for observational tour of the health facility; the eighth day was exit conference/meeting with the principal community leaders and the management of the health facilities (Denzin & Lincoln, 2009). The other two days offered the researcher the chance to follow-up and filled any data gap(s) identified. Each focus group discussion session lasted for one and a half to two hours.

4.12.6 Field trip/data handling

The researcher embarked on the field trips with the support of a field assistant whose job was to mainly tape-record discussions and take notes for later transcription and analysis. Survey instruments were securely locked in a bag and handled only by the researcher. Survey tools and field notes for each trip were double-checked for gaps and response rates before the researcher left the community, and immediate measures were taken within the same period to ensure data integrity (Bazeley, 2009b; Brislin, 1986). Field notes were checked on every return to the place of lodging to correct incompleteness in notes.
4.12.7 Data processing

All interviews and focus group discussions were tape-recorded with the informed consent of the participants. Audio tapes were replayed to the participants to ensure issues recorded corresponded with the research questions and participant views. To facilitate data accuracy, we first transcribed audio-recorded tapes of the FGDs and interviews in “Dagaare”, and then translated the transcripts into the English language. Interviews with healthcare staff were transcribed in the English Language.

4.13 Data Analysis

4.13.1 Data analysis in the field

Initially, the data (interview/FGDs transcripts, right notes, field reflections) were read and re-read to identify and index themes and categories. Analysis of interview and focus group discussions (FGDs) was an iterative process which began in the field. After each interview, notes were made regarding: a) body language or other things not captured by the recording; b) emerging opinions from the participants and how they could be noted and applied to other interviews; c) what went well or not-so-well; and d) what should be done differently in future interviews. During the qualitative data collection (interviews with “other nurses” and FGDs sessions), an analytical process shaped the ongoing data collection. This interim analysis accorded the researcher the advantage to fine-tune some questions to pursue emerging issues of inquiry in further depth. Crucially, it also enabled the field interviews and discussions to explore cases that identified behaviours and sociocultural norms that run counter to current and emerging opinions on antenatal care, BP/CR and skilled attendance at birth (SBAs).

4.13.2 Post data collection qualitative analysis

NVivo (version 7.5) was used to facilitate the more detailed analysis of qualitative data. Text analytical categories and themes related to “causes of complications, home births, causes of morbidities and mortalities, risk factors of poor health outcomes” and so on were deductively formulated in correlation with quantitative variables. The priori codes were developed from literature and experience. Emergent codes were developed from the transcripts, direct notes and field reflection to complement similar variables identified in the quantitative...
data. Textual data codes from each of the 24 FGDs and 19 IDIs were used to validate relative impacts of each issue on maternal healthcare and health outcomes.

Computerised coding and repeated manual search were conducted by the principal investigator, to ensure all salient texts including participant quotes were identified to support the priori major and sub-themes in the quantitative data and were presented side-by-side. Participant quotes were chosen to support the themes. These gave deeper insight into the themes arising from the data and added meaning to quantitative interpretations and explanations of issues underpinning preventative maternal healthcare and outcomes.

4.13.3 Post data collection quantitative analysis

The quantitative data were pooled into a statistical model (SPSS v. 20) for easy presentation and interpretation. Descriptive data analysis strategy was employed to explain the low practice of BP/CR among community residents and the healthcare facilities, among other confounding factors.

4.13.4 Descriptive statistical analysis

Descriptive statistics tools were adopted to calculate the numbers that characterised the distinct features of the quantitative data collected on prenatal and postnatal experiences of the mothers concerning BP/CR. SPSS (version 20) was employed to analyse the statistics. Variables in the data were categorical by the design. Therefore, this analytical technique was used to describe the concepts ANC utilisation (the number of ANC visits), BP/CR, and skilled attendance at birth, and the relationships among the independent factors. The descriptive and analytical tools used included frequency, percentage, chart thereby deepening the breadth and depth of the investigation of maternal health service delivery and utilisation.

4.13.4.1 Chi-Square(\(x^2\)) test of independence

Chi-square (\(x^2\)) test is a non-parametric (distribution free) statistical analytical tool and was used to assess the relationship between the dependent and independent variables with normal frequencies or counts (Cohen, 1976). Chi-square test was run to determine the associations between categorical and dichotomous variables. Categorical variables that had more cells with expected
counts below 5 were transformed to correct errors during the test. For variables that still showed expected counts of less than 5 after the transformation, the Fisher’s Exact Test of significance value was reported, to eliminate cells with low expected counts.

The tools were used to examine the associations between factors impacting ANC uptake, BP/CR, place of childbirth and birth attendant. The test is in the form of an “A” x “B” matrix where “A” represents the dependent variable and “B” the independent (McHugh, 2013). According to Sakoda, Cohen, & Beall (1954), the magnitude of the relationship between the two variables is determined by the Phi and Cramer V coefficient (which ranges between 0 and 1) and is defined as:

small = 0.1; medium = 0.3 and large if it is 0.5 or more.

In this study, two assumptions guided the \( \chi^2 \) – test analysis:

H0 (null): No association between the dependent and independent variables; and

H1 (alternate): There is an association between them; where H0 is the null hypothesis and H1 is the alternate hypothesis in the event that the null is false.

The two groups of variables are defined below.

4.13.4.2 Variables

There have been diverse maternal health initiatives adopted throughout the world. As explicated in the introduction to this thesis and subsequently explained in chapter 3, the SMI through to the MDGs and now the SDGs have always had similarities in focus: antenatal care, clean and safe childbirth, and receiving essential skilled obstetric care during emergencies/complications (Bergström & Goodburn, 2000; DeJong, 2000; Thaddeus & Maine, 1994). These intervention areas cover the pregnancy, childbirth and postnatal periods of the mother’s life. To identify the factors affecting maternal health service delivery and outcomes, the evidence (see chapters 1, 2 and 3) demonstrates that the following variables were significantly associated with health service utilisation and delivery outcomes in low and middle-income countries:

ANC visits (originally coded as: never attended = 1, one visit = 2, two visits = 3, three visits = 4 and four or more visits = 5; but transformed into: never attended coded as 0, 1 to 3 visits = 1, 4 or more visits = 2); women’s autonomy to make healthcare decisions (originally categorised and coded as: full control
= 1, partial control = 2 and no control = 3 but recoded as full control = 0, partial to no control = 1); birth preparedness and complication readiness (yes = 1 or no = 2); and place of childbirth (originally had eight categories: home = 1, CHPS compound = 2, health centre = 3, hospital = 4, farm = 5, on the way to referral hospital = 6, on the way to health centre/CHPS compound = 7, and on the way from social gathering e.g. funeral, festival = 8; later dichotomised as: health facility delivery = 0, non-health facility delivery = 1). The original responses produced many cells with expected counts of less than 5 (some categories had small cell sizes/samples), which led to the recoding. For instance, out of 8 categories for “place of childbirth”, three broad categories (i.e. home delivery, health facility delivery and roadside delivery) were formed but were eventually transformed (i.e. converted by combining categories) into two dichotomous groups (health facility delivery and non-health facility delivery) because of small samples in the cells [Table 4.3].

Table 4.3: Example of recoding for methods section (e.g. place of childbirth)

<table>
<thead>
<tr>
<th>Original code</th>
<th>Recoding</th>
<th>Dichotomisation for analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. home birth</td>
<td>1. home birth</td>
<td>0. not at health facility</td>
</tr>
<tr>
<td>2. CHPS compound</td>
<td>2. health facility</td>
<td>1. health facility</td>
</tr>
<tr>
<td>3. Health centre</td>
<td>3. roadside</td>
<td>0. not at health facility</td>
</tr>
<tr>
<td>4. Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. farm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. on the way to referral hospital</td>
<td>3. roadside</td>
<td>0. not at health facility</td>
</tr>
<tr>
<td>7. on the way to health centre/CHPS compound</td>
<td>3. roadside</td>
<td>0. not at health facility</td>
</tr>
<tr>
<td>8. on the way from social gathering e.g. funeral, festival</td>
<td>3. roadside</td>
<td>0. not at health facility</td>
</tr>
</tbody>
</table>

The importance attached to these factors (i.e. the dependent variables), which are crucial in service delivery outcomes in both local and multilateral protocols and interventions, form the basis for choosing them as the dependent variables to test their relationship with mother’s age, parity, educational attainment, occupation, literacy, intake of unapproved medicines (called “local oxytocin”) and family involvement as independent variables (see analysis in chapters 6 - 8).
4.13.2 Strategies for analysing results of mixed methods

A convergent mixed method data analysis procedure was adopted for presentation of the results. Various options for merging mixed data do exist; however, side-by-side presentation of data under given themes was appropriate in this study. It revealed the causal factors of poor maternal health emanating from multiple factors as presented in the results chapters (Bazeley, 2009a). The quantitative data under each topic was followed by appropriate qualitative results in the form of quotes, and vice versa (Bazeley, 2009a; Creswell, 2011; Johnson & Onwuegbuzie, 2004). Supporting comments specifying how the qualitative data either confirm or disconfirm the quantitative results were presented in the discussions.

4.14 Maximising transferability in mixed methods approach

The different sets of data collection tools used in this study were checked as appropriate through pre-testing and met the ethical standards for conducting research [see Appendix for ethics approval letters]. The design and conduct of the study followed objective procedures which focused on research aims. The perspectives of the rural communities on BP/CR intervention, the uptake of prenatal care and related barriers as well as the determinants of maternal morbidities and mortalities were investigated. The study was designed in two phases to ensure depth and variety of issues were identified. The detailed investigations and the findings suggest that the research procedure was reliable and valid. For instance, the qualitative sample of 253 participants throughout the different sections of the population; collecting quantitative comments on expectant and postnatal experiences of the mothers; and the qualitative views from opinion leaders, adult non-pregnant women on birth issues, district health service directors and heads of healthcare facilities, nurses and traditional birth attendants, provided diverse opinions regarding the determinants of poor maternal and newborn health outcomes.

4.15 Ethical considerations

Charles Sturt University Human Research Ethics Committee Code of Ethics guided the design and conduct of the survey. The committee approved the research under protocol numbers: 2016/013 and H16178. The primary foci of ethical conduct were on consent, confidentiality and voluntary participation.
Thus, informed consent was obtained from participants and participation was entirely voluntary [see Ethical Approvals in Appendix].

Information about their participation was provided in detail in the English language for the healthcare staff [see Participant information sheet for healthcare staff in the Appendix]. At the community level, information sheets were translated into Dagaare (the local language) before consent was sought. The researcher hails from the study area and understands and speaks the local language as native.

The researcher further ensured that the purpose of the research and the conditions for their participation were fully understood, thereby encouraging them to voluntarily accept to participate by giving their opinions to questions. They also understood they could withdraw their involvement without being subjected to any discriminatory treatment or penalty. The anonymity and confidentiality of the participants were protected throughout the research, and loose categories and pseudonyms were used in identifying participants. The researcher ensured no direct quotes were accompanied by any identifying information in the results and any published work.

4.16 Researcher’s role in the research process

The researcher is at the centre of the entire process – design, data collection and analysis, to presentation of the findings. The conceptualisation, the choice of methods and the conduct of the study is influenced partly by the orientation of the researcher. Therefore, the researcher’s knowledge on, and expectations of the study could determine the choices of study location, participants and the tools for the analysis, which could have profound implications for the study outcomes (Jason & Glenwick, 2016; Jason & Glenwick, 2012). This calls for the researcher to explicate his role in the research process for purposes of confirmability, dependability and transferability of study findings (Jason & Glenwick, 2012).

The researcher is a native of Nadowli in the Upper West Region (UWR) of Ghana. He began basic education in Nadowli and rose up to High School in Wa Township (the Regional capital). The interest of the researcher in realising change in the lives of people within the region emerged during his training at the University (Kwame Nkrumah University of Science and Technology, Kumasi), where in honours field work, he found women defaulted in their
micro-loan agreements due to misapplication of the credit facility in cases of obstetric emergency. The researcher returned to UWR with the intent to contribute to the empowerment of women in a number of ways, including as a field facilitator for the African Women’s development fund project (at Loggu) under Youth Alive Ghana, commitment to the free and fair election campaign among street youth in the Wa township, and serving in his home district in the capacity of District Planning Officer in the district planning and coordinating unit (DPCU). It was while acting in this capacity that the researcher became involved in the United Nations Population Fund Country Programme Six (2012-2016), with the aim of addressing the barriers to maternal health service delivery and utilisation outcomes, adolescent reproductive health and management of emergency obstetric healthcare. As the coordinator and leader of the then Nadowli District (now Nadowli-Kaleo and Daffiama-Bussie-Issa districts) team in conducting the feasibility study and the inception report and budget for the project, the researcher identified many potential issues impacting on maternal health programming and related interventions in the rural communities, that merited further exploration.

The knowledge of the cultural background of the study areas and participants was an added advantage during the community selection and the data collection process. The long association of the researcher with the study area, coupled with his training as a Development Planner, was an advantage in that it provided him depth of knowledge and awareness of the communities’ backgrounds, the barriers to community entry and the know-how to avoid them, and familiarity with the poor road networks and insecure locations. His ability to speak and understand the local language (“Dagaare”) facilitated the participants’ selection, the face-to-face interviews and data processing, guided by the ethical procedures and the primary aim of the study. Further, the researcher’s common ethnic background and awareness of traditional methods of seeking permission helped to establish contacts and networks with the stakeholders in health service delivery in the region and study districts, and the formation of the focus groups and the discussions, which enhanced the data collection and processing (Schensul et al., 1999).

However, the researcher’s ethnic background, familiarity and cultural association with the study area could have potential disadvantages in the research. Awareness of the researcher’s background by a few of the research
participants made them appear irritated when the researcher was probing for information, as they perceived the researcher had advanced knowledge of their answers. However, the researcher adopted measures to address the potential negative influence of these challenges to the study outcomes by conducting the research strictly in accordance with research procedures outlined above (Sumankuuro et al., 2017a, 2017b; Wolfensberger, 1967). Thus, to minimise the impacts of personal biases and opinions, the researcher focused on the ethics of conducting and presentation of research findings and scientific contribution to knowledge. Also, the researcher employed multiple sources of evidence for the purposes of triangulation and complementarity, which helped to eliminate potential biases and subjectivity. An elaborate description of the research participants for the purposes of credibility and transferability of the research outcomes to similar communities and population groups (Schensul et al., 1999; Sim & Sharp, 1998; Wolfensberger, 1967) is provided in section 4.11.

The complex characteristics of the issues in the study communities and participants were paramount in the design of the study.

4.17 Conclusion

It is clear from the research methods described above, along with the contextual background to the study alluded to in chapter 1 and the complex determinants of ANC use and BP/CR identified in chapter 3, that the nature of the study communities will play a significant explanatory role. Therefore, the next chapter provides detailed description of the study communities and population features.
Chapter 5 - Description of study areas

5.1 Introduction

This chapter provides an overview of the basic features of the Nadowli-Kaleo and Daffiama-Bussie-Issa study areas, incorporating a discussion of their geography, demography and cultural characteristics, health service and economic distinctives.

5.2 Study area

As identified in chapter 4, Nadowli-Kaleo (NKD) and Daffiama-Bussie-Issa districts (DBID) of the Upper West Region (UWR) of Ghana are the study locations with estimated population of 94,672 (Ghana Statistical Service, 2014). The UWR is the youngest and remotest of the ten regions in Ghana (MoH, 2014). According to the 2010 Population and Housing Census, the UWR had a total population of 702,100 constituting 2.8 percent of the country’s population (GSS, 2013).

The two contiguous districts were initially one district (1987-2012) until a constitutional promulgation under the Legislative Instruments (LIs) 2101 and 2100 respectively created the Nadowli-Kaleo and Daffiama-Bussie-Issa districts (on 28th June 2012) from Nadowli District (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2016). The LIs empowered them 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 462), the Assembly exercises deliberative, legislative and executive functions in the District (GoG, 1993; Nadowli-Kaleo, 2016). By this law, the Assembly is responsible for the overall development of the District through the preparation of development plans and budgets and other development initiatives (Nadowli-Kaleo, 2016).

5.3 The location and size of the study area

The study area is centrally located in the Upper West Region of Ghana. It lies between latitude 11’ 30’ and 10’ 20’ north and longitude 3’ 10’ and 2’10’ west (GSS, 2014b, 2014). It is bordered to the south by Wa Municipal, west by Burkina Faso, north by Jirapa/Lambussie District and to the east by the Sissala West District [Figure 5.1]. It covers a total land area of 2,742.50km² and extends from the Billi Bridge (4km from Wa) to the Dapouri Bridge (almost 12km from
Jirapa) on the main Wa – Jirapa - Hamile road, and from West to East it extends from the Black Volta to Wahabu (Nadowli-Kaleo, 2016). The distance between the District and the regional capital covers about 41 km (Nadowli-Kaleo, 2016).

Figure 5.1: Study area in global context

5.4 Relief and Drainage

The study area has a low-lying and undulating topography with altitudes ranging between 150 to 300 metres and 600 metres (in some locations) above sea level. The major stream, Bakpong and several ephemeral streams flow into the Black Volta (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2016). This limited number of rivers and streams coupled with the seasonal drought hampers dry season farming, contributing to low crop yields and food insecurity that is experienced almost every year (González-Estrada et al., 2008; GSS, 2014b, 2014b) [Figure 5.2].

Figure 5. 2: Nadowli-Kaleo District

Source: Spatial Analysis Network, Charles Sturt University (SPAN- CSU), 2017.
5.5 Vegetation and Climate

The study area lies within the tropical continental or guinea savannah woodland characterised by shrubs and grassland with scattered medium-sized trees. Some economic trees found in the District are kapok, shear, baobab, mango and dawadawa which are resistant to both fire and drought (Onyango et al., 2012). These trees provide a primary source of income to households particularly women. These economic trees provide a potential for the establishment of processing industries to increase employment opportunities for the people. The District has a mean annual temperature of 32°C and a mean monthly temperature ranging between 36°C in March to 27°C around August each year (GSS, 2014b, 2014b).

The annual rainfall is confined to six months (May to September) and is unevenly distributed. Mean annual rainfall is about 110 millimetres with the peak in August. Between October and March each year, there is virtually no rainfall and the long dry season is made harsh by the dry North Easterly
Harmattan winds (Daffiama-Bussie-Issa, 2015; Jost et al., 2016; Nadowli-Kaleo, 2016). The unfavourable climatic condition promotes only rain-fed agriculture and has been the major underlying reason for the chronic food insecurity that faces the Districts (GSS, 2014b, 2014b; Jost et al., 2016). The outmigration of the youth in the district is partly attributed to the long dry seasons and food insecurity (Pickbourn, 2011).

5.6 Population composition

According to the 2010 Population and Housing Census Nadowli/Kaleo and Daffiama/Bussie/Issa (DBI) districts have a total population of 94,388, comprising 61,561 and 32,827 in the respective districts. Both districts have a sex-disaggregated split of 48% males and 52% females (GSS, 2010). Out of the current (in 2014) estimated total population of 94,672, there are 45,066 males and 49,606 females, thus giving the male/female ratio as 49:51 (GSS, 2014b, 2014).

The population of Nadowli-Kaleo District (NKD) in 2010 was 67,089 representing approximately 8.8% of the region’s total population. Males constituted 46.7% and females, 53.3%. The district has a youthful population (<15 years) of 40.5%, with 60.1% of the population aged between 0-24 years. Elderly persons (≥ 60 years) constitute 9.6% of the population (GSS, 2014b). The district thus has a relatively high proportion of its population within the youthful ages 0-24 years (60.1%). The population aged 10-14 recorded the highest proportion of the district’s population with 14.0%, followed by those within the age bracket 5-8 with 13.8%, and those within the age cohort 0-4 come next with 12.7%. Generally, for both male and female populations, starting from age 10-14, every successive higher age cohort recorded a lower population compared with the previous age cohort, except for the age cohorts 60-64 and 70-74 which recorded marginally higher figures than the previous cohorts (GSS, 2014b).

Daffiama-Bussie-Issa District (DBID) in 2010 had a population of 32,827 representing 4.7% of the population of Upper West Region. Males constituted 48.7% and females, 51.3% [Table 5.1]. Children under 15 years constituted 42.3% of the population, tapering off to a small number (9.1%) of elderly persons aged 60 years and above (GSS, 2014a). Both districts have all the population living in rural communities (GSS, 2014b, 2014b).
Table 5.1: Sex Distribution

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total Population</th>
<th>Growth Rate</th>
<th>Average household size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>30,799</td>
<td>34,730</td>
<td>65,529</td>
<td>1.5 %</td>
<td>5.4</td>
</tr>
<tr>
<td>2000</td>
<td>39,375</td>
<td>43,341</td>
<td>82,716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010 (Nadowli-Kaleo)</td>
<td>31,799</td>
<td>35,290</td>
<td>61,561</td>
<td>1.9%</td>
<td>6.1</td>
</tr>
<tr>
<td>2010 (Daffiama-Bussie-Issa)</td>
<td>15,971</td>
<td>16,856</td>
<td>32,827</td>
<td>1.9%</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Source: GSS (2014b); Nadowli-Kaleo (2016).

5.7 Basic characteristics of the study communities

Eight communities were selected for the entire study: Jang, Naro-Korinyiri, Nanvilli/Siruu, Charikpong in the Nadowli/Kaleo district (NKD) and Bussie, Duang, Jimpensi/Kenkelley and Woggu in the DBI district. Although these are divided statutorily, some similarities in terms of geographic, cultural and economic features exist. They are interdependent due to the proximity and lack of essential services and facilities in both locations. Distinct characteristics may result from the locational advantage of the NKD along the Economic Community of West African States (ECOWAS) highway, which draws different benefits ranging from revenue to easy accessibility to the regional capital (Wa) and Jirapa hospital during emergency health cases (Nadowli-Kaleo, 2016).

Two primary Ghanaian Languages are spoken across the three tribes found in the study area- Dagaare/Waalii and Sissali. However, the Sissala (the people) forms the minority language group spoken in the far Eastern corridors of Daffiama-Bussie-Issa district mainly at Duang, Kojokpere and Jimpensi/Kenkelley communities. It must be noted that all residents in the Sissala communities understand and speak Dagaare fluently. Dagaare is also the examinable Ghanaian Language in the basic education certificate examination curriculum across both districts.

The society is essentially a patriarchal one. Men are the customary custodians of lands and rightful owners of children from any form of relationship, without recourse to responsible party to child upbringing.
Although civic rights activists including the Commission on Human Rights and Administrative Justice (CHRAJ), National Commission for Civic Education (NCCE) and the Department of Social Welfare, Civil Society Organisations and the Ministry for Gender, Children and Social Protection in the country repeatedly campaign for change in many of the discriminatory beliefs and practices, most of the people in rural communities have given up on such initiatives. However, a tangible impact of such initiatives was the outright ban on female genital mutilation.

Patriarchy is practised at the educational institutions where student positions put the female as a constant deputy, regardless of her abilities. Women were perceived as “baby-factories” and “kitchen wares” and were less likely to have a chance to attend school than the male child. Therefore, this left a significant gap between educated male and female counterparts, as shown in the literacy figures for the study region and study participants (GSS, 2014b).

Low levels of literacy and formal education was a general problem in the study communities. The 2010 National Population and Housing Census records that in Nadowli/Kaleo District, 51% of the population aged 11 years and above were literate (could read and write a simple statement with understanding) (GSS, 2014b). The proportion of literate males (53%) is higher than that of females (47%) for Nadowli/Kaleo District. In DBID, in the population aged 11 years and over, 42.3% were literate, and 57.7% were non-literate. The proportion of literate males is higher (48.2 %) than females (37%) (GSS, 2014b; Sumankuuro et al., 2017a).

Christianity, Islam and Traditional African religion (popularly termed as “worship of objects and spirits”) were the commonly recognised religious beliefs and practices in both districts. While the Christians and Muslims profess love and oneness for one another in the community, which could have some potential to favour equality and empowerment of both sexes, there seems to have been little progress in this regard (Dery & Diedong, 2014).

Marital unions were contracted either in the Christian, Islam or traditional forms. However, a common element in all three ways is the bride price payment token component (dowry payment). The value of the dowry varies from one community to the other, primarily determined by historical inter-community marital agreements. Generally, dowry payment was perceived as an exploitative practice by suitors and has remained a concern in human rights
circles (Tenkorang, Owusu, Yeboah, & Bannerman, 2013). The monetary value of the dowry further raises concerns on the unity and mutual intended benefits and essence of marital relationships.

The communities frown upon promiscuity and infidelity among married women. Therefore, cohabitation was not a common form of relationships between men and women.

5.8 Transportation

The transportation sector is crucial in the districts’ economy; transport is required to take produce to the market as well as supplying inputs and other daily inter-community interaction needs of the people. Nevertheless, the sector was poorly developed, with the poor condition of the roads and lack of access roads to communities hindering food crop production and skilled healthcare utilisation (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2016).

Unlike Nadowli-Kaleo, the Daffiama-Bussie-Issa district has no single tarred road, and the condition of most feeder roads are deplorable. Some of the major feeder roads are Daffiama- Bussie, Daffiama-Fian, Fian-Woggu-Issa-Kojokpere-Jimpensi, and Issa-Tabiae-Sazie. Despite the ongoing works on the feeder roads, communities like Kamehegu, Kenkelley, Challa, Kanato, Pizaga are still inaccessible especially in the rainy seasons where most feeder roads become non-motorable (Daffiama-Bussie-Issa, 2015). Communities along Nadowli-Sombo-Kaabogu-Kuuree and Nadowli-Nanvilli-Charikpong stretch could not commute to Nadowli during the rainy seasons. During emergencies, residents could only access healthcare through a longer route via Nator-Serikpere to Nadowli or Wa hospitals [Figure 5.3].

Figure 5. 3: Daffiama-Bussie-Issa district
5.9 Income and livelihood activities

Agriculture is the mainstay of the people in the districts, engaging about 85% of the active population (Nadowli-Kaleo, 2014, 2016). Food crop production in the districts is largely on a subsistence basis and is characterised by low output levels. The main food and cash crops produced are maize, millet, sorghum, rice, groundnuts and soya beans (Daffiama-Bussie-Issa, 2015; Naab & Koranteng, 2012; Nadowli-Kaleo, 2016). Tree cropping is also done, particularly mangoes and cashew. Livestock production is also carried out on a subsistence basis and as a complement to crop production. The sector is estimated to be growing at 2.1% per annum, which is below the national target of 6% per annum (Naab & Koranteng, 2012). Development efforts in this area are geared towards modernising agriculture as the path out of poverty in the district.

The Commerce/service sector is the second largest employer of the District’s labour force after agriculture. It encapsulates a broad range of tertiary activities, including retailing and petty trading, transport and financial services
and services provided by civil servants. The sector is dominated by informal small-scale trading, especially in agricultural produce and limited modern consumer products. Family ownership characterises it. The districts have four (4) major periodic markets, in Sankana, Bussie, Nadowli, and Tangasia. However, these markets are not so brisk, as revealed by the volume of endogenous and exogenous inflows of goods to and from the markets (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2016). Nadowli, the District capital (Nadowli-Kaleo district), is the main commercial centre in both districts, and most of the settlements in both districts depend on it for their shopping needs. Apart from being a source of livelihood, the trading activities in the District, particularly in the periodic market centres, form one of the principal sources of revenue to the District Assembly. Thus, the improvement of market infrastructure is key in the development agenda of the District Assembly (Nadowli-Kaleo, 2016).

5.10 Sociodemographic characteristics of study’s expectant mothers and spouses

5.10.1 Income

The study area is predominantly food-crop farming on a subsistence basis. A key intervention area for safe pregnancy and birth outcomes is financial arrangements or saving money for normal and emergency maternal healthcare-seeking. For most of the mothers in the study (61.3%), the average family income per month was less than one hundred Ghana cedi (i.e. less than 23 US dollars as at the time of phase 2; GHS1 ≈ USD4.42). Twenty-eight percent of the families had an average income ranging from GHS101 to GHS500.00. A small proportion (3.8%) were in the income group of GHS501.00 to GHS999.00.

5.10.2 Education

In this study, 53.8% of the expectant mothers had never attended school. The highest educational attainment was Senior High School level (12.5%). Also, 36.3% (n = 29) of the spouses could neither read nor write in any language with understanding [Table 5.2].
Table 5. 2: Literacy levels of pregnant women and spouses

<table>
<thead>
<tr>
<th>Category</th>
<th>Response</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy* level of husband/partner</td>
<td>Literate</td>
<td>29</td>
<td>36.3</td>
</tr>
<tr>
<td></td>
<td>Illiterate</td>
<td>51</td>
<td>63.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>80</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Educational level of mothers</td>
<td>Never attended</td>
<td>43</td>
<td>53.8</td>
</tr>
<tr>
<td></td>
<td>Primary school</td>
<td>11</td>
<td>13.8</td>
</tr>
<tr>
<td></td>
<td>Junior High School</td>
<td>16</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>Senior High School</td>
<td>10</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>80</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*person’s ability to read and write in any language (Ghana Statistical Service, 2013).


5.10.3 Age

With regards to the study participants, the age distribution of the mothers ranged from less than 18 to 40 years (mean of 2.94 and SD = 1.095). The spouses also had an age range between 18 years to 59 years (mean of 3.85 and SD = 1.351). However, the ages of the FGD participants were within the range of 18 to 59. The health providers were also within the ages of 25 to 49 years [Table 5.3].

Table 5. 3: Age distribution of expectant mothers and spouses

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age range</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>&lt;18</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>18-25</td>
<td>38</td>
<td>47.5</td>
</tr>
<tr>
<td></td>
<td>26-30</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>31-35</td>
<td>17</td>
<td>21.3</td>
</tr>
<tr>
<td></td>
<td>36-40</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>Age of husband/partner</td>
<td>18-25</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>26-30</td>
<td>20</td>
<td>25.0</td>
</tr>
<tr>
<td></td>
<td>31-35</td>
<td>19</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td>36-40</td>
<td>16</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>41-45</td>
<td>8</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>&gt; 45</td>
<td>2</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Field work, 2017.
5.10.4 Marital and employment status

As shown in the characteristics of the study communities, the majority (43.8%) of the expectant mothers were farmers and the role of women was to support in the farming activities or to support the husband/partner in farm labour. Local wine brewing and charcoal burning and wood logging constituted the second most dominant economic activity (21.3%) among the mothers, while others undertook more than one activity for a living. Only one mother reported being a housewife and nearly two-thirds of the husbands/partners were farmers. Only 8.8% of them were merchants and labourers at illegal mining operations sites [Table 5.4].

Table 5.4: Socio-demographic characteristics of mothers and spouses

<table>
<thead>
<tr>
<th>Socio-demography</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation of husband/partner</td>
<td>Farming</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Non-farming</td>
<td>15</td>
</tr>
<tr>
<td>Occupation of mothers</td>
<td>Housewife</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Farming</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Wood logging/Charcoal processing</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Local wine brewing</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>17</td>
</tr>
<tr>
<td>*Average monthly income of family</td>
<td>≤ 100</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>101-500</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>501-999</td>
<td>3</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Cohabitation</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Field work, 2017.

5.11 Health Delivery Structure in Ghana

5.11.1 Health delivery in Ghana

The health system in the study districts follows and decentralised structure starting from the national level. At the national level a twelve-member Council governs the Ghana Health Service (GHS) with the primary mandate to implement the functions of the health service; submit to the Minister recommendations for healthcare delivery policies and programmes; promote collaboration between the Ministry of Health, Teaching Hospitals and the Service; and advise the Minister on posts in the Service and other matters that the Minister may request. The chain of coordination among the various units in
the Health Service is presented below. At the regional level, therapeutic services are provided at the regional hospitals, and public health services by the district health management team as well as the Public Health division of the regional hospital. The Regional Health Administration or Directorate provides supervision and management support to the districts and sub-districts within each region (GHS, 2015).

5.11.2 Health system structure in study areas

The study area comprises of thirteen (13) health sub-Districts, each of which has one health centre. There are eight and five sub-districts respectively for Nadowli-Kaleo and Daffiama-Bussie-Issa Districts, which incorporate twenty-eight (28) functional CHPS zones with 138 community outreach points. The health centres provide a comprehensive package of health services but no patient is kept in the health centres for more than 48 hours before onward referral to the hospital. There are two hospitals in the study area, one government (District Hospital, Nadowli) and one private (Ahmadiyya Muslim Hospital at Kaleo). The District Hospital has a total bed capacity of 110.

The Ministry of Health and the Ghana Health Service, represented by the District Health Administration (DHA), oversee the provision of health services in the district. The health delivery system at the district level is in two interdependent teams: District Health Management Team (DHMT) and Sub-District Health Management Teams (SDHMTs). These sub-groups implement and manage government health policies in the districts. To ensure participation and maximum use of resources the District Health Administration collaborates with relevant stakeholders, including the District Assembly and non-governmental organisations in health service delivery. The health sector in the district comprises both public and private providers [Figure 5.4].
The Ghana Health Service runs the public-sector health system providing both curative and preventive care in the health centres and CHPS compounds and outreach stations. Community-based disease surveillance volunteers (CBSVs) have also been trained to assist in monitoring activities. Drug outlets form a large proportion of the private sector, including chemical sellers and a seemingly endless number of drug peddlers who are mostly semi-illiterate but excellent salespeople. These drug peddlers can be categorised into three: namely peddlers of herbal medicine, peddlers of biomedicine who move from community to community, and the neo herbalists who sell both herbal and modern drugs. Peddlers of biomedicine are commonly found in the remote communities and mostly travel from one community to other using bicycles and motorbikes. The “neo-herbalists” sell both herbal and modern medicines and sometimes use modern instruments along with traditional medicines (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2016). The herbalists include bonesetters, circumcisers of male and female clients, and traditional birth attendants (Daffiama-Bussie-Issa, 2015; Nadowli-Kaleo, 2014).

The CHPS initiative has reduced the average distance to a health facility from 16 km in 2010 to about 9 km in 2016. This achievement is far from the national target of 5 km maximum distance to health services, and poor physical accessibility to health services remains despite the increased number of outreach
stations and static health facilities [Figure 5.5]. Poor access can also be attributed to widespread poverty among the people (MoH, 2014b; Simon, Issaka, & Akwetey, 2017).

Figure 5. 5: Health facility locations


5.11.2 Available health service delivery staff

The staffing situation in the health sector is a major challenge to the delivery of quality and accessible health services, although the current staff strength has improved compared to the past. Nurse-patient ratio currently stands at 1:380 (MoH, 2014b). As a measure to increase the staffing, the District Assembly collaborates with other stakeholders to sponsor student nurses to serve the District on completion of their training. There are also in-facility capacity building training programmes (although irregular) rolled out to build the capacity of the nurses for quality health service delivery, as part of Ghana Health Service’s initiatives [Tables 5.5 & 5.6].
Table 5. 5: Staff capacity at Nadowli-Kaleo District

<table>
<thead>
<tr>
<th>Staff category</th>
<th>Number available</th>
<th>Number Needed</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Director of Health Services</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Public Health Nurse</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Midwives</td>
<td>14</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>Community Health Nurses</td>
<td>38</td>
<td>49</td>
<td>11</td>
</tr>
<tr>
<td>Enrolled Nurses</td>
<td>43</td>
<td>49</td>
<td>6</td>
</tr>
<tr>
<td>Registered General Nurses</td>
<td>7</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>1</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Mental Health</td>
<td>5</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Disease Control</td>
<td>5</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Health Information</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Field Technicians</td>
<td>3</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Health Promotion</td>
<td>1</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Nutrition</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Records Assistants</td>
<td>0</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Cleaners</td>
<td>0</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Security/Watchman</td>
<td>2</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>Executive officer</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Stenographer</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Drivers</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Accountant</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Accounts Clerk</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Field Survey, Health Information Unit, May 2017.

Table 5. 6: Staff capacity at Daffiama-Bussie-Issa District

<table>
<thead>
<tr>
<th>Staff category</th>
<th>Staff available</th>
<th>Number required</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical doctor</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Accounts staff</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Health information officer</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Health promotion officer</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Nutrition officer</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Public health nurse</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Mental health</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Community health nurses</td>
<td>39</td>
<td>50</td>
<td>11</td>
</tr>
<tr>
<td>Field technician</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Staff nurse</td>
<td>6</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Enrolled nurses</td>
<td>35</td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td>Midwives</td>
<td>5</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Disease control officer</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Psychiatry Nurses</td>
<td>1</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Field survey, Health Information Unit, May 2017.
5.11.3 Maternal and newborn health service delivery interventions

A variety of maternal and child health programmes were implemented at various periods across the communities and sub-district health facilities [Table 5.7].

Table 5. 7: Maternal and newborn healthcare programmes

<table>
<thead>
<tr>
<th>MNH Programme</th>
<th>Recommended interval</th>
<th>Source of funding</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care</td>
<td>Monthly</td>
<td>DHA</td>
<td>Health facility</td>
</tr>
<tr>
<td>Childbirth</td>
<td>Anytime for HC and emergency situations for CHPS</td>
<td>MOH/GHS</td>
<td>Health facility</td>
</tr>
<tr>
<td>Postnatal care</td>
<td>48 hours, seven days, six weeks</td>
<td>DHA</td>
<td>Health facility</td>
</tr>
<tr>
<td>Child welfare clinic</td>
<td>Monthly</td>
<td>GHS</td>
<td>Communities</td>
</tr>
<tr>
<td>Defaulter tracing</td>
<td>Monthly</td>
<td>GHS</td>
<td>Communities</td>
</tr>
<tr>
<td>Community education durbars</td>
<td>Quarterly</td>
<td>GHS</td>
<td>Communities</td>
</tr>
<tr>
<td>Health talks</td>
<td>Daily</td>
<td>Nil</td>
<td>Health facility</td>
</tr>
<tr>
<td>Home visits</td>
<td>Four times a week</td>
<td>Nil</td>
<td>Communities</td>
</tr>
<tr>
<td>Family planning</td>
<td>Daily</td>
<td>Nil</td>
<td>Health facility</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Daily</td>
<td>GHS</td>
<td>Health facility</td>
</tr>
<tr>
<td>Health education</td>
<td>Daily</td>
<td>Global Fund</td>
<td>Health facility</td>
</tr>
</tbody>
</table>

Source: Field survey, May 2016.

5.11.4 Disease prevalence in Nadowli District Hospital

The data from the Health Information Unit of the hospital showed that malaria, anaemia and term pregnancy/normal delivery dominate the cases of maternal morbidities within the three year period 2014-2016 [Table 5.8].
Table 5. 8: Top ten causes of morbidities in the Out-Patient Department of Nadowli District Hospital (2014 - 2016)

<table>
<thead>
<tr>
<th>Disease</th>
<th>2014</th>
<th></th>
<th>Disease</th>
<th>2015</th>
<th></th>
<th>Disease</th>
<th>2016</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>480</td>
<td>35.8%</td>
<td>Malaria</td>
<td>231</td>
<td>19.1%</td>
<td>Malaria</td>
<td>197</td>
<td>16.9%</td>
</tr>
<tr>
<td>Anaemia</td>
<td>110</td>
<td>8.3%</td>
<td>Anaemia</td>
<td>855</td>
<td>7.1%</td>
<td>Anaemia</td>
<td>740</td>
<td>6.3%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>665</td>
<td>5.0%</td>
<td>Septicemia</td>
<td>784</td>
<td>6.5%</td>
<td>Septicemia</td>
<td>701</td>
<td>6.0%</td>
</tr>
<tr>
<td>Term pregnancy/Normal delivery</td>
<td>648</td>
<td>4.8%</td>
<td>Anaemia</td>
<td>765</td>
<td>6.3%</td>
<td>Pneumonia</td>
<td>696</td>
<td>6.0%</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>641</td>
<td>4.8%</td>
<td>Pneumonia</td>
<td>739</td>
<td>6.1%</td>
<td>Gastroenteritis</td>
<td>646</td>
<td>5.5%</td>
</tr>
<tr>
<td>Asthma/Bronchitis/URTI</td>
<td>469</td>
<td>3.5%</td>
<td>Gastroenteritis</td>
<td>517</td>
<td>4.3%</td>
<td>Hypertension</td>
<td>594</td>
<td>5.1%</td>
</tr>
<tr>
<td>Other diarrhoeal</td>
<td>323</td>
<td>2.4%</td>
<td>Hypertension</td>
<td>379</td>
<td>3.1%</td>
<td>Other diarrhoeal</td>
<td>531</td>
<td>4.5%</td>
</tr>
<tr>
<td>Urinary Tract Infection.</td>
<td>238</td>
<td>1.8%</td>
<td>Other diarrhoeal</td>
<td>306</td>
<td>2.5%</td>
<td>Urinary Tract Infection</td>
<td>256</td>
<td>2.2%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>180</td>
<td>1.3%</td>
<td>Urinary Tract Infection</td>
<td>223</td>
<td>1.8%</td>
<td>Meningitis (Suspected)</td>
<td>233</td>
<td>2.0%</td>
</tr>
<tr>
<td>Snake bite</td>
<td>162</td>
<td>1.2%</td>
<td>Accident</td>
<td>214</td>
<td>1.8%</td>
<td>HIV/AIDS related conditions</td>
<td>219</td>
<td>1.9%</td>
</tr>
<tr>
<td>All other condition</td>
<td>4,187</td>
<td>31.2%</td>
<td>All other condition</td>
<td>4,990</td>
<td>41.3%</td>
<td>All other condition</td>
<td>5,095</td>
<td>43.6%</td>
</tr>
<tr>
<td>Total</td>
<td>13,421</td>
<td></td>
<td>Total</td>
<td>12,083</td>
<td></td>
<td>Total</td>
<td>11,676</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey, Health Information Unit, Nadowli Hospital, May 2017.
5.11.5 Maternal health indicators - the referral hospital

As noted earlier, Nadowli District Hospital is the only higher order facility able to address the health needs of the two districts. Therefore, the District Health Information Departments provided the time series data to assist in explaining the performance of key MNH indices. Maternal and neonatal mortalities continue to portray many inconsistencies in performance over the years. All the indices continue to improve with some reduction in still birth rates between 2015 and 2016 [Figure 5.7]. However, there was similar marginal increase in macerated stillbirths unlike fresh stillbirths [Figure 5.6]. The table also depicts increasing referral of labour cases from the sub-district health facilities to the hospital, with minimal referrals out to other hospitals [Table 5.9, Figures 5.6 & 5.7].

Table 5.9: Performance of key maternal and neonatal health indicators

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Deliveries</td>
<td>802</td>
<td>983</td>
<td>1,065</td>
<td>1,086</td>
</tr>
<tr>
<td>Caesarean Sections</td>
<td>69</td>
<td>141</td>
<td>259</td>
<td>255</td>
</tr>
<tr>
<td>Still Birth (Fresh/Macerated)</td>
<td>13 (6/7)</td>
<td>16(13/3)</td>
<td>16(5/11)</td>
<td>15(3/12)</td>
</tr>
<tr>
<td>Baby’s weight &lt; 2.5kg at birth</td>
<td>103</td>
<td>123</td>
<td>154</td>
<td>150</td>
</tr>
<tr>
<td>Maternal Death Audited</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Referrals in labour (From H/C)</td>
<td>287</td>
<td>205</td>
<td>206</td>
<td>236</td>
</tr>
<tr>
<td>Referrals in labour (To other Facilities)</td>
<td>36</td>
<td>24</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Neonatal Deaths</td>
<td>7</td>
<td>3</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Unsafe Abortions</td>
<td>46</td>
<td>23</td>
<td>28</td>
<td>47</td>
</tr>
</tbody>
</table>

Source: Field survey, Health Information Unit, Nadowli Hospital, May 2017.
Figure 5. 6: Stillbirths at Nadowli District Hospital over a six-year period (2011-2016)

Figure 5. 7: Trend of Institutional Stillbirths at Nadowli District Hospital over a period of six years (2011-2016)
5.11.6 Maternal death audit report and conclusion

There is an institutional maternal mortality audit committee at the regional level, which routinely commutes to the districts to carry out maternal death audits. The institutional deaths that occurred in the District hospital were reviewed as appropriate and recommendations made for improved interventions. Most of the determinants were attributed to expectant mothers’ refusal to utilise ANC services, and delayed reporting to a health facility during complications and labour and postpartum haemorrhage (PPH) were the leading causes of maternal mortalities.

In 2016, no institutional maternal death was recorded in Daffiama/Bussie/Issa District, whilst one was recorded at Nadowli District Hospital (from anaemia). Two (2) community mortalities were registered from Fian and Tabiase communities in the district.

5.12 Conclusion

The general characteristics (social, cultural, economic, and geographic and health) of the study districts describe the issues pertaining to the study which could play a role in MNH outcomes in these communities. The next chapter presents the extent of ANC uptake in the study communities and explanations for these figures.
Chapter 6 - Antenatal care

6.1 Introduction

Globally, stakeholders in maternal and newborn healthcare have recommended a diverse array of strategies aimed at improving service delivery to the population, all of which are encapsulated in the policies of the millennium development frameworks - MDGs and SDGs. While the developed communities progress in line with the maternal health indicators, despite the many initiatives the less developed and underdeveloped regions of Asia and sub-Saharan Africa (SSA) are far from meeting these goals. For example, Ghana has missed out on the MDG 4 and 5 targets even in 2016 (Rishworth et al., 2016; Sumankuuro et al., 2017a). As part of the holistic approach to investigating issues in maternal health service provision and utilisation outcomes in rural communities in northern Ghana, a conceptual framework for the presentation of the findings of the study is presented in the next five chapters.

6.2 Conceptual model

There are ongoing programmatic initiatives identified in the literature as barriers contributing to poor MNH outcomes in Ghana, including service delivery interventions. Factors such as general low health literacy, geographical location of the communities to health services, economic influence, infrastructural inadequacies and poor road networks, cultural beliefs and practices, health resource (skilled staff and logistics) shortages and healthcare financing challenges emerged strongly in the literature (Abebe et al., 2012; Patience A. Afulani, 2015b; Amodu et al., 2017; Atuoye et al., 2015; Bayu et al., 2015; Buor, 2003, 2005; Cheptum et al., 2014).

Consequently, although there are ongoing maternal health initiatives to improve health outcomes by promoting increased utilisation of skilled care, including skilled staff training and the decentralised CHPS initiative, coupled with recent implementation of the emergency referral policy in the Upper West Region (UWR), Nadowli-Kaleo and Daffiama-Bussie-Issa districts persistently record stillbirths and maternal deaths annually (GHS-JICA, 2016). Thus, this study aims to provide grassroots insights into the problems pertaining in pregnancy, labour and the postpartum, which affect programme initiatives and
health service delivery outcomes in the rural communities (see results chapters). The results of this study on factors impacting on maternal health reflect this complexity, but for ease of presentation, the results are presented according to the following conceptual model [Figure 6.1]. The different levels of ANC, labour/birth and the postnatal period and their complexities are interdependent, thus, with some common characteristics, as shown by the arrows. Health outcomes at each level is dependent on the preceding one [Figure 6.1]. The common themes are brought together in a more complex revised model developed based on the findings, in Chapter 11.

Figure 6.1: Results conceptual model

Drawing on the model above, this chapter presents the results of data collected in relation to the nature, use and barriers to antenatal care service. Results related to ANC, BP/CR strategy and aspects of childbirth and the postpartum are presented in chapters eight and nine respectively. The results on childbirth and labour are considered in the same circle because they belong to the same chapter. The tenth presents the suggestions of the participants that they
believe would address some barriers to the provision of ANC, BP/CR and childbirth and postpartum care identified in the rural communities.

6.3 Antenatal care - introduction

As discussed in the literature review, existing knowledge often ascribes the determinants of avoidable maternal deaths to poor adherence to the tenets of antenatal care (ANC) interventions in low and middle-income countries (Furaha August et al., 2015; Overbosch, Nsowah-Nuamah, Van den Boom, & Damnyag, 2004; Sumankuuro et al., 2017b).

antenatal care is considered the primary maternal health programme and an avenue conducive to achieving other planned interventions (Acharya et al., 2015; WHO, 2004b). It is the key strategy for implementing the BP/CR package as a component of ANC. All expectant mothers are strongly encouraged to attend at least four ANC visits (however, up to eight visits is recommended for all low and middle-income countries) except those with complications or in high risk cohorts. This is in line with the Ghana’s Reproductive Health Policy, which aims to ensure mothers can benefit from the full range of life-saving interventions offered at the facility (Overbosch et al., 2004; Ghana Health Service, 2014).

The services provided at ANC include: mandatory immunisations, Prevention-of-Mother-To-Child-Transmission (PMTCT), physical examination, laboratory investigations, counselling, treatment of minor ailments including family planning services and obstetric referrals to higher level facilities for further interventions and management (Afulani, 2015b). Antenatal care services are fee-exempted under the Ghana national health insurance scheme (NHIS) and the cost of renewing an expired NHIS subscription is also free for all pregnant women.

This chapter presents both qualitative and quantitative results related to the research question “What is the uptake of ANC and barriers to its use in the study area?”

The findings are presented using thematic network analysis as detailed by Creswell and Poth (2017) and Attride-Stirling (2001). The qualitative analysis began with codes, basic themes, organising themes, then applying the global theme to the theoretical considerations. The results from both data types are presented side-by-side. Thematic analysis was used to analyse qualitative
data from 24 focus group discussions (FGDs) and 26 face-to-face in-depth interviews with community residents, health providers (District Directors, Heads of health facilities, Midwives, Pharmacist, Medical Director) and traditional birth attendants.

6.4 Participation in antenatal care

Pregnant women’s use of antenatal care (ANC) is presented from two perspectives – the study district level and the study participants.

6.4.1 Proportion registered

a. District

Early registration at antenatal clinics helps in early identification of complications for management, and it also enables women to get the information needed during pregnancy as well as other services - laboratory investigations, Sulphadoxine-Pyrimethamine (SP), multivitamins, folic acid, and the immunisations for a safe pregnancy and live birth. Therefore, the first visit should be in the first trimester (preferably in the first month) and the last visit around 37th week or near the Expected Date of Delivery (EDD). According to district health service data, in 2016, 67.5% of pregnant women in the district attended antenatal clinics within the first trimester of pregnancy and 4.2% commenced in their third trimester [Table 6.1].
Table 6.1: ANC registration

<table>
<thead>
<tr>
<th>Year/registrants</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency/ Number of expectant mothers</td>
<td>Perc</td>
<td>Number of expectant mothers</td>
</tr>
<tr>
<td>Nadowli-Kaleo district</td>
<td>2176/2720</td>
<td>80.0</td>
<td>2050/2718</td>
</tr>
<tr>
<td>Daffiama-Bussie-Issa district</td>
<td>1050/1406</td>
<td>74.7</td>
<td>1076/1432</td>
</tr>
</tbody>
</table>

Source: Health Administration, NKD & DBID, May 2017.

* Represent data at the end of the year. Proportions are based on the number of expectant mothers identified by the health information unit of the study district who registered for ANC at any time during their pregnancy.

b. Participant mothers

The majority of the expectant mothers (n=67, 83.75%) who participated in the study had registered and commenced ANC preceding the first survey (i.e. Phase 1).

6.4.2 Overall attendance – number of expectant mothers

a. District

The number of pregnant women who registered for ANC and the total number of attendees was disproportionate for both study districts, with the majority making fewer than four ANC visits during the pregnancy [Table 6.2].
Table 6.2: Antenatal care registration and attendance by visits

<table>
<thead>
<tr>
<th>Year/attendance</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Nadowli-Kaleo district</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANC attendance **</td>
<td>11419</td>
<td>5.2</td>
<td>10438</td>
</tr>
<tr>
<td>4+ ANC visits*</td>
<td>1966</td>
<td>90.3</td>
<td>1648</td>
</tr>
<tr>
<td><strong>Daffiama-Bussie-Issa district</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANC attendance**</td>
<td>3849</td>
<td>3.7</td>
<td>3947</td>
</tr>
<tr>
<td>4+ ANC visits*</td>
<td>695</td>
<td>44.5</td>
<td>745</td>
</tr>
</tbody>
</table>


**the number of expectant mothers for all three trimesters.**

**The count of the individual expectant mother’s visits throughout the gestation of the pregnancy.**

The proportion of potential ANC clients who made four or more visits within a year increased from 44.5% in 2014 to 69.2% in 2015, nevertheless it fell below the district’s set target of 80%.

b. Participant mothers

Out of the pregnant women who participated in both phases of the study, 76.3% completed four or more antenatal care attendances for the period of the pregnancy [Table 6.3].

Table 6.3: Number of ANC visits made in current gestation (Phase 2)

<table>
<thead>
<tr>
<th>Attendance</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 or more visits</td>
<td>61</td>
<td>76.3</td>
</tr>
<tr>
<td>Less than 4 visits</td>
<td>19</td>
<td>23.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


Of these, the majority (n = 57, 71.3%) commenced the service in the third month or second trimester of the gestation of the pregnancy [Table 6.4].
Table 6.4: Number of ANC attendance (Phase 1)

<table>
<thead>
<tr>
<th>Number of ANC attendance (n = 80)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero visit</td>
<td>13</td>
</tr>
<tr>
<td>One visit</td>
<td>12</td>
</tr>
<tr>
<td>Two visits</td>
<td>8</td>
</tr>
<tr>
<td>Three visits</td>
<td>14</td>
</tr>
<tr>
<td>≥ Four visits</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time of first antenatal care visit (n=67)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4th weeks</td>
<td>8</td>
</tr>
<tr>
<td>6th weeks</td>
<td>2</td>
</tr>
<tr>
<td>≥ 8th weeks</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.

6.4.3 Average number of visits

a. District

The average number of visits per client is the average of the total antenatal attendance made by each pregnant woman registered over a period. According to the Health Service data, the average number of ANC visits slightly increased from 3.6 in 2014 to 3.7 in 2015 but fell slightly to 3.6 in 2016. Maternity services are fee-exempt for mothers in Ghana, and NHIS also covers the vast majority of the routine care provided to pregnant women.

6.4.4 Antenatal care coverage

Antenatal care coverage is an indicator used to measure the access and utilisation of care during pregnancy. It measures the proportion of women who receive care at least once during pregnancy within a given year. Table 6.5 shows that overall antenatal care coverage decreased slightly in 2016 compared to 2015.
Table 6.5: Summary of district coverage for selected indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pregnant women</td>
<td>%</td>
<td>Pregnant women</td>
</tr>
<tr>
<td>ANC registrants</td>
<td>1050</td>
<td>74.7 of estimated pregnancies</td>
<td>1076</td>
</tr>
<tr>
<td>Average ANC visits</td>
<td>3849</td>
<td>3.7 during gestation of pregnancy</td>
<td>3947</td>
</tr>
<tr>
<td>4+ Visits</td>
<td>695</td>
<td>44.5 of 1050</td>
<td>745</td>
</tr>
</tbody>
</table>


The reason was due to Fian and Kojokpere sub-districts achieving more than their allocated targets, which could be at least partially attributed to relative closeness of the sub-district facilities to communities from neighbouring district Wa East district.

a. Participant mothers

Slightly over 16 percent of the pregnant women surveyed in Phase 1 had not registered and commenced using ANC during the prenatal period. In the follow-up surveys during Phase 2, it was found that 23.75% (n = 19 of 80) completed less than four ANC visits for the period of gestation of the pregnancy.

6.4.4.1 Reasons given for non-attendance

When asked about the reasons why they made fewer than 4 ANC visits, expectant mothers identified the following influences [Table 6.6].
Table 6. 6: Reasons for few ANC visits

<table>
<thead>
<tr>
<th>Reasons for fewer than 4 ANC visits</th>
<th>Frequency</th>
<th>% of 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance factor</td>
<td>2</td>
<td>10.5</td>
</tr>
<tr>
<td>Financial constraints</td>
<td>2</td>
<td>10.5</td>
</tr>
<tr>
<td>Other reasons such as late start of ANC, I did not know I was pregnant</td>
<td>15</td>
<td>78.9</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>100.0</td>
</tr>
<tr>
<td>Not applicable</td>
<td>61</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.

6.5 Benefits of ANC from participants’ perspectives

Participants (health professionals, mothers and community members) identified the benefits of antenatal care services in addressing issues that could have adverse effects on the pregnancy outcomes in the study areas. These benefits included holistic medical screening, vaccinations and health education and hygiene promotion against habits and problems. The quote below by a midwife encapsulates the benefits of ANC:

*We made them understand that the early reporting is essential because when you report early, they rule out a lot of issues – HIV test, Hepatitis B, urine in case of worms, malaria if she has malaria and it can be handled so that it does not harm her. When they come, and we go through all these aspects, and when we see a problem we start tackling it before it becomes late. Then getting towards her delivery too, they are repeated, especially we ensure the HB level is normal before she comes to deliver [a woman, IDIs, Health facility NKD].*

6.6 Risk detection on expectant mothers

A key benefit of ANC is identifying pregnancies at risk, including teenage mothers, gravida five plus (5+) mothers, conceptions after 35 years and those who register during the second or third trimesters.

6.6.1 Risk detection for Nadowli-Kaleo districts (NKD)

According to the district health data from Nadowli/Kaleo district, third-trimester registrants and early teenage pregnancy were marginally reduced between 2014 and 2016. The number of para 5+ mothers and haemoglobin (HB) levels of fewer than 11 grams increased over the years. For instance, late teen mothers increased from 13.0% in 2015 to 15.2% in 2016, and mothers with HB<11 grams increased from, 27.5% (2015) to 31.8% (2016) [Table 6.7].
Table 6.7: Risk detection on Expectant mothers during Antenatal care - Nadowli/Kaleo District*

<table>
<thead>
<tr>
<th>Indicator/period (years)</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. (%)</td>
<td>No. (%)</td>
<td>No. (%)</td>
</tr>
<tr>
<td>ANC registrants</td>
<td>2176 (80.0)</td>
<td>2050 (75.4)</td>
<td>2178 (79.0)</td>
</tr>
<tr>
<td>Third trimester registration</td>
<td>96 (4.4)</td>
<td>107 (5.2)</td>
<td>89 (4.1)</td>
</tr>
<tr>
<td>Early teens (10-14)</td>
<td>23 (1.1)</td>
<td>10 (0.5)</td>
<td>3 (0.1)</td>
</tr>
<tr>
<td>Late teen (15-19)</td>
<td>317 (14.6)</td>
<td>283 (13.0)</td>
<td>332 (15.2)</td>
</tr>
<tr>
<td>≥ 35yrs</td>
<td>264 (12.1)</td>
<td>279 (12.8)</td>
<td>278 (12.8)</td>
</tr>
<tr>
<td>Para 5 +</td>
<td>374 (17.2)</td>
<td>207 (9.5)</td>
<td>241 (11.1)</td>
</tr>
<tr>
<td>HB &lt; 11gm at reg.</td>
<td>718 (33.0)</td>
<td>598 (27.5)</td>
<td>692 (31.8)</td>
</tr>
<tr>
<td>Height &lt; 5 feet</td>
<td>58 (2.7)</td>
<td>20 (0.9)</td>
<td>27 (1.2)</td>
</tr>
</tbody>
</table>

**Source:** Field Survey, Nadowli/Kaleo DHA, May 2017

*Data was not recorded by trimesters by the health information unit

*Indicators percentages were calculated from ‘ANC registrants’

Given that the number of at risk pregnancies has increased in some indicators, this data indicates that ANC is not serving an important purpose in this regard.

6.6.2 Risk detection for Daffiama-Bussie-Issa district

Table 6.8 provides a clear description of the results of the risks analysis in DBID. As was the case in Nadowli/Kaleo, whilst outcomes of the indicators were inconsistent over the three years [Table 6.8], they also illustrated the ongoing importance of ANC in overall risk detection.
Table 6. 8: Risk detection of Expectant mothers during ANC - 
Daffiama/Bussie/Issa#

<table>
<thead>
<tr>
<th>Indicator/period (in years)</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANC registrants</strong></td>
<td>1050</td>
<td>1076</td>
<td>1127</td>
</tr>
<tr>
<td>1st Trim registrants</td>
<td>661</td>
<td>679</td>
<td>761</td>
</tr>
<tr>
<td>Age 10-14</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Age 15-19</td>
<td>157</td>
<td>165</td>
<td>160</td>
</tr>
<tr>
<td>≥ 35years</td>
<td>124</td>
<td>139</td>
<td>137</td>
</tr>
<tr>
<td>*Para 5+</td>
<td>165</td>
<td>162</td>
<td>130</td>
</tr>
<tr>
<td>*HB at Registration</td>
<td>715</td>
<td>373</td>
<td>630</td>
</tr>
<tr>
<td>HB at Reg &lt;11gm</td>
<td>79</td>
<td>79</td>
<td>200</td>
</tr>
<tr>
<td>HB at Reg &lt;7gm</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>HB at 36 weeks</td>
<td>206</td>
<td>244</td>
<td>183</td>
</tr>
<tr>
<td>HB at 36 wks &lt;11gm</td>
<td>21</td>
<td>38</td>
<td>67</td>
</tr>
<tr>
<td>HB at 36 wks &lt;7gm*</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Height &lt; 5ft*</td>
<td>21</td>
<td>23</td>
<td>26</td>
</tr>
</tbody>
</table>

**Source:** Field survey, DBI DHA, May 2017

*HB* - haemoglobin level; *para* - number of pregnancies reaching viable gestational age (including live births and stillbirths); ft. - feet; gm - grams

# The health information unit did not record the data by trimesters. Each row shows the number of expectant mothers that were at risks under each indicator and determined from the number of ANC registrants for the complete year.

The potential benefits of ANC are undermined when registration and attendance occur in second and third trimesters. Late reporting to ANC was common across the study communities. While the minority reported early to ANC; there were others who registered in their second and third trimesters, thereby making it difficult to determine the full history and state of the health of the mother and baby.

We are always happy, but some will be there, and before they come for ANC they are twenty-eight or thirty-two weeks, and that is third-trimester registration which is very bad. When it is like that, it means we cannot monitor the woman
completely before she even goes into labour [a woman, IDIs, Health facility, DBID].

6.7 Knowledge of Expected Date of Delivery

The results show that more than half of the mothers (during the postnatal stage) had not known their expected date of delivery (EDD) [Table 6.9].

Table 6.9: Knowledge of expected date of childbirth

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>41.3</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>58.8</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
</tbody>
</table>


6.8 Social, cultural and economic barriers to ANC

While there are numerous benefits provided by ANC to ensure improved safe pregnancy and childbirth resulting in a healthy baby, the study identified many problems impacting on the uptake of ANC in the study locations.

6.8.1 Health illiteracy

It was common for health professionals to attribute low ANC to health illiteracy and ignorance:

*I will say it is ignorance and illiteracy. Most of them do not come to take the maternal health record card early. The clients commence in their sixth, seventh months and anything can happen at the beginning of the stages. Some of them do not come at all. We have been tracking and organising them. When we see them, at times, we see them at the third stage of pregnancy. Moreover, anything could have happened [a woman, IDIs, Health facility, DBID].*

6.8.2 Social and cultural barriers

The results indicate that diverse community, social and cultural beliefs and practices served as barriers to ANC uptake in this study. Key among them are presented in the subsequent sub-sections.

6.8.2.1 Waiting to see if pregnant

In some pockets, health professionals attributed the delay to waiting to be sure they are pregnant, and unplanned pregnancies kept women from commencing ANC early.
Some also have unplanned pregnancies on babies because they do not accept Family Planning (FP), so when the pregnancy progresses, they feel shy to mingle with other expectant mothers. Some pregnant women also do not usually know they are pregnant until after the third month [a woman, IDIs, Health facility, DBID].

Some expectant mothers in Bussie also reported late for ANC:

Some will be there three months, four months before they will come for ANC card and when you ask, they do not have any reason. They were only waiting to be sure that they were pregnant [a woman, IDIs, Health facility, DBID].

6.8.2.2 Preference for TBAs services

Nearly one-quarter of the mothers (23.8%) utilised prenatal care from sources (unauthorised providers) other than ANC services. The clear majority received care from traditional birth attendants. Different reasons were ascribed to the decisions: financial constraints (10.5%), family preference (21.1%) whilst 26.3% were regular clients to TBAs care. “Other reasons” for choosing the alternative sources of care were: to have breech presentation corrected and for spiritual confirmation of the progress of the pregnancy [Table 6.10].

Table 6. 10: Alternative sources of and reasons for maternal healthcare

<table>
<thead>
<tr>
<th>Name of alternative source of prenatal care</th>
<th>Frequency</th>
<th>% of 80 expectant mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional birth attendant</td>
<td>14</td>
<td>17.5</td>
</tr>
<tr>
<td>Pastor &amp; Spiritualist</td>
<td>5</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>23.8</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reasons for alternative sources of care</th>
<th>Frequency</th>
<th>% of 19 Expectant mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial constraints</td>
<td>2</td>
<td>10.5</td>
</tr>
<tr>
<td>Family preference</td>
<td>4</td>
<td>21.1</td>
</tr>
<tr>
<td>Negative attitude from nurses</td>
<td>1</td>
<td>5.3</td>
</tr>
<tr>
<td>TBA for massage</td>
<td>5</td>
<td>26.3</td>
</tr>
<tr>
<td>Advice from husband</td>
<td>1</td>
<td>5.3</td>
</tr>
<tr>
<td>Fear of caesarian section</td>
<td>1</td>
<td>5.3</td>
</tr>
<tr>
<td>Other reasons</td>
<td>5</td>
<td>26.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.
The belief that a TBA performs a spiritual function, as well as being able to turn a baby (i.e. moving the foetus from breech position to avoid the need for a caesarean section) means they are performing important functions that skilled health providers usually cannot deliver:

*It is the beliefs; cultural beliefs are still there. The breech presentation too, they say the TBA woman will turn it for me. I used to tell them that the way that the baby is lying, and it is how it will come. There is no way it can be changed/turned. No matter what concoction you take, they can only cause more harm to both the mother and the baby. I know they will go and use something on the abdomen, they will do this, and they will tell you to lie down and be forcing her and doing all sorts of things. Meanwhile, they are not doctors. The doctors do not even do that [a woman, IDIs, Health facility NKD].*

*If they even come here (health facility) they will still go and do their black magic to see whether the baby inside a human being is actually. Whether the outcome will be positive. Those are some of the things – that’s why they still patronise their services. The women believe the TBAs are spiritually strong, not that she only palpates but she’s also like a soothsayer. She also foretells the future occurrence. That is their confirmation point. They believe that she has ‘four eyes’, and she sees double. That’s why they go there. If they even go and do scanning and the scan says the baby is in breech position, they will go there, that she’s capable of repositioning the baby to cephalic. They will go there for the palpation so that she can turn the baby into cephalic and they will come and deliver per vagina instead of caesarean section [a woman, IDIs, Health facility, NKD].*

6.8.2.3 Stigma attached to unplanned pregnancy

*It was observed that often the men prevented the mothers from utilising family planning services, which caused many unplanned or closely spaced pregnancies. There is considerable shame from the public for these pregnancies which keeps the mothers from seeking ANC. But this community belief in deliveries. Having so many children. They don’t frown on it just that you yourself will not feel comfortable. Especially when we are giving health education and they come over to see there is family planning and she didn’t do it and now you are old having twelve children. They don’t have clothes to wear, they are not going to school and you are pregnant again. Some of them their children are not even walking, and they get pregnant causing compulsory twins; she gets shy. There is one woman like that, she delivered twins and the child the twins are following as at now is not walking yet. So, you see the problem, and it’s not that we have families that will support them. Families are not there. That’s why sometimes they think of all these things and feel shy to show up [a woman, IDIs, Health facility, DBID].*
The embarrassment from unplanned pregnancies caused slow uptake of ANC services, which was in turn related to low levels of family planning. In some communities, family planning was perceived as a violation of traditional values and women were prevented from using FP services, particularly in Bussie, Woggu and Naro/Korinyiri communities:

Exactly, we have a problem with the ANC too. Let me even start with family planning. FP, they say if we are doing it well, most people will not get pregnant at the time they want. There are communities we know, they come just to tell us ‘we don’t allow our women to do FP. We have put a bye-law/curse on the women. Any woman that will come and do FP will die with it or something will just happen, and the woman will go (die), and they will know that she has done FP’. It’s a hell and because of that, the women are always hiding to come and do, but when the husband is aware then it becomes a problem [a woman, IDIs, Health facility, DBID].

The FGDs with the opinion leaders also revealed the same belief pattern:

For instance, my wife once secretly went for FP services without my consent. When I discovered it, I forced her to go and have it removed from the arm. She conceived after removing it and refused to go for ANC. Some women hide from us (husbands). My wife did not inform me of going for it [FP services], which was the reason I propelled the nurses to have it removed [FGDs, opinion leaders, Bussie].

It was a common practice in some communities to make a mockery of women who conceived again after having many children or possibly had controversy surrounding the pregnancy. This was perceived as a significant barrier to using maternity services in the healthcare settings:

No, they can give birth, but they have given birth to over twelve or more children and still get pregnant again. So, it is a shame to them. Hence they find it difficult coming out. Some of them too are pregnant but not by their husbands, so they try aborting and it did not work. So, they do not come for ANC. Unless I see them and counsel them, then they will come. A whole lot of things are happening in this community. Some of them too are school children who are underage who get pregnant. They try illegal abortions when it is not terminated; they hide it until labour set in, which time they then come to the clinic [IDIs, other nurses].

An expectant mother who had had twelve childbirths was found not receiving ANC despite being in her fifth month of gestation in the current pregnancy, because of stigma from the public that, “her colleagues have stopped, and she is
still giving birth”. She felt she was too old but needed the pregnancy because seven of the children were deceased.

6.8.2.4 Shame attached to carrying ANC card

Although Ghana Health Service (GHS) actively encourages early uptake of ANC, the practice of hiding pregnancies from the public was a common trend in both districts. Associated with this was the feeling of shame to be found holding an ANC card and shame about being pregnant, not only for teenagers but duly married expectant mothers:

*Others too it is out of shyness they do not want people to say they are pregnant, so they wait until such stage that they can no longer hide then they will come and obtain antenatal card [a woman, IDIs, Health facility, DBID].*

Stigmatising pregnant women also exposes several limitations of the community members pertaining to the understanding of motherhood:

*The reason being that when they are pregnant, they do not want to just show up, with that red card - ‘Vodafone card’ so that people will know that they are pregnant. They are always hiding in the house to let the pregnancy now come out for people to see before they also turn up for the ANC card [a woman, IDIs, Health facility, DBID].*

The Director of Health Services for DBID observed that women were uncomfortable to be seen holding an ANC card.

*Other women feel shy to carry the card because of the stigma of the public knowing she has conceived. Therefore, the midwives are often compelled to keep the card with them so that people do not see them holding the card, until such a time when she can no longer hide the pregnancy, then the midwife will release the card for her to keep with her wherever she goes [a man, IDIs, Other Nurses].*

6.8.2.5 Early announcement - Pregnancy rituals must occur prior to registration

Community members in Bussie, Woggu, Jimpensi/Kenkelley, Charikpong and Jang believe that ANC attendance cannot commence until after the pregnancy “announcement” or “cleansing” rite for primiparous expectant mothers who are married is carried out. The cleansing is required to prevent miscarriage and complications. Further, in Charikpong, Jimpensi/Kenkelley and Naro/Korinyiri, the practice was repeated in every pregnancy in some families.

*We do it anytime we discover she has conceived. Otherwise, when the public discusses it at her hearing, she will miscarry. The practice commits it (the
pregnancy) to the ancestors who prevent it from bad omens and strange spirits possession [FGDs, non-pregnant women, Bussie].

In some communities, when a woman is pregnant, they must perform certain rites before they can start receiving maternal healthcare or before other community members get to know. The rites are done before it is known to everyone, else, they believe she might lose the pregnancy [a woman, IDIs, NKD].

The rites did not include women who were not customarily married before conceiving. Pregnancy rituals were carried out on primiparous expectant mothers and commitment of pregnancy to ancestors performed in Nanvilli/Siruu, Bussie and Jang, whilst in Naro/Korinyiri, Charikpong and the Jimpensi/Kenkelley communities rituals were carried out on all pregnancies; ANC could not commence until after the rites had been performed which in turn had to occur before the pregnancy became obvious to the public. The cleansing process was openly acknowledged by midwives:

The family must perform some rituals before they can come out clearly that they are pregnant. Therefore, they would delay in coming for the ANC card because they do not do these rituals early enough for the woman to come for the ANC card [a woman, IDIs, Health facility, NKD].

All of them particularly those who believe the local way. The elders think that they must perform some rituals before the mothers can come out clearly that they are pregnant. So, they would delay in coming for the ANC card because they do not do these rituals early enough for the woman to come for the ANC card, and this delay the early reporting [a woman, IDIs, Health facility, DBID].

The rites are done before it [the pregnancy] is known to everyone, else, they believe she might lose the pregnancy [a woman, IDIs, Health facility, DBID].

These norms had significant impacts on the uptake of ANC services and the final preparations needed for safe pregnancy and childbirth.

6.8.3 Level of family support

Lack of family support for expectant mothers to receive ANC was identified as a significant impediment to its use in many focus groups and during interviews with health professionals. Expectant mothers provided information on whether family members were involved in aspects of ANC during their current pregnancies. About forty-nine percent identified that family members or
the husband/partner were involved, while 51\% indicated there was no family involvement [Table 6.11].

Table 6.11: Family support and involvement in ANC

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>% of 80</th>
<th>% of 70</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms of support received from family</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=70)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistance to ANC</td>
<td>4</td>
<td>5.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Financial provision to buy essential medicines</td>
<td>6</td>
<td>7.5</td>
<td>8.6</td>
</tr>
<tr>
<td>Financial support to do laboratory tests</td>
<td>25</td>
<td>31.3</td>
<td>35.7</td>
</tr>
<tr>
<td>Financial support to renew health insurance</td>
<td>4</td>
<td>5.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Purchase of birth kits</td>
<td>20</td>
<td>25.0</td>
<td>28.6</td>
</tr>
<tr>
<td>Save money for complications/emergency</td>
<td>10</td>
<td>12.5</td>
<td>14.3</td>
</tr>
<tr>
<td>Other forms of support</td>
<td>1</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Not applicable</td>
<td>10</td>
<td>12.5</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Source:** Field Work, May 2016.

Generally, pregnant women were not supported to reach a health facility, with families usually only getting involved when mothers were referred from the health centre or CHPS compound to hospital.

*No, here we do not do those things! We are not used to seeking care with them (pregnant women). However, when she is on referral, we assist in reaching the hospital. Normal ANC, we do not support or accompany them. We are not used to going to the clinic with them [FGD, opinion leaders, Jang].*

Some husbands/partners denied any parental responsibilities of supporting mothers to reach a suitable health facility.

*No, some men only impregnate and leave them to manage the pregnancy until they give birth. Some do not even take them to Nadowli to renew their health insurance and carry out laboratory tests [FGDs, non-pregnant women, Jimpensi/Kenkelley].*

This lack of support was at least partly related to the status of expectant mothers, and of women more broadly, in the communities. Pregnancy is ‘woman’s business’. There was much stigma attached to men accompanying their wives to ANC; being ‘charmed by the wife’:

*That some they tell them, and they will in turn tell you it is women matter. Women and madam’s matter. Others too say they feel shy or other men will call*
them names…. you [the husbands] are a fool, your [husbands] woman has done some ‘juju’ on you to always be following her, so that she will be going for ANC and you have to carry her hand bag and follow her to clinic [a woman, IDIs, Health facility, NKD].

6.8.3.1 Mode of transport for routine ANC

The major modes of transport to attend routine ANC were: public transport (18.8%), private car (1.3%), motorbike (22.5%), tricycle motorbike (2.5%); more than half of the expectant mothers’ travel on foot to seek maternal healthcare (55%) [Table 6.12].

Table 6.12: Transport arrangements

<table>
<thead>
<tr>
<th>Regular mode of reaching health facility</th>
<th>Frequency (n = 80)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public transport (“trotro”)</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td>Private car</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Motorbike</td>
<td>18</td>
<td>22.5</td>
</tr>
<tr>
<td>Motorking</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Walk</td>
<td>44</td>
<td>55.0</td>
</tr>
</tbody>
</table>


Adult non-pregnant women agreed with the assessment of health professionals that some men and other family members do not support expectant mothers to seek regular care or during referral to the next level of healthcare provision. During ANC registration, all pregnant women (except Jang health centre) were referred to Nadowli Hospital for laboratory investigations before continuing with subsequent follow-up appointments.

Families do not support us in any way when pregnant... when I conceived in the recent past and went to the clinic, I was referred to go for laboratory investigations. I went home and informed my husband of the referral and was told he would not be able to send me to the hospital. I had to look for means of transport all by myself and went for the laboratory tests, even when my NHIS card had expired at the time. I had to sleep over on the hospital veranda due to long queues, to get my NHIS card renewed before I could do the laboratory test the next day [FGDs, non-pregnant women, Bussie].

Not only did men attach stigma to the father’s attendance at ANC, there is also stigma attached by expectant mothers to the participation of fathers in ANC, predominantly over concerns that other attendees would know who the baby’s father is.
It’s a two-way thing. Others do that. Other mothers do want, but the men refuse to go for ANC. When we ask them they laugh? They say the men won’t come [a woman, IDIs, Health facility, DBID].

Even some men who appear rugged have been prevented by their wives from accompanying them to the health facility, which she would feel embarrassed when her colleague pregnant women get to know that the rugged man is her partner. They usually don’t want other women to know a particular man is responsible for her pregnancy [FGDs, Opinion leaders, Jang].

In Bussie community, an adult woman reiterated this fact during the FGD session that their wives [expectant mothers] are unattractive to accompany to ANC:

*We usually inform them of the ANC, but they don’t go. Some say, we not attractive to walk with them to the facility. We continue to give birth for them because we know the children may be of benefit to us when they grow up. We don’t really enjoy the marriages, just that, it’s same everywhere [FGDs, non-pregnant women, Bussie].*

Furthermore, some women also acknowledged their preference for their husbands to engage in farm work rather than accompanying them:

*Sometimes, because of the farm work, instead of the man accompanying us for ANC, we are happy to go alone while he continues with the farm work [FGDs, non-pregnant women, Naro/Korinyiri].*

*They won’t waste their time coming down here for whatever. Some too that the men will say they are going to their farms. Hence, they leave the mothers to seek ANC and they will also go to their farms, so that they can do something [a woman, IDIs, Health facility, DBID].*

Whilst it is generally considered culturally inappropriate for men to attend ANC with women, some younger men are more proactive:

*Some are trying. They go with the wives after the education whatever you need to tell them we tell the husband. However, most of them don’t bring the spouse. Yes, the men do not participate in health activities. When we organise the durbars, just a few come, even though we encourage them. Just a few follow their wives to come [a woman, IDIs, Health facility, NKD].*

6.8.4 Perceptions of unhealthy foods

Anaemia was recorded as the dominant cause of many out-patient department (OPD) admissions in Nadowli hospital and the reason for the two recent maternal deaths in 2016. In order to address this issue, increased
consumption of eggs and other protein sources during pregnancy was recommended during ANC. However, this advice was contrary to a variety of cultural beliefs, which resulted in mothers being denied access to essential protein supplements.

The local people believe that when you are pregnant, you are not supposed to take eggs, and we are aware when one take the egg [a woman, IDIs, Health facility, NKD].

The low HB too, our people, though farmers some cultural beliefs deny the women of certain foods. Our people are rearing very well, but the mothers are denied the proper protein foods. When they come here, and we ask them to tell their men to be given them one egg a day or maybe just buy malt or give them even beans, groundnuts or whatever that will cushion up their HB level, that the men say, it’s a luxury and that when she eats the egg, the child will become a thief, when she delivers [IDIs, Health facility, DBID].

6.8.5 Economic

In the typical home setting of the study communities, virtually all household chores were the preserve of women - pregnant or not. Therefore, drawing water with a basin from the borehole, pumping the water, cooking and conveying firewood from the farms and to market were done by women, often leaving little time for ANC.

We engage in cooking sometimes with big pots, pito brewing, cleaning the compound, we draw water from the borehole, giving the kids bath, and washing of clothes for both kids and our husbands. Some men these days do not go to farm again, leaving us to fend for ourselves and the children. We have witnessed cases of severe pregnancy complications which led to miscarriages and stillbirths among young ladies because of these menial jobs. We do not get any support from our husbands before and during pregnancy [FGDs, non-pregnant women, Naro/Korinyiri].

Non-pregnant women in Bussie made very similar observations:

We go to farm and the bush to cut and convey firewood on headload whilst pregnant. We do the cooking of food at home, brewing of pito is our dominant income making business and we still do it even if you are due to give birth. Women maintain all activities done, whether pregnant or not pregnant [FGDs, non-pregnant women, Bussie].

In some families, they help expectant mothers in carrying out some mandatory daily activities. Nevertheless, a negligible number of families offered support in carrying out household chores.
However, some pregnant women still do everything as before the conception. Frankly speaking, in the entire community, appropriate care for pregnant women and newborns as recommended can only be done by only a few families [FGDs, Youth leaders, Naro/Korinyiri].

Nearly all expectant mothers undertook food crop farming on a subsistence basis for a living. Jobs expectant mothers do to earn income were: farming (n = 35, 43.8%); housewives (n = 2, 2.5%); wood logging/charcoal burning (n = 9, 11.3%); brewed pito (n = 17, 21.3%), whilst the remaining 17 (21.3%) engaged in mixed jobs.

Community members understood that income generating activities such as charcoal burning and “pito” brewing by pregnant women do have negative impacts on uptake of prenatal care and pregnancy safety.

I was lucky; my family exempted me from farm labour during my pregnancy. However, this was done after I suffered prolonged labour in my third childbirth which nearly killed me. (What of the firewood, do you cut it for them?) Yes, but not all men. Some men and non-pregnant women and the family do support in cutting and conveying firewood home for expectant mothers’ usage [FGDs, Youth leaders, Naro/Korinyiri].

While ANC lessons may counsel them on the effects of risky activities, financial burden compels them to continue with these activities rather than attend ANC follow-ups.

We have seen women get miscarriages from the heat of the fires from charcoal burning. ... Bussie market is the largest commercial centre in the entire district, so the women capitalise on the wide customer base to brew a lot of pito and burn charcoal to earn income [FGDs, opinion leaders, Bussie].

Occasionally expectant mothers would conceal these activities from their husbands, contrary to their wishes and to the advice of nurses, whilst on other occasions their participation in them was simply the norm. They could not afford to stop working. One mother prioritised harvesting a crop over following through on a referral obtained during an ANC visit, with tragic consequences:

She does not come for ANC services, then we traced to the house and realised that the abdomen was puffy. We could not feel the foetal heartbeat, so we stood there and gave her referral letter to go to the hospital, which is Nadowli. She agreed, and we left and according to the people of the town that she said her beans on the farm were getting damaged so she must work on it first. And [she] went to the farm, harvested the beans and fainted...she died... [a woman, IDIs, midwife, health facility, DBID].
Farmers were least likely to attend ANC with their wives in most communities:

*Farmers do not accompany expectant mothers for routine ANC. Husbands are [only] compelled to visit the clinic with pregnant women when she is sick at night or on referral to Nadowli hospital [FGD, opinion leaders, Woggu]. ANC can be received any day, but the moisture in the farm is available for few days, hence, let’s go to the farm. For fear of the partner, some expectant mothers comply with him and even sometimes receive few ANC visits before childbirth [FGDs, opinion leaders, Jang].*

It was reported in Woggu community that some expectant mothers climb trees to harvest ripe fruits and firewood.

*Some expectant mothers do climb trees during fruit harvesting -dawadawa fruits. They also climb during the rainy season to cut dry wood/sticks for cooking. However, it is not all pregnant women who do climb trees [FGDs, non-pregnant women, Woggu].*

### 6.8.5.1 Don’t like having to take medications

A common recommendation during ANC is the taking of vitamin supplements and other medications. A midwife described the benefits as:

*Those drugs help in the proper maturity and growth of the baby and boost up the blood system of the mother. We have the folic acid, which helps in the bone formation of the baby. The ferrous sulphate helps in the production of blood in the mother. They feed on the mothers’ blood. And then the Multivite, to boost up the appetite of the mother. So, that you eat. If she can eat three times a day when you are pregnant you suppose to eat six times a day. That’s why we add the Multivite. Then you have more appetite and eat more [a woman, IDIs, health facility, NKD].

We call them routine drugs – iron folic acid and this drug help to boost up the HB level of the pregnant women. Every pregnant woman her blood (HB) level will be down, because the baby needs iron and the mother also need iron and she is the only one eating - supplying the foetus and herself. Thus, because of that Ghana Health Service had made that every pregnant woman should take one tablet daily for 30 days. In 30 days’ time, you would have been due for your next ANC and you come and we will give you again to boost up her HB level and then also like the folic acid, it also prevents other abnormalities in the baby-like spinal bifida. It also helps in brain development... [a woman, IDIs, health facility, NKD].

However, some expectant mothers and focus group participants spoke of how the perceived side effects of ANC medications discouraged them from attending ANC, thus, they would not be pressured to take the medications. Some
of the concerns expressed about the medications related to their physical side effects:

We have pregnant women who complain of vomiting anytime they take it. Others feel dizzy after administering it [FGDs, non-pregnant women, Woggu].

Iron fesolate, which is given during ANC to boost haemoglobin levels, is a case in point. It was reported some expectant mothers reacted negatively to the medicine and therefore, failed to take it:

But some complain of the fesolate that when they take it they vomit. You know every drug and its side effects and other things. That is the only complaint they have laid. But generally, some too don't like taking medicines at all. It can also be one of the reason. How to swallow the medicine is always a problem [a woman, IDIs, Health facility, NKD].

The FGDs at Naro/Korinyiri recorded this observation:

Some expectant mothers complain of nauseating smell, dizziness, stomach upset among other reactions from the medicines and therefore refuse to take them or fail to complete the recommended dosage [FGDs, non-pregnant women, Naro/Korinyiri].

Other participants identified the perceived link between supplements and a large baby, which might result in a caesarean section (CS):

Yes, some take it home and throw them away. Others complain their unborn baby will increase in weight at labour, which might lead to difficulty in having normal childbirth. For fear of CS delivery, many refuse to take the medicines [FGDs, non-pregnant women, Woggu].

We have realised the medicines given at antenatal care have negative effects on childbirth. It causes the unborn have so much weight leading to difficulty during labour. It is a reason for the Caesarean Section (CS) operations, which keep some women in perpetual trauma [FGDs, opinion leaders, Naro/Korinyiri].

Similar observations were reported during the interviews with the health providers in Naro/Korinyiri and Woggu communities:

To me, I don’t think it makes the foetus increase. That is their perception of it. But it gives blood and once there is blood and she is eating well your foetus will increase [a woman, IDIs, Health facility, NKD].

Most of them claim that medicine makes the baby’s big and they end up [not taking], because they don’t want operation [a woman, IDIs, Health facility, DBID].

However, a discussant during the opinion leaders’ session in Naro/Korinyiri mentioned the fact that ANC medications ensure the healthy growth of the baby when born.
I have a divergent view to the previous participants. The antenatal care, particularly the medicines given to expectant mothers, ensures speedy growth of the child when born. They begin to walk [earlier] than before when compared to the era of the traditional medicines we used [FGDs, Opinion leaders, Naro/Korinyiri].

6.9 Service delivery factors

The previous sections have identified cultural and economic barriers to the utilisation of ANC services that occur at individual, family and community level. This section identifies barriers that are inherent in the health delivery system.

6.9.1 Financial - insurance coverage and payments

There are often delays in reimbursing health insurance claims, which put pressure on the supply of essential medicines for maternity care, and give rise to a threat of reverting to seeking direct payments from expectant mothers for their care:

It’s Ministry of Finance [that controls] the releases [of funds]. So, if they have finished their work and the money has not been released, they can’t pay. ... Some months, I think last year, some of the Catholic Health Association of Ghana (CHAG) institutions decided to withdraw their services, while other hospitals decided that they will let patients pay for their services [a man, IDIs, Health facility, NKD].

The interviews revealed that national health insurance authority delays in processing service claims affect the supply of essential medicines to the medical stores thereby increasing the debt profiles of health facilities. The district pharmacist bemoaned this challenge:

The first challenge is financial constraints because almost all the facilities are owing medical stores. Almost all the facilities in the region are owing medical stores. The simple reason is that health insurance owes the facilities. The health facilities intend owe the regional medical stores so in that case regional medical stores will not have that full capacity also to procure the exact quantities of essential medicines that the whole population in the region require. Therefore, at any point there is a short fall [a man, IDIs, Health facility, NKD].

Another limitation of the health insurance policy prevents expectant mothers from receiving appropriate care from the closest health facility, which may not be in their home district (jurisdiction of NHIS registration).

Fian health centre is the nearest to our community, but it belongs to Daffiama/Bussie/Issa district. In the absence of our midwife, Fian HC does not
accept expectant mothers, due to difficulty in retrieving health insurance claims from the different district [FGDs, opinion leaders, Naro/Korinyiri].

6.9.2 Logistical

6.9.2.1 Long Lasting Impregnated Nets (LLINs)

The National Malaria Control Programme (NMCP) scaled-up access and universal coverage to provide long lasting impregnated nets (LLINs) to all expectant mothers and children who are under five years of age, however, some expectant mothers in these districts were denied access to these services. Some health facilities were not included in the regular consignments of the LLINs supplies.

When I came here, there were no mosquito nets in the facility. We don’t also have SP; it is a prophylaxis for malaria prevention in pregnancy. Since I came to the facility, there has not been any SP for the pregnant women [a woman, IDIs, Health facility, NKD].

The adult women in a different community also identified this problem with the health facility management.

At our clinic, expectant mothers are not given LLINs until they are due to give birth, or they give birth before the LLINs are given to them [FGDs, non-pregnant women, Jang].

On the other hand, some clinics provide the bed nets to pregnant women, but they were not used due to discomfort from the utilisation.

The challenge we have is that they will tell us it provides warmth, so they feel hot [when they] sleep under. We give them alright, but they don’t sleep under it, and become infected [a woman, IDIs, Health facility, NKD].

6.9.2.2 Lack of appropriate ANC equipment

Whilst there was usually basic equipment available for checking vital signs at the health centres such as: blood pressure apparatus, thermometer, weighing scale, including foetoscope and foetal Doppler, in some locations it was dysfunctional. For example, the BP apparatus at three strategic health centres (Charikpong, Issa and Jimpensi) did not work.

Some health facilities did not have basic daily non-drug consumables for administering care. While test kits were readily supplied in some locations, infection control items such as facilities for handwashing and hand gloves were often not provided for some facilities. This means it is often not possible to
implement essential infection control practices during ANC, and for the new strategy of testing clients for malaria:

When we go to regional medical stores, some essential consumables we use every day are not available. .......it is one of the challenges we are facing. For instance, hand gloves are very important and mandatory for infection prevention and control, but right now, we don’t have them and it’s the reason I used that rubber to conduct HIV/AIDS and Syphilis tests [a man, IDIs, Health facility, DBID].

The improvised hand gloves you saw me wear, were old gloves I found because we don’t have hand gloves in the entire facility and the current RDT kits were not supplied with gloves. Many of the non-drug consumables are not available. Items such as handwashing soap and hand sanitizer for the prevention of infections and cross-infection control are not currently available for us to use. They brought a recent stock of items for the facility, but when we looked at the non-drug category, it was nil for infection control supplies [a man, IDIs, Health facility, DBID].

Some CHPS compounds did not have basic infrastructure such as electricity; even where electricity was available, storage equipment such as a vaccine fridge was not provided.

There is electricity here now, but we do not have a vaccine fridge. When we even attend a childbirth, we must ride to Kojokpere health centre for poliomyelitis vaccine for the newborn and return the remaining left to Kojokpere again for storage. When expectant mothers are around the twentieth week of gestation, we administer tetanus toxoid injection (TTI), but the vaccine cannot be stored here. We must go to Kojokpere each time to pick it up for use. Therefore, with some expectant mothers, if we are not careful they might miss those injections if they are unable to attend on the same day as others. We do find some pregnant women who have not received the tetanus vaccines [a man, IDIs, health facility, DBID].

6.9.3 Waiting time

The time spent waiting to receive ANC, sometimes a whole day, was a barrier to participation. Most of the mothers perceived ANC waiting time as “long” (42.5%), moderate (25%), short (21.3%); 11.3% felt it was too long [Table 6.13].
Table 6.13: Mothers’ perceptions about waiting time at ANC

<table>
<thead>
<tr>
<th>Mothers' perception about waiting time at ANC</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too long</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>Long</td>
<td>34</td>
<td>42.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>20</td>
<td>25.0</td>
</tr>
<tr>
<td>Short</td>
<td>17</td>
<td>21.3</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.

The time taken to attend ANC was also off-putting to men and other family members who might otherwise have accompanied them to ANC:

*However, because we are farmers, we do not usually have time to accompany them during antenatal and postnatal. Taking them to ANC is not something we are familiar with. Some men do not own motorbikes and therefore, to get up and foot with our wives to Issa Health Centre was inappropriate and time-wasting. It is time-wasting because, they spend a whole day sometimes seeking ANC [a man, FGDs, Opinion leaders, Duang].*

6.9.4 Treatment by health professionals

Others commented on the negative relationship between nurses and expectant mothers as a barrier to receiving ANC services. Some nurses and midwives acknowledged that they intentionally and unintentionally maltreated pregnant women when providing care. For example, Nadowli hospital is the highest referral facility for the study area, which suggests that the hospital should welcome cases referred there. However, midwives indicated mothers were often treated poorly at the hospital (and at the clinics):

*There are many challenges. Challenges from; the client and we the healthcare providers (What are the challenges on the side of the nurses?). Our communication to expectant mothers are sometimes not good and are either intentional or unintentional. It is due to pressure from the work. For some midwives, it is the pressure. There is the inadequacy of midwives, thereby putting so much pressure on the few. When we are tired, anything the expectant mother does, it irritates the midwife. Other times too we are forced to say something which is not pleasant to clients [IDIs, Other nurses].*

It was explained that:

*We shout at them sometimes when under pressure. However, their lack of resources for childbirth usually contribute to some of the poor attitudes towards them. The up and down movement to save lives makes midwives very tired [so]*
that, any little thing from the expectant mother may call for insults, unintentionally…. it is not supposed to be that way but because we are stressed [because of] inadequate staff [IDI, Other nurses].

Seeking ANC from TBAs remained a practice over the years in the rural communities. This was often done to counter the negative perceptions of the nurses and their care:
The Traditional Birth Attendants (TBAs) were more skilful than the nurses we have now. The TBAs rendered antenatal care, and there were usually no miscarriages during their time as it happens now [FGDs, Opinion leaders, Naro/Korinyiri].

6.9.5 Costs of ANC for expectant mothers
The bottlenecks on healthcare financing have caused profound shortages of the routine mandatory medicines for pregnant women in some health facilities. It was reported mothers were given prescriptions to buy from chemical sellers.
This ferrous sulphate that is just on this table. We bought it ourselves, just to make sure if a mother comes maybe just pay small if it is fifty pesewas, we can give her some ferrous sulphate to go and manage for the month. However, sometimes, we cannot get what we want at the regional medical stores even in our diocesan pharmacy. When she comes, we are supposed sometimes to prescribe for them to go and buy. In the outside, to everybody [chemical sellers] and the way they sell the medicines. When she goes there and then it is very costly, they do not buy. She will go back to the house and be doing her own things [a woman, IDIs, health facility, DBID]

However, apart from Nanvilli Health Centre (which is a CHAG facility), all other facilities had stock of the recommended essential medicines for the mothers.
About 95% of the ANC and PNC medicines are NHIS covered and these routine drugs. We have all the medicines for them from folic acid to ferrous sulphate to multivitamin if they must take vitamin C, calcium plus vitamin D plus their dewormer [IDI, male, Pharmacist, Nadowli District hospital].

Also, providing ANC medicines becomes a direct cost to expectant mothers when the health insurance scheme fails to pay for the supply. It was found that the conventional drugs were sold to expectant mothers during ANC in some CHAG facilities. Therefore, women who could not afford out-payments were deprived of access.

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For medicines, and these essential things that we need to educate or take care of maternal cases, mostly, it is due to this health insurance. When she [expectant mother] comes, we are sometimes supposed to prescribe for them to go and buy. In the outside [over-the-counter ‘chemical stores’], every chemical store and their price for the medicines. When she goes there and then it’s very costly, then she will not buy [a man, IDIs, Health facility, NKD].

6.9.6 Access
Lack of appropriate means of transportation during ANC follow-up was a potential barrier to good pregnancy outcomes. The long distances, poor roads and lack of transport makes it difficult for nurses to follow-up on ANC defaulters.

Mostly, expectant mothers from the villages where public transport do not ply have difficulty attending ANC. They would have to walk to the nearby village with public transport before they can access care [IDIs, other nurses].

6.9.7 Having to carry water
Lack of water in the health facilities is a persistent problem for health professionals. In some locations communities were tasked to support service delivery by providing drinking water to the healthcare providers on a rotational basis. However, this did not always occur, leaving expectant mothers or their families responsible for providing water during ANC services. Due to patriarchal family arrangements in the communities, child bearing women were more often than not burdened with providing water, as health service utilisation was considered to be the woman’s responsibility. Some mothers reported being returned home for the water before they could be attended to:

It is ANC and PNC women who draw water for the nurses. We are compelled to carry water for them even as expectant mother during ANC visits. When we go without the water, the nurses will send you back home without providing care [FGDs, non-pregnant women, Woggu].

The director of health services for Daffiama-Bussie-Issa also emphasised this challenge:

Yes, where they see it as a burden they don’t attempt to do it. We have asked the community to schedule themselves into sections and provide water on rotational bases. I understand it is burden, on some communities, particularly those with persistent water challenges [a man, IDIs, other nurses].

Photographs of mothers drawing water for health facility are shown [Figure 6.2]:

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6.10 Summary and discussion

The results in this chapter have elaborated on antenatal care service delivery and utilisation, particularly in relation to barriers to use, from the perspectives of the study participants. In so doing, they address the research question: “what factors influence the uptake of antenatal care in the study area?”

The findings of the study show that ANC was less well attended in the districts studied, with 71.3% starting ANC after the third month of gestation compared to 75% in the Bongo district (Upper East Region, Ghana) and about 80% in 2015 in Ghana as a whole (Dickson, Darteh, & Kumi-Kyereme, 2017; Gudu & Addo, 2017). This corresponds to similar findings reported in the same region (Rishworth et al., 2016; Sumankuuro et al., 2017a). However, registration was higher than Northern, Upper East and the Volta regions of Ghana (Afulani, 2015a). In this study, the proportion of mothers completing at least four ANC visits was comparatively low (83.75%) compared to about 90% in 2015 in Ghana, although this was an improvement from the global average (64%) (Afulani, 2015a; Dickson et al., 2017). It was observed from the time series data that, as the first-trimester ANC registration increased, similar increases were also recorded for the third-trimester registration.

In their responses, community members and expectant mothers portrayed some level of knowledge of the benefits of ANC services to pregnancy safety and delivery outcomes, acknowledging that ANC can prepare mothers for a safe pregnancy and childbirth. However, some women perceived ANC as a programme for pregnant women who were ‘sick’ and so would only report at a health facility during obstetric complications. Similar findings were reported in Kenya and India (Atekyereza & Mubiru, 2014; Choudhry, 1997).
The gradual increase in use of ANC (although still comparatively low), has potentially contributed to the increased numbers of women being identified at risk of low HB. However, overall levels of HB improved in DBID, possibly as a result of increased health promotion and education activities of the district health directorate. Despite the increase in ANC uptake the continued low levels continue to pose a significant challenge to early detection of obstetric risks in the study area, which is similar to other low-income countries (Agarwal et al., 2015; Dickson et al., 2017; Fournier, Dumont, Tourigny, Dunkley, & Dramé, 2009; Sialubanje et al., 2015). The evidence demonstrates that, over the past five years, less than half of pregnant women in SSA could complete four antenatal contacts with the health system, and Ghana recorded the highest of about 55% (Pell et al., 2013).

Participants identified many barriers impacting on ANC utilisation; the three overarching barriers were educational, cultural, and economic and service delivery related challenges. Often there was a close relationship between the cultural and economic impediments.

In this study, a number of participants, particularly the health professionals, attributed low or late ANC uptake to low levels of education in general, and health literacy, particularly related to the risks of pregnancy and menstrual cycle. Maternal illiteracy is a common theme in SSA and other parts of Asia, and it influenced women’s perception and utilisation of skilled care in many locations (Lori et al., 2014; Sychareun et al., 2012; Sychareun et al., 2016). For example, unskilled deliveries were common in the study areas, as is the case in many other communities in Ghana, where expectant mothers completed only the minimum number of contacts with the health system (Afulani, 2015b; Gudu & Addo, 2017). These were at least partly caused by low educational levels.

The findings show that diverse cultural factors impact on ANC use. Notable among them are patriarchy and women's lack of autonomy, lack of economic resources, culturally preferred care and the influence of harmful beliefs and practices.

On the subject of autonomy, the results showed that expectant mothers lacked the free will to use family savings and honour ANC appointments as desired. The influence of patriarchy starts in the education system, where the
education of girls and young women is often discouraged for cultural reasons (Afulani, 2015a; Gudu & Addo, 2017; Hembling et al., 2017).

This control (on cultural and economic grounds) extended into the marriage relationship and shaped every aspect of the expectant mother’s life, from the activities she was expected to perform during pregnancy to the extent to which she was empowered to seek ANC services, despite the latter being considered ‘womens’ business’. For example, most of the mothers and spouses could forfeit ANC follow-ups for farm jobs, although it was not always clear whether this was the result of economic reasons or cultural factors (one could hypothesise that both were often at play). Expectant mothers in hard-to-reach communities in India also experienced similar controls (Mistry, Galal, & Lu, 2009) and those in Ethiopia forfeited continuing care due to similar reasons (Bayu et al., 2015).

As was the case in the study areas, husbands/partners decided on ANC attendance in Bangladesh and Nepal, and most expectant mothers without the freedom were less likely to complete four ANC visits (Ghose et al., 2017; Thapa & Niehof, 2013). These studies involved women from both rural and urban communities although joint decision making on maternal healthcare was lower (12%) among the rural residents (Ghose et al., 2017; Thapa & Niehof, 2013). Other research reported that women could commence ANC early and complete more than four visits yet give birth without skilled supervision due to lack of autonomy among the Massais in Northern Tanzania (Magoma, Requejo, Campbell, Cousens, & Filippi, 2010).

Overall, these findings are consistent with the literature concerning the low importance attached to prenatal care compared to economic and family imperatives in developing regions (Ganle et al., 2015). For example, a qualitative assessment in Thailand similarly reported women’s preference to fulfil cultural norms, values and practices instead of early ANC and skilled maternal health utilisation (Liamputtong et al., 2005). Thus, whereas pregnant women may have the interest and willingness to utilise professional maternity care, family control and preference for their provision of labour over ANC follow-ups poses significant challenges, particularly considering the patriarchal nature of family life and dependence on subsistence agriculture in the study communities (Ganle et al., 2015; Sumankuuro et al., 2017b).
A number of community members showed a high level of trust in the skills and services of TBAs, and consequent to that, a proportion of the mothers preferred their services to the free ANC (Sumankuuro et al., 2017b). TBAs were also able to provide pregnant women with the culturally appropriate care they believed was not available from healthcare services, including wanting to avoid the effects of ANC routine medicines on safe childbirth, possibly replacing them with herbal remedies. The preference for attending TBAs for ANC, even where health services are available, is similar to a finding in previous studies in Uganda, where women preferred TBAs care to health facility prenatal care services due to their self-acclaimed spiritual ability to foresee and avert potential dangers (Atekyereza & Mubiru, 2014). Similar findings were reported in a study undertaken elsewhere in UWR of Ghana (Rishworth et al., 2016).

Other reasons for delaying ANC registration relate to the importance attached to cleansing rites. These beliefs are coined in a manner that convinces the women that they will suffer health repercussions associated with violation of these core values, at the same time as endangering the foetus. This is similar to pregnant women in the Upper East and Greater-Accra Regions of Ghana, Kenya and Togo who are told they will experience perpetual complications or death if belief systems are violated (Aborigo et al., 2014; Arnold et al., 2016; Dako-Gyeke et al., 2013; Dellicour et al., 2013). This demonstrates that health education activities towards encouraging early ANC and use of skilled prenatal care may not yield the desired outcomes if cultural beliefs are not targeted.

The majority of pregnant women received little or no spousal or family support to attend ANC yet were not allowed the free will to decide on maternity service utilisation. This is not surprising given that control over maternal health service utilisation, including ANC, in the rural communities is an age-old tradition in Ghana and in other sub-Saharan African and South Asian countries, such Bangladesh, India and Ethiopia (Bayu et al., 2015; Ganle et al., 2015; Ghose et al., 2017; Mistry et al., 2009).

The advantages of risk detection of anaemia and undernutrition among pregnant women and under-fives (Brantuo et al., 2009) and its attendant consequences for mortality (Levy, Fraser, Katz, Mazor, & Sheiner, 2005; Miller, Lester, Webster, & Cowan, 2005; Sumankuuro, Crockett, & Wang, 2018) are undermined by the reluctance of many women to implement the dietary recommendations made during ANC visits, particularly the consumption
of fruit, vegetables, some meats and eggs. This was despite such foods being easy to obtain given the large number of participants who were mixed farmers (Aikins, 2014). A number of these foods were believed to be abortives, to cause birth defects and behavioural problems in the neonate, and health problems for the mother. This means that pregnant women are prohibited from consuming these foods during pregnancy despite existing evidence suggesting anaemia or low HB could be prevented by an improved diet (Balarajan, Ramakrishnan, Özaltin, Shankar, & Subramanian, 2011). This corresponds closely to findings of other research (Aikins, 2014) in the Arsi Zone of Ethiopia, Tanzania and Zambia (Lugina, Lindmark, Johansson, & Christensson, 2001; Maimbolwa, Yamba, Diwan, & Ransjo-Arvidson, 2003; Vasilevski & Carolan-Olah, 2016; Zerfu et al., 2016), where the intent was to prevent stillbirth or a sick baby (Zerfu et al., 2016).

Many women were expected to fulfil economic responsibilities at the expense of attending ANC. Costs of transport to regular ANC sessions also posed a significant barrier to ANC uptake. Due to the cost of transport women were compelled to walk considerable distances to access care, or had to postpone seeking care until the market day when public transport was available, also resulting in delays accessing ANC. These findings are common in many low and middle-income countries (Gudu & Addo, 2017; Moyer & Mustafa, 2013; Sumankuuro, Crockett, & Wang, 2016).

Many mothers were discouraged from accessing ANC due to the cost of medicines prescribed during ANC visits. This was also a primary consideration in the Upper East region (Afulani, 2015b). Women that could not afford the ANC costs also chose other alternatives in Uganda (Kabakyenga et al., 2012) and in Lao PDR (Sychareun et al., 2016).

Overall, there are many cultural and economic factors which combine to limit the use of ANC in the study areas. The importance attached to these barriers is similar to the results in many previous studies in the sub-region and South East Asia, such as those carried out in Uganda, Tanzania and Lao PDR (Atekyereza & Mubiru, 2014; Magoma et al., 2011; Sychareun et al., 2016).

Geographical isolation of the study communities had significant impacts on early ANC commencement and continuity, a finding that is not new in Ghana (Gudu & Addo, 2017) or in other SSA countries (Bohren et al., 2014). While community residents had access to CHPS facilities in the study areas, mandatory
laboratory services and regular midwife care during ANC were provided predominantly at the hospital. There were no ready transport services connecting many of the communities, with it often being assumed that motorbikes and tricycles would be available to transport women to renew health insurance, to have blood tests and to participate in routine pregnancy monitoring. However, none of the study participants owned either form of transportation, which, combined with the extremely poor road conditions, compounded problems with isolation and accessibility (Buor, 2003). This suggests that the goal of reducing avoidable morbidities and mortalities through early risks detection at ANC may not be achievable until roads and transport are improved.

ANC services require many human and logistical resources to be successfully carried out. Key among them includes the routine medicines, apparatuses and equipment, available service delivery space and skilled staff. However, these items were either lacking or not useable in the majority of health facilities in these districts.

Ghana began a program in 2004 which exempted pregnant women and newborns from any fee for healthcare services provided, the aim being to reduce inequities and financial barriers to skilled maternity services (Witter et al., 2013). The ‘free’ package includes ANC, delivery care and laboratory costs (Witter et al., 2013). Despite this policy, the results of both phases 1 and 2 show that delays in processing claims for services forced health service providers to prescribe medicines to clients which had to be purchased either from the health facility (instead of being free), or on the private market; both were often unaffordable for many. In some cases, women did without or purchased alternative cheaper, poorer quality medications. Similar challenges were reported in UWR (Ghana) which further reduced expectant mothers’ ability to access care (Ganle et al., 2014), suggesting improved access to ANC services will continue to be compromised until insurance issues are resolved.

Research has shown the importance of essential medical supplies and medicines in the continuum of care. Inadequate medical equipment and irregular supply of essential medicines were cross-cutting bottlenecks with significant impacts on MNH service delivery in the rural settings. The ANC program begins with laboratory investigations to determine the gestation of the pregnancy and ensure early detection of potential risks. The laboratory
observations further categorise clients into low or high cohorts for appropriate monitoring. It was found that one laboratory facility provides care to both districts. Although the distance to the laboratory services was observed to be a disincentive to service uptake by many communities, it also lacked necessary equipment such as haematology analyser, reagents, and so on.

Shortage of basic logistics and essential supplies was found to be a threat to ANC services in this study. This not only posed health risks to health professionals but also exposed mothers to risks of infections. For example, BP apparatus for general outpatients was shared with the maternity sections, which has enormous implications in infection control procedures (WHO, 2017d). The findings are similar to previous studies in low and middle-income countries (Finlayson & Downe, 2013; Knight et al., 2013). When there was equipment available, it was insufficient to serve the population or was not functioning, a problem also commonly experienced in other low and middle-income countries (Knight et al., 2013).

Nearly half of the world is infected by malaria, and pregnant women and under-fives are more prone to dying from malaria infections (Adongo, Kirkwood, & Kendall, 2005; Lindblade et al., 2004). A significant measure to reducing deaths in pregnancy from malaria is through the free supply of long lasting impregnated nets by GHS, complemented by the prophylaxis (IPTp) given during ANC (Agboli, Tay, Obirikorang, & Aidoo, 2015; Lindblade et al., 2004). However, in this study some pregnant women were not provided with these nets until the postnatal period (if at all) and some facilities did not provide IPTp to mothers even when they finally sought care, which forced them into acquiring medicines from chemical stores. Similar findings were reported elsewhere in Ghana and in Nigeria (Agboli et al., 2015; Aghahowa, Obianwu, & Isah, 2014). In the case of Nigeria, some of the brands that were sold in the market were not approved for use by pregnant women by the WHO, which then had dire effects on the health of users. In the case of the study districts, women may also suffer negative consequences from acquiring essential medicines on the open market.

Despite GHS interventions to increase ANC in the rural communities, inadequate numbers of skilled health staff (i.e. licensed midwives and medical doctors) remains a significant problem. This provides many challenges for the few staff available, including role stress, which undoubtedly results in
undignifying behaviour patterns towards mothers. The findings agree with other studies indicating that poor treatments meted out to mothers during ANC and related services is a common behaviour in Ghana (Moyer et al., 2014; Moyer et al., 2016) and elsewhere in SSA (Moyer & Mustafa, 2013).

The service barriers to ANC found in this study show that, although the national health insurance fee-exemption policy is claimed to have increased service uptake in the country, continued inequities between the poor and non-poor, disparities in services offered at the different levels of healthcare facilities, and inadequate resourcing contributes to below expected levels of ANC uptake.

Thus, it is apparent that cultural, economic and service-related barriers hinder the uptake of ANC in the study areas, obstacles which help explain the comparatively low level of ANC uptake, particularly in the first trimester, and higher-level interest in alternative ANC providers. Studies in other low and middle-income countries similarly demonstrate the dire effects of a combination of obstacles to uptake of ANC, such as transport, finance, autonomy and skilled staff (Atinga & Baku, 2013; Furaha August, Pembe, Mpembeni, Axemo, & Darj, 2016; Ayanore, Pavlova, & Groot, 2016), although the relative priority attached to them obviously varies between locations.

This chapter has considered the level of uptake of ANC and its many determinants. The following chapter focuses on barriers to implementing one aspect of ANC, the BP/CR package, which is also identified as a key factor in its own right in improving maternal health.
Chapter 7 - Birth preparedness (BP) and complication readiness (CR)

7.1 Introduction

One of the most important outcomes of participation in antenatal care is facilitating birth preparedness and complication readiness (BP/CR). As noted in the introduction and the literature review, the BP/CR approach emerged in response to continued poor maternal health in low and middle-income countries.

The strategy comprises seven essential elements for safe pregnancy and birth outcomes; identifying danger signs, plan for a skilled birth attendant, arranging for a blood donor, plan for the place of child birth, arranging for transport during emergency and labour, preparing a delivery (birth) kit, and saving money for transport or other costs in case the need arises (Acharya et al., 2015; Bayu et al., 2015). Also, Acharya et al, (2015) in New Delhi and August et al (2015) in Tanzania considered the implementation of any one intervention of birth preparedness and complication readiness component of obstetric complications as being indicative of practising BP/CR. In Soubeiga, Sia, & Gauvin (2014), ANC and BP/CR content can be adapted to suit a country and community’s context and it is one reason Ghana and other sub-Saharan African countries do not take the entire list as proposed (Del Barco, 2004). Taking health insurance, antenatal records booklet, keeping some clean linen are included in BP/CR content in Ghana.

BP/CR content is adapted to suit country and community context and it is one reason, Ghana and other sub-Saharan African countries do not utilise the entire list as proposed (Del Barco, 2004). Taking health insurance, antenatal records booklet, keeping some clean linen with them and all that are included in BP/CR content in Ghana. However, in this study, a YES response was considered for the implementation of one or more of the key BP/CR interventions (transport arrangement, blood donor, birth kit, arranging for accompaniment, identify skilled birth attendant, having at least some knowledge about danger signs). Expectant mothers who indicated they had not made preparations after mentioning these items to them, were considered as not practising BP/CR and were ticked NO. Ample space was given to interact with the expectant mother prior to their choosing an option.
BP/CR is ideally implemented at six separate levels in any given location – individual (expectant mother), family, community, health professionals, health facility and policy makers (Acharya et al., 2015; Del Barco, 2004b).

Notwithstanding the potential benefits of BP/CR, the literature identifies many barriers to its full implementation in low and middle-income countries (Bayu et al., 2015; Botha, Maluwa, Pindani, & Bultemeier, 2013). Key among them includes; sociocultural beliefs, access to health facilities, staff shortages, health logistics, cost and other demographic characteristics inherent in certain communities (Soubeiga, Gauvin, et al., 2014; Sychareun et al., 2016).

This chapter explores BP/CR in the study regions in greater detail, first by identifying the differing perceptions of BP/CR in the various participant groups, then by exploring the challenges affecting the uptake of BP/CR in the study communities. Diverse barriers to BP/CR are identified throughout the chapter, with a focus on cultural determinants, geographical distances and health service delivery barriers.

7.2 Perceptions of BP/CR

The results indicate perceptions and understanding of the BP/CR strategy vary between the participant groups.

7.2.1 Health professionals’ perceptions of BP/CR

For health professionals, BP/CR encompassed many components, encapsulated in the following comments by midwives:

*Things they need to buy either clothes for their babies and themselves, and the money they will use to buy food and other items after delivery. Then the facility she will like to deliver, they will choose, but we ask them the transport they will use – motorbike or car that they will like to use in case they come here, and we are to refer you [expectant mother] ... [a woman, IDIs, Health facility, NKD].*

*I always tell them to prepare the delivery kit, get emergency contact persons, then blood donors, NHIS active card available, then means of transport. Some of them if it is early pregnancy I suggest that they should be keeping something-coins aside small. I also say they should make it a point to deliver at the hospital [a woman, IDIs, Health facility, DBID]*

Each of these components is now considered in more detail.
7.2.1.1 Birth kit

The most frequently mentioned form of BP/CR by health professionals is the birth kit. From the perspective of nurses, the birth kit comprises:

... four or more clothes and some more clean linen. You would be asked to buy a blade, new thread, rubber bags, and other items they use in spreading during labour ... keep the birth kit within reach of family members [IDIs, other nurses].

7.2.1.2 Arranging for emergency transport

The geographical distances of the communities to the health facilities coupled with the lack of regular transport services meant that BP/CR also requires expectant mothers to organise emergency transport:

.... like the transport for instance, if where she is staying she needs transport we have to alert her so that she will prepare for a person to bring her during labour. During labour, it may not be easy to walk, so we let them know that they must get somebody either a motorbike or car that will bring them ... [IDIs, other nurses].

7.2.1.3 Money for delivery

Aside from allowing for unexpected health bills, sufficient money must be saved for acquiring the delivery items:

Expectant mothers are also asked: to save money towards emergency referrals, complications and normal childbirth .... purchase clothes, baby clothes, and clean rags and keep with them always .... [IDIs, other nurses].

Failure to save money for transport costs can result in expectant mothers having to travel on tricycles and motorbikes due to inadequate transport during obstetric emergencies:

We have two trotro buses in the community but due to the high cost of hiring to transport expectant mothers on referral, many of them go by tricycle or motorbikes [a man, IDIs, Health facility, NKD].

7.2.1.4 Decision on preferred place of delivery

Expectant mothers are encouraged to decide the health facility they would prefer during childbirth well in advance of the delivery, so preparations can be made to facilitate that decision.

Then the facility she will like to deliver, ... They decide where they want to go and deliver. We are only to encourage them. If it's here, fine but we let them know that anything can happen. So, if you come here and we are to refer you, the place you like to go [a woman, IDIs, Health facility, NKD].
7.2.1.5 **ANC education on complication readiness**

BP/CR also requires women to consider what they would do in an emergency.

As for complications, nobody hopes for them. They forget that aspect: they always feel like, everything should be normal. Hence, when you even fill that form with them, and there is a portion for referral, in the case of an emergency which hospital do you want to be referred to? Moreover, who will stand on your behalf, to get means or funds and what not, they give people’s names, but when they come, and there is a problem, they say madam “try”, you do your best so that we do not go to Nadowli hospital or Wa hospital [a women, IDIs, Health facility, DBID].

Preparation for an emergency constitutes:

a) Carrying basic supplies and ANC card at all times:

As a pregnant woman, at any point in time, you can get miscarriage, or anything can happen. Therefore, all pregnant women are expected by the midwives to move with few clothes and clean rags. They further encourage all expectant mothers to carry their ANC card and NHIS card with them, for the sake of emergency [IDIs, other nurses].

... to walk along with their ANC card so that she can receive care at any nearby healthcare facility. ... [a woman, IDIs, Health facility, NKD].

b) Making arrangements for the care of other children:

Then who will be taking care of the children in the house, because we don’t want them [the expectant mother] to come here and be thinking of those at the house [a woman, IDIs, Health facility, NKD].

If she [has] other children, the name of the person that will take care of the children and her husband at the house, whilst she’s at the hospital. Then the name of people at least two people that will accompany her to the health facility for her to deliver [a woman, IDIs, Health facility, NKD].

c) Arrange for blood donor/s

This is also an essential aspect of preparation for emergencies.

When pregnant women register for ANC, they are encouraged to bring family or community members to donate blood, so it can be stored at the blood bank pending any emergency... [IDIs, other nurses].

There is a form we fill for the woman, so she will give you the names of two people or relatives of her that she can easily get in case of emergency if she needs blood ... [IDIs, other nurses].
In summary, in BP/CR education, the midwife will *take the woman through all aspects – like the transport for instance, if where she is staying she needs transport we have to alert her so that she will prepare for a person to bring her during labour. During labour, it may not be easy to walk, then we also let them know the cost involved so that they will prepare…. And things they need to buy either clothes for their babies and themselves, and the money they will use to buy food and other things after delivery. All that we take them through. Then if it involves money we look at the amount she will need at the end of it, ...* [a woman, IDIs, Health facility, NKD].

7.2.2 Mothers’ perceptions of BP/CR

7.2.2.1 Perceptions

Nearly all the mothers (n = 76, 95.0%) who participated in both phases of the study perceived the BP/CR package was important in ensuring safe pregnancy and birth outcomes. However, their opinions differed as to what BP/CR actually constituted [Table 7.1].

Table 7.1: Mothers’ opinion/belief about BP/CR in the postnatal stage

<table>
<thead>
<tr>
<th>Mothers’ belief/opinion about BP/CR</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help recognise danger signs of complication</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Ensure access to skilled healthcare for health problems</td>
<td>21</td>
<td>26.3</td>
</tr>
<tr>
<td>Follow instructions for safe care</td>
<td>10</td>
<td>12.5</td>
</tr>
<tr>
<td>Plan for place of childbirth</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Arrange for transport for any emergency situations</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>Save money or access funds</td>
<td>27</td>
<td>33.8</td>
</tr>
<tr>
<td>Other safety interventions</td>
<td>8</td>
<td>10.0</td>
</tr>
</tbody>
</table>

*Source: Field Survey, May 2017*

Only one mother had no idea about the relevance of BP/CR interventions while 3.8% (n = 3) were not sure BP/CR was necessary.

7.2.2.2 Knowledge of danger signs

The knowledge and ability of expectant mothers to spontaneously recognise danger signs at each of stage of gestation were assessed. Twenty-seven mothers (33.8% of 80) could mention some danger signs in pregnancy. Anaemia, urinary tract infections (e.g. fever, pressure in lower belly, smelly urine, cloudy or reddish urine and back pain), high blood pressure, mental health conditions, nausea or severe vomiting and other related conditions were...
mentioned as common signs of obstetric complications in pregnancy [Table 7.2].

Table 7.2: Danger signs in pregnancy (Phase 1)

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>% of 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>3</td>
<td>3.8</td>
<td>11.1</td>
</tr>
<tr>
<td>Urinary tract infections (e.g., fever, pressure in lower belly, smelly urine, cloudy or reddish urine, back pain)</td>
<td>13</td>
<td>16.3</td>
<td>48.1</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>1</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Mental health conditions (e.g., sad/low mood, feeling of worthlessness, problems thinking/deciding/difficulty concentrating)</td>
<td>2</td>
<td>2.5</td>
<td>7.4</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>1</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Other mixed complications</td>
<td>7</td>
<td>8.8</td>
<td>25.9</td>
</tr>
<tr>
<td>No reported obstetric complications</td>
<td>53</td>
<td>66.3</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field survey, May 2016.

Urinary tract infections (UTIs) and sexually transmitted infections were identified as a potential complication by a member of the “other nurses” cohort.

*We have asked the women to attend ANC with their husbands, especially pregnant women who are tested positive for STIs, so we can treat both and counsel them, but they would not come. Pregnant women with STIs will come back to tell us the men said they don’t have any sickness [IDIs, other nurses].*

7.2.3 Community

The meanings attached to BP/CR varied between communities and sections of the study population. At the community level three themes emerged from the data.

First, there were understandings related to clinic based delivery. The opinion leaders in Duang community understood BP/CR to mean:

*When she is due to give birth, you the husband will take her to the clinic to deliver safely. Now having a childbirth at the clinic is covered by the NHIS, and therefore it is free of charge [FGDs, opinion leaders, Duang].*

Second, respondents considered BP/CR from the perspective of the preparation for labour and birth; particularly in terms of preparing a birth kit:

*BP/CR means the person is talking about buying items for the birth kit. The items usually include; soap, clothes, baby clothes, rubbers, blade, thread, and*
Dettol. We are generally asked to carry them everywhere we go when in our last month of gestation [FGDs, non-pregnant women, Duang]. Another group explained BP/CR as;

When we are due to give birth, we wash our clothes and rags, buy some soap and washing powder, blade, thread, parazone, rubber bags and other essential items that will be needed during labour and birth and put them into a portable handbag or basket. During ANC lessons, we are told to carry along these items so that even during miscarriage or bleeding at any point in time, they could be used to control it [FGDs, non-pregnant, Bussie].

The FGDs with non-pregnant adult women in Naro/Korinyiri concurred with the importance attached to preparing the birth kit, noting that:

BP/CR means getting my birth kit ready for the day of childbirth. Other forms of BP/CR are secondary to us. The midwives have talked about getting blood donors, but we think about it when an expectant mother is asked to bring donors [FGDs, non-pregnant women, Naro/Korinyiri].

Third, attending regular antenatal appointments and ensuring renewal of National Health Insurance Scheme (NHIS) subscriptions were identified as essential components of BP/CR.

BP/CR means attending ANC so that if there is any risk associated with the pregnancy, the nurse will treat it or advise her. BP/CR also talks about getting her NHIS registered so she can access maternal healthcare with ease. If the husband is not financially sound, he must save money for emergencies [FGDs, non-pregnant women, Jimpensi/Kenkelley].

7.2.4 Men

Men were most likely to associate BP/CR with preparing a birth kit:

Birth Preparedness and Complication Readiness (BP/CR) involves purchasing items for the birth kits. When expectant mothers return from ANC, they tell us the midwife has asked them to buy clothes, baby clothes, a razor blade for cutting of umbilical cord, parazone or Dettol, a few white linens and put them together in a small bag pending the day of childbirth. It is not appropriate to wait until she is in labour before we start to acquire these items [a man, FGDs, opinion leaders, Naro/Korinyiri].

7.3 Perceived advantages of BP/CR

Many community members understood BP/CR has the potential to reduce risks in pregnancy through antenatal care and the financial arrangements component of it.

BP/CR means receiving antenatal care. Preparedness involves attending ANC so that if there is any risk with associated with the pregnancy, the nurse will
treat it or advise her. BP/CR also talks about getting her NHIS registered so she can access maternal healthcare with ease. If the husband is not financially sound, he must save money for emergencies [FGDs, opinion leaders, Jimpensi/Kenkelley].

The youth leaders (at Charikpong) identified the following advantages:

*It means expectant mothers should go to the clinic for expert counsel and treatment of any pain or complications they may suffer. It also involves continued interaction with expectant mother by the family. This will enable the family to have updated knowledge of her progress or not so you she could seek medical attention early. The husbands should also support their pregnant women throughout the period of gestation. .... both partners must seek maternal healthcare together so counselling and sexually transmitted infections (STIs) could be avoided throughout the period [FGDs, youth, Charikpong].*

Overall, the observations reveal that at least a considerable proportion of community members understood the benefits of BP/CR interventions to the safety of expectant mothers, and the role of spouses during the gestation period.

7.3.1 Implementing BP/CR

More than half (n = 48, 60%) of the expectant mothers (in the prenatal period) indicated that they were prepared for birth and ready for any complications. Thus, they reported practicing at least one component of BP/CR; saved money for birth and or complications (n = 13, 27.1%), plan/preparations for place of birth (n = 4, 8.3%), identifying transport in case of complications and labour (n = 2, 4.2%), identifying a blood donor (n = 1, 2.1%) and identifying a skilled attendant (n = 1, 2.1%). The largest proportion, 27 (56.3%) expectant mothers, had purchased the birth kit.

7.4 Factors affecting BP/CR

Despite the benefits the BP/CR strategy can provide to pregnant women and families, several barriers were identified as affecting the knowledge and ability of women to achieve the positive results the strategy could offer. These barriers will now be considered from four perspectives: expectant mother, family, community and health service provider.
7.4.2 Gravidity

This study hypothesised that there would be no relationship between gravidity and BP/CR. Therefore, a chi-square test was conducted to examine the association between these variables. The test results show that gravidity was not significantly associated with pregnant women’s responses to BP/CR; \( x^2 (1, n = 80) = 0.41, \rho = 0.523 \). However, as gravidity increased up to four or more, the women were slightly more likely to respond “no” (63.4% vs 56.4%) to BP/CR [Table 7.3].

Table 7. 3: Chi-square test of association between gravidity and BP/CR

<table>
<thead>
<tr>
<th>Variable</th>
<th>BP/CR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>recoded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gravidity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>one to three</td>
<td>Count</td>
<td>26</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>24.6</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>% within recoded</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>gravidity</td>
<td>63.4%</td>
<td>36.6%</td>
</tr>
<tr>
<td>four to five and more</td>
<td>Count</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>23.4</td>
<td>15.6</td>
</tr>
<tr>
<td></td>
<td>% within recoded</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>gravidity</td>
<td>56.4%</td>
<td>43.6%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>48</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>48.0</td>
<td>32.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>gravidity</td>
<td>60.0%</td>
<td>40.0%</td>
</tr>
</tbody>
</table>

7.4.3 Literacy of parents and absence of father during pregnancy

Most of the husbands/partners (n = 51, 63.8%) could not read or write a simple statement in any language with understanding, and 53.8% of the mothers had never been to school and could not read or write. Low levels of literacy impacted on the ability of young people, especially young men, to gain local employment. As a result, fathers may migrate to illegal mining areas and other parts of Ghana where low literacy is not so problematic for obtaining work, leaving expectant mothers to care for themselves.

*Illiteracy is another chronic issue in Woggu community. Many of the youth drop out at Senior High School level. The teaming youth migrate into illegal mining sites – ‘galamsey’ leaving their pregnant wives to suffer unto birth. During complications, there is no one to transport her to important referral centre [FGDs, Youth leaders, Woggu].*

The general poverty level in the study area poses a significant challenge to women to practice the BP/CR strategy.
It is not easy. You talk to them, they also know what they are supposed to bring but what they tell us is that they have no money. We cannot also provide for everybody [a woman, IDIs, Health facility, NKD].

7.4.3.1 Educational level of mother

Available evidence indicates that educational attainment has some relationship with mothers’ uptake of BP/CR. However, a chi-square test using this study data revealed no statistically significant association between mothers’ educational attainment and BP/CR; \(x^2 (1, n = 80) = 0.13, \rho = 0.714\). Although there was an equal split between educational attainment and BP/CR, the proportions show that women who attained primary education or higher were slightly more likely to answer “yes” to BP/CR than those who never attended (58.1% vs 62.2%) [Table 7.4].

Table 7.4: Chi-square test of independence between mothers’ educational attainment and BP/CR

<table>
<thead>
<tr>
<th>Variables</th>
<th>Prepared for birth and complications</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>recoded education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never attended</td>
<td>Count</td>
<td>25</td>
<td>18</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>25.8</td>
<td>17.2</td>
<td>43.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded education</td>
<td>58.1%</td>
<td>41.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Primary to senior high school</td>
<td>Count</td>
<td>23</td>
<td>14</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>22.2</td>
<td>14.8</td>
<td>37.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded education</td>
<td>62.2%</td>
<td>37.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>48</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>48.0</td>
<td>32.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded education</td>
<td>60.0%</td>
<td>40.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

7.4.4 Relationship between ANC participation and BP/CR

In a chi-square test of association between number of ANC visits (categorised as never attended, between 1 and 3 visits, and 4 or more visits) and mothers’ response (yes or no) to BP/CR, the linear by linear association shows that the association between the number of ANC visits and BP/CR was significant; \(x^2 (1, n = 80) = 10.04, \rho = 0.002\). With reference to the proportions in Table 7.5, the likelihood of a mother saying “yes” to BP/CR increases with increased ANC visits, from 30.8% for those who never attended up to 78.8% in those with the suggested number of ANC visits [Table 7.5].
Table 7.5: Chi-square test of association between number of ANC visits in present pregnancy and BP/CR

<table>
<thead>
<tr>
<th>Variables</th>
<th>BP/CR</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>Number of ANC visits in present pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>never attended</td>
<td>Count</td>
<td>4</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>7.8</td>
<td>5.2</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>% within number of ANC visits in present pregnancy</td>
<td>30.8%</td>
<td>69.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>within 1 to 3 visits</td>
<td>Count</td>
<td>18</td>
<td>16</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>20.4</td>
<td>13.6</td>
<td>34.0</td>
</tr>
<tr>
<td></td>
<td>% within number of ANC visits in present pregnancy</td>
<td>52.9%</td>
<td>47.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>4 or more visits</td>
<td>Count</td>
<td>26</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>19.8</td>
<td>13.2</td>
<td>33.0</td>
</tr>
<tr>
<td></td>
<td>% within number of ANC visits in present pregnancy</td>
<td>78.8%</td>
<td>21.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>48</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>48.0</td>
<td>32.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>% within number of ANC visits in present pregnancy</td>
<td>60.0%</td>
<td>40.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

7.4.5 Age

It is often assumed that a pregnant woman’s age has no relationship with planning to have a health facility delivery. A linear by linear association chi-square analysis shows that the age of the mother had no association with whether or not they had plans to deliver at a health facility; $\chi^2 (1, n = 80) = 1.65$, $\rho = 0.208$. The proportions indicate that mothers within the ages of 26 to 40 were less likely not to plan for health facility delivery than those within 25 years or younger (7.7% vs 17.1%) [Table 7.6].
Table 7.6: Chi-square test of association between mother’s age and planned for health facility delivery

<table>
<thead>
<tr>
<th>Variables</th>
<th>Planned for health facility delivery?</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Mother’s age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 years or younger</td>
<td>36</td>
<td>3</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>34.1</td>
<td>4.9</td>
<td>39.0</td>
<td></td>
</tr>
<tr>
<td>% within mother’s age</td>
<td>92.3%</td>
<td>7.7%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>26 to 40 years</td>
<td>34</td>
<td>7</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>35.9</td>
<td>5.1</td>
<td>41.0</td>
<td></td>
</tr>
<tr>
<td>% within mother’s age</td>
<td>82.9%</td>
<td>17.1%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>10</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>70.0</td>
<td>10.0</td>
<td>80.0</td>
<td></td>
</tr>
<tr>
<td>% within mother’s age</td>
<td>87.5%</td>
<td>12.5%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Sub-Saharan Africa is noted for spousal dominance over women. Therefore, it is assumed that older men influence decisions of their wives. A chi-square test indicates that there is no statistically significant relationship between age of husband/partner and whether or not their wives would plan for health facility delivery; $x^2 (1, n = 80) = 0.065, \rho = 0.798$. Although there is no significant difference between the age cohorts, the proportions demonstrate that pregnant women whose spouses were 30 years and younger were less likely to plan to give birth at healthcare settings than those with older husbands (11.4% vs 13.3%) [Table 7.7].

Table 7.7: Age of husband/partner and planned for health facility delivery

<table>
<thead>
<tr>
<th>Variables</th>
<th>Planned for health facility delivery?</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Recoded age of husband</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 years and younger</td>
<td>31</td>
<td>4</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>30.6</td>
<td>4.4</td>
<td>35.0</td>
<td></td>
</tr>
<tr>
<td>% within Recoded age of husband</td>
<td>88.6%</td>
<td>11.4%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>31 to 45 years and more</td>
<td>39</td>
<td>6</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>39.4</td>
<td>5.6</td>
<td>45.0</td>
<td></td>
</tr>
<tr>
<td>% within Recoded age of husband</td>
<td>86.7%</td>
<td>13.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>10</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td>70.0</td>
<td>10.0</td>
<td>80.0</td>
<td></td>
</tr>
<tr>
<td>% within Recoded age of husband</td>
<td>87.5%</td>
<td>12.5%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
Financial saving is encouraged in pregnancy. It is often believed that the job a husband has can influence decisions to save money as a family during a woman’s pregnancy. It is assumed that there is an association between occupation of husband/partner and monetary saving in pregnancy. A chi-square test was run to assess this assertion. This demonstrates that there is no statistically significant association between the two variables; $x^2 (1, n = 80) = 0.082, \rho = 0.775$. [Table 7.8]. Although a few of the husbands in this study engaged in non-farming occupations, the proportions indicate that mothers whose husbands were farmers were less likely to save money during the pregnancy than non-farmers; 50.8% vs 46.7% [Table 7.8].

Table 7.8: Chi-square test of association between the occupation of husband/partner and saved money as family for the pregnancy

<table>
<thead>
<tr>
<th>Variables</th>
<th>Saved money as family for recent pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Occupation of husband/partner</td>
<td></td>
</tr>
<tr>
<td>Farming</td>
<td>Count</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
</tr>
<tr>
<td></td>
<td>% within Occupation of husband/partner</td>
</tr>
<tr>
<td>non-farmer</td>
<td>Count</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
</tr>
<tr>
<td></td>
<td>% within Occupation of husband/partner</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
</tr>
<tr>
<td></td>
<td>% within Occupation of husband/partner</td>
</tr>
</tbody>
</table>

The evidence demonstrated that there is an association between the jobs pregnant women undertake and BP/CR. A chi-square ($x^2$) test was run to determine whether the data supported this hypothesis. With reference to the table [Table 7.9], there is no statistically significant association between pregnant women’s jobs and their responses to BP/CR practice; $x^2 (1, n = 80) = 0.008, \rho = 0.927$. However, the proportions indicate that women who engaged
in farming were more likely to respond “no” to BP/CR than those who were into other economic ventures [Table 7.9].

Table 7.9: Chi-square ($\chi^2$) test to determine the association between mother’s occupation and BP/CR

<table>
<thead>
<tr>
<th>Variables</th>
<th>BP/CR</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Recoded Mothers’ occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>22</td>
<td>15</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Expected count</td>
<td>22.2</td>
<td>14.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Recoded Mothers’ occupation</td>
<td>59.5%</td>
<td>40.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Non-farmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>26</td>
<td>17</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Expected count</td>
<td>25.8</td>
<td>17.2</td>
<td>43.0</td>
<td></td>
</tr>
<tr>
<td>% within Recoded Mothers’ occupation</td>
<td>60.5%</td>
<td>39.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>32</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>% within Recoded Mothers’ occupation</td>
<td>60.0%</td>
<td>40.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

7.4.7 Cultural factors

The previous sections looked at a variety of demographic and pregnancy related factors impacting on different aspects of BP/CR. However, the results show that there are many other influences on BP/CR, particularly those related to culture. This section considers these in detail, encompassing such issues as women’s perceptions about miscarriage, not anticipating obstetric complications, intake of local oxytocin and general sociocultural beliefs and practices associated with receiving care at a health facility.

7.4.7.1 Perceptions of miscarriage - can get pregnant again

Fourteen percent of the expectant mothers surveyed in Phase 1 had experienced a miscarriage. Half of these women were in their first pregnancy, and two-thirds experienced it in their second conception. Only one woman had complications in the third pregnancy, while three-quarters of them experienced a miscarriage in the fourth or subsequent pregnancy [Table 7.10].
Table 7. 10: Order and number of miscarriage

<table>
<thead>
<tr>
<th>Order</th>
<th>Number of exp. Mothers</th>
<th>% of 14 mothers with miscarriage</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>6</td>
<td>42.9</td>
</tr>
<tr>
<td>Second</td>
<td>4</td>
<td>28.6</td>
</tr>
<tr>
<td>Third</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Fourth and above</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Had no miscarriage</td>
<td>66</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Field survey, May 2016.

Miscarriage was considered to be a normal part of life (‘normal sickness’) that BP/CR could not prevent. Thus, fear of miscarriage was not considered to be a reason to practice BP/CR. On the contrary, it was believed that BP/CR was unnecessary because if there was a problem, it would be easy to get pregnant again. Thus, few concerns were expressed about expectant mothers engaging in a variety of economic activities to maintain their livelihood that might otherwise cause complications:

*We maintain all jobs we do whether pregnant or not pregnant. We know the risks such as complications, miscarriages and loss of lives sometimes. As for miscarriages, we know we will get pregnant in few months’ time again. Expectant mothers do climb trees to cut firewood or harvest ‘dawadawa’ fruits. These could result from pressure from the husband as being lazy [FGDs, non-pregnant women, Bussie].*

Thus, complications and the deaths which sometimes follow are seen as destiny – no amount of BP/CR will stop them.

*Some of them what I can say is that in our tradition, every woman or man has their destiny. There are some mothers’ delivery, they may have been in full dilatation and no complication, but we see the baby stuck in the womb. Even in the hospital, we hear of women dying from theatres or post-surgical complications and death of mothers. For me, each time I hear it, I attribute it to the woman’s destined death from God Almighty. Women die in the hands of medical doctors during delivery [IDIs, TBA, NKD].*

7.4.7.2 Multiple perceptions about skilled maternal care

Many of the perceptions underpinning lack of use of ANC translate to lower levels of BP/CR practice.

a) Complications not anticipated, able to give birth at home
Some participants chose not to prepare because they believed complications could happen anywhere and at any time:

*Childbirth is such that, it can occur at home or anywhere. Sometimes, pregnant women give birth on their way to the clinic, women with short labour. It is women who experience long labour that are confident of reaching the facility before childbirth [FGDs, non-pregnant women, Duang].*

b) Belief that BP/CR is unnecessary

BP/CR was also considered unnecessary on the premise that women had successful births in the past without going through the present day medical interventions. Thus, both expectant mothers and their husbands did not consider it necessary to prepare for complications in the present. They cite an example that, in the olden days when their parents gave birth to them, they did not do these things. There was no hospital, but they are alive. So why should they be bothering the men about certain interventions? Therefore, sometimes we tell them but because those days their mothers went into it like that without some of these things like preparation for birth, they do not see its importance to use some part of their money getting ready for any complication. They do not see it as necessary [a man, IDIs, Health facility, DBID].

*We don’t prepare for complications, because we usually don’t hope for it…. How do you prepare for something we don’t know when it is going to arrive? [a man, FGDs, Opinion leaders, Woggu].*

7.4.7.3 Family involvement

It was observed that the majority (47.5%, n = 48) of family members were not involved in BP/CR interventions [Table 7.11].

Table 7.11: Family support and involvement in BP/CR

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of expectant mothers</th>
<th>% of 80</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support from family members on BP/CR interventions (n = 80)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danger signs</td>
<td>4</td>
<td>5.0</td>
</tr>
<tr>
<td>Where to give birth</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Finance arrangement</td>
<td>28</td>
<td>35.0</td>
</tr>
<tr>
<td>Arrangement for transport</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Arrangement of blood donor</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Accompanying person</td>
<td>4</td>
<td>5.0</td>
</tr>
<tr>
<td>No discussions with family members</td>
<td>38</td>
<td>47.5</td>
</tr>
</tbody>
</table>

*Source: Field Survey, May 2016.*
Where support was provided, the impact was not so significant as to affect BP/CR interventions. It was also reported that some men shed their responsibility on maternal healthcare-seeking.

...If your husband is around, he might send you with his motorbike or look for a tricycle to send you to the hospital. When my granddaughter conceived and fell sick, the partner (a healthcare staff) sent her off his home. I supported her financially to hire the means to get to Nadowli District Hospital. On arrival, a catheter was put on her for passage of her urine, but the partner never even turned up to support her pay the bills or the transport cost... [FGDs, non-pregnant women, Bussie].

In Jimpensi/Kenkelley community, similar irresponsible behaviour of spouses, which can have grave impacts on the mothers’ ability to provide for their needs and those of the children, was reiterated:

They [the husbands/partners] do not support us. They do not even give us money to grind flour. We are thereby compelled by these circumstances to log wood, process charcoal and brew “pito” to earn a living. All the men in the community are the same. No man provides for the needs of expectant mothers. We fend for ourselves. However, they provide the raw foodstuff from the farm which we all work for... [FGDs, non-pregnant women, Jimpensi/Kenkelley].

Only a few husbands/partners support expectant mothers in doing household chores:

Whenever I am pregnant, I am unable to do many activities, particularly during my third trimester. Therefore, my husband supports me to draw water from the borehole. He often also helps with cooking and clothes’ washing. But these forms of support are very rare in this community [FGDs, Youth, Nanvilli/Sirua].

Likewise, many expectant mothers have no other family or community members available (or willing) to support them in the BP/CR process.

7.4.7.4 Perceptions of mother’s autonomy

The belief that ANC is the responsibility of the expectant mother described in the previous chapter carries across to BP/CR. This runs counter to the also prevalent view that they require permission to engage in BP/CR from their husbands or other family members. This means that often BP/CR decisions cannot be made in a timely fashion, if they are made at all.

For example, during the second phase of the study, 68.8% (55) of the mothers (who by then were in their postnatal stage) revealed that they had not been able to participate in BP/CR without prior permission from the family or the spouse. The remaining 31.3% (25) who sought care without obtaining
permission in the present pregnancy did so because either they fend for
themselves (16.3%), the spouse had travelled, they were divorced, lived alone
or had some family issues [Table 7.12].

Table 7.12: Lack of maternal autonomy to decide on maternity services (i.e.
to engage in BP/CR)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>% of 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sought care without family approval?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>31.3</td>
</tr>
<tr>
<td>No</td>
<td>55</td>
<td>61.8</td>
</tr>
<tr>
<td>The reason for not seeking approval when seeking care</td>
<td>% of 80 mothers % of 25 mothers</td>
<td></td>
</tr>
<tr>
<td>My husband/partner had travelled</td>
<td>10</td>
<td>12.5</td>
</tr>
<tr>
<td>I fend for myself</td>
<td>13</td>
<td>16.3</td>
</tr>
<tr>
<td>Other reasons such as stay alone, divorced or some mix-ups</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>31.3</td>
</tr>
<tr>
<td>Not applicable</td>
<td>55</td>
<td>68.8</td>
</tr>
</tbody>
</table>


It is mostly assumed that the literacy level of the spouse has no
relationship with maternal freedom. A linear by linear association chi-square
test demonstrated that literacy level of the spouse was significantly associated
with the mother’s freedom to make healthcare seeking decisions; $x^2 (1, n = 80) = 5.379, \rho = 0.020$. The strength of relationship was medium (Phi = 0.259), and
the proportions show that women whose spouses were illiterate were more
likely to report having less freedom to make decisions regarding care-seeking
(82.4%) than those whose spouses were literate (41.4%) [Table 7.13].
Table 7. 13: Level of freedom and literacy level of husband/partner

<table>
<thead>
<tr>
<th>Variables</th>
<th>Recoded level of freedom</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full control</td>
<td>Partial to no control</td>
<td>Total</td>
</tr>
<tr>
<td>Literacy level of husband/partner</td>
<td>12</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>Literature</td>
<td>Expected Count</td>
<td>7.6</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>% within Literacy level of husband/partner</td>
<td>41.4%</td>
<td>58.6%</td>
</tr>
<tr>
<td>Illiterate</td>
<td>9</td>
<td>42</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>13.4</td>
<td>37.6</td>
</tr>
<tr>
<td></td>
<td>% within Literacy level of husband/partner</td>
<td>17.6%</td>
<td>82.4%</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>59</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>21.0</td>
<td>59.0</td>
</tr>
<tr>
<td></td>
<td>% within Literacy level of husband/partner</td>
<td>26.3%</td>
<td>73.8%</td>
</tr>
</tbody>
</table>

It is mostly assumed that maternal freedom is not associated with the age of the husband. A chi-square test indicates that there is no statistically significant association between the level of freedom to decide on maternal healthcare and the age of the spouse; $x^2 (1, \ n = 80) = 2.075, \ \rho = 0.150$. However, considering the proportions for the age cohorts, women pregnant to younger men (30 years or younger) were more likely to have full control in making healthcare decisions than those whose husbands were older [Table 7.14].

Table 7. 14: Level of freedom to decide on maternal healthcare and age of the spouse

<table>
<thead>
<tr>
<th>Variables</th>
<th>Recoded age of husband</th>
<th>Count</th>
<th>Partial to no control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 years and younger</td>
<td>12</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>9.2</td>
<td>25.8</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>% within Recoded age of husband</td>
<td>34.3%</td>
<td>65.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>31 to 45 years and more</td>
<td>9</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>11.8</td>
<td>33.2</td>
<td>45.0</td>
</tr>
<tr>
<td></td>
<td>% within Recoded age of husband</td>
<td>20.0%</td>
<td>80.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
It is often believed that the age of a mother is significant in determining her level of freedom to make healthcare decisions, especially in sub-Saharan Africa. A chi-square test demonstrates that there is no statistically significant association between age of the mother and her freedom or autonomy to decide on health service utilisation; $x^2 (1, n = 80) = 0.150, \rho = 0.698$. However other factors identified in the FGDs may influence mothers’ autonomy, for example older women (26 to 40 years) were less likely to have the freedom than younger women [Table 7.15].

Table 7.15: Mother’s age and level of freedom to decide on maternal healthcare

<table>
<thead>
<tr>
<th>Variables</th>
<th>Recoded level of freedom</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Full control</td>
<td>Partial to no control</td>
<td>Total</td>
</tr>
<tr>
<td>Recoded mother's age</td>
<td></td>
<td>Count</td>
<td>Expected Count</td>
<td>% within recoded mother's age</td>
</tr>
<tr>
<td>25 years or younger</td>
<td></td>
<td>11</td>
<td>10.2</td>
<td>28.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>28.8</td>
<td>71.8%</td>
</tr>
<tr>
<td>26 to 40 years</td>
<td></td>
<td>10</td>
<td>10.8</td>
<td>24.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31</td>
<td>30.2</td>
<td>75.6%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21</td>
<td>21.0</td>
<td>26.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59</td>
<td>59.0</td>
<td>73.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>80.0</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Planning for health facility delivery is encouraged. Therefore, the association between planned for health facility delivery and the place of childbirth was evaluated using a chi-square test. The test revealed that there is no significant relationship between the two variables; $x^2 (1, n = 80) = 0.224, p = 0.636$ [Table 7.18]. Although mixed results were obtained for women who
had intended to have health facility delivery but failed, the evidence shows that women who planned for health facility delivery were more likely to achieve that than those who had no intentions to give birth at a healthcare setting [Table 7.18].

Table 7. 16: Chi-square test for association between place of childbirth and planned for health facility delivery

<table>
<thead>
<tr>
<th>Variables</th>
<th>Planned for health facility delivery?</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>recoded place of childbirth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home or roadside</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>10</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Expected Count</td>
<td>10.5</td>
<td>1.5</td>
<td>12.0</td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>83.3%</td>
<td>16.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Health facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>60</td>
<td>8</td>
<td>68</td>
</tr>
<tr>
<td>Expected Count</td>
<td>59.5</td>
<td>8.5</td>
<td>68.0</td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>88.2%</td>
<td>11.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>70</td>
<td>10</td>
<td>80</td>
</tr>
<tr>
<td>Expected Count</td>
<td>70.0</td>
<td>10.0</td>
<td>80.0</td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>87.5%</td>
<td>12.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

7.4.8 Preference for TBA in context of BP/CR

The primary aim of the birth preparedness and complication readiness package is to ensure skilled care for maternal health problems and during childbirth. This is contrary to the preference expressed by many expectant mothers to use a TBA at the delivery of their babies. This section explores the factors underpinning the preference for a TBA. There were several reasons given for preferring TBAs in the context of BP/CR.

The continued patronage of TBAs services was partly caused by health insurance financing barriers which make the health facilities unable to provide the requisite medicines to pregnant women.

*The medicines provided under the NHIS is unable to cure many sicknesses. It is a pain reliever such as paracetamol tablets were provided when we sought healthcare. Even the babies are given the same medication. Therefore, if we don’t combine traditional medicines with the medical treatment, the baby will*
Die. Usually, we subscribe to the NHIS because we are unable to afford out-of-pocket payments for healthcare provision. But we realised that each time we go, they would prescribe a long list of medicines for us to buy from chemical shops. Once, we don’t have money to buy, we apply the herbs, and good health is restored [FGDs, non-pregnant women, Jang].

7.4.8.1 Breech – turn the baby

There is a belief that TBAs are able to turn a baby from breech presentation prior to delivery by uterine manipulation and the use of local oxytocin:

We have the calabash ladle practice for [correcting] breech presentation. Adult women administer the herbal medicine to the ladle and make a line across the abdomen of the expectant mother. Anytime, this is done, the foetus repositions itself [FGDs, opinion leaders, Nanvilli/Siruu].

7.4.8.2 Greater comfort with TBAs

Many of the mothers do not plan for skilled delivery because of the perceived comfort TBAs offer them during home delivery, compared to health facility care.

In this town; Woggu, they have so much belief in TBAs’ care, because that place they will gather many people and they will be holding, touching, pulling them. They feel fine with that care. However, when they come to the facility, you know there are restrictions. It is you (the expectant mother) and the Nurse. Most of them do not like it that way. You see some women in labour and two women will be holding this hand, and two women will be holding the other hand [a woman, IDIs, Health facility, DBID].

7.4.8.3 Predictions

Women use traditional birth attendants (TBAs) as a confirmatory point for their pregnancies:

It is the local beliefs. The communities’ belief that the TBAs are spiritually strong, not that she (TBA) only palpates but she’s also like a soothsayer. They believe she also foretells the future occurrence. She (TBA) has local herbs she gives to them. Some of them have reported with bleeding cases, some preterm labour. Some of them infections and other issues, some even lost their babies through the local herbs because it hasn’t got any dosage. They just fetch for them to go and take. It is causing many problems, but human choice, even though we are discouraging them against it, you know here, if they even come here (health facility), they will still go there to see whether the baby is truly a human being and whether the outcome will be positive. Those are some of the things – that is why they still patronise their (TBAs) services. Here when we palpate them and tell them the baby is okay, they will still go there to confirm. That is their confirmation point [a woman, IDIs, Health facility, NKD].
7.4.8.4 Inadequate staffing at health facilities

It was recorded that skilled staff - midwives and doctors and other classes of nurses - were inadequate across the health facilities. This encouraged some expectant mothers and their families to utilise the services of TBAs. 

*We are not enough to provide the needed MNH care. I’m the only community health nurse for the facility. We ought to be two or three community health nurses (CHNs). The facility serves Jimpensi, Kenkelley and Vietor and part of Banungyiri. The women give birth a lot here. As it stands, there is no midwife in the facility to supervise childbirths. The enrolled nurses are also two instead of three. We ought to be three CHNs, three enrolled nurses and a midwife [a man, IDIs, Health facility, NKD].*

Daffiama/Bussie/Issa district had seven midwives at the post (serving five health centres and twelve CHPS compounds), which was grossly inadequate to serve the numbers of pregnant women. Skilled delivery could not be guaranteed in any of these locations.

7.4.8.5 Closer in an emergency

TBAs were preferred due to distances of study communities to the relevant health facility, mostly Nadowli hospital.

*We embrace the services provided by TBAs because of the distance to Nadowli hospital and absenteeism of the midwife at our clinic. Currently, women who give birth at home are fined to encourage all women to have births supervised by the midwife [FGDs, non-pregnant women, Naro/Korinyiri].*

7.4.8.6 Consequences of using TBA

In many of these communities, there may be unreported cases of maternal deaths due to poor surveillance coverage. These were mostly attributed to poor management of labour by TBAs:

*The TBAs were also a factor to some complications which led to death. Sometimes, there will be no sign of the baby coming out, but they will apply the hot local oxytocin and forced them to “push”, regardless of whether the baby was in breeched position [FGDs, non-pregnant women, Jimpensi/Kenkelley].*
7.4.9 Preference for use of local oxytocin

TBAs have long provided, and continue to provide, local oxytocin (raw herbal mixture and dried herbs) to expectant mothers, and being able to access this is a key factor shaping their preference for a TBA, which runs counter to the fundamentals of BP/CR. Local oxytocin was used as a tool to persuade expectant mothers although it was a preferred choice by other peers and families, and not their personal choice. Local oxytocin is the primary medication provided to the clients of TBAs, and of the 61.8% of the women who had complications in the present pregnancy 18.8% utilised local oxytocin.

7.4.10 The use of oxytocin

7.4.10.1 Kinds of local oxytocin

Two main kinds of local oxytocin were identified in the communities: those for prenatal care (“cold” oxytocin) and labour induction oxytocin (called “hot” oxytocin). The cold oxytocin was orally taken during pregnancy as prenatal care medicine while the hot was for inducing labour.

7.4.10.2 Who uses it?

Approximately 18.8% of the mothers administered local oxytocin during the pregnancy [Table 7.20], whilst another 13.8% used it during labour.

---

27 Herbal uterotonic or local oxytocin (or “local oxytocin” in the Ghanaian context) is a common term used by the health professionals in this study to refer to “herbal concoction” provided by TBAs to expectant mothers. It is mostly mixed with drink for oral intake, whilst some types are mixed with body lotion/pomade for smearing on the abdomen of the mother (Sychareun et al., 2012; Sumankuuro et al., 2017;2018). Herbal uterotonics or herbal oxytocin include herbs, herbal materials, herbal preparations, extracts from plants and consumed unprocessed, and applied during pregnancy, labour or the postnatal for safety pregnancy and to expedite childbirth or self-abort a pregnancy (Nyeko et al., 2016). Herbal oxytocin is classified under herbal medicine and WHO defines traditional or alternative medicines as a broad set of health care practices that are not part of that country's own tradition and are not integrated into the dominant health care system (WHO, 2000).
Table 7. 17: Mothers’ intake of local oxytocin

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered local oxytocin in pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td>No</td>
<td>65</td>
<td>81.3</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
</tbody>
</table>


7.4.10.2 Reasons for taking local oxytocin

Local oxytocin was perceived to have many benefits for the expectant mother and her baby.

a) Treatment of obstetric problems

Perceived benefits of “cold” oxytocin included treatment for fibroids, correction of breech presentations and other related obstetric problems.

*When the baby is breeched, and then I grind the charcoal-like oxytocin and mix it with sour water for her to drink, it corrects it. Some of the problems in the womb are usually the cause of the complications. Therefore, when a pregnant woman administers it according to my prescribed dosage, and it happens to improve her health condition, I ask her to come back for review and the herbal shrub for bathing and to drink as well. Once she baths and drinks that concoction, there will not be any further complications [IDIs, TBA, DBID].*

b) Facilitating labour

The hot local oxytocin was reported to facilitate labour and to reduce the pain and was applied to ease labour and to correct breech presentation so that women could avoid referral to Nadowli or Wa hospitals.

The adult women noted that the hot local oxytocin was a proactive measure for labour induction and was mostly administered at the onset of labour. Communities are geographically isolated from the nearest hospital, and some CHPS compounds with midwives lacked the necessary medicines and logistics to address obstetric complications in pregnancy and labour. This can be particularly important where sub-district health facilities lack medical oxytocin to induce poor labour. Thus, if mothers feel their labour is slow to progress, they may take local oxytocin before attending the local health facility.

c) To avoid referral
Some women deliberately administer oxytocin before seeking care to prevent onward referral from the community-level health facility (health centre or CHPS compound) to a hospital, in the knowledge that they are likely to go into active labour more quickly.

Thus, it is hypothesised that local oxytocin intake does not affect a mother’s decision and ability to give birth in a health facility setting. A linear by linear association in a chi-square test indicates that there is a small to medium (Phi = 0.247) significant association between local oxytocin intake during the pregnancy and the place of likely childbirth; $x^2 (1, n = 80) = 4.87, \rho = 0.027$. The proportions indicate that mothers who administered local oxytocin were less likely to intend to give birth at a health facility than those who did not administer local oxytocin (66.7% vs 89.2%) [Table 7.21].

Table 7. 18: Chi-square test of association between place of childbirth and local oxytocin intake in pregnancy

<table>
<thead>
<tr>
<th>Variables recoded place of childbirth</th>
<th>Administered local oxytocin in pregnancy?</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home or roadside</td>
<td>Count</td>
<td>5</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>2.3</td>
<td>9.8</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded place of childbirth</td>
<td>33.3%</td>
<td>10.8%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Health facility</td>
<td>Count</td>
<td>10</td>
<td>58</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>12.8</td>
<td>55.3</td>
<td>68.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded place of childbirth</td>
<td>66.7%</td>
<td>89.2%</td>
<td>85.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>15</td>
<td>65</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>15.0</td>
<td>65.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>% within recoded place of childbirth</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

7.4.10.3 Adverse effects of local oxytocin use

Although the herbs have the potency to induce fast childbirth labour, its [local oxytocin] intake could also lead to roadside births (born-before-arrival at health facility) with their associated risks.

However, the ‘hot’ local oxytocin is administered when labour commences, to facilitate the progress of the labour... also, when the ‘hot’ oxytocin is administered so early, she will give birth at home or on the roadside [a TBA, FGDs, non-pregnant women, Nanvilli/Siruu].
The health facility in-charges and medical director indicated that when local oxytocin is taken in false labour, it could also result in prolonged labour, causing abnormal and premature contractions and severe pains.

….. especially among women who are due to give birth. When they feel a little pain, they take the local oxytocin. Sometimes it is not yet labour, and they take it. When the labour then set in, they go through severe pains, resulting in wailing and crying and for such cases, we just refer them to Nadowli hospital, because at the CHPS compound there is nothing I can do to help them [a woman, IDIs, Health facility NKD].

This in turn results in an increased demand for caesarean sections, which can be extremely problematic given the shortage of staff trained to undertake caesarean deliveries.

*It gives us; one a prolonged labour, for that one it is an issue and sometimes they also in with antepartum haemorrhage. Why? Because of the premature contractions after the local oxytocin. At the time that the natural contractions are supposed to set in their own [self-induced] set in. They will be in the contractions, and when they enter the facility, their contractions cease. I will add that that one has even contributed to more of our caesarean sections, than maternal deaths [a man, IDIs, Health facility, NKD].*

It is hypothesised that there is a relationship between local oxytocin intake and complications in pregnancy. A linear by linear association in a chi-square test shows that there is a medium (Phi = 0.251) statistically significant association between the two variables; \( x^2 \) (1, n = 80) = 4.96, \( \rho = 0.026 \). The proportions show that pregnant women who administered local oxytocin in the pregnancy were more likely to experience complications than their colleagues who did not administer it; 26.5% vs 6.5% [Table 7.22]. Other outcomes are preterm births and home births, as well as decreased costs of seeking care for the expectant mother.
Table 7. 19: Chi-square ($\chi^2$) test on had complications in pregnancy and administered local oxytocin in pregnancy

<table>
<thead>
<tr>
<th>Variables</th>
<th>Had complications in pregnancy?</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Total</td>
</tr>
<tr>
<td>Administered local oxytocin in pregnancy:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>13</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>9.2</td>
<td>5.8</td>
<td>15.0</td>
</tr>
<tr>
<td></td>
<td>% within Had complications in pregnancy?</td>
<td>26.5%</td>
<td>6.5%</td>
<td>18.8%</td>
</tr>
<tr>
<td>No</td>
<td>Count</td>
<td>36</td>
<td>29</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>39.8</td>
<td>25.2</td>
<td>65.0</td>
</tr>
<tr>
<td></td>
<td>% within Had complications in pregnancy?</td>
<td>73.5%</td>
<td>93.5%</td>
<td>81.3%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>49</td>
<td>31</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>49.0</td>
<td>31.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>% within Had complications in pregnancy?</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

a) Preterm births

Although the statistical model indicates that local oxytocin intake in both pregnancy and birth could lead to obstetric problems including preterm births, the traditional birth attendants also mentioned its potency to cause abortions. Therefore, some women may receive the product to illegally self-cause abortion, which has led to poor healthcare outcomes. Out of the 80 pregnant women in the study, two poor outcomes (one stillbirth and one preterm birth) were attributed to the intake of local oxytocin:

... the labour one is usually very “hot” regarding its efficacy. They are normally taken when labour starts. The powdered charcoal is mixed with sour water for prenatal care medication, but a little drop of salt peter [Potassium nitrate] is added to reduce the side effects of the oxytocin on the woman and the baby. Women that are wicked do come seeking for the hot oxytocin, so they could abort their babies illegally, but I have never given any of such women the medicines [IDIs, TBA, DBID].

Some participants noted that the local oxytocin did cause preterm births but was more common among uneducated women.

The local oxytocin also causes preterm births which leads to stillbirth. Illiterate women are the major customers of the TBAs [FGDs, Youth, Naro/Korinyiri].
b) Home births

The hot local oxytocin also had the potency for labour induction and was taken by expectant mothers who utilised the services of TBAs and those who preferred home births.

... usually when they are in their ninth month, they are expecting labour especially when they know their Expected Date of Birth (EDD). Once the EDD elapses, they don’t come to the facility; rather they go to the TBAs for “hot” local oxytocin. It’s taken orally and also smeared on the abdomen to speed up the process of labour, thus to induce labour early. In such instance, the expectant mother gets irregular contractions, severe ones and when they don’t get to the facility early for immediate care, the breath of the foetus will reduce. So the child can get asphyxia. In case it’s a homebirth, the baby may die [a woman, IDIs, Health facility, NKD].

Hence, midwives let pregnant women understand local oxytocin bring about vigorous or frequent contraction with poor cervical dilation which may result in Caesarean birth. They are educated more on these harmful practices and beliefs on conception [IDIs, other nurses].

c) Maternal deaths

Despite education against the use of local oxytocin from the nurses, there was a reported case of maternal death of a TBA client who insisted on having a home birth using local oxytocin.

They [Ghana Health Service] warned me against providing local oxytocin to expectant mothers. Their main complaint was that it was reported some women who administered local oxytocin had poor pregnancy outcome or outright death of the mother... She refused and took in the hot local oxytocin to deliver at home. So, there was a rupture of the uterus through the operated area, and she failed to deliver at home. When the family rushed her to the hospital, they found that she suffered profuse uterine bleeding. So, died in the process together with the baby [IDIs, TBA, NKD].

d) Reduced costs

The use of local oxytocin was an obvious choice for pregnant women because of the lower cost compared to prescribed interventions.

The local oxytocin is very helpful to us. I have realised that each time, I’m in my second and third months of gestation, my feet get swollen. Hence, I do take the “cold” local oxytocin to cure the ailment. We resort to traditional medicines because of the cost of fuelling someone’s motorbike to send us to hospital. Also, anytime, we seek care medicines, and even drips/infusions are prescribed for us to buy. Even with the NHIS, it is only the folder we usually benefit from, but all
medicines are prescribed for us to purchase from chemical sellers [a woman, FGDs, Youth, Naro/Korinyiri].

7.4.10.4 Local oxytocin as business venture to TBAs

TBAs accordingly had varied views regarding the ongoing provision of health services. While some offer services for the joy of saving lives, it was a lucrative business for others who charge about ten US dollars for local oxytocin and another two dollars for birth care.

The local oxytocins cost GHS35.00 for the herbal concoction while the other two are GHS5.00 and GHS10.00 each [IDIs, TBA, NKD]. The motivation to earn a living from the services and sale of local oxytocin means that the TBAs may not easily give up these jobs.

7.4.11 Other logistical issues as barriers to BP/CR

7.4.11.1 Lack of staff

Among the sub-district health facilities (health centres and CHPS compounds), seven received primary obstetric cases, and one received both basic and comprehensive emergency obstetric cases. However, four health facilities managed one comprehensive emergency obstetric case each within the period of three years (2013-2015) preceding the study, one facility had handled two obstetric cases while two health facilities had managed five or more obstetric complications. One health facility (Duang CHPS) has never handled an obstetric case, even basic obstetric care.

Six health facilities (three-quarters of the facilities) did not have the requisite skilled staff for obstetric cases while two facilities reported having sufficient staff to handle obstetric problems [Table 7.23].
Table 7. 20: Health facilities’ perspectives on management of obstetric cases

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of health facilities</th>
<th>Percentage of health facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>One case</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>Two cases</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>Five cases and above</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>7</td>
<td><strong>87.5</strong></td>
</tr>
<tr>
<td>Not providing such care</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8</td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Basic obstetric care*</td>
<td>5</td>
<td>62.5</td>
</tr>
<tr>
<td>Comprehensive obstetric care**</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>Not providing such care</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8</td>
<td><strong>87.5</strong></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>75</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>75</td>
</tr>
<tr>
<td><strong>Sufficient equipment available for obstetric cases</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>50.0</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>50.0</td>
</tr>
</tbody>
</table>

**Source:** Field Survey, May 2016.

* Administering antibiotics, uterotonics (oxytocin) and anticonvulsants (magnesium sulphate); manual removal of the placenta; removal of retained products following miscarriage or abortion; assisted vaginal birth, preferably with vacuum extractor; basic neonatal resuscitation care and other related services.

** Blood transfusion, performing caesarean sections; care to sick and low-birth weight newborns and resuscitation, and related services.

The study showed mixed outcomes of the obstetric cases received by the health facilities (health centres and CHPS compounds). Referrals “to next level of care, stillbirths, loss of a mother, miscarriage, and successful childbirths” were estimated at 42.9% of all cases received. There was a recorded case of one institutional death from snake bite of an expectant mother referred from the farm.

The midwives themselves agree with the effects of staff shortages in providing care:

*I am the only midwife. I am always stressed up. Whenever I have two or three labour cases at the same, it’s always stressful for me working all the time. Also, if I am conducting ANC and a labour case is brought in, I suspend the ANC and attend to that one. Sometimes, expectant mothers default when it happens that way and it becomes difficult tracing them because I am alone [a woman, IDIs, Health facility, DBID].*

Maternal healthcare demands adequate attention from the professional for counselling and to provide routine services, however it was found that the shortage of midwives reduces that amount of time during consultations.
We don’t have enough skilled staff. So, we don’t meet the expectation of the clients. As I said early on, we don’t explain certain issues clearly for clients to understand because we have limited time to carry out all education and detail explanations to expectant mothers [IDIs, Other nurses].

7.4.11.2 Lack of transport

Lack of transport as a factor influencing BP/CR based on qualitative results – poor roads, long distances and lack of appropriate vehicles. Thus, arranging for transport during obstetric emergency and labour could be frustrating.

In our community, the trotro drivers who ply Naro/Korinyiri – Wa road are very inconsiderate during emergencies. When they are approached, until they are provided full fare they don’t move an inch ... [FGDs, non-pregnant women, Naro/Korinyiri].

7.4.1 Exploring family involvement and BP/CR

Improving maternity service delivery encourages the involvement of family. This includes BP/CR interventions. Therefore, a chi-square test was run to examine the level of association between family involvement in preparedness planning and BP/CR. The linear by linear association in the test shows a statistically significant medium (Phi value = 0.286) association between family involvement in the planning process and BP/CR; $x^2 (1, n = 80) = 6.46$, $\rho = 0.011$. The proportions also indicate that pregnant women who had family involved were more likely to prepare for birth and ready for complications [Table 7. 24].
Table 7. 21: Family involvement in preparedness planning versus BP/CR

<table>
<thead>
<tr>
<th>Variables</th>
<th>BP/CR</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family involvement in preparedness planning</td>
<td>Yes</td>
<td>29</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>% within Family involvement in preparedness planning</td>
<td>74.4%</td>
<td>25.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>19</td>
<td>22</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>% within Family involvement in preparedness planning</td>
<td>46.3%</td>
<td>53.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>48</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>% within Family involvement in preparedness planning</td>
<td>60.0%</td>
<td>40.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

7.5 Summary and discussion

The literature shows that birth preparedness and complication readiness (BP/CR) interventions are a timely intervention to prepare pregnant women, families and health service providers for obstetric complications and to maximise the chances of safe birth of a healthy baby (Soubeiga, Sia, et al., 2014; Titaley, Hunter, Dibley, & Heywood, 2010; Tura et al., 2014), particularly when incorporated into a comprehensive ANC strategy (Mukhopadhyay et al., 2013).

This chapter expatiated on the implementation of the birth preparedness and complication readiness approach in the study communities, with a focus on its implementation by mothers and families and the communities, as well as the healthcare providers. Because perceptions will often influence decision-making, participants’ perceptions of BP/CR were examined in some detail (Acharya et al., 2015). BP/CR was generally understood by expectant mothers and community members from a narrow perspective, which may influence the number of women who were prepared. Although more than half of the expectant mothers claimed to be prepared and ready for complications, this preparation mainly consisted of the acquisition of birth kits (i.e. birth preparedness), rather than the array of other BP/CR expectations described by nurses (such as saving
money, arranging for blood donors, choosing preferred birth location and so on – i.e. complication readiness).

Thus, there was significant knowledge and understanding of birth preparedness but not complication readiness (CR) amongst most of the participants. The finding is congruent with other studies in the same region and other sub-Saharan African countries like Ethiopia, Kenya and Tanzania (Abebe et al., 2012; Belda & Gebremariam, 2016; Kuganab-Lem et al., 2014; August et al., 2015; Bayu et al., 2015; Belda & Gebremariam, 2016; Tura et al., 2014). In these studies, pregnant women knew birth preparedness and practised it but were not ready for obstetric complications. However, the results are different from those from a study in Burkina Faso which found that the majority of women (83.3%) who perceived BP/CR as beneficial for their health outcomes engaged in complication readiness, such as planning for skilled delivery care and saving money for emergencies (Moran et al., 2006).

In this study, pregnant women who completed four or more contacts with a health provider were more likely to prepare for birth but not complications, whilst mothers who utilised alternative sources of prenatal care were not likely to practice BP/CR at all. This is similar to earlier findings in low and middle-income countries (Botha et al., 2013; Magoma, Requejo, Campbell, Cousens, & Filippi, 2010; Mbalinda et al., 2014).

Many communities and pregnant women preferred home births and the care of traditional birth attendants because it enabled them to maintain their cultural preferences. These findings are apparent in Ghana and other low and middle-income countries (Aborigo et al., 2014; Bayu et al., 2015; Sychareun et al., 2012; Sychareun et al., 2016; Thapa & Niehof, 2013; Thwala et al., 2011). Emphasis on the BP/CR component of ANC was also less than might be expected compared to earlier research, which may be due to the low knowledge of the service providers on the subject (Lori et al., 2014). The majority of participants in studies in Ethiopia, Malawi and New Delhi were ANC attendees (Acharya et al., 2015; Botha et al., 2013), knew about danger signs in labour and had locational advantages but failed to engage in BP/CR (Bayu et al., 2015), whilst in this study many participants did not regularly attend ANC, did not know about danger signs and were geographically isolated, yet also did not engage in BP/CR.
Overall, the evidence shows that determinants of BP/CR use in the study communities may be related to cultural and other community based distinctives, such as costs of healthcare, costs of transport, lack of involvement of father and community, and staffing availability, as was the case in this study. For example, the cultural values, attitudes and preferred practices attached to BP/CR by expectant mothers and community members extensively determined the perception and practice of BP/CR (Aborigo et al., 2014; Acharya et al., 2015; Matsuoka, Aiga, Rasmey, Rathavy, & Okitsu, 2010; May, Beyeler, Barge, & Diamond-Smith, 2016; Mbalinda et al., 2014) in all locations, albeit in often different ways.

The interviews and group discussions have shown that the lack of means of transport by expectant mothers, coupled with the distances to laboratory services and healthcare settings, contributed to the low use of BP/CR. This is similar to the results of a Tanzanian study which found that expectant mothers utilised ANC services but missed out on skilled delivery care due to distances to health facilities (August et al., 2015). Financial constraints were closely linked with geographical accessibility and cost of maternity services, thereby limiting access to health facilities and BP/CR in this study; there have been similar bottlenecks in many other low and middle-income countries for the past decades, mostly in sub-Saharan Africa (Bayu et al., 2015; Buor, 2005; Gudu & Addo, 2017), and in another Ghana specific study (Buor, 2003). Costs of BP/CR were often prohibitive for women who had little or no independent source of income, being totally reliant on their husbands and/or families for financial support.

Cultural beliefs and practices, such as preferring the services of TBAs and ensuring culturally appropriate care, were found to be a barrier to achieving skilled maternity and birth care in the study communities. While the intake of botanicals (in this case, “local oxytocin”) was found to be a complementary practice by the TBAs, it was not only medication for treating obstetric complications and routine prenatal care but for induction of childbirth labour among others. The findings show that expectant mothers who utilised the services of TBAs including consumption of botanicals were less likely to prepare for skilled attendance at birth or have childbirth in a health facility. The continued utilisation of alternative sources of prenatal care and failure to
achieve a BP/CR plan was found to conform to poor understanding and education received from the service providers.

Although personal comfort and preference and cultural beliefs/practices influenced many of the decisions pregnant women and families made in relation to BP/CR, the proliferation of the services of spiritualists and TBAs in the continuum of care provision within the remote communities contributes to the poor utilisation of skilled care found in this study. In previous studies in Kenya, Mozambique and Lao PDR, cultural appropriateness had a profound influence on unskilled birth care (Atekyereza & Mubiru, 2014; Audet et al., 2016; Sychareun et al., 2012). Similar to this study, the nurses rarely completed a formalised BP/CR procedure/form with the mother or the family to reduce their workload. Even if the form was completed, it did not mean that pregnant women or their families would implement the plan (Atekyereza & Mubiru, 2014; Audet et al., 2016).

The findings also demonstrate that many women and families do not prepare for complications because they are unexpected and may not happen at all. There was a belief that complications are a ‘part of life’, a destiny, and therefore cannot be stopped; thus there is no need for BP/CR. For this reason, many expectant mothers continued to engage in risky income generating activities in the belief they could conceive again if they had a miscarriage. Therefore, arrangements were only made to transport women in labour when there were actual complications, rather than making plans in anticipation of a problem. The same principle applied to finding blood donors.

These results explicitly align with those found in Ethiopia and Burkina Faso, where expectant mothers missed out on birth plans due to the belief that the likelihood of obstetric complications was low, compounded by an inadequate understanding of the benefits of BP/CR (Bayu et al., 2015; Moran et al., 2006). Similar findings were reported in Southern and Northern Ghana (Aborigo et al., 2014; Dako-Gyeke et al., 2013), Uttar Pradesh, India and Tanzania (August et al., 2015; Raj et al., 2015).

BP/CR problems were compounded by the women’s lack of autonomy to make their own decisions in relation to preparing for safe pregnancy and childbirth in the study communities, in many cases even less than that experienced in other SSA countries, and certainly less than in urban and peri-urban settings in Ghana (Aborigo et al., 2014; Fotso, Ezeh, & Essendi, 2009;
Ganle et al., 2015). Perceptions of the generally subservient roles of women had specific cultural foundations often closely related to the patriarchal nature of the communities.

Husbands/partners with knowledge of BP/CR were more likely to be prepared for obstetric emergencies and to support their wives to receive appropriate care at health facilities and to utilise ANC, although this was not a guarantee in the case of other regions in Ghana and also Burkina Faso (Atuoye et al., 2015; Moran et al., 2006; Rishworth et al., 2016). Sociodemographic characteristics of participants such as the age of the mother had significant association with the place of childbirth, with younger women more likely to prefer TBAs’ care or delay reporting to a health facility during labour, with an attendant impact on uptake of BP/CR.

While educational attainment was not a statistical predictor of BP/CR, the interviews indicate that it may have an impact on the support mothers received from families in this study. Overall educational levels could also account in part for the lukewarm attitude concerning BP/CR. Similar findings were reported in Goba, Tigray, Ethiopia and Tanzania (August et al., 2015; Bayu et al., 2015), where education, occupation of the husbands and mothers, and knowledge of danger signs in pregnancy and labour influenced decisions to use skilled healthcare among prenatal and postnatal mothers in these locations (Bayu et al., 2015; Belda & Gebremariam, 2016; Mbalinda et al., 2014; Sumankuuro et al., 2016).

Parity was not associated with BP/CR, and marital status and occupation of the expectant mother also had a less significant effect on BP/CR. On the other hand, the number of ANC visits made was significantly associated with BP/CR, which suggests that women who completed four or more ANC visits may likely be prepared for birth. It also suggests that increasing ANC service utilisation could have an enormous impact on the overall reduction of avoidable morbidities and mortalities that occur as a result of negligence or otherwise in obstetric complications in the rural communities in the study districts, and in similar low and middle-income countries. It is crucial to note from the interviews that ANC service provision may not have been tailored to suit clients’ needs, which points partly to the moderate impact it [ANC] has on BP/CR.

Overall, in this study, and in Tanzania and Ethiopia, younger expectant mothers and unmarried women were less likely to follow their BP/CR plans,
whilst those who were educated and employed and who could finance health services were more likely to utilise skilled maternity services and gave birth under skilled supervision (August et al., 2015; Bayu et al., 2015). This suggests that the BP/CR component of the ANC classes should be specifically targeted to meet the particular needs of younger, less educated mothers.

Family support and involvement in preparedness planning was significantly associated with BP/CR implementation in the study districts. As many families and communities in this study do not support pregnant women, this subsequently meant that BP/CR uptake was often low. These attitudes were partly influenced by inadequate knowledge and understanding of the strategy, as well as cultural traditions at the community level. Although previous research did not explicitly include family support and involvement as an essential component in BP/CR, unlike in this study, the findings show an association between family involvement and maternity service utilisation (August et al., 2015; Mbalinda et al., 2014). The study also found that spousal age was significantly associated with pregnant women’s autonomy, and since many women in this study could only seek care with permission from family, it suggests that external control over maternal decision-making may explain the poor preparedness, due to the women’s lack of autonomy over their personal financial resources. Although spousal autonomy remains a complex concept and is largely defined in the context it is used, there is little consensus on allowing the mother to lead the family in decisions pertaining to their healthcare (Thaddeus & Maine, 1994). This finding corroborates with the evidence available. About 48% of women in India and slightly over 72% in Nepal had health seeking decisions decided for them (Ghose et al., 2017), and another 94.8% in Pakistan could not make approved ANC contacts due to non-permission from their husbands (Ghani et al., 2018). Failing to receive permission to engage in BP/CR undoubtedly partly contributed to the inability of some women to give birth at a planned place, instead giving birth at home or on the roadside.

In some cases, women could not engage in birth preparedness and complication readiness at the health facility due to the shortage of the necessary professional staff, essential medicines and other logistics required for efficient service delivery, particularly in emergencies. For instance, maternity services could not be provided for twenty-four-hours each day in the week at the sub-
district level, meaning that even if a healthcare facility was identified as the first place to seek help during an emergency, there was no guarantee that would be accessible to the pregnant woman when needed. Lack of essential medicines and equipment for saving the life of either mother or baby was a concomitant barrier to wanting to utilise skilled maternity services.

The numerous limitations suggest that the health facilities in the study districts may not be ready for obstetric complications, thereby providing a disincentive to the mothers to utilise targeting health facility services in their BP/CRI preparatiions and promoting the use of TBAs instead. Other studies into the impacts of low staff levels and BP/CRI show similar outcomes and concerns. For example, a study in India regarding delays in the continuum of care found that staff shortages, inadequate staff motivation and non-availability of the requisite logistics caused delays in providing adequate treatment (Knight et al., 2013; Raj et al., 2015). These barriers caused 47% of maternal deaths in the health facilities, 32% of deaths in transit between facilities and a significant other 19% that failed to seek care due to indifference to seeking skilled care and managing the problem at home. Knight et al. (2013) identified these and other related barriers as significant barriers to the “third delay” and a precursor to institutional maternal mortalities in many low and middle-income countries.

Although ideally each of the conventional elements in the measurement of BP/CRI would have been explored in more detail in the study, this was not possible due to time constraints on interview imposed by human ethics concerns. Overall, despite the apparent attention paid by ANC providers to different aspects of BP/CRI, there remain many barriers to its implementation in the study regions. The next chapter considers whether the same barriers impact on maternal outcomes during the childbirth and postpartum periods.
Chapter 8 – Childbirth and postpartum care

8.1 Introduction

As discussed in chapter 3, the literature shows that skilled attendance at birth and the postnatal stages could help prevent avoidable causes of maternal and newborn deaths (August et al., 2015; Bayu et al., 2015; Der et al., 2013). Although rural communities suffer most of the burden of obstetric complications and the associated impacts, they are also worse off in terms of access to skilled health professional services (Sakeah, Doctor, et al., 2014b; ten Hoope-Bender et al., 2014). In response to the profound importance attached to skilled attendance the governments have rolled out several interventions to increase staffing capacities and financial and geographical access to essential services. Some of these initiatives are evidenced in the renewed commitments to exempting pregnant women from paying for health services in many sub-Saharan African countries and south Asia (Witter et al., 2013; Witter et al., 2016).

Despite the Ministry of Health and the Ghana Health Service prioritising quality maternal health service delivery at all levels of care, the results of this research make it apparent that many barriers to accessing skilled childbirth and postpartum care exist in the study areas, and these are presented in this and the next chapters. Many of these issues have their foundation in cultural and economic constraints; these are the focus of the present chapter, which also provides data related to birth settings, birth attendants and birth outcomes. Other constraints during labour and postpartum periods and other related problems within the healthcare service, ranging from staffing capacities and professional skills and training, to the available logistics and equipment to provide care, are identified in the following chapter.

8.2 Childbirth outcomes

Before addressing barriers to skilled childbirth attendance, it is first necessary to quantify the actual extent of skilled attendance in the study population, the location of delivery, and complications during delivery.

The total number of multipara mothers surveyed in Phase 1 who had had stillbirths at any time in the past constituted 18.8% (15). Of this number, 78.8% had had live births from their delivery before the current pregnancy. Results
from phase 2 showed that in the most recent deliveries, 98.8% (79) carried their pregnancies to term while one mother each had a preterm birth and a stillbirth in Jang community. The preterm delivery occurred while the mother was on emergency admission at Wa Hospital. These deaths were attributed to foetal distress and birth asphyxia [Table 8.1].

Table 8.1: Recorded neonatal deaths and stillbirths among the mothers

<table>
<thead>
<tr>
<th>Mothers who have had neonatal death/stillbirth in past conception</th>
<th>Frequency</th>
<th>% of 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td>No</td>
<td>52</td>
<td>65.0</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>83.8</td>
</tr>
<tr>
<td>Not applicable</td>
<td>13</td>
<td>16.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome of present delivery</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Live birth</td>
<td>78</td>
<td>97.5</td>
</tr>
<tr>
<td>Preterm/Neonatal death/Stillbirth</td>
<td>1 preterm, 1 stillbirth</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Causes of stillbirths/neonatal deaths</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth asphyxia</td>
<td>2</td>
<td>75.0</td>
</tr>
<tr>
<td>Foetal distress</td>
<td>1</td>
<td>25.0</td>
</tr>
</tbody>
</table>


8.2.1 Who is in attendance at birth

Two (3.1%) of the surveyed mothers in Phase 1 had previously given birth supervised by TBAs, 25.0% (16) were supervised by relatives while the majority 60.9% (39) had childbirth under skilled attendance.

In relation to their most recent delivery (described in Phase 2 i.e. that which occurred during this research) two (2.5%) gave birth alone, 3.8% (3) had childbirth supervised by TBAs, and 6.3% (5) were supervised by relatives [Table 8.2].
8.2.2.1 Other support provided to women during childbirth

Diverse forms of support were provided to 73.8% of the pregnant women. Many of these (41.3%) were in the form of transport arrangement to reach the healthcare facility during labour. Some received family support to carry out laboratory investigations (3.8%), while other mixed forms of support, which ranged from the purchase of medicines, delivery items and provision of foodstuff constituted 26.3% [Table 8.3].

Table 8.3: Family support during labour/childbirth

<table>
<thead>
<tr>
<th>Forms of support from family during labour/childbirth</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport arrangement during labour</td>
<td>33</td>
<td>41.3</td>
</tr>
<tr>
<td>Financial support to do laboratory tests</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Money for complications and emergency situations</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>26.3</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>73.8</td>
</tr>
<tr>
<td>Not applicable</td>
<td>21</td>
<td>26.3</td>
</tr>
</tbody>
</table>


8.2.2.2 Seeking care alone

It was noted by a nurse that some pregnant women could report to the health facility during labour alone (i.e. without any accompanying person), which posed serious challenges to healthcare providers.
Most pregnant women come to the hospital alone. No family member accompanies them. They will come from morning until evening with nothing for them to eat.... During labour, we may need a relative to support in providing care such as picking the woman’s items from the birth kit and there is no relative to do it. Other times, we may need relatives to sign consent form, donate blood, and there is no relative to do any of these .... [IDIs, other nurses].

8.2.4 Place of childbirth

The birth locations of the women in their present and most recent past pregnancy were sought as presented below:

8.2.4.1 Previous deliveries

Regarding the results from the expectant mothers, 42.5% could not give birth at the planned place (i.e. CHPS compound or health centre); 22.5% (n=18) had homebirths, and 5% (4) gave birth on the way to the hospital or in a referral vehicle [Table 8.4].

Table 8.4: Place of previous childbirth

<table>
<thead>
<tr>
<th>Place of previous childbirth</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHPS compound</td>
<td>2 (2.5)</td>
</tr>
<tr>
<td>Health Centre</td>
<td>26 (32.5)</td>
</tr>
<tr>
<td>District Hospital</td>
<td>12 (15.0)</td>
</tr>
<tr>
<td>Private Hospital</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td>Home</td>
<td>18 (22.5)</td>
</tr>
<tr>
<td>On the way to hospital/referral van</td>
<td>4 (5.0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>63 (78.8)</strong></td>
</tr>
<tr>
<td>Missing system</td>
<td>17 (21.3)</td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.

8.2.4.2 Place of present childbirth

In phase 2, mothers who had been pregnant during phase 1 were asked where they had given birth. Five (6.3%) gave birth at home, another 5 (6.3%) gave birth during a referral or transfer to a health facility (6.3%), and 2 (2.5%) of them had deliveries at a social event [Table 8.5]. The remainder delivered at a health facility.
Table 8. 5: Place of present childbirth

<table>
<thead>
<tr>
<th>Place of present childbirth</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHPS compound</td>
<td>13 (16.2)</td>
</tr>
<tr>
<td>Health centre</td>
<td>42 (52.5)</td>
</tr>
<tr>
<td>Hospital</td>
<td>13 (16.2)</td>
</tr>
<tr>
<td>On the way to health centre/CHPS compound</td>
<td>5 (6.3)</td>
</tr>
<tr>
<td>Home</td>
<td>5 (6.3)</td>
</tr>
<tr>
<td>On the way from social gathering, e.g. funeral, festival</td>
<td>2 (2.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80 (100.0)</strong></td>
</tr>
</tbody>
</table>

*Source: Field Survey, May 2017.*

8.2.5 Why this place of childbirth?

Some of the mothers gave birth in different locations than planned. The majority (24 mothers, 30.0%) attributed the change in location to an emergency referral during labour, while only 2 (2.5%) were advised during ANC to utilise specialist care during labour [Table 8.6].

Table 8. 6: Reasons behind unplanned place of delivery

<table>
<thead>
<tr>
<th>Reason for mothers’ inability to give birth at sub-district facility</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency referral</td>
<td>24</td>
<td>30.0</td>
</tr>
<tr>
<td>Prenatal care advice</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
<td><strong>32.5</strong></td>
</tr>
<tr>
<td>Not applicable</td>
<td>54</td>
<td>67.5</td>
</tr>
</tbody>
</table>

*Source: Field survey, May 2017.*

Approximately 20% (n = 16) of the pregnant women received prenatal care from sources other than a health facility. While most women gave birth at a health facility (85%, n = 68), 8.8% gave birth at the roadside (7) and 6.3% (5) had a home delivery. It is often assumed that receiving maternal healthcare from alternative sources is independent of the place those women would likely give birth. Results from a chi-square Fisher’s Exact test show that there is no statistically significant association between “ever sought alternative sources of prenatal care” and whether or not they gave birth at a health facility; $x^2 (1, n = 80) = 1.57, \rho = 0.245$. The proportions show that women who utilised non-health facility care during the pregnancy were more likely to give birth at home or roadside [Table 8.7].
Table 8.7: Chi-square test for “ever sought prenatal care from alternative sources” and place of child birth

<table>
<thead>
<tr>
<th>Variables</th>
<th>Ever sought prenatal care from alternative sources?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>recoded place of childbirth</td>
<td>Count</td>
<td>Expected Count</td>
</tr>
<tr>
<td>Home or roadside</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>Health facility</td>
<td>12</td>
<td>13.6</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>16.0</td>
</tr>
</tbody>
</table>

*1 cell (25.0%) had expected count of less than 5. The minimum expected count is 2.40.

Women’s autonomy to utilise appropriate and timely care is assumed to impact on place of childbirth. A chi-square test showed that there is no statistically significant association between level of freedom and the place the mothers would likely give birth; $x^2 (2, n = 80) = 1.008$, $\rho = 0.603$. Although one cell had an expected count of less than 5, the proportions show that women who had partial or no control over healthcare decisions were more likely to give birth at home or roadside [Table 8.8].
Table 8. 8: Chi-square test for place of child birth and level of freedom to decide on healthcare

<table>
<thead>
<tr>
<th>Variables</th>
<th>Recoded level of freedom</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full control</td>
<td>Partial to no control</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>recoded place of childbirth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home delivery</td>
<td>Count</td>
<td>3*</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Expected Count</td>
<td>3.2</td>
<td>8.9</td>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>25.0%</td>
<td>75.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>health facility delivery</td>
<td>Count</td>
<td>18</td>
<td>50</td>
<td>68</td>
</tr>
<tr>
<td>Expected Count</td>
<td>17.9</td>
<td>50.2</td>
<td>68.0</td>
<td></td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>26.5%</td>
<td>73.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>21</td>
<td>59</td>
<td>80</td>
</tr>
<tr>
<td>Expected Count</td>
<td>21.0</td>
<td>59.0</td>
<td>80.0</td>
<td></td>
</tr>
<tr>
<td>% within recoded place of childbirth</td>
<td>26.3%</td>
<td>73.8%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

* 1 cell (25.0%) have expected counts of less than 5. The minimum expected count is 3.15.

On other occasions, the mother may be at least somewhat prepared and have attended ANC, but it is impossible for her to reach medical assistance when the need finally arises. For example:

*I made eight ANC visits during that pregnancy and was told I had an overweighed baby who could pose risks during labour and childbirth. Labour commenced at about noon, but there was no man at home to take me to the clinic. Therefore, my mother-in-law supervised the childbirth. The labour lasted for about fourteen hours, but even came out as stillborn and leaving me in the fistula. I have suffered the fistula condition for four years now, facing all the stigma and depression from the community and family. I was told not to conceive again, but my husband pressed on until we had this nine-month-old girl [IDIs, fistula patient, Naro/Korinyiri].*

8.3 Danger signs and complications

8.3.1 Danger signs of labour/childbirth (recent past pregnancy)

Fifteen (23.4%) of the sixty-four multiparous expectant mothers could identify at least one danger sign during labour namely, profuse vaginal bleeding
(20%), prolonged labour lasting for more than 12 hours (53.3%), general weakness or collapse (13.3%) and others (13.3%) [Figure 8.1].

![Figure 8.1: Danger signs in labour (N=15, multiple responses were allowed)](image)

8.3.2 Nature of complications

The forms of obstetric problems the expectant mothers in the study experienced during labour are grouped into: recent past pregnancy (pregnancy before the study) and the current pregnancy (pregnancy which qualified them to participate in the study).

8.3.2.1 Complications in recent past pregnancy

Thirteen expectant mothers suffered different forms of obstetric complications during their most recent labour preceding the study (phase 1). Of these, 5% experienced abdominal pains, headache (2.5%), blurred vision (1.3%), bleeding (1.3%), depression (5.0%), and other mixed complications (1.3%) [Figure 8.2].
8.3.2.2 Danger signs experienced in labour and childbirth (Phase 2)

Thirty-eight of the eighty pregnant women (47.5%) had obstetric problems during labour and birth recorded. Excessive vaginal bleeding was experienced by 15%, retained placenta (3.8%), foul smelling discharge (1.3%), severe headache (2.5%), loss of consciousness (2.5%), prolonged labour (18.8%) and others e.g. severe waist pains, severe abdominal pains (3.8%) [Figure 8.3].
8.3.2.3 Actual complications during delivery

There were reported cases of roadside deliveries in the study. The health professionals attributed some of the obstetric and neonatal complications to poor road networks linking the communities to appropriate health facilities.

Sometimes, due to over-shaking on the rough road, many of them give birth on the road (Are those births usually livebirths or stillbirths?) ... both. Many of them are usually stillbirths. As the child comes out, the child becomes asphyxiated and no nurse is there to resuscitate the child. For now, if you refer any expectant mother, the nurse must go along. Some people come with motorbike or tricycle, and they go alongside with two other relatives of the expectant mother. Sometimes, you the nurse find it difficult to get means so you can go along with the client and the relatives [IDIs, other nurses].

The above quote is referring to a protocol implemented by The Ministry of Health (MoH) in collaboration with the Japan International Cooperation Agency (JICA) which obliges a nurse to accompany a client to the referral point. However, the protocol is beset with several challenges due to lack of transport systems in the health facilities.

a) Haemorrhage

Haemorrhage was found to be a common cause of complications during childbirth in the communities. It was reported this could lead to severe bleeding, with the potential threat of severe anaemia.

Many of them will delay until the second stage, or when they are bleeding, which could be placental abrupture. Thus, premature separation of the placenta. It can also lead to antepartum haemorrhage [a woman, IDIs, Health facility, NKD].

b) Caesarean section

Some complications were caused by poor caesarean births in the health facilities, thereby leaving permanent trauma or death.

We don’t have any [recent] death from CS. [But they were] happening in some hospitals which I don’t want to mention the names, years back that was 2014/2015, It’s true. Some years back people (expectant mothers) were dying on the theatre table. Even a day was two or three mothers who died from CS. Some also, just after the operation – that’s postpartum surgical observation. After the operation, we need to monitor for fifteen minutes for the first two hours and then we move to thirty minutes for the next four hours. Then we shift back to vital signs. This one we often need a dedicated and committed staff to do these. I think these ones were not done properly that’s why it gave them problems [a man, IDIs, Health facility, NKD].
c) Anaemia

Anaemia in pregnancy had a profound impact on pregnancy outcomes in the study communities. It was mainly caused by poor diet and malaria.

Even if we show you our past records, and today you will see them, so many pregnant women coming out and we test malaria positive and this malaria can bring maternal and neonatal death. Sometime, the woman because of this malaria will have anaemia and if we don’t realise it early it can lead to death during labour [a man, IDIs, Health facility, NKD].

8.3.3 Determinants of complications

8.3.3.1 Use of oxytocin

Some obstetric complications were attributed to the use of oxytocin from TBAs. This has been flagged in the previous chapter; problems during labour are the focus here.

The medical director commented that local oxytocin intake causes haemorrhage and CS in the health facilities;

*It gives us; one a prolonged labour, for that one it is an issue and sometimes they also come in with antepartum haemorrhage. Why? Because of the premature contractions after the local oxytocin. At the time that the natural contractions are supposed to set in their own set in. They will be in the contractions and when they enter the facility their own contractions cease. I will add that that one has even contributed to more of our caesarean sections, than the maternal deaths [a man, IDIs, Health facility, NKD].

She has local herbs they give them. Some of them have reported with bleeding cases, some preterm labour. Some of the infections and other things, some even lost their babies through the local herbs because it has not got any dosage. They just fetch for them to go and take [a woman, IDIs, facility, NKD].

8.3.3.2 Domestic violence

It was reported that some men could maltreat expectant mothers. These behaviours occur in the form of regular quarrels over the slightest difference or physical beatings, which could lead to complications and fatalities.

*Stillbirths and maternal deaths could also come from petty quarrels at home. ... We have had an instance of maternal death like that two years ago, she was even beaten by the husband which led to complications and was referred to Wa, and she died there. We were told she had so much internal bleeding, but because she could reach the facility early, they were unable to treat it [FGDs, Non-pregnant women, Bussie].*
8.3.3.3 Poor outcomes in pregnancy

The healthcare providers indicated that late reporting, home deliveries and poor birth environment (unhygienic delivery place) and non-compliance of mothers and families with medical advice contributed to neonatal deaths: *The neonatal deaths, I’m talking of the home deliveries, if she delivers and the hygiene there is not all that conducive and maybe the instruments they have used to cut the cord, cleaning and all that, they can infect the child and s/he can die within the 7 or 28 days. But that one I don’t know whether we don’t do the follow-up, or they don’t report, we don’t get them much. But the SB too, some will come at the time when the foetal heart is already off, so that there is nothing you can do [a woman, IDIs, Health facility, DBID].*

8.3.4 Complex system of referrals

8.3.4.1 Number of referrals

As noted above, emergency referral was the most frequently cited reason for giving birth in an unplanned for place. According to data from the district health information units, expectant mothers referred during labour were 54 (5.22% of births) in 2012, 36 (10% of births) in 2013, 24 (7.09% of births) in 2014 and 17 (7.13% of births) in 2015.

The referral hospital reported receiving emergency obstetric cases from the sub-district health facilities. For example, a total of 33.8% (27) of the mothers who participated in the study were referred to hospital from the Health Centres and the CHPS compounds in their present pregnancy and birth.

8.3.4.2 Reasons for referrals

There are many reasons for referrals, some of which overlap with the actual causes of complications during labour identified in Section 8.3.1, including anaemia, eclampsia, haemorrhage, obstructed or prolonged labour, preterm labour [Table 8.9].
Table 8. 9: Reasons for referral to hospital

<table>
<thead>
<tr>
<th>Reason for referral to hospital</th>
<th>Frequency</th>
<th>%</th>
<th>% of 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>4</td>
<td>5.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>1</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Haemorrhage</td>
<td>1</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Obstructed or prolonged labour (including impending uterine rupture with IUFD)</td>
<td>7</td>
<td>8.8</td>
<td>25.9</td>
</tr>
<tr>
<td>Poor obstetric history</td>
<td>4</td>
<td>5.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Preterm labour</td>
<td>1</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Self-referral</td>
<td>9</td>
<td>11.3</td>
<td>33.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27</strong></td>
<td><strong>33.8</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Not applicable</td>
<td>53</td>
<td>66.3</td>
<td></td>
</tr>
</tbody>
</table>

**Stage at which expectant mothers were referred**

<table>
<thead>
<tr>
<th>Stage at which expectant mothers were referred</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal care</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Labour</td>
<td>25</td>
<td>31.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27</strong></td>
<td><strong>33.8%</strong></td>
</tr>
<tr>
<td>Sub-total</td>
<td><strong>27</strong></td>
<td><strong>33.8</strong></td>
</tr>
<tr>
<td>Mothers who were not referred</td>
<td>53</td>
<td>66.3</td>
</tr>
</tbody>
</table>

**Source**: Field survey, May 2017.

The women in the study communities are more disadvantaged than those in other regions in accessing emergency obstetric healthcare in their communities. Considering the health hazards, the roads could pose to a woman in obstetric complication or obstructed labour, skilled care at an appropriate and nearest health facility (either Wa or Nadowli) may not lead to expected outcomes. For example, an average drive of more than two hours from Jimpensi to Nadowli Hospital may not be quick enough. Therefore, a number of the pregnant women often prefer home birth attended by relatives or TBAs.

Figure 10.4 provides the location of the study communities and sub-district health facilities and the direction of movement for expectant mothers during emergency referrals to Nadowli hospital [Figure 8.4].

Figure 8. 4: Study communities, sub-district health facilities and referral routes
8.3.4.3 Typical referral management

Typical referral management in the study areas [Figure 8.5] is illustrated below. The focus is on worst case scenario, because it is during such a scenario that maternal and neonatal deaths are most likely to occur.

Source: Spatial Analysis Network, Charles Sturt University (SPAN-CSU), August 2017.

Figure 8. 5: Pictorial view of referral management in study area
Nearly all maternity cases brought to the health centres originated from the remotest communities. Out of the eight project sites, half of them received referral cases from CHPS while the remaining 50% do not receive referrals from CHPS compounds due to their geographical positions in the district. The four CHPS were the only facilities that did not receive emergency referrals from any health facility as they are the lowest order in the hierarchy [Table 8.10].

Table 8. 10: The distance of communities (about sub-district health centers) to the hospital

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very remote parts</td>
<td>4</td>
<td>50.0</td>
</tr>
<tr>
<td>Nearby communities</td>
<td>2</td>
<td>25.0</td>
</tr>
<tr>
<td>All parts of the district</td>
<td>2</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, May 2016.

8.3.4.4 Difficulties in managing referrals at sub-district level

It was noted that delay in deciding to utilise skilled care during complications in delivery affects timely referral:

Identifying the case alone and identification of the problem is number one, therefore, by the time they will sit there and realise that the situation is getting out of their hands. Then they will rush to the health facility. When they get to the health facility, and now the midwife or anyone there must sit down and write the referral letter then it comes to how the mother can get here. That
problem] becomes the accessibility of the roads to the facilities [a man, IDIs, Health facility, NKD].

a) Transportation in present pregnancy

Mothers in Phase 2 were asked what form of transport they used to access an appropriate health facility during referral. Motorbikes were the dominant mode of travel during referral [Table 8.11], whilst 10.0% used public transport and 6.3% used tricycles to reach the referral facility (Nadowli Hospital).

Table 8. 11: Transportation in present pregnancy

<table>
<thead>
<tr>
<th>Mode of transport to referral facility</th>
<th>Frequency</th>
<th>%</th>
<th>% of 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorbike</td>
<td>14</td>
<td>17.5</td>
<td>51.9</td>
</tr>
<tr>
<td>Tricycle</td>
<td>5</td>
<td>6.3</td>
<td>18.5</td>
</tr>
<tr>
<td>Public transport (&quot;trotro&quot;)</td>
<td>8</td>
<td>10.0</td>
<td>29.6</td>
</tr>
</tbody>
</table>

b) Transport in past pregnancy

Among multiparous mothers who had used emergency transport in the past, 18.8% used public transport, 2.5% used private car, 66.3% used motorbike, and 12.5% accessed emergency care using tricycles. These women are in a profoundly difficult situation: even if they are prepared, transport arrangements may be such that the baby is born during transit, often resulting in stillbirth. Yet, if they do not follow through on the referral and deliver at home, there may also be problems during delivery with negative outcomes for mother and child [Table 8.12].
Table 8. 12: Mode of transport during emergency in past pregnancy

<table>
<thead>
<tr>
<th>Means of transport during emergency (n=80 responses from 64 expectant mothers)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public transport (trotro)</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td>Private car</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Motor bike</td>
<td>53</td>
<td>66.3</td>
</tr>
<tr>
<td>Motorking/tricycle</td>
<td>10</td>
<td>12.5</td>
</tr>
</tbody>
</table>


8.3.4.5 Reasons for delays in seeking skilled care during labour

Diverse factors account for the delay expectant mothers experienced in utilising health facility care during labour. While geographical isolation of communities from the referral facility explained some of the determinants, social and cultural beliefs and practices within the family and community also contributed to many of the avoidable delays.

a) Lack of autonomy

The goal of the BP/CR strategy is to ensure skilled care for all obstetric complications in pregnancy, labour and childbirth. However, some women had to delay seeking skilled care whilst they waited for permission from their husband or another family member to seek help in labour:

Women do not have a say in these communities. If it is the ANC or even the labour she is coming, or there is something like go to Nadowli...referred her to labour or something, it is the men that will take the decision. If even the woman has the money and the will to go, but who there you say, oh take me and go. They will call her strong woman or you now taking the place of men, I think traditionally it is also affecting our healthcare seeking [a woman, IDIs, Health facility, NKD].

b) To avoid talking about early labour

Many participants identified that they delayed seeking skilled assistance to avoid talking about going into labour.

Only 22 (27.5%) of expectant mothers informed their closest relative that they were in the early stages of labour. The late disclosure of labour occasionally contributed to roadside births and home deliveries, as well as other complications and the need for referrals:

They try to hide the labour signs until it is severe, and they will now say I’m suffering let’s go to the clinic some if they are not fortunate to get here early, they will either give birth in the house or even on the way, which is pathetic.
Born before arrival, they will just get somewhere, and the child will be coming, you cannot stop it. Even on the way [a woman, IDIs, Health facility, NKD].

The reasons given for hiding labour are summarised in table [Table 8.13] and are explicated in more detail below.

Table 8. 13: Sociocultural beliefs on skilled birth care

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed closest perform immediately labour began?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>27.5</td>
</tr>
<tr>
<td>No</td>
<td>58</td>
<td>72.5</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
<tr>
<td>Reason for hiding labour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt it was not far advanced</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>Traditional norms, e.g. will prolong if I tell someone</td>
<td>34</td>
<td>42.5</td>
</tr>
<tr>
<td>Other, e.g. fear of referral if announced/report early</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-total</td>
<td>58</td>
<td>72.5</td>
</tr>
<tr>
<td>Expectant mothers who informed the closest person during onset of labour</td>
<td>22</td>
<td>27.5</td>
</tr>
<tr>
<td>Orally administered local oxytocin when you felt labour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>13.8</td>
</tr>
<tr>
<td>No</td>
<td>69</td>
<td>86.3</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
</tbody>
</table>


i) Not far advanced enough

Nine (11.3%) of expectant mothers chose not to tell anyone that labour had commenced because they did not think it was far advanced enough.

ii) Disclosing the labour signs will prolong labour

Thirty-four (42.5%) of expectant mothers believed that early disclosure would prolong the progress of labour. Therefore, to ensure fruitful and safe birth, expectant mothers preferred to hide it. However, this practice inevitably resulted in an occasional home delivery.

Some refuse to give birth at the clinic because of they believe, when labour is announced prematurely, it prolongs. So, they keep it indoors until they give birth. Some shout for assistance when the baby is almost out.... We keep telling them that, water infusions and blood transfusions cannot be done during home
births, and even if they become pale unless, at Nadowli hospital, the clinic does not transfuse blood [FGDs, non-pregnant women, Bussie].

This practice also prevents healthcare professionals from knowing about the onset of labour. An Enrolled Nurse indicated that:

Some of the cultural practices sometimes especially labour that set in, they believe that it’s not good to report early to the health facility. If the woman reports early to the health facility, they thought that it would delay the baby from coming early. The pregnant woman, therefore, will be there, when they see the head out, you see them then trying to reach the health facility. Sometimes most of them even deliver on the way or they called us to come and conduct delivery of the woman on the way or the woman may reach the CHPS compound and the baby is just getting out [a woman, IDIs, Health facility, DBID].

iii) To facilitate use of local oxytocin

Eleven expectant mothers (13.8%) delayed seeking assistance during early labour to allow them time to use local oxytocin to both expedite labour and to avoid referral.

iv) Fear of death

Within nanville/Siruu community and its environs, late reporting during labour was to prevent the elderly people from knowing, because, they [expectant mother] believe that if the elders know about it [too early], it will be difficult for you to deliver the baby. They believe she may die with it [a woman, IDIs, Health facility, DBID].

8.3.4.6 To facilitate working until delivery

In some families and communities farm labour was perceived as a form of exercise for expectant mothers that could be safely carried out until virtually the moment of delivery:

Refusing to participate in them, will cause complications during labour... expectant mothers engage in so many activities [FGDs, opinion leaders, Jimpensi/Kenkelley].

Expectant mothers were cited doing menial jobs even on their expected date of delivery (EDD).

My last homebirth, I felt the birth pains, but I didn’t have water, so I took a bucket and dashed to the borehole to draw water before going to the clinic. When I got home with the water, I send for my husband who was at a relative’s house closed by. I send for my neighbour (an adult woman) also, to come and
accompany me to the clinic. Before they both reached me, the baby was already out [FGD, non-pregnant women, Woggu].

The study sought to test the association between women who informed the closest person/family member during labour and the intake of local oxytocin. Thus, a chi-square Fisher’s Exact test was run to understand if it is women who fail to inform the closest person who administered local oxytocin at the onset of labour or not. The results show that there is no statistically significant association between the two variables; \( x^2 (1, n = 80) = 0.896, \rho = 0.450 \). However, the proportions show that women who informed the closest relative at the onset of labour were less likely to administer local oxytocin and vice versa [Table 8.14].

Table 8.14: The association between expectant mothers’ intake of local oxytocin versus “informed closest person immediately labour began”

<table>
<thead>
<tr>
<th>Variables</th>
<th>Informed closest person immediately labour began?</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied local oxytocin when labour began?</td>
<td>Yes Count</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>2.8</td>
<td>7.3</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>% within Informed closest perform immediately labour began?</td>
<td>18.2%</td>
<td>10.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td></td>
<td>No Count</td>
<td>18</td>
<td>52</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>19.3</td>
<td>50.8</td>
<td>70.0</td>
</tr>
<tr>
<td></td>
<td>% within Informed closest perform immediately labour began?</td>
<td>81.8%</td>
<td>89.7%</td>
<td>87.5%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>22</td>
<td>58</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>22.0</td>
<td>58.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>% within Informed closest perform immediately labour began?</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

8.3.4.7 Preference for home delivery

A number of participants identified a preference for home delivery over a delivery at a health centre. Several reasons were given for this preference.
i) Pride in home delivery

While physical, economic and cultural barriers may restrict a woman’s ability to access skilled health services, some pregnant women take pride in having a home birth. It may show personal strength:

*They want to deliver in the house so that they (family/community) will know yeah, I’m a woman. Ehee! I’m a strong woman. All my deliveries, I have been delivering in the house so why should I come to the facility [a woman, IDIs, Health facility, DBID].*

On other occasions, they follow generations of example:

*For some mothers, it is not the cost; they intentionally do it. They will tell us the abdomen did not pain for long. That, the moment the felt pains the baby was coming, so they cannot get to the facility. Others will tell you that their great-grandparents were delivering in the house, and they always had it successfully, so they see the reason why she will be walking about, and they will ask her to come to the hospital and deliver. Ignorance is also another cause [IDIs, Midwife, Maternity unit in-charge, Nadowli District Hospital].*

ii) Preference for self-induction of labour

Although some families and pregnant women would choose health facility delivery during labour, cultural appropriateness and the avenue to self-induce labour using local oxytocin was a motivation to give birth outside of a health facility.

*We have had cases of homebirths among pregnant women. It is common among women whose labour do not keep long (precipitate labour). Also, when the “hot” oxytocin is administered so early, she will give birth at home or on the roadside. Nevertheless, every expectant mother now makes frantic efforts to reach the clinic for childbirth. My twins were brought forth at home before I was taken to the clinic for immunisation. I didn’t expect labour to commence that day [FGDs, opinion leaders, Nanvilli/Siruu].*

iii) Distance to healthcare facility

However, others were compelled into it, due to the challenges of reaching the appropriate health facility. This is because,

*Expectant mothers often consider the distance to Nadowli and realised she might not reach before labour intensifies. Instead of having childbirth on the road to Nadowli hospital, they sometime stay at home to have their childbirth [FGDs, non-pregnant women, Naro/Korinyiri].*

iv) Prefer traditional birth attendant
Cultural beliefs place considerable trust in the services rendered by spiritualists and TBAs. Therefore, it was common for expectant mothers to confer with TBAs before utilising health facility care during childbirth, particularly if the baby was in breech position.

*I once went for the TBA care before going to the clinic to give birth as I was due on the same day. That labour did not keep long unlike others [FGDs, non-pregnant women, Bussie].*

While there were possible risks associated with TBAs care including palpation, expectant mothers combined the services of both health facilities and TBAs.

*In recent past, we combined both ANC and the care from the midwife and those of the TBAs. We have been stopped from receiving care from the TBAs, but some pregnant women still hide into TBAs homes for care and local herbs. In fact, TBAs sometimes palpate the womb so hard such that, some expectant mothers do get “black-out”. We embrace the services provided by TBAs because of the distance to Nadowli hospital and absenteeism of the midwife at our clinic. Currently, women who give birth at home are fined to encourage all women to have births supervised by the midwife [FGDs, non-pregnant women, Naro/Korinyiri].*

v) Birth position

The preference for home deliveries was also influenced by the birth positioning preferred at the health facility.

*Some too, maybe they are afraid of the facility some will say our beds are too small for them to lie down and deliver or when they come to the position they want to say we do not allow them to assume that position. Some will want to the squad, some want to maybe lie down in another way, but we have one position that we say down on your back. So, they feel uncomfortable [a woman, IDIs, Health facility, DBID].*

The midwife for Woggu CHPS zone added that:

*You see some, two women will be holding this hand and two women will be holding the other hand, then the man. They want to deliver in a sitting or standing position, so they will just stand and hold this and the legs open while pushing. Then TBA standing there when the child is coming they catch. Here most of the time because of our delivery, we prefer they lie down, and they don’t like that [a woman, IDIs, Health facility, DBID].*

vi) Cheaper
BP/CR recommends saving money for delivery because out of pocket expenses will often arise despite the delivery theoretically being fully covered by health insurance. Slightly more than half of the mothers who gave birth in a healthcare setting (35%) made out-of-pocket payments for different services provided. Of this number, payments were made for blood transfusion, medicines (60.7%), delivery items and other charges for conducting delivery [Table 8.15].

_However, the cost I am talking of, is the small items the midwives ask them to buy such as delivery items - rubbers, mackintosh, Dettol, and so on [a woman, IDIs, Health facility, NKD]._  
She further explained that:

_The cost at the hospital and the transportation. How to get transport to come here is a problem. Those from faraway places – those from the DBID the road is not straight, imagine how they struggle maybe from Kojokpere or Fian you get to Daffiama and from there to get lorry and come unless it’s market day or if her husband has a motorbike it’s always a problem. So, transportation is one of the costs ... [a woman, IDIs, Health facility, NKD]._

For these reasons, and also due to lack of preparedness discussed in the previous chapter, poverty presents a significant challenge to some mothers hoping to prepare for health facility childbirth; home delivery is the cheapest option.

_A lot of expectant mothers have received lessons on BP/CR, but poverty makes them unable to prepare in advance [FGDs, non-pregnant women, Naro/Korinyiri]._

Table 8.15: Items/services mothers made out-of-pocket payments for during childbirth

<table>
<thead>
<tr>
<th>Did you spend money during childbirth at health facility?</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>28</td>
<td>35.0</td>
</tr>
<tr>
<td>No</td>
<td>52</td>
<td>57.5</td>
</tr>
<tr>
<td>Not applicable</td>
<td>6</td>
<td>7.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Services provided</th>
<th>Frequency</th>
<th>% of 28 mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood transfusion</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>Medicines</td>
<td>17</td>
<td>60.7</td>
</tr>
<tr>
<td>Delivery items, e.g. Dettol, Mackintosh rolls, rubbers, blade</td>
<td>7</td>
<td>25.0</td>
</tr>
<tr>
<td>Delivery charges</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
</tr>
</tbody>
</table>

_Source: Field survey, May 2017._

Unknown charges on expectant mothers and the families discourage use of skilled care during complications and labour.
(vii) Better care

It was perceived by the mothers that TBAs provide the required care for their pregnancies, and ensure comfort, which encouraged the continued patronage of their services.

*I am able to palpate it to the extent that even when it’s breeched, I am able to diagnose and reposition the baby to cephalic so as to make delivery easy [IDIs, TBA, DBID].*

Despite the educational programmes by Ghana Health Service and the ban on TBA deliveries, there was continual patronage of their services.

*In a month, I do conduct five deliveries on the average. During the last Ramadan fasting (in the year 2016), I had no chance to rest at home. I conducted deliveries throughout that period. Sometimes clients wished I could travel to villages to provide services such as attend to labouring women [IDIs, TBA, DBID].*

The widely patronised TBA in the study districts could conduct fifteen deliveries on average per month.

*I could conduct about fifteen deliveries a month. They used to come for me even at night to different communities to go and attend to labouring women. Sometimes, on return, I could come to find another pregnant woman waiting on me to come conduct her delivery. During farming season, for instance, I could go to the farm and people will follow-up there for me to go home and conduct deliveries. I could attend to deliveries throughout the day and at night. When I was unable to conduct a delivery, I referred them to Nadowli hospital [IDIs, TBA, NKD].*

(viii) Burial of placenta

It is a tradition in Bussie and Siruu communities to bury the birth remains, particularly of male children, within the community. This practice influenced community members residing in the Southern part of Ghana to parcel the placenta home for burial. It was, however, noted that disposing of the placenta in Bussie clinic is customarily accepted. Also, with Siruu community, persons from the community were assigned to dispose of the placenta.

*It’s our tradition. Even today, people who are in southern part of Ghana do carry the placenta to Bussie to bury. When a baby boy’s placenta is buried outside the community, the child cannot inherit a chieftaincy title or be a traditional head in future. Also, if it’s buried in Bussie clinic, it’s still acceptable, but when they are referred to Nadowli hospital. It should be taken to Bussie for burial. They swap the destiny of the child by burying them in the placental pit mixed with others [FGDs, opinion leaders, Bussie].*
Negative attitudes of nurses towards pregnant women, ostensibly related to the pressure arising from low staffing levels, can act as a deterrent to expectant mothers:

Expectant mothers receive cheeky words from the nurses, so some do not receive maternal healthcare at the clinic because they have received enough of the insults. They are afraid to divulge the truth for fear of receiving worse treatments in subsequent attendance [FGDs, non-pregnant women, Naro/Korinyiri].

Similar treatment was experienced in another community:

I have not been to other clinics, but the nurses in our clinic do not give us attention at all whenever we seek care at night or evening. They might not even utter a word to you, before going back into their residences. When we give them a knock on their doors to attend to an emergency at night, they refuse to provide care, not even a pain reliever. When the client family insist, they just write a referral letter for you. Given the odd hour, how are we going to manage the case to Wa or Nadowli hospital? [FGDs, non-pregnant women, Jang].

Although health centres and CHPS compounds are expected to provide healthcare always, some mothers were refused attention during labour. Some would even tell us they don’t run shifts and so will not work after 2pm [FGDs, non-pregnant women, Jang].

8.4 Postnatal care

The results found two categories of maternal healthcare providers involved in postnatal care - the mainstream health service providers and the traditional birth attendants. Women who gave birth supervised by health professionals received basic postnatal care of both the mother and the newborn, and both umbilical cord care and early initiation of breastfeeding were priorities before they were discharged. Increased intake of fluids and regular change of perineal pads (if soiled) was emphasised to facilitate their safety and recovery process. However, expectant mothers who gave birth at home and/or attended by TBAs mostly were discharged immediately without similar treatment and education. The ensuing sub-sections explain the outcomes of the care women received in this study during the postnatal period.

8.4.1 Postnatal checks

The participants provided information on the care provided within the few days of childbirth. It was found that the majority (55.0%, n = 44) did not receive postnatal checks. About forty-three percent (n = 35) of them received
an early postnatal check from a health professional (Midwife and Community Health/Enrolled Nurse). Some women gave birth at home (13.8%, n = 11), followed with a warm press (11.3%, n = 9) or cloth band aids around the abdomen (2.5%, n = 2), which were the means of removing retained matter after delivery over the early postnatal period [Table 8.16].

Table 8. 16: Postnatal care

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Postnatal checks on mothers’ health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>35</td>
<td>43.8</td>
</tr>
<tr>
<td>No</td>
<td>44</td>
<td>55.0</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>98.8</td>
</tr>
<tr>
<td>Not applicable</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Who checked on your health?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife</td>
<td>18</td>
<td>22.5</td>
</tr>
<tr>
<td>Nurse (CHN/EN)</td>
<td>17</td>
<td>21.3</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>43.8</td>
</tr>
<tr>
<td>Did not receive check</td>
<td>45</td>
<td>56.3</td>
</tr>
<tr>
<td><strong>Method of removing retained matter in homebirths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warm water press</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>Tired a cloth around abdomen</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>13.8</td>
</tr>
<tr>
<td>Not applicable</td>
<td>69</td>
<td>86.3</td>
</tr>
</tbody>
</table>


8.4.2 Family support in postnatal care

The various forms of spousal support received during the postnatal period were identified. It was observed that the most frequent form of support for postnatal mothers was financial assistance when seeking postnatal care (38.8%), 7.5% had husbands accompany them, 12.5% were supported in child caring role while about one-third (37.5%) did not receive any form of support in their postnatal care [Table 8.17].
Table 8. 17: Husband’s support during postnatal care

<table>
<thead>
<tr>
<th>Role of husband in the postnatal care</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support in household activities</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Financial support during care-seeking</td>
<td>31</td>
<td>38.8</td>
</tr>
<tr>
<td>Care for the children</td>
<td>10</td>
<td>12.5</td>
</tr>
<tr>
<td>Received support and accompaniment to health facility for care and birth</td>
<td>6</td>
<td>7.5</td>
</tr>
<tr>
<td>None/no support</td>
<td>30</td>
<td>37.5</td>
</tr>
</tbody>
</table>


The mothers also indicated they lacked family contributions towards enhancing their health service utilisation and facilitating the recovery process from birth during the postnatal period. Nearly half of them (58.8%) did not receive any form of support from the family after childbirth. Delivery items such as cakes of soap, baby clothes and foodstuff were the clear majority (25%) of the support they received [Table 8.18].

Table 8. 18: Support from family members in postnatal care

<table>
<thead>
<tr>
<th>Role of family members in postnatal care</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help to recognise danger signs</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Finance arrangement</td>
<td>4</td>
<td>5.0</td>
</tr>
<tr>
<td>Accompanying person</td>
<td>7</td>
<td>8.8</td>
</tr>
<tr>
<td>No support (such as transport, financial, upkeep) from family</td>
<td>47</td>
<td>58.8</td>
</tr>
<tr>
<td>Other, e.g. soap, clothes, foodstuff</td>
<td>20</td>
<td>25.0</td>
</tr>
</tbody>
</table>


Nearly two-thirds (n = 59, 73.8%) of the mothers experienced postnatal complications. A chi-square test was run to assess the relationship between the forms of support women received from their families during labour and birth and the problems the mothers experienced in the puerperal stage (i.e. two days after delivery). The results show that there is no statistically significant relationship between the two variables; $x^2 (1, n = 59) = 3.156, \rho = 0.076$. This suggests that there are other factors, including possibly those identified in section 8.3.4, which may have contributed to the complications rather than family support during labour and birth. Nevertheless, women who received transport and monetary support at the onset of childbirth labour were less likely to experience complications in the puerperium than those who had blood donor and other forms of support from the family (55.6% vs 44.4%) [Table 8.19].
8.4.3 Morbidity and mortality in immediate postnatal period

Some of the expectant mothers suffered diverse issues within a two-day period after childbirth. More than two-thirds (41.3%) of the pregnant women experienced complications in the early postpartum stage. Severe bleeding (8.8%) was the major complaint after childbirth and came second after blurred vision (12.5%) as the leading cause of postpartum complications [Table 8.20]. Unfortunately, nearly all the mothers (36.3%) were at their homes when the complications began [Table 8.21].
Table 8. 20: Problems experienced within two days after delivery

<table>
<thead>
<tr>
<th>Response that experienced complications within two days of birth</th>
<th>Frequency</th>
<th>%</th>
<th>% of 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>41.3</td>
<td>41.3</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>58.8</td>
<td>58.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complications experienced after childbirth</th>
<th>Frequency</th>
<th>%</th>
<th>% of 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe bleeding</td>
<td>7</td>
<td>8.8</td>
<td>21.2</td>
</tr>
<tr>
<td>Severe headache</td>
<td>6</td>
<td>7.5</td>
<td>18.2</td>
</tr>
<tr>
<td>Blurred vision</td>
<td>4</td>
<td>5.0</td>
<td>12.1</td>
</tr>
<tr>
<td>Swollen hands/face</td>
<td>1</td>
<td>1.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Vaginal discharge</td>
<td>2</td>
<td>2.5</td>
<td>6.1</td>
</tr>
<tr>
<td>Loss of consciousness</td>
<td>3</td>
<td>3.8</td>
<td>9.1</td>
</tr>
<tr>
<td>Other complications</td>
<td>10</td>
<td>12.5</td>
<td>30.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>41.3</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mothers who did not suffer complications</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>58.8</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most severe complications suffered by the mothers</th>
<th>Frequency</th>
<th>%</th>
<th>% of 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe bleeding</td>
<td>7</td>
<td>8.8</td>
<td>21.2</td>
</tr>
<tr>
<td>Severe headache</td>
<td>2</td>
<td>2.5</td>
<td>6.1</td>
</tr>
<tr>
<td>Loss of consciousness</td>
<td>4</td>
<td>5.0</td>
<td>12.1</td>
</tr>
<tr>
<td>Labour for more than 12 hours</td>
<td>7</td>
<td>8.8</td>
<td>21.2</td>
</tr>
<tr>
<td>Blurred vision</td>
<td>10</td>
<td>12.5</td>
<td>30.3</td>
</tr>
<tr>
<td>Other, e.g. severe abdominal pains</td>
<td>3</td>
<td>3.8</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>33</strong></td>
<td><strong>41.3</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mothers who did not suffer complications</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>58.8</strong></td>
</tr>
</tbody>
</table>

**Source**: Field Survey, May 2017.

Table 8. 21: Location of mothers during postnatal complications

<table>
<thead>
<tr>
<th>Location of mothers during complications</th>
<th>Frequency</th>
<th>% of 80</th>
<th>% of 33 expectant mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>29</td>
<td>36.3</td>
<td>87.9</td>
</tr>
<tr>
<td>Hospital</td>
<td>1</td>
<td>1.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Health centre</td>
<td>3</td>
<td>3.8</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>41.3</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mothers who perceived not to have suffered postpartum complications</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>58.8</strong></td>
</tr>
</tbody>
</table>

**Source**: Field Survey, May 2017.
8.4.4 Danger signs during postpartum

Only five mothers could mention some signs of complications. Severe vaginal bleeding (20%), foul smelling discharge (20%), and other signs (60%) were recalled [Figure 8.6].

![Danger signs during postpartum](image)

**Figure 8. 6: Danger signs during postpartum (n = 5, multiple responses were allowed)**

Some mothers fail to turn-up for postnatal care follow-ups, even after giving birth at the facility. *Some of the mothers’ refuse to come for follow-up postnatal care. For the first postnatal, once they come to the facility to give birth, we administer the first PNC to them. Provided they give birth at the facility, many of them receive PNC before they discharged. The first one is within twenty-four hours of birth [IDIs, other nurses].*

8.4.5 Causes of postnatal complications

The results show different factors causing complications in pregnancy and childbirth in the study communities. Barriers such as delays seeking care by the family/mother, and those related to the healthcare provider, contributed to chronic problems, with implications for health service delivery outcomes for mothers. While healthcare was somewhat free for mothers, local herbal products were preferred for both prenatal care and childbirth labour.

8.4.5.1 Postpartum haemorrhage (PPH)

The most common direct causes of maternal mortality were attributed to postpartum haemorrhage (PPH) and eclampsia. *The other possible cause within our places here is PPH. The PPH sometimes those who are donating the blood feel reluctant to volunteer to give us the blood. Normally, we have shortages of blood at the blood bank. It is not as if we cannot*
intervene, but where is the blood that we will give. Sometimes even as their relatives, we asked them to donate, but they drag their feet. The number one cause of maternal death in our UWR is a postpartum haemorrhage [a man, IDIs, Health facility, NKD].

8.4.5.2 Illegal abortion by teenage girls

Teenage pregnancy was cited as a maternal health challenge in four communities: Woggu, Nanvilli/Siruu, Duang and Jimpensi/Kenkelley. Not death as such, but they have birth difficulties. They have difficulties when they are in labour. Many these teenage girls have stillbirths .... There was a case of maternal death which, I learnt she tried to abort and lost her life on referral to Nadowli Hospital [a woman, IDIs, Health facility, DBID].

8.4.5.3 Surgical errors

It was observed that infections from and surgical errors during Caesarean section (CS), as well as from inappropriate disposal of the placenta, also contributed to some maternal morbidities and mortalities (see quote in section 8.3.2.3).

For example, it was observed that except for Nadowli hospital, Daffiama health centre and Nanvilli Health centre, all other health centres used their manhole (toilet facility) as a placental pit or gave it to the client/family to dispose of. The CHPS compounds did not have stand-alone pit latrines and therefore released birth remains to the clients, with the risks of infections involved. We do not also have a site for placental disposal. So indirectly, they are carrying infections to their various houses. We are here to bring good health, but in a way, we are transferring infections. We just need a placental pit. (Do you apply anything onto the placenta before giving it out to them?) Yes, we put in chlorine (0.5 percent) before giving it out, and we believe it kills ninety-nine percent of infections. However, it is not good to give the placenta out. Because, as they take it home we do not know what they do to it. They might not bury it instantly or could pass on to so many hands before it has finally buried [a woman, IDIs, Health facility, DBID].

8.4.5.4 Sepsis

Puerperal sepsis and pyrexia were identified as key direct causes of maternal deaths in the rural settings. It was also noted that, rather than reporting to the health facility on time, the majority do not report or report late. We have puerperal sepsis. It’s one of the cause, puerperal paraxial too is one of the cause. We also have malaria in pregnancy and then anaemia in pregnancy causes direct deaths. Pregnancy-induced hypertension, although it’s rare here, it’s one of the indirect cause [a woman, IDIs, Health facility, NKD].
The environment in which TBAs provide services to clients could pose a threat of puerperal sepsis.

*I conduct all deliveries in my bedroom (stretched mat on the bare floor). Therefore, it’s a challenge. My delivery equipment too is old now. Most of them are lost even now although they wouldn’t have been useable again* [IDIs, TBA, DBID].

It was observed that the TBAs attended to clients using bare hands.

*It’s good they have asked us to stop conducting deliveries. Because I have no equipment or hand gloves to ensure safety during deliveries. I attend to clients with my bare hands including deliveries. Meanwhile, it is the same hands I eat food with again. I’m happy they have banned me* [IDIs, TBA, NKD].

8.4.5.5 Hygiene

The poor or unhygienic conditions under which mothers received care from TBAs could affect their wellbeing in the postpartum period. All three TBAs who participated in the in-depth interviews were using their sleeping room for the services rendered to expectant mothers [Figure 8.7].

*Another challenge is the delivery room and lying-in for clients. For instance, when I get a labour case at night particularly mothers who report/seek care alone, I usually don’t refer her to the health facility because of the distance. But I don’t have a separate area for lying-in and delivery. I conduct all deliveries in my bedroom* [IDIs, TBA, NKD].

![Figure 8.7: Sleeping and maternity area of a TBA](image)
8.4.5.6 Other service constraints

The Medical Director pointed to the fact that postpartum haemorrhage (PPH) was the primary cause of maternal mortality, which was partly propagated by delays from home and at the health facility.

One is the delay from the hospital. It was not delayed from home but delays from the hospital. They missed the mark in the first place and then the delay from here (the health facility) ... So, the other one too is the surgical complications, which include the PPH [a man, IDIs, Health facility, NKD].

Transport difficulties during referrals to a hospital was a repeated theme in many of the FGDs and IDIs. The opinion leaders and the Midwife in Bussie also expressed the challenge of finding means of transport to Nadowli hospital during referrals.

We suffer in getting ways to carry the expectant mother. Therefore, by the time we get a motorbike, it ends up in stillbirth. Other times, they give birth on the road to the referral facility [FGDs, opinion leaders, Bussie].

The non-availability of the transport system (privately owned “trotro” vehicles) linking the communities could be because of the poor surface nature of the roads.

Our road network I talked of is a problem. Here to Moyiri is nothing to write home about. Then we have another place’ Chebaa on your way to Fian. Hence, Moyiri and Kamahegu people I always pity them. When they deliver in the house and come I understand because I will see that maybe if I were there (in those communities), I wouldn’t have also come. The place is far and the road to, is not good, so if it is late in the night and them not able to come, I shouldn’t blame them [a woman, IDIs, Health facility, DBID].

8.5 Summary and discussion

The literature identified substantial delay in receiving skilled care during childbirth to have profound implications on the service delivery and health outcomes. While most of the studies have tended to focus on medical diagnostics of the issue, the underlying problems leading to those determinants in rural communities, coupled with those not captured in progress reports, were unclear until this study. Cultural beliefs regarding medical attention and referrals, influencing birthing locations and attendants, and the decision to delay announcing onset of labour contribute to decisions about care during labour.

Achieving skilled birth attendance and a healthy postnatal period have a significant association with and dependence on birth preparedness and
complication readiness (BP/CR) (Afulani, 2016; Gudu & Addo, 2017). However, the findings show that approximately 25% of expectant mothers in the study did not utilise skilled attendance at birth (SBA) during their most recent delivery. They also combined health delivery services with traditional consultations and TBAs services. The reasons for these outcomes were complex but primarily related to sociocultural factors and barriers in accessing appropriate health facilities and services. The interviews demonstrated that traditional consultations, use of TBAs services, have resulted in delays in seeking skilled care and in life-time disabilities and mortalities. Those women who sought skilled care from lower-tier services (health centres and CHPS compounds) had a higher chance of stillbirths because the facilities were understaffed; similar findings were reported in the Upper East Region of Ghana (Aborigo et al., 2015; Aborigo et al., 2014; Afulani, 2016a).

Understaffing, long distances, high cost and poor treatment during ANC and/or previous deliveries at healthcare facilities also contributed to continuing preference for TBA supervised delivery. TBAs use of local oxytocin to expedite labour, as well as their willingness to adhere to traditional birthing positions and disposal of the placenta adds to their attraction. Despite the risks attached to the use of local oxytocin it is attractive because of its low cost and ready accessibility (Nyeko et al., 2016; Sychareun et al., 2012). Continued preference for TBAs are common elsewhere in the world, because their care is accessible, convenient and cheap, providing ample opportunity to accommodate visitors and family after birth. Culturally appropriate (and often more effective) birth positions such as squatting took precedence over medical intervention and the preferred supine birth position in the health facility setting (Sychareun et al., 2012).

These results are similar to those emerging from a study in Laos (Sychareun et al., 2012) and in Ethiopia (Bayisa et al., 2014). About half of the pregnant women (43%) in the Ethiopian study used herbs in pregnancy and to expedite labour due to the cost of essential medicines. However, herbal use was commonly associated with older pregnant women (Bayisa et al., 2014), unlike in this study where age and education were not determinants of use. Likewise, women in Uganda used the services of traditional healers and sought skilled care only after the available traditional/conventional mediums were exhausted (Atekyereza & Mubiru, 2014).
Domestic violence perpetrated by some husbands also contributes to complications during delivery, and occasionally causes death of both mother and child. Sadly, this is common in many countries (Amzat, 2015). These findings demonstrate an apparent gap in maternal health illiteracy and extensive discrimination and violation of human rights against mothers (Ghani et al., 2018; Sumankuuro et al., 2018).

Lack of spousal and family support during labour, which often reflected long held cultural values, beliefs and attitudes also contributed to delays in seeking care during childbirth. For example, delays occured while labouring mothers sought permission from husbands or family members to receive care during delivery, or waited for an appropriate family member to be available to accompany them to the health facility. Inadequate transport compounded these problems in this study, as it does in many countries in the world (Atuoye et al., 2016). These findings are not new in the Upper West, Upper East and Northern regions of Ghana. Even in the nation’s capital, postnatal complications were associated with financial and geographical access (Aborigo et al., 2015; Aborigo et al., 2014; Buor, 2005; Der et al., 2013).

Whilst there is sufficient evidence that suggests that utilising health facility services during childbirth in low and middle-income countries could prevent maternal deaths (Sorensen, Nielsen, Rasch, & Elsass, 2011), there is also much evidence which indicates that unskilled attendance at birth (relative, mother alone or TBAs) exposes the mother and the neonate to sepsis, alongside long-term implications in future pregnancies (Afulani, 2016a; Moyer et al., 2012; Mrisho et al., 2007; Sumankuuro et al., 2018). The issues related to unskilled attendance identified are mostly culturally inclined and common to nearly all low and middle-income countries (Mrisho et al., 2007; Sorensen et al., 2011; Sumankuuro et al., 2018; Sychareun et al., 2016).

In this research, it has been shown that expectant mothers engaging in risky livelihood activities were subject to a variety of risks of obstetric complications. Although some women reported often suffering life-threatening complications through these activities, continuing to participate in them was the most rational economic (and often cultural) choice, particularly given attitudes towards miscarriage, which was seen as a normal part of life. This was compounded by traditional expectations by husband, family and community to keep working up to and during labour on the grounds that it would expedite the
delivery. The burden for the care of the children compels mothers to employ all available means and sources of providing for them, at the expense of their own health (Sumankuuro et al., 2017a).

Therefore, participants who were mainly subsistence farmers would often prefer home births to the care of TBAs or health professionals. The issues and barriers are common behaviours and practices in sub-Saharan Africa (Bohren et al., 2014; Mwangome, Holding, Songola, & Bomu, 2012; Nalwadda et al., 2015; Oyerinde et al., 2012).

Thus, while government maternal healthcare delivery policies such as the NHIS and CHPS, which aim to close access and inequity gaps in health service utilisation, have made significant progress in many locations in the country (Sakeah, Doctor, et al., 2014b; Sakeah, McCloskey, et al., 2014), skilled care uptake is not the norm in the study communities (70%) compared to 73% in 2014 in Ghana (Gudu & Addo, 2017), and elsewhere in sub-Saharan Africa and Asia (Karkee et al., 2014; Moyer & Mustafa, 2013; Mrisho et al., 2007; Sarker et al., 2018; Sychareun et al., 2012). There is a disjuncture between community based cultural practices, values and norms, including the use of unapproved reproductive service providers (TBAs), and nationwide level maternal health interventions including utilising skilled birth care, practising ANC messages and so on.

Consequently, the findings demonstrated that possible modifications in midwifery practices to make them more culturally appropriate, even if it includes only birthing position and disposal of placenta, could be made on both the community and health facility level. Until these concerns are addressed, it is arguably rational for women to prefer to be cared for by TBAs rather than skilled attendants. Whilst many barriers to skilled childbirth are culturally, economically and geographically determined, there are many other problems related to health services identified by expectant mothers and community members. Discussing these is the focus of the next chapter.
Chapter 9 - Health Service barriers in relation to labour and postnatal period

9.1 Introduction

As identified in earlier chapters, there are two maternal healthcare (MHC) strategies currently being pursued in many countries, which have the potential for preventing avoidable obstetric deaths: skilled attendance at birth and emergency obstetric healthcare (Hoyler, Finlayson, McClain, Meara, & Hagander, 2014; Maine et al., 1997). These measures are promoted in part through adequate skilled healthcare attendance to both normal childbirths and those with obstetric complications, and provision of essential supplies/logistics (Fapohunda & Orobaton, 2013; Goodburn, Chowdhury, Gazi, Marshall, & Graham, 2000; Knight et al., 2013).

Although there are many social, economic and cultural determinants of skilled healthcare use (Ganle et al., 2014; Sumankuuro et al., 2016), several of which have been identified in chapters 6-8, there are also many “supply side” (healthcare provider factors) barriers to improving maternal health service delivery and uptake. These include supplies/logistics (drug and non-drug consumables, medical equipment), skilled human resources, appropriate technology and the capacity to handle maternity cases (Hoyler et al., 2014; Knight et al., 2013), as well as appropriate transfer arrangements (Ganle et al., 2014). Availability of accessible emergency obstetric services (such as parenteral oxytocics, antibiotics and anticonvulsants, assisted deliveries, manual extraction of the placenta, blood transfusions, and so on) is mandatory for the continuum of quality maternity healthcare (Bossyns et al., 2006; Paxton et al., 2005). Preference for facility-based childbirth can be high when there is the appropriate quality of care with the necessary medical facilities, such as equipment for ANC, resuscitation, surgery and blood transfusion services (Abdullah et al., 2011; Sakeah, McCloskey, et al., 2014).

This chapter identifies the many service delivery barriers related to adequate provision of services during labour and the postnatal period.
9.2 Poor telecommunication

The telecommunication sector in the study areas is poorly developed, with only one non-functional information and communication technology service at Daffiama and Nadowli townships. Most public telephone booths have broken down and are incapable of providing the required services. The only reliable mobile telecommunication services in the districts are Vodafone and MTN, in addition to cell phone services which are privately operated by individuals in some communities. Not all communities are accessible by those networks, and the researcher discovered during the data collection exercise that Charikpong, Nanvilli/Siruu, Jimpensi/Kenkelley and Duang communities did not have readily accessible telecommunication networks. They could occasionally be utilised by climbing a tree in a strategic area to make a call.

This presents a challenge to arranging for transport services and alerting the receiving health facility to prepare in advance.

*Our mobile phones network is a serious challenge. As at now, our clinic Nissan pick-up is not mobile. Hence, when we have an emergency here, how to link with the national ambulance or the ambulance at Nadowli hospital is always a problem [a man, IDIs, Health facility, NKD].*

*I think the receiving facility should always be ready for such cases because the last one – the PPH we referred, we called them, and the line wasn’t going. We tried severally and finally we got there without them knowing that somebody was coming with emergency [a woman, IDIs, Health facility, NKD].*

Similar challenges from the poor telecommunication network were reported in the communities in the Daffiama-Bussie-Issa district:

*Yes, there is no regular network, so sometimes that’s why they gave us some staff [health extension workers]. You saw them in blue uniform …, we dash them [the trained nurses sometimes sent them] to do the home visiting [on regular basis] but in [during] a serious problem, when we know a particular house has a problem, we go ourselves whilst they wait [at the health facility], when there is a problem/case they come to call” [a woman, IDIs, Health facility, DBID].*

The opinion leaders iterated similar barriers to reaching the health facility during obstetric problems;

*We don’t have trotro service connecting the community. For us to hire vehicle, one has to travel to Issa or Tabiesi or Fian, which are all far from Woggu community. Other times if one is fortunate, the drivers are reached via mobile phone call to arrange for them to carry out the transfer to the referral facility – usually Nadowli [FGDs, Opinion leaders, Woggu].*
9.3 Transportation difficulties

The results show diverse issues pertaining to managing referrals of expectant mothers due to deliver in both the sub-district health facilities and the hospital.

9.3.1 Lack of transport for clients/patients

The study area had two groups of ambulance services operating in the districts to improve health service delivery; the hospital ambulance service and the National Ambulance Service (NAS) station. Each of them had one vehicle serving the two districts and other districts which were within its catchment area. The NAS station was situated at Nadowli but served any other district that gave them a call for emergency case(s) within the UWR. This meant the hospital vehicle and the NAS vehicle were both stationed at Nadowli, leaving many places without ready access to vehicular transport during emergencies. Daffiama health centre was the only health facility in Daffiama/Bussie/Issa district with double cabin pick-up for emergency referrals of all patients and obstetric problems and the day-to-day operations of the facility. There was one dysfunctional ambulance vehicle for all referrals to and from the Nadowli hospital at Nadowli [Table 9.1].

Table 9.1: Transport situation at Nadowli hospital

<table>
<thead>
<tr>
<th>Category</th>
<th>No. available</th>
<th>No. of years</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nissan Navarra pick-up</td>
<td>1</td>
<td>&lt;1 year</td>
<td>Newly acquired on hire purchase</td>
</tr>
<tr>
<td>Nissan double cabin pick-up</td>
<td>1</td>
<td>14 years</td>
<td>Off road</td>
</tr>
<tr>
<td>Great wall double cabin pick-up</td>
<td>1</td>
<td>5 years</td>
<td>On road</td>
</tr>
<tr>
<td>Ambulance</td>
<td>1</td>
<td>10 years</td>
<td>Very weak and needs replacement</td>
</tr>
<tr>
<td>Yamaha AG 100 bike</td>
<td>2</td>
<td>11 years</td>
<td>Earmarked for auction</td>
</tr>
</tbody>
</table>


There were no available means of transport in any of the sub-districts except Daffiama health centre, with their car serving as an official vehicle for the facility and during emergency referrals when needed. However, Daffiama health centre is within twenty minutes’ drive from Nadowli hospital, closer than the remaining parts of the district.
Public means of transport were not readily available to Issa, the capital of Daffiama/Bussie/Issa district. This means that the client and family must usually wait until certain hours in the day before they can get means of transport: *If we are to send someone to a referral facility and it is around 10 am, the client cannot get means [transport] because all the vehicles go to Wa. Unless in the evening that they will come back [a woman, IDIs, Health facility, DBID].*

The difficulties accessing transport services in some communities cripple the efforts to reach the facility during labour. *And some too actually the communities are far somewhere like Kamahegu, we have four communities on that lane, and the place is far, and the road network is not okay. In fact, when it is in the night some try to if they have means of transport to be here but some too as I said maybe in transit if they did not get the means early one must go and beg for a motorbike. They will delay, and on the way, the woman will deliver, and they will now come to the facility, or they will just go back home, and then the following day they will come [a woman, IDIs, Health facility, DBID].*

Difficulty arranging for means of transport when clients are referred can cause considerable delay due to the longer distances to the next level of care. *Our main challenge is our transport system. When we are to refer the expectant mother to the next level, we don’t have means of transport, so the community or the client must look for their own means…during referral, we wait for several hours before they can get means of transport to the next level of healthcare. We do not also have laboratory services in the entire district so for us to conduct the routine laboratory investigations, we refer expectant mothers to Nadowli or Wa which becomes a challenge for many pregnant women. Even for pregnant women to get money to arrange for means of transport to the next level of care is always a problem [a woman, IDIs, Health facility, DBID].*

As a rule, it was the responsibility of the expectant mother (or their family) to arrange for means of transport during emergency referrals, with 87% of respondents (or their families) in need of referral having organised means of transport from health centres and CHPS compounds to Nadowli District hospital or Wa hospital, except Duang CHPS, where cases were referred to Issa Health Centre. *In case there is a referral case, the client looks for their means, and it is either tricycle or we call the pick-up car from Daffiama HC but the client and the family bear the cost of the referral. We only help them by calling [IDIs, other nurses].*

The communities have acknowledged the pathways for improved maternity service use, and the elders have increased their calls for ready availability of a midwife in the community to provide timely delivery care.
TBAs have been warned from providing maternal healthcare and supervising childbirths. Hence, with the nurse-absenteeism, it encourages prolonged labour in attempts to find means of transport to transport expectant mother to Nadowli hospital [FGDs, opinion leaders, Charikpong].

9.3.2 Lack of transport for midwives

Many health facilities did not have motorbikes, and this, coupled with the deplorable road networks between communities, makes it difficult to provide community-based health education, which means that ANC “defaulter” tracing and routine immunisations/vaccinations are a great challenge.

We have so many maternal and newborn programmes that require motorbikes, but we do not have enough motorbikes for all the facilities. Aside from the bikes, some of the communities are hard-to-reach. I can say, some staff do not also take good care of the logistics given them. All these are further worsened when the country’s medical stores were burned some time ago. As at now, even at the regional medical stores, some logistics are not there, compelling some staff to buy from private stores to use at the health facilities [a woman, IDIs, Health facility, NKD].

9.4 Health facility

The level of health facility preparedness was a general concern in many of the sub-district health facilities; these discouraged women from utilising health facility care during labour.

9.4.1 Staffing shortages

Skilled healthcare staffing issues are salient barriers to achieving positive maternal and neonatal health outcomes at a global level, and the results from the study areas exemplify these problems.

9.4.1.1 Hospital staffing

At the time of the study (2016), there were three resident medical doctors (1 female and two males) in the hospital. Ten midwives provided care at the maternity ward to clients, conducting labour and deliveries, including general gynaecological cases, on admission. Non-midwives (Community health and Enrolled nurses) did not attend to childbirths or provide any other support in managing labour at the maternity unit regardless of the number of midwives on-duty. Two anaesthetics nurses go on-duty in turns on weekdays for eight hours daily [Table 9.2].

250
Table 9.2: Available staff at referral hospital (from 2013-2016)

<table>
<thead>
<tr>
<th>Year/Professional staffing</th>
<th>2013 Number (%)</th>
<th>2014 Number (%)</th>
<th>2015 Number (%)</th>
<th>2016 Number (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors (General practitioners)</td>
<td>1 (11.1)</td>
<td>2 (22.3)</td>
<td>3 (33.3)</td>
<td>3 (33.3)</td>
<td>9 (100.0)</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>1 (12.5)</td>
<td>2 (25.0)</td>
<td>2 (25.0)</td>
<td>3 (37.5)</td>
<td>8 (100.0)</td>
</tr>
<tr>
<td>Midwives</td>
<td>4 (11.4)</td>
<td>8 (22.9)</td>
<td>13 (37.1)</td>
<td>10 (28.6)</td>
<td>35 (100.0)</td>
</tr>
<tr>
<td>Registered General Nurses</td>
<td>20 (15.6)</td>
<td>30 (23.4)</td>
<td>39 (30.5)</td>
<td>39 (30.5)</td>
<td>128 (100.0)</td>
</tr>
<tr>
<td>Enrolled nurses</td>
<td>31 (16.8)</td>
<td>46 (25.0)</td>
<td>59 (32.1)</td>
<td>48 (26.1)</td>
<td>184 (100.0)</td>
</tr>
<tr>
<td>Anaesthetists</td>
<td>1 (16.7)</td>
<td>1 (16.7)</td>
<td>2 (33.3)</td>
<td>2 (33.3)</td>
<td>6 (100.0)</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>89</td>
<td>118</td>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>


Overall, the number of professional staff has been unstable over the years (2013-2016) with the numbers of midwives and medical doctors worsening as demand increases [Table 9.2].

Professional staff noted that staffing levels were problematic, and on some occasions caused delay in referral to another appropriate healthcare facility. As this nurse observed,

*It is only two anaesthetists that are in the hospital. Sometimes, one will be on leave leaving only one. We could call the contact of the anaesthetist and it is switched off. Other times, he will tell us he is very far away and if the client is an emergency case, what are we going to do? The doctors too are sometimes few, maybe the doctor is gone on official duty and very far away from the hospital. We are forced to refer the client out of the hospital or may be throughout the day and night, the doctor might have worked so hard that if he tries to attend to the next case, the outcome may be bad. So, it is referred out of the facility [IDIs, other nurses].*
9.4.1.2 Staffing at sub-district health facilities

Skilled healthcare staffing issues are salient barriers to achieving positive maternal and neonatal health outcomes at a global level, and the results from the study areas exemplify these problems. Out of the eight sub-district health facilities, six of them (4 health centres and 2 CHPS compounds) had resident midwives while Duang, and Jimpensi CHPS compounds did not have a midwife. Except for Jang Health centre (which had two midwives but one at post), one midwife was assigned to each health facility for administering focused ANC, labour and childbirth care, as well as attending to other general ailments from the populace and performing administrative roles as facility head. Almost all health facilities had community health nurses and enrolled nurses [Table 9.3].

Table 9. 3: Available staffing capacities at sub-district structures.

<table>
<thead>
<tr>
<th>Health facility</th>
<th>No. of Midwives</th>
<th>*RN</th>
<th>Community health nurse</th>
<th>Enrolled nurse</th>
<th>Pas</th>
<th>Field Technician</th>
<th>Mental health</th>
<th>Health promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jang HC*</td>
<td>2 (1 at post)</td>
<td>0</td>
<td>1</td>
<td>2 (1M, 1F)</td>
<td>1</td>
<td>1(M)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Charikpong HC</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bussie HC</td>
<td>1 (M)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 (F)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nanvilli HC</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Naro CHPS</td>
<td>1</td>
<td>0</td>
<td>1 (F)</td>
<td>1 (M)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Jimpensi CHPS</td>
<td>0</td>
<td>0</td>
<td>1(M)</td>
<td>2 (1F, 1M)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Woggu CHPS</td>
<td>1</td>
<td>0</td>
<td>3 (F)</td>
<td>1 (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Duang CHPS</td>
<td>0</td>
<td>0</td>
<td>2 (F)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
<td><strong>1</strong></td>
<td><strong>13</strong> (2M, 11F)</td>
<td><strong>6</strong></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>


*RN – Registered nurse;

*HC – Health centre
The World Health Organisation’s definition of “skilled attendance” at birth denotes employing the services of a midwife or doctor, which is a major challenge in rural Ghana. The staffing challenges motivate the district level management to endorse supervised delivery by community health nurses and enrolled nurses as skilled birth, even if they do not have the requisite training:

How about the CHNs we put at the CHPS compound and ask them, when a woman is delivering, they should catch (receive)? Therefore, I think any delivery that is supervised by a trained health worker should be considered skilled delivery. So, the CHNs are forced to always refer to facilities with midwives, and considering the distances, we record poor outcomes or homebirths. Will they go? [a man, IDIs, Health facility, DBID].

The IDIs with the Directors of Nursing (DoNs), often called “district directors of health services” in the Ghanaian context, suggested that while slow progress has been made towards obtaining skilled staff for MNH care, the districts still need more midwives.

It is better now than in the past; some CHPS zones even have midwives. We are still not enough as desired because some midwives at a point attend funerals or other pressing issues leaving the facility. When clients go for care during midwife’s absence, the CHNs and ENs must refer [a woman, IDIs, Health facility, NKD].

9.4.2 Role stress in the hospital setting

The survey found that the shortages of critical staff such as the anaesthetists lead to work overload which could affect healthcare delivery outcomes.

The same thing. It makes the few available who ought to work from 8 am to 2 pm or 2 pm to 8 pm and close, but if you come up north here, you work from 8 am to 5 pm, and you are paid the same salary [a man, IDIs, Health facility, NKD].

Staff overload was also found in the maternity unit. Although the unit was divided into two - lying-in and labour - one midwife could be put on duty in each section for the entire shift (8 hours).

The actual staff of both the maternity and the lying-in is not enough. We are about fifteen midwives. You can imagine running three shifts – morning, afternoon and night. It’s a problem. At times, one midwife will be on-duty in the labour ward with about three labour cases. Then, at times, you could come to see two nurses one here and the other there [a woman, IDIs, Health facility, NKD].
9.4.3 Staff motivation

Staff awards and motivation have proven to be a useful measure of achieving set targets in work delivery outcomes in organisational settings. It is therefore appropriate and timely for healthcare management of the study locations to motivate the existing staff to deliver optimal services, in addition to recruiting more staff. However, this is not the case, due to healthcare financing difficulties.

*It is a big challenge. Simply because now the hospital is depending on only the internally generated funds. The government is no more supporting us again. Moreover, this internally generated fund (IGF) too as I’m speaking to you now, since March 2016, the health insurance has not reimbursed us [a man, IDIs, Health facility, NKD].*

The same participant further indicated that medical doctors were well-motivated to work, using internally generated funds.

*The only motivation we give it to the doctors is something small for the extra work that we are doing. We also give them free accommodation, we pay their bills- gas, for the utilities we pay everything. Monthly too we give them something – when they come here, we pay one-year accommodation and then anywhere within the region, that they are, the hospital car will pick them up when they are first posted. [We have] some packages for the midwives like when they do the evacuation of the uterus (EOU)- we charge patient [a] small [amount], and at the end of the month, we use that to motivate them (the midwives) [a man, IDIs, Health facility, NKD].*

9.4.4 Bed inadequacy

The maternity ward at the hospital does not have adequate space and delivery beds and equipment for management of labour and childbirth (an average of 1065 childbirth per year equals 2.9 births on average per day in the hospital, while there are two beds at best at the labour ward). This affects the quality of care.

*Our deliveries, averagely we get about eighty in a month. Even there was a month last year October (2016) when we had one hundred and twenty deliveries [a man, IDIs, Health facility, NKD].*

Too few delivery beds required that the manual vacuum aspiration (MVA) room be occasionally used for deliveries in Nadowli hospital. This poses risks of infections and mismanagement of the process:

*Currently, for the labour ward, we have only three beds, out of which only two are used. The other one is used only when there is no other option. It is not*
meant for childbirth. It is for examination. In critical situations, we [are] forced to go conduct delivery in the MVA [manual vacuum aspiration] room to conduct delivery. I have used the MVA room to conduct childbirth once, which is wrong practice. The room is meant for expectant mothers who attend the hospital with incomplete abortions, so they are sent there for EOU (to evacuate the uterus). MVA room is intended to evacuate the uterus, examination of the uterus and related cases, just removal of uterine content [IDIs, Other nurses].

Several health facilities lack sufficient space to accommodate clients, especially during the rainy days:

We have only one bed each for ANC and delivery. Women sit on the veranda during ANC. Therefore, during rains, some are sent back home because there is no hall to contain all [FGDs, non-pregnant women, Naro/Korinyiri].

9.4.5 Equipment

The hospital contains inadequate equipment despite the large threshold population it serves. The entire hospital operated on one used anaesthetic machine, a dysfunctional haematology analyser at the laboratory and an incomplete resuscitation table, all of which affects service delivery. Despite the occurrence of stillbirths and neonatal deaths, there was no neonatal intensive care unit in the hospital. Other challenges included:

Let me start from the laboratory, we don’t have biochemistry analyser. It’s broken down, we can’t do culture insensitivity from the lab [laboratory]. Our blood bank is also not big enough, and we don’t even have the personnel qualified personnel to work in the lab, we have three biomedical scientists. All the rest are just casually trained within the hospital. When we come to the theatre, we have two anaesthetics machines. Most of them will come with neonatal jaundice in our facility, we don’t have the equipment or anything at all to manage it. We may end up trying to refer to get that out of our hands. And the premature delivery is also another one. We don’t have Intensive Care Unit (ICU) to take care of the preterm babies [a man, IDIs, Health facility, NKD].

Similar shortages were recorded in the maternity section of Nadowli hospital.

Frequent power fluctuations are causing major breakdowns in the equipment, i.e. blood bank refrigerators, autoclaves, air conditioners and theatre lamps. It further affects service delivery in the maternity section [IDIs, Other nurses].

For instance, in the maternity unit of the hospital, cotton was used as gauze, and significant challenges also existed in obtaining necessary items such as cannulas and detergents.

It is only the gauze we are using. At times, we take part of the bandage and cut it into small pieces and use it like cotton. Then the disinfectants too are also another problem. The bleach when we go, they will just give little. Last week like this, they gave only one gallon for both units for one week. The logistics are
just a problem – whether the gloves (disposable and surgical) or plaster, I think
the only thing here that is better in the maternity ward (lying -in) is only the
cannula. As for the adult canulas, we have got enough. It is the paediatric
canulas for the infants when we want to give IV treatments. It is a challenge
for us here [a woman, IDIs, Health facility, NKD].

Sub-district facilities also lacked the requisite equipment to manage and
conduct labour and childbirth. This contributes to the ongoing referral of
obstetric complications and labour/childbirth to Nadowli hospital or Wa
hospital. The limitations on equipment also exposes women in labour to
postpartum haemorrhage.

Here it’s the cylinder and the gas that we can use to help asphyxiated babies.
But we don’t have one. We have the ambubag that we can use to resuscitate but
after that if the child still needs oxygen, we usually refer. If we were having it
here we can use to save some of the lives. Some of the instruments like the
speculum and other sponge holding forceps, last when we referred a PPH here,
it was cervical tear but we don’t have the speculum and the sponge holding
forceps to see inside what is causing the bleeding. Therefore, we had to refer.
But if we were having them [speculum and sponge holding forceps] and we can
diagnose faster then, we can refer but it was later when we brought the woman
to the lying-in ward after resting for some time, we realised that the bleeding
was still too much, then we referred her and they transfused her [a woman, IDIs,
Health facility, NKD].

Resuscitation table requires a lot of items so that in case a baby is born and is
asphyxiated, we can conduct it with ease. The table we have now is not well-
equipped. We are only managing to save lives [IDIs, other nurses].

The non-availability and inconsistency of lighting systems in labour rooms of
facilities forced midwives to involve persons who might not be the choice of
expectant mothers during childbirth.

We don’t have a source of water and light. When I’m conducting delivery, I use
a lamp or generator. But the generator must be fuelled by the relative of the
expectant mother. Due to the cost, they are not able to afford. I use torch light,
and when there is a tear... I had a labour case where the mother sustains some
lacerations which I must suture with the torchlight. Sometimes, I involve the
relatives because I cannot hold the torchlight while doing suturing, and
patients’ rights are breached, because that may not be the right person to see
her nakedness [a woman, IDIs, Health facility, NKD].
9.4.6 Consumables

9.4.6.1 Medicines

The National Health Insurance Medicine lists for CHPS compounds excludes the prescription of antibiotics to mothers, although they are mandatory for mothers who give birth.

The NHIS has removed some essential medicines such as the antibiotics. They have been taken out of the approved drug list because CHPS compound is a small facility. If we prescribe it, they will not pay. Therefore, we sell it to them which they always complain they do not have money to pay for medicines [IDIs, other nurses].

The WHO protocol recommends antibiotics for expectant mothers who give birth newly...if a midwife conducts childbirth and cannot provide such essential medicines to treat the mother, how will the wounds heal? [IDIs, other nurses].

The health facility in-charge for Charikpong also indicated similar challenges in management of deliveries:

Here we are not supposed to use certain drugs, hence what we have here ... here we can't use the Zeamatin (if the woman is having preterm, we can't give, we must refer). During labour, too ... if we manage and give the drugs the health insurance will not pay. We must refer them, with what we are having here, I think at our level it's okay. We have magnesium sulphate, that one we can use it, Nifedipine if the BP is going higher we can use but the Dursamatiniz we must refer and other infections we can’t give. The truth is we must refer to the hospital [a woman, IDIs, Health facility, NKD].

We have same challenge and then the drugs, it’s same. Level of prescription is affecting us. In the sense that we are even supposed to use some medicines, but we are not having them. We are limited to few. Drugs at the clinical side and those few drugs, we don't get regular supplies and so we are not having those [a woman, IDIs, Health facility, NKD].

9.4.6.2 Inadequate supply

Moderate usage of epidural anaesthesia is encouraged in managing labour, which could suggest its inclusion in the rational use of medicines by the Ghana Health Service, and regular epidurals are recommended for complicated labour such as breech delivery or a prolonged induction, where the woman will get tired. However, the sub-district health delivery system in Ghana does not endorse the use of any medicines for such instances.

The survey found that some health facilities did not have essential medicinal products for conducting childbirth:
I came in December 2015, and there was no oxytocin, no Vitamin K₁ for the newly born babies. As at now, still, there is no vitamin K₁ in the facility [a woman, IDIs, Health facility, NKD].

9.4.6.3 Lack of water

None of the sub-district health facilities had potable water for usage by the workers and cleaning of the facilities. Expectant and postnatal mothers were often found drawing water for the health facilities. Alternatively, the midwives would have to leave the mothers at the facility and go in search of water for the cleaning of the facility. The need for expectant mothers to draw water for the facility was a disincentive to seeking maternity care and having childbirth there, particularly as some mothers were returned home to draw water for nurses if they sought care without it.

Water is a necessity of life. Women come to deliver and must be washed. Meanwhile, there are no water facilities in the health facilities. Some expectant mothers get discouraged from giving birth at the health facilities? [a man, IDIs, Health facility, DBID].

Although some pregnant women might have had plans to give birth at a health facility and to utilise ANC fully, non-availability of water to wash newborns, and inadequate midwives in the district discourages them. Lack of water also exposes the nurses to risks of infections in providing care.

We do not have ‘veronica bucket’ for infection prevention. Because before and after every procedure, we need to wash our hands. When I am alone, the gallon that we put the water now, thus, if I’m to carry out procedure and my colleague is there, she will pour for me to wash if I’m there I will do same for her. But if she is not there, either I will put the gallon between my legs and be pouring the water while washing or the client will come and assist me. If that client is helpless to assist me, meaning I will not wash my hands before carrying out the procedures [a woman, IDIs, Health facility, DBID].

9.4.6.4 Lack of cleaning supplies

It was found that some health facilities did not have daily cleaning supplies/disinfectants:

We don’t have detergents to disinfect our tools ... or bleach, liquid soap and all things for dam dusting [a woman, IDIs, Health facility, DBID].

9.4.6.5 Lack of gloves

The CHPS is responsible for ensuring prompt first aid and referrals to the health centres and onward to the hospitals. However, the facilities often do not have the most basic disposables, such as gloves.
9.4.6.6 Lack of blood

The hospital regularly liaises with second cycle institutions and voluntary blood donors to stock the blood bank. However, there was a shortage of blood due to the failure of the health insurance authority to reimburse claims submitted over a long-drawn-out period. The management could not procure any more equipment for blood donation due to this constraint.

For the blood, the challenges now, why we cannot stock enough blood is the issue of the finance. Why because, when we are going for blood donation we need to buy provisions to go and give to those who donate. And those who go outside to do the exercise too need some logistics. We need to get blood bags and those things. For 13 good months, and services we have provided have not been paid. How are we going to do all these? There is too much pressure on the internally generated fund (IGF). And our areas here we have 95% of people registered under health insurance. So only 5% of people come without health insurance, and those who come without health insurance are from Wa [a man, IDIs, Health facility, NKD].

9.5 Health policy and implementation: Economic (insurance, government policy)

Staffing inadequacies were partly attributed to government policy initiatives relating to sustaining the wage bill and were also due to lack of motivation to work in the rural parts of the country. Therefore, the persistent shortage of critical professional staff in the health facilities remains a challenge.

9.5.1 Obtaining financial clearance

It is a requirement that staff must obtain financial clearance before they can be posted. Therefore, delays in clearance posed a significant challenge in recruiting and posting trained doctors, nurses and paraprofessionals.

It’s the clearance. They must get the clearance from the GHS before they can be posted. Now they are almost some doctors from 2015, who are at home now, but their clearance is not ready. About 8,650 midwives and nurses who are at home now for clearance. That is what is making the shortages. The other thing, even if the clearance is even given, who wants to come and work in this area. You see! There is no motivation to come up here. That is why people feel, and they try not to be here [a man, IDIs, Health facility, NKD].

9.5.2 Healthcare financing challenges

Ghana adopted a progressive healthcare financing scheme through national health insurance levies. However, reimbursing claims for services
provided remains a huge challenge. The districts have two sources of revenue for healthcare delivery - cash accruing from out-of-pocket-payments for services, and the National Health Insurance Levy. However, the income inflow for the health sector support budget of Nadowli/Kaleo District was inconsistent beginning 2011 through to 2016 (District Health Administration, Nadowli-Kaleo, 2017). The cash revenue (out-of-pocket-payments for services), which was the most reliable source of financing, showed an inconsistent performance with a small increment from 1.75% in 2014 to 2.18% in 2015, but declining to 1.46% in 2016 (District Health Administration, Nadowli-Kaleo, 2017). The reduction was attributed to over-dependence on the internally generated funds (IGF) for service delivery, which were officially financed by the Government of Ghana (GoG) transfers and Donor Pool Funds (District Health Administration, Nadowli-Kaleo, 2017). The erratic reimbursement of insurance claims contributed to the decline in revenue in 2016. The national health insurance funds remain a consistent source of revenue for health financing in the study communities. Although the same NHIS office serves both districts, the figures for the Nadowli/Kaleo district achieved an increase in NHI levy over the past years ranging between 96% and 98.60% [Table 9.4].

Table 9. 4: Internally generated funds inflow (in Cedi)

<table>
<thead>
<tr>
<th>Category /Year</th>
<th>2011 (%)</th>
<th>2012 (%)</th>
<th>2013 (%)</th>
<th>2014 (%)</th>
<th>2015 (%)</th>
<th>2016 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash 9,275.90 (6.9)</td>
<td>7,533.59 (4.0)</td>
<td>9,082.20 (2.32)</td>
<td>7,986.91 (1.75)</td>
<td>8,222.77 (2.18)</td>
<td>5,654.65 (1.46)</td>
<td></td>
</tr>
<tr>
<td>NHIS 125,142.10 (93.1)</td>
<td>179,699.54 (96.0)</td>
<td>382,133.91 (97.68)</td>
<td>449,366.89 (98.25)</td>
<td>369,150.55 (97.82)</td>
<td>380,824.54 (98.54)</td>
<td></td>
</tr>
<tr>
<td>Total 134,418.00</td>
<td>187,233.13</td>
<td>391,216.11</td>
<td>457,353.47</td>
<td>377,373.32</td>
<td>386,479.19</td>
<td></td>
</tr>
</tbody>
</table>


9.5.3 Health service delivery expenses

The revenue received is expended on two logistical components of the services - drug and non-drug consumables - however, more revenue was injected into the acquisition of the non-drug consumables [Figure 9.1].
Drug expenditure is mainly on drug procurement from the Upper West Regional Medical Stores, and there was a consistent decrease from 2013 to 2016. The decline in drug expenditure was a result of the high drug outstanding liability to the Regional Medical stores caused by NHIS failure to refund claims (District Health Administration, Nadowli-Kaleo, 2017).

9.5.3 National Health Insurance Scheme delay releasing funds
The delay in serving claims submitted to the NHIS was an obstacle to effective and efficient maternal healthcare delivery. In 2016, the district health services recorded an outstanding balance of 47.67 percent of claims submitted on services provided [Figure 9.2].

Figure 9. 2: National health insurance claim management
An expectant mother in her second trimester died due to anaemia in pregnancy (in December 2016). Although she arrived at the hospital on time, the facility had run out of stock of reagents to replenish the blood bank due to failure of the health insurance authority to reimburse claims for previous services provided.

The delay in the reimbursement by health insurance is the major problem why we are not having effective care contributing to maternal and neonatal death. It’s true. This in that I’m talking about the anaemia that the patient died, if we have had enough blood in stock, how will we have been calling from here and there. For three years, that’s our first maternal death. Even that one it was getting to the end of the year [a man, IDIs, Health facility, NKD].

9.5.4 Private sector causes healthcare financing system challenges

Healthcare providers comprised of public (government) and private sectors. Accredited private sector providers submitted claims for services rendered. It was found that the insurance authority had some challenges verifying the authenticity of financial claims from the private sector, thereby making it difficult to make prompt payments.

The private sector can sit there and falsify all the NHIS claims and give it to them and sit at the hospital there and charge the patients at the same time. If at the end of the day they tell NHIS that they have seen hundred or two-hundred patients, how will you go and verify if this is true or not? That is one. Two, the private pharmaceutical and the private laboratories, they all need to be excluded from the NHIS. I’m telling you this because, the private pharmaceutical and private laboratories, they need a prescription from a doctor that I have referred them to go and do laboratories. Now, what mechanism do they have to trace back, from Nadowli hospital that, is it true that I referred all
these patients there? What is the probability that they do not have a prescription form, maybe somebody’s stamp there that they are stamping? They can make it in your name and you wouldn’t know. The monitoring is not there [a man, IDIs, Health facility, NKD].

9.5.5 Prescription policy

The Pharmacists at the hospital explained that restrictions put on the NHIS medicine list for the different levels of service provision was to ensure rational use of medicines.

There are reasons behind everything. These things I have heard, because we have lists of medicines that are supposed to be prescribed at CHPS, health centres, district hospitals, secondary hospitals; those with tertiary hospitals, at the same time if you are at health centre with a doctor what you can prescribe, health centre without a doctor what you can prescribe and at the same time if you find yourself at the higher facility there are drugs too that are specialists drugs and when you are operating only midwifery services (maternity home). There are drugs you must prescribe all these factors are put in place, as a result, to improve what we call ‘responsible use of medicine, rational use of medicines’. we should have levels of prescribing. We shouldn’t open every medicine for everybody to prescribe. We should have some calibre of staff and what you can prescribe and that is what is done [a man, IDIs, NKD].

9.6 Summary and discussion

Childbirth labour, postpartum and neonatal care forms the most fragile period of the gestation and the foundational aspect of the health of the mother and the baby. Therefore, the efficiency and quality of care received during this period is essential in the continuum of care to women and their newborns. This is reflected in the WHO’s policy that utilisation of skilled care during delivery can prevent avoidable causes of morbidities and mortalities (WHO, 2017d). WHO recognises skilled delivery as a person trained to proficiency and licensed to practice, and that qualifies the midwives and medical doctors alone to provide care in the case of the study area (Sakeah, McCloskey, et al., 2014; Thompson, Fullerton, & Sawyer, 2011). There are many supply side barriers affecting this goal in the study region, and this chapter has focused on these determinants, including poor telecommunications, lack of staff, lack of equipment and consumables, lack of water and electricity, and national health insurance scheme barriers.

Research has shown that many roads in the study area are not motorable all year round by vehicles, and the healthcare system lacks vehicles (such as
ambulances) to transfer patients between facilities if a transfer is required. Thus, the responsibility of transport falls to the expectant mother and her families. The outcomes of mothers transferred on motorbikes and tricycles were found to be poor. Although improved telecommunication network coverage could help address transfer issues by enhancing communication between the sending and receiving health facility, as well as liaising with transport service providers to expedite the process, it was found that the majority of the communities were practically cut-off by mobile phone network operators.

Poor roads networks and vehicular transport had significant impacts on emergency obstetric care elsewhere in Ghana. Afulani (2016) identified the type of health facility as a predictor of stillbirths in Ghana, and the disconnect between communities and lack of skilled attendance at birth due to poor roads and unavailable transport services was identified as a precursor to wayside births in the Upper West Region (Rishworth et al., 2016). Similar problems occurred in other countries (Bossyns et al., 2006; Kabakyenga et al., 2012; Raj et al., 2015), including Bangladesh where women in labour were uncertain of the outcomes even upon reaching the health facility (Bohren et al., 2014; Pitchforth, Van Teijlingen, Graham, Dixon-Woods, & Chowdhury, 2006). Although both the latter studies were comprehensive and entirely focused on health facility issues, the in-depth exploration conducted in this study suggests that, like in many other low and middle-income countries, there is much yet to be done on improving the management of emergency obstetric healthcare in the study areas.

The definition of skilled care also affects one core mandate of the decentralisation policy of the Ghana Health Service; the community-based health planning and services (CHPS) program. The CHPS initiative was adopted to provide preventive health services, including obstetric first aid and taking hygiene and promotional messages to the doorsteps of community members (Dickson et al., 2017; Sakeah, McCloskey, et al., 2014). Although the curriculum for training community health and enrolled nurses contains basic obstetric management of complications and childbirth, the international protocol of ensuring all complications and birth receive skilled care can compound the plight of expectant mothers at all stages of pregnancy, because staff shortages will mean that ANC and community health program delivery is cancelled if a delivery is occurring. This in turn discourages women from
seeking care during delivery. Staff shortages contributing to poor delivery services have been identified in many other nations, including in Uganda (Kiwanuka Henriksson, Fredriksson, Waiswa, Selling, & Swartling Peterson, 2017), where some health facilities recorded as low as 46% skilled staff coverage.

There are other accompanying effects of the staff shortages. Insufficient time can be given to providing ANC to individual women and the waiting queues are long. It also results in negative behaviours towards women, observed not only in the study areas but also in both southern and northern Ghana and India (D’Ambruoso et al., 2005; Kabakyenga, Östergren, Turyakira, & Pettersson, 2012; May, Beyeler, Barge, & Diamond-Smith, 2016; Moyer et al., 2014). Mistreatment of mothers also deterred mothers from facility-based delivery across almost the entire sub-Saharan African region (Bradley, McCourt, Rayment, & Parmar, 2016; Moyer & Mustafa, 2013). Although these adverse behaviours towards clients violate the professional codes of ethics (Thompson, Fullerton, & Sawyer, 2011) and are contrary to all theories underpinning the midwifery profession, it is unclear in this study whether or not such staff receive corrective sanctions.

Also, the literature demonstrates that staff inadequacies lead to poor contact with pregnant women during delivery, which consequently discourages ANC and skilled delivery services uptake in subsequent pregnancies in many low and middle-income countries (Magoma et al., 2011). Considering the number of midwives and the associated inadequate logistics (one bed each for ANC and labour) in this study, versus the expected ANC interventions coverage, it is arguably not surprising that women are discouraged from completing the recommended number of ANC sessions and utilising skilled delivery during labour.

Essential consumables required for quality delivery were also in short supply. Medical equipment was also often missing or dysfunctional. The interviews recorded that sub-district health facilities do not have some necessary health equipment, drug and non-drug consumables and essential medicines including antibiotics due to GHS policy restrictions to ensure rational use of drugs, thereby depriving mothers in the remote communities’ access to the comfort of utilising appropriately resourced skilled delivery. Gloves were also often in short supply.
Puerperal sepsis is a significant health challenge in maternal and newborn care in developing communities. This is the reason MoH/GHS emphasises proper infection control procedures in all health facilities (WHO, 2017d). The impacts of infection on neonates also draws attention to control guidelines and procedures to follow (WHO, 2004b, 2017d). However, this emphasis is often undermined by the lack of water and aforementioned consumables.

Ghana has a referral policy guideline for improved service delivery. While other multilateral agencies such as JICA aided the government to roll-out and implement the framework in the deprived regions in the country (Ampiah, 2017; MoH, 2012), the study districts had no clear referral management pathways at the time of the survey, nor did the study communities have ambulance services for both districts, which suggests that accepting referrals from the health centre and CHPS compounds to the hospital may not yield the desired health outcomes.

Birth asphyxia claimed newborn lives including the infant of one of the pregnant women in this study. However, there was no intensive care unit (ICU) in the entire study area. Similar lack of emergency obstetric facilities found in this study was reported elsewhere in Ghana, in Malawi, and other similar countries (Djan et al., 1997; Kongnyuy, Hofman, Mlava, Mhango, & Broek, 2009). In the case of Malawi, less than two (1.6) emergency obstetric facilities were available per 500,000 population. Although the population in this study was slightly over 98,000, management of obstetric conditions may be worst than the Malawian study because only a poorly resourced comprehensive obstetric facility was available, and women had to transit two to three times for routine appointments. The furthest distance between a community and health facility was over 30 kilometres with no all year round access roads (Daffiama-Bussie-Issa, 2015). The existing situation does not encourage skilled maternal health service utilisation, simply because there is no guarantee of receiving appropriate and quality obstetric and newborn care at the health facilities upon arrival.

One of the reasons for staff dissatisfaction and staff shortages is lack of internally generated funds (IGF), a situation that is compounded by the failure of the NHIS to reimburse claims (for services provided) for a protracted period. It was also found that the hospital and sub-district health facilities engaged casual staff and remunerated them from the IGF. This was caused by a ban on
recruiting additional professional staff, depriving the available team of any compensation for overtime commitments (Abdullah et al., 2011; Raj et al., 2015). Many of the logistical and medicines shortages identified above were attributed to delays in receiving reimbursements of claims for services provided, thereby resulting in bankruptcy within some sections of the health service system. This necessitated CHAG facilities to sell or prescribe essential medicines to mothers, which widened inequity in access to critical care in the Upper West Region (Ganle et al., 2014). The transfer of cost for services, including essential medicines to expectant mothers, deterred professional service use in the study communities, an outcome that is common elsewhere in Ghana (Agyepong & Nagai, 2011; GhanaNews, 2017a, 2017b; Witter et al., 2013), and also in Burkina Faso, Benin, Morocco, and India (Witter et al., 2013; Witter et al., 2016). Expectant mothers fail to report these incidents for fear of maltreatment, thereby increasing the inequities in economic access; this is the complete antithesis of the aims of the policy.

The posting of midwives to the CHPS compounds could also motivate maternity service uptake and utilisation of skilled delivery care (Sakeah, Doctor, et al., 2014b). However, the ongoing bottlenecks in maternal healthcare financing (Aboagye & Agyemang, 2013) may thwart the initiative in achieving the desired maternal health.

Chapters 6, 7, 8 and 9 have identified many barriers to improved maternal health. The next chapter will describe ways to break down these barriers from the perspective of the participants.
Chapter 10 - Recommended interventions (as identified by participants)

10.1 Introduction

The previous results chapters have explored community perceptions of barriers to service delivery and uptake related to ANC, BP/CR, childbirth and the postpartum period, in the process of identifying many underlying determinants of maternal morbidities and mortalities from the rural perspective. This chapter explores suggestions from study participants regarding proactive and cost-effective measures to address some of the intrinsic challenges. The recommendations cover increased spousal participation in maternal healthcare, community emergency transport schemes, healthcare human resources, communication networks, public transport services, geographical isolation of communities, and community education programmes targeting some of the cultural beliefs which impact on willingness to engage with skilled maternal health services.

10.2 Community emergency transport schemes (CETS)

The Ghana Health Service has launched a facilitative initiative to support and promote local initiatives to ensure smooth transfers for pregnant women and children, as well as other general emergency cases, from the community and sub-district health facility level to the nearest hospital. The most common of these schemes is the community emergency transport scheme, known as CETS:

*We have discovered many referrals of expectant mothers to Issa HC were almost always further referred to Nadowli hospital, but when the woman and her family return to Duang to prepare financially and to get other items, to honour the referral, she ends up giving birth at home. so, we have formed a committee - community emergency transport schemes (CETS) spearheaded by the Community Health Nurse for all referrals including pregnant women, to ensure timely access to relevant care at Issa HC or Nadowli hospital [FGDs, opinion leaders, Duang]. Under the scheme, if .... there is emergency, they will know whether driver A or B to come for this case. In the case it will also improve our referral system [a woman, IDIs, Health facility, DBID].*
Other communities have liaised with owners of tricycles to transport emergency cases to the hospital. However, there were significant challenges in ensuring those bikes were readily available and affordable to pregnant women.

We are not having a car; we rely on these motorking. We have two peoples’ numbers, when we have emergency we call one to come and if one is not there we call the other person. (What if both are not there?) If they are both absent from the community, it will be a big challenge. If our bike is in good shape, we try helping. If it’s not too, we go to the community and any person that is there [with a bike] we plead for the person to send her [a woman, IDIs, Health facility, DBID].

CETS were instituted in some communities to reduce delays during referrals. We have discovered many referrals of expectant mothers to Issa HC were almost always further referred to Nadowli hospital, but when the woman and her family return to Duang to prepare financially and to get other items, to honour the referral, she ends up giving birth at home. so, we have formed a committee - community emergency transport scheme (CETS) spearheaded by the Community Health Nurse for all referrals including pregnant women, to ensure timely access to relevant care at Issa HC or Nadowli hospital [FGDs, opinion leaders, Duang].

However, implementing these initiatives is not without problems, and lack of community engagement can undermine their likelihood of success:

The community involvement is so important. Especially with the emergency transport system. Here it’s not everybody that is having means of transport. Thus, when there is emergency, and your husband is not having motorbike or car or motorking to send her, she must go and hire. Hence, we were planning something like emergency transport system whereby they will look for a driver or somebody with transport that will be available always. If there is the need for her to go to the hospital, we will go in for that one and go. Then when you come back, you come work and refund – pay back the person the money. But it failed. The community people are not interested. Some said they are having their own means so these who are having their own means they could talk to but those who are poor had no say, in some of these gatherings, so the initiative collapsed and never happened. And when you are referring, it is headache. Very serious one. In my own opinion, I think we will still lobby with the community leaders to get the community members to become aware of the importance of the emergency transport system [a woman, IDIs, Health facility, NKD].
10.3 Increased staffing

Sufficient staffing levels at the health facilities was a profound problem, with the most obvious solution being to increase the number of midwives to support quality service delivery.

On the part of staffing, it’s a problem. The other categories are not a big deal but on the part of midwives we are hard up. Instead of two-two at the facility, we have one midwife so if she’s not there, nobody is there. If she comes to meet the CHNs or ENs but she doesn’t feel fine or have that confidence in them. The care they will provide will not be as quality as you the midwife in there. But you can’t also be there all the times [a woman, IDIs, Health facility, DBID].

The leaders of Naro/Korinyiri also called for posting of more midwives into the community health facility.

We need more nurses because, five communities – Korinyiri, Naro, Kanato, Sulaguo, Guori, and Kahu are served by one midwife. The midwife is supported by a Community Health and an Enrolled Nurses. .... We need two or more midwives so when one is gone to District Office, the others can serve the population. We have observed that, the midwife does not spend the weekend at the health facility, meanwhile, Naro/Korinyiri is the second most populated area in the district [FGDs, opinion leaders, Naro/Korinyiri].

10.4 Increased clinic and hospital resources

Shortage of essential logistics for providing maternity services in the health facilities was a challenge. Therefore, the midwives were unable to provide quality care as required. For these health professionals, the most appropriate solution was to ensure increased stock of required equipment and drug and non-drug consumables for maternity care.

There are no logistics for us to work with. As I’m sitting there are no gloves, hence, if there is labour case, now, I must refer not because there is a problem I don’t have gloves to work with. There is no oxytocin. The oxytocin, I bought them myself and we are using. We don’t have gloves. Most of the things we use are not there. Oxytocin, gloves, parazone is not there. There are somethings we use to make the place fresh, clean the place to prevent it from infection so that another person can come. They are all not there. We go to the mother sub-district health facility (Health Centre) and they tell us they themselves do not have. They are not there. That’s the problem now we are facing. We don’t have logistics at all. Stationeries too are not there. We don’t have scales to even monitor the growth of the baby. We must monitor every month [a woman, IDIs, Health facility, DBID].
A similar request for basic supplies was made in another community, which suggests that it may be impossible to assist a woman in labour or resuscitate the newborn in case of maternal exhaustion or asphyxia:

*At the CHPS zones for instance, certain things that we need even though I have ambu bag, other CHPS zones as at now do not have ambu bags, and these ambu bags like when you give birth to asphyxiated newborn, we use it to resuscitate the newborn. Another thing is infant weighing scale. At my facility like this, I don’t have infant weighing scale ….. We don’t have vacuum extractor like if we have woman in labour and there is maternal exhaustion if the nurses are two, you supposed to use the vacuum extractor to assist in your delivery. Thus, if a health facility doesn’t have it, the woman will be struggling, and you can’t do anything to help* [a woman, IDIs, Health facility, NKD].

**10.5 Community education programmes**

The low awareness of basic obstetric histories and the progress of pregnancy, coupled with birth unpreparedness and not being ready for complications, gave rise to a request for increased BP/CR and ANC education. We need more awareness creation among expectant mothers to know the significance of ANC, most especially among the young ladies and primes, so they can begin ANC early and continue through to childbirth. This will ensure safe childbirth unto a healthy baby [FDGs, non-pregnant women, Naro/Korinyiri].

The community leaders, Ghana Health Service and the education division had rolled out a vigorous sex education campaign to reduce teenage pregnancies. *... the nurses in collaboration with Community Development Alliance (CDA), a non-governmental organisation has embarked on sex education campaign to help curb the menace of teenage pregnancy in Woggu community. The community do not punish culprits because both culprits and victims are natives”* [FGDs, Youth leaders, Woggu].

There are also benefits to be derived from better educating men on their involvement in maternity care. Involving the spouses in maternity services provision has the potential to increase the willingness and freedom of pregnant women to participate in and comply with directives during obstetric and newborn referrals. The advantages of increased involvement by men is illustrated by a participant at Siruu community who regularly supports his wife financially and with a motorbike to reach Nadowli hospital for laboratory investigations and when referred, to ensure her safety and timely access to appropriate care as iterated.
Anytime my wife conceived, I pick her with my motorbike to receive laboratory tests at Nadowli, she can commence ANC on time. I also ensure her NHIS card is active. I have taken her to ANC before in her recent conception [a male, FGDs, youth leaders, Nanvilli/Siruu].

10.5.1 Use of existing community groups

The FGDs identified the existence of micro-finance groups in some of the community meetings on weekly and bi-weekly bases, which offer a potential for easy communication of health messages to the community. Better still, health education activities could be incorporated into their agendas, thereby providing up-to-date information on maternal health issues.

We have weekly VSLA meetings among women and men. During outbreak of diseases such as cerebrospinal meningitis (CSM), yellow fever and any other public health issue, the CHN visits the groups to create awareness on preventive measures. Aside these, MNH care is not part of our routine meetings [FGDs, opinion leaders, Nanvilli/Siruu].

Nanvilli/Siruu area had local volunteers who support in providing relevant house-to-house maternal health education, immunisation and provision of obstetric first aid to pregnant women. This initiative could be harnessed and replicated at low cost in other communities.

We have community volunteers who receive routine training by the nurses to conduct ANC defaulter-tracing of expectant mothers. We as volunteers also support in getting expectant mothers reach health facility on time for care. We have a first aid box and pain killers we sometimes administer before taking them to the clinic. The community has a social welfare fund from which one can borrow to carry out swift transfer of emergency referral of expectant mother, and then refund later, although we have only one tricycle motorbike in the community [FGDs, non-pregnant women, Nanvilli/Siruu].

The director for health services for DBI also reiterated the need for continued education on BP/CR during ANC, for increased utilisation of skilled delivery services in the rural communities.

We need to continually provide education to the mothers. Expectant mothers will commence ANC early for assessment. This will prevent malaria in pregnancy and other risks associated with pregnancies. Pregnant women and families need education on BP/CR, particularly the primes who have not had childbirth experience for them to receive intensive care for safe pregnancy and childbirth. We are extending our education to get men involved in ANC services and the classes. We need skilled deliveries at our facilities, instead of the elderly women [a man, IDIs, other nurses]. Community education programmes can be achieved in two main ways, using existing community groups and or using external organisations and researchers.
10.5.2 Use of external organisations and researchers

The health service providers also encourage civil society and non-governmental organisations and student researchers (such as the author of this thesis) to engage in community education programmes based on their findings, to help improve maternal and newborn health service utilisation.

*Most of you students who come for interviews and the non-governmental organisations (NGOs) who come to also do their research should help us give health education. If you tell us, for instance, if we know you would have come this year (2017), I would have organised a durbar and you come and give a small talk, concerning what you did last year and what you are coming to do this year, so that people will know that [whatever] they are doing here people are monitoring and watching them. Yes, and they will feel civilisation is taking over and that will help them concentrate more on the health facilities that than going on these traditional herbs [a woman, IDIs, Health facility, DBID].*

A case study of a community-based health education initiative found that it is also possible to combine both approaches, as was done with the father-to-father support group in the Kojokpere Health Centre. Here, the goal was to increase involvement of fathers during pregnancy and delivery. The case study also exemplifies the barriers that exist to achieving successful community education.

Madam Grace, a Ghanaian midwife in the Upper West Region, reveals how she was able to increase men’s participation in maternal healthcare within the community.

“When I [Madame Grace] was transferred to Kojokpere Health Centre, I found limited patronage of the health services and activities by men; whether [it be] durbars and meetings held every three months, out-patient department (OPD) services, supporting mothers with a sick child, child weighing, family planning services and antenatal care (ANC) or postnatal (PNC) services. It was only during childbirth that I saw some men accompany expectant mothers to the clinic because they felt that she could be referred and the nurses will want the husband to be involved in the referral system, or when it is late in the night which compels men to accompany them. All other health activities/services, were perceived as a ‘woman and nurses matter’. Therefore, it was a priority to involve the men in health education at the OPD, family planning, ANC level and PNC. This prompted the father-to-father initiative: to bring the people on board and interact with them, to talk to them about some of the health-related issues and to seek their views about their perceptions on maternal healthcare and their

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28 Name has been changed to protect confidentiality.

29 formal gathering of scores of community members purposely for health education and promotion.
role in supporting the mothers, rather than leaving healthcare-seeking only to the mothers and the healthcare professionals.

Madame Grace continues:

The initiative initially targeted married men but at long last non-married men got involved. Although some were elderly/aged, they served as peer educators and advocates to the broader population. Thus, it was not only meant for the married men but for all those who were interested in and who understood health issues, and the importance of maternal healthcare services to humanity. They all came on board to preach the gospel of health to the people to better understand the significance of health services utilisation. F2F support group meetings were held twice in a month.

During meetings, particular topics, including male involvement in antenatal care services, were discussed, primarily because there are specific issues related to the birth preparedness and complications readiness (BP/CR) plan where men are needed to support the woman to prepare for birth and emergencies. During emergencies, it becomes a challenge for her to make decisions considering the traditional setup in this part of Ghana. The F2F meeting aimed to increase men’s involvement and participation in ANC activities, but also [enabled us] to educate and counsel the couple on laboratory results collectively, such as sexually transmitted infections and Hepatitis B, and address the health and family responsibilities that deal directly with the husbands/partners.

We also discussed finances, provision of a nutritious diet, seeking laboratory investigations at Nadowli or Wa and how the men would cater for the expectant mother. These activities are the prerogative of the husbands/partners and families. Men are the sole decision-makers of our families and our communities, and women mainly follow them. No matter how knowledgeable or wealthy a woman is, if she wants to do things her way, they (men) will see her as a different woman altogether. Men will bring the “pull him down attitude” [i.e. objections]. Therefore, we continually dialogued for [the men] to prepare themselves for these responsibilities. If the spouse fails to provide money, some pregnant women could not afford fuel or the transport fare to go for laboratory investigations. However, each time we explained [these matters] to them, it was appreciated and well-taken.

Finding out the blood group factor is important too; if the woman is negative in a blood group, it has an impact on the pregnancy. Therefore, we encouraged them to identify their blood group so that we can take any necessary action.

Although the community says a family is the couple, when we talk of family planning (FP), most spouses do not support the women to do it. The spouses believed when the woman uses FP, it is hard for her to conceive or deliver in the future, or she will begin cheating on her partner. Therefore, men do not allow them to do FP. F2F provided education to them to eradicate the myths surrounding FP services, so they would understand the importance of spacing births for mothers to stay healthy to bring up the children.
Surprisingly, for postnatal care (PNC), the majority of men say now the child is born, whatever is next is the mother’s problem. When the mother is attending PNC, instead of the men being happy and accompanying them and their newly born babies for PNC services and family assessment, postnatal mothers attend the clinics alone. So F2F was aimed at sensitising men to participate in child weighing care and immunisations. Some women could want to attend child weighing care, and the man could threaten her by saying “I am going to the farm, I am waiting for you [the postnatal mother] there, stop wasting time.” The men don’t know the importance of the neonatal care.

The programme could not achieve all set targets within the short time range; however, it did accomplish some aims. When some men attended ANC with their wives, others made fun of them, thereby discouraging them. However, we encouraged them by saying that when one man accompanies the woman, and another person sees and follows suit, and so on, we would have many men boldly participating in ANC classes. Therefore, to sustain the programme and ensure their well-being, free health screening under the NHIS was conducted for them. The screening included: monitoring blood pressures, checking their weight, and often conducting HIV test for them to motivate them and attract others. The initiative increased the number of men participating in the antenatal care in a short time frame.

However, family planning services uptake faced significant challenges. Nevertheless, the older men that could not be actively involved in health activities, still come around to sit in and listen and now encourage and motivate the younger ones and increase attendance at meetings and durbars. Based on these efforts, other communities requested for the extension of programme for their benefit as well.

Despite the impacts of the programme, funding was a major problem. If we [health facility staff] had internally generated fund (IGF), we could use a portion of it to provide the participants of meetings and durbars with pure water [drinking water]. Yet, the funding does not come like that. Sometimes it is hard! The health staff would want to hold the durbar, but it is not easy because we cannot call people to come and not provide pure water for them to drink. If we organise it ‘dry’, that is one of the reasons some men failed to turn up for meetings. And virtually no participant would turn up to subsequent meetings. It is a must that when we call the [meeting], we provide them lunch or snack or some refreshment. When somebody comes to your house, you have to give water. Moreover, sometimes, we call these elders – the landlords, traditional authorities, and then have nothing to offer them, which embarrasses us. So, the next time it becomes difficult to call them. Not that we bribe them, but we must act as custom demands.

If I talk about other logistics like fuel, it is the same funding that needs to cover that. Even though the districts give fuel, sometimes it is not enough.

Organising durbars and meetings is not a small event. We need to pre-inform the people, meet with the stakeholders or opinion leaders, go to the villages and inform the community healthcare volunteers. We sometimes print out invitation letters to the people as an honour. All this still come down to the
finance. When we do not have the resources, it poses a severe challenge. The funding is not regular. It presents a challenge organising programmes.

**Human resources are also a problem.** Where we do not have people, who are interested in the organisation of such things, then it is always like, you, the health facility in-charge, bears the burden. However, when I have people who understand the importance of durbars and meetings, I interact better with the community people to know their problems. Unless I have somebody, who is supporting me, the organisation will be poorly done.

Programme attendance too is a motivation factor to the health programme organisers. For instance, if I work hard for two weeks organising and mobilising resources to arrange a durbar, and then community members fail to turn up, it means I will be demoralised to continue with such programmes.

**10.7 Summary and discussion**

The results presented in this chapter highlight interventions identified by study participants that could help address the numerous problems found in the communities impacting on maternal morbidity and mortality. While participants were concerned about the issues affecting them, some also perceived opportunities and potential within and outside of the communities.

First, the Ghana Health Service has sought to institute community emergency transport systems (CETS) to offset delays reaching an appropriate health facility during emergency referrals from the sub-district health level (Health Centres and CHPS compounds). The initiative has the potential to bridge the distance gap between communities and the nearest health facility during health emergencies. Although implementing the initiative was problematic in some locations, many other communities embraced it. Ongoing education and support could encourage other communities in the study districts to accept the initiative, particularly if successful schemes can be held up as exemplars.

Community members and health facilities at the sub-district level suggested government and other partners intervene to provide adequate telecommunication networks in the study areas. While it was generally agreed that all communities were covered to an extent, the majority of people in both districts remain cut-off from the rest of country in terms of mobile phone services, in breach of obstetric referral guidelines (MoH, 2012, 2014a).

Second, in order to address resource problems at the health facilities in the study communities it was recommended that additional trained staff be
employed, that adequate equipment and consumables be provided, and that minimal facility standards be achieved, particularly in terms of power and water supply.

Third, ongoing public education campaigns are essential. These would address a variety of issues, including the stigma and public ridicule attached to pregnant women and teenage pregnancy (which result in illegal abortions and attempted home deliveries), lack of male and family involvement in pregnancy and harmful cultural beliefs and practices.

Drawing upon Madame Grace’s insights, it is apparent that there are a number of key lessons to be drawn from previous community education initiatives. Maternal health problems in many communities are not taken seriously, possibly because they are considered to be ‘women’s issues’. Despite this contention, the non-involvement of spouses in maternal healthcare-seeking, and family control over expectant mothers’ decisions on health service utilisation in rural communities, were identified as primary problems affecting early commencement of antenatal care (ANC) and continuity to the point of delivery, as reported in many sub-Saharan African countries (Ditekemena et al., 2012; Ganle et al., 2015). Men’s roles in maternal health are influenced by the society in which they live. While varying opinions regarding lack of male involvement are found in the literature, cultural beliefs, values and attitudes are the primary determinants (Matseke et al., 2017).

Whilst charging expectant mothers informal fees to gain skilled maternal services is rife in low-income countries (Agyepong & Nagai, 2011), men’s participation could relieve women of the sole burden of childbearing, or at worst share in the cost (Kakaire, Kaye, & Osinde, 2011; Matsuoka, Aiga, Rasmey, Rathavy, & Okitsu, 2010). The more men can be involved in facilitating access to skilled care, even if simply by providing finance, the greater the chance of significant improvements in outcomes (Ghose et al., 2017; Matsuoka et al., 2010). Furthermore, greater involvement by men can help address transport problems in accessing services, thereby addressing issues related to geographical isolation of the communities. Even more importantly, encouraging men to empower and enable their wives to make the best possible decisions for their welfare and that of their unborn child is imperative (Kabakyenga et al., 2012). The role that men in the male dominated communities of rural Ghana and many low and middle-income countries have in shaping cultural beliefs,
values and norms related to maternal freedom cannot be underestimated (Sarker et al., 2018; Sumankuuro et al., 2018; Thapa & Niehof, 2013).

Breaking down these barriers will give women the autonomy to access appropriate and quality care (Atuoye et al., 2015; Gebresilase, 2014; Nyeko et al., 2016), addressing not only logistical barriers but issues related to domestic violence (D'Ambruoso et al., 2005; Ditekemena et al., 2012; Kongnyuy et al., 2009).

Thus, maternal health must be the responsibility of the whole community and for the men in particular, not only of women or health professionals alone, particularly since women are not always readily able to make decisions for cultural reasons.

Increasing male involvement may facilitate increased skilled service utilisation in the rural setting, as well as has having implications for other maternal health-related programmes (e.g., family planning).

Community engagement with stakeholders utilising collaborative approaches, such as durbar, present excellent opportunities to increase understanding and acceptability of the aims of health programmes. Ideally these initiatives should be community driven, with local community members taking the initiative in organising and running educational events and acting as peer educators. Peer educators are more likely to be heeded in the community than the professionals, whose key role is to educate the educators and deliver the necessary services. However, without consistent funding to facilitate provision of water and food to participants, sustaining these initiatives will face significant challenges. Part of the larger study found that low uptake of maternity services was attributed to geographical distances to health facilities (Sumankuuro et al., 2017b). Without the participation of men, overcoming these geographical barriers to maternal health service utilisation is likely to be profoundly difficult. Men are therefore encouraged to actively support all aspects, to improve upon maternal and newborn health service utilisation in the rural communities. Their participation has profound implications for the ability and willingness of the mothers to take up available services in both the short and longer term.

This chapter concludes the results chapters. The next chapter draws together the common themes in these chapters and explores them from a variety of theoretical perspectives. Following this analysis, a new model of determinants of maternal health service delivery and uptake is proposed.
Chapter 11 – General discussion

11.1 Introduction

The overt determinants of maternal morbidities and mortalities in developing regions are widely acknowledged in the literature, as are the benefits of antenatal care (ANC), birth preparedness and complication readiness (BP/CR) and skilled attendance at birth. Despite this knowledge, and despite the supposed free maternity services offered in many countries, including in Ghana, uptake of these initiatives continues to be comparatively low. This research has explored why this is the case in the Nadowli-Kaleo and Daffiama-Bussie-Issa Districts of the Upper West Region of Ghana by seeking answers to four key questions:

i. What are the determinants of maternal morbidity and mortality in the study area?
ii. What factors influence the uptake of ANC in the study area?
iii. What factors influence the status of BP/CR in the study area?
iv. What factors influence the outcomes of labour and postpartum period for mothers in the study area?

11.2 Methodological approach and its value

In order to address these questions, a mixed methodological approach drawing upon the pragmatic and critical research paradigms was used. In light of the complexities underlying poor maternal health identified in the literature, it was apparent that a comprehensive approach was needed to address these questions, using different research lenses as the foundation for gathering data from a cross-section of community members from expectant mothers to community leaders and health professionals.

The multiple sourced data have been useful in establishing a concrete understanding towards improving MNH outcomes in the rural communities, pointing to the fact that it is not possible to adequately understand maternal morbidity and mortality in the study areas using only one method. To have used only quantitative methods would have meant cultural nuances underpinning action would have never been fully explored, whilst to have used only qualitative methods would have reduced the researcher’s ability to increase the
scope of transfer and application of the findings to similar locations in Ghana and other low and middle-income countries.

For example, the community level barriers pertaining to TBAs’ interference and influence on health outcomes may not have become apparent without obtaining the views of service providers (healthcare professionals and TBAs) and other community members. Expectant mothers did not mention family-related barriers in their responses, but these were identified in the focus groups and by service providers. Conversely, while the government has argued in the past that cultural beliefs and varied economic problems determined service uptake by the rural poor, the significance of service delivery factors in discouraging skilled service uptake and resulting in poor maternal health may not have been established using only quantitative methods.

11.2.1 Limitations of methodology and method

Whilst the mixed method approach used in the study provided valuable insight into maternal healthcare provision and utilisation, the approach was costly to implement in terms of implementation time, labour intensiveness and data processing and presentation of results. Combining the methods requires great attention to detail when collecting and processing the data, and the collection of qualitative data was particularly time-consuming. Thus, whilst using mixed methods is flexible in some ways (e.g. diversity in participant composition and views) it is less flexible in others (e.g. data collection) and is not well suited to projects which must be carried out in a tight timeframe and on a restricted budget. However, the weaknesses of the two separate methods (qualitative and quantitative) can be addressed by combining them in a complementary approach in the same study (Andrew & Halcomb, 2009; Onwuegbuzie et al., 2009; Onwuegbuzie & Leech, 2006). This combined approach is one of the strengths of the methodology used in this study.

Although related findings existed in both quantitative and qualitative components, a relatively statistically insufficient sample size of the quantitative aspect potentially limited the predictive power for some issues. The substantial complementarity of both results is still relevant, and the findings are transferable to similar settings.

Consequent to the issue of statistical analysis, future studies could adopt similar methodology whilst being cognisant of the quantitative limitation with respect to the sample size of this study.
The findings on maternal autonomy in health-seeking and control over financial resources, which was associated with women’s ability to access skilled care, may suggest that this study could target an additional group - the husbands - to gain their perspectives on the subject of autonomy, in order to establish causality and the strength of association with ANC visits and BP/CR, for future policy decisions.

11.3 Key findings of the research

The research questions have been answered in the discussions highlighted below. Research question 1 is presented in section 11.3.1. Answers to research questions 2, 3 and 4 are combined in five key factors (section 11.3.2).

11.3.1 Determinants of maternal morbidity and mortality (research question 1)

The overt determinants of maternal mortality were identified as anaemia, malnutrition, haemorrhage, pre-eclampsia, infections, illegal abortion, retained matter during a home birth and prolonged labour. There are no surprises here, as these are common determinants of maternal mortality and morbidity in other parts of Ghana (Der et al., 2013; Galaa et al., 2016; Mwini-Nyaledzigbor et al., 2013). Of the 73 audited studies in the Upper West Region of Ghana, eclampsia, anaemia, sepsis and abortion accounted for two-thirds of all deaths and were the leading overt determinants of maternal deaths in the region (Galaa et al., 2016). A similar five-year review was conducted on 5,247 cases of deaths of women in Korle-Bu Teaching Hospital in Accra, Ghana, and 634 were maternal deaths. Of these, haemorrhage, abortion and genital tract sepsis accounted for more than two-thirds (about 79%) of the deaths (Der et al., 2013). The findings in this study agree with those of previous studies, although these deaths occurred in nearly a ten-year period, and therefore suggest that there has not been any improvement in averting the occurrence of these overt determinants in the country. These overt determinants are similar to those in other low and middle-income countries in sub-Saharan Africa and Asia (Adjuik et al., 2006; Alvarez, Gil, Hernández, & Gil, 2009; Raj et al., 2015; Say et al., 2014; Seale et al., 2009).

The overt causes of maternal morbidity and mortality such as infection, hypertensive disorders, mental health conditions, nausea, anaemia, pre-eclampsia, breech presentations, malaria, HIV/AIDS, oedema and hepatitis
were closely associated with both health facility barriers and cultural and economic factors, including the disempowerment of women and extreme poverty and spousal irresponsibility. These findings are common in low and middle-income countries and can be attributed, at least in part, to the unique cultures and social structures (family, community, institutions) of specific communities (Bronfenbrenner, 2005; Leininger, 1988; Williamson & Harrison, 2010). The overt causes of morbidity and mortality found in this study are part of the explicit health burden in Ghana (Der et al., 2013; Galaa et al., 2016), and other low and middle-income countries (Say et al., 2014).

The underlying determinants of these conditions are more complex, and relate, at least in part, to lack of ANC and non-practice of BP/CR, and preferences for unskilled maternity and delivery care. Again, this is not unexpected when compared to research undertaken elsewhere (Duysburgh et al., 2015; Sychareun et al., 2012; Sychareun et al., 2016). The variety of the underlying determinants of morbidities and mortalities are discussed in the next section.

11.3.2 Determinants of ANC, BP/CR and skilled delivery (research questions 2, 3, 4)

The strength of this research lies in exploring the underlying reasons for low uptake of ANC, the status of BP/CR and lack of skilled care during delivery and the postpartum period. Several common themes emerged in answers to questions 2, 3 and 4 and these will now be reviewed.

11.3.2.1 Cultural determinants

Not unexpectedly, given an extensive literature identifying significant cultural influences on maternal health service delivery and uptake elsewhere in Ghana and similar other countries (Bronfenbrenner, 1992; Coast et al., 2016; Golden & Earp, 2012; Leininger, 1988; Sumankuuro et al., 2018; Sychareun et al., 2012; Williamson & Harrison, 2010) and the inclusion of culture in a number of relevant theories, the influence of cultural beliefs and practices in Nadowli-Kaleo (NKD) and Daffiama-Bussie-Issa (DBID) on maternal health service delivery and uptake cannot be underestimated (Say et al., 2014; WHO, 2017a).
Mistreatment of expectant mothers

The findings demonstrate that pregnant women were culturally cleansed within the first trimester. Others were given warm water baths and forced to administer herbal concoctions. Many expectant mothers had limited freedom to seek timely appropriate care and preferred to give birth at home to use their preferred position and arguably preserve community cultural heritage. Although the mothers experienced verbal and physical forms of abuse at home, mistreatment was also found to occur during service delivery. These findings violate international protocols and conventions on the rights of the people, and the renewed commitments for the SDGs. It is worrying because the families, community members and health workers are the closest associates of expectant mothers. Contrary to maternal engagement, rights based and cultural care theories, the families and healthcare providers do not prioritise the psychological and health needs of the mothers’ i.e. expectant mothers are not the focus (Bronfenbrenner, 2005; Leininger, 1988). Although the mistreatments by health professions may be attributed to role stress and general failure of the health system as found in the literature (Ampiah, 2017; Kabakyenga et al., 2012; MoH, 2014b; Nesbitt et al., 2013), this suggests that the cultural preferences of expectant mothers were not analysed and incorporated in care decisions.

The research found that there was cultural importance attached to childbearing, yet expectant mothers are treated poorly and expected to maintain many responsibilities whilst fulfilling their reproductive roles of pregnancy and breastfeeding, often limiting their access to ANC and impeding the uptake of BP/CR. The ability of expectant mothers to translate the messages conveyed during ANC into practice was also influenced by cultural factors, as espoused in this and previous studies (Lori et al., 2014; Thwala et al., 2011).

For instance, men pride themselves on their superiority over the women and expect them to engage in constant reproductive roles, whilst the communities create a systemic atmosphere that frowns on and stigmatises those who frequently give birth. Family planning and spacing of births are encouraged by health professionals as being best for women, but their husbands often do not permit it because it undermines their power and gives rise to concerns of infidelity, disobedience and violation of traditional norms on the part of the woman. That is, family planning services were prohibited to ensure the security of marriages (Arnold et al., 2016; Sarker et al., 2018).
Furthermore, pregnancy is considered the province of women, yet the majority still required permission from their husbands and or family members to commence ANC, undertake BP/CR and seek skilled attendance during labour. Spousal irresponsibility which compels pregnant women to fend for themselves during pregnancy breaks women’s confidence in the family to which they belong. The spouse or family decided on the choice of health service for most of the women in this study, except those who were divorced or living alone for other reasons, similarly to Uganda, Kenya, Bangladesh, Lao PDR and India (Cheptum et al., 2014; Ghose et al., 2017; May, Beyeler, Barge, & Diamond-Smith, 2016; Sychareun et al., 2012; Warren, 2010; Wilunda et al., 2014).

Women bear the brunt of domestic violence (Amzat, 2015; Ganle et al., 2015), which is known to result in maternal morbidity and occasional mortality (Abdollahi, Rezaie Abhari, Yazdani Charati, & Rouhani, 2014; Amzat, 2015; DeJong, 2000), as well as having negative impacts on the health of the foetus, including miscarriages and stillbirths (Kossek et al., 2008; Ryan, 2001; Stokols, 1996).

Results from this study show a positive relationship between pregnant women’s autonomy and the place of skilled childbirth, which suggest that mothers’ level of freedom influences birth preparedness plans in the study area. This aligns with outcomes of other research indicating that women’s autonomy may impact appropriate and timely uptake of maternal healthcare, with attendant increases in skilled services and positive service delivery outcomes (Afulani, 2016a; Ghose et al., 2017; Pitchforth et al., 2006; Amodu, Salami, & Richter, 2017; Amzat, 2015).

These contradictions can be at least partially explained by the patriarchal society of which the women are a part; they are consistently discriminated against and disempowered by family, community, health professionals physically, emotionally and financially (Ganle et al., 2015; Ghose et al., 2017; Sarker et al., 2018). This is contrary to the emphasis of maternal engagement theory, which focuses on close engagement between mother, family and health system, and human rights-based approach, with its emphasis on empowering the mother to make her own decisions. These beliefs, values and attitudes pertain to specific social and environmental contexts of the study communities in ways not dissimilar to bioecological and socioecological theories.
Significantly, no responses by expectant mothers identified these inequalities – they were raised only in focus groups and by health professionals. This suggests that these attitudes and behaviours are so entrenched within communities that they are taken for granted, or alternatively that women are afraid to act in ways that counteract these expectations for fear of reprisal.

Other cultural determinants

The attitudes and behaviours of men, particularly husbands, towards their pregnant wives are not the only cultural factors influencing ANC, BP/CR and skilled care during delivery and the postpartum period.

Miscarriages were viewed as a normal part of life, and it was not considered necessary to alter behaviour in order to prevent them (for example, to refrain from participating in essential economic activities), or to seek medical care if a miscarriage threatened or was occurring. One could easily get pregnant again after a miscarriage.

ANC could not be commenced until cleansing rituals had been carried out; assistance in labour could not be sought until it was well established because early disclosure of labour onset was perceived as a reason for prolonged labour. Delays in disclosing labour also occur in Ethiopia, Kenya, Uganda, India and elsewhere in Ghana (Cheptum et al., 2014; Dako-Gyeke et al., 2013; Warren, 2010; Wilunda et al., 2014).

Delays in seeking assistance during labour also gave time for the labouring mother to access herbal oxytocin to speed up the delivery. Soothsayer consultations were not only done during obstetric complications but also at the onset of labour (Aborigo et al., 2014; Dako-Gyeke et al., 2013). Lack of family support was also prevalent during labour, although it is not known whether this was because it was not readily given, or whether it was not forthcoming because the expectant mother did not ask for assistance for the aforementioned cultural reasons.

Regardless of the specific causes, the delays in seeking ANC and skilled delivery negatively impacted on maternal morbidity and mortality, in ways similar to that shown in other studies (Abebe et al., 2012; Gudu & Addo, 2017; Sumankuuro et al., 2017a). For example, anecdotal evidence from midwives and the statistical analysis (see Chapter 7.4.10) supported evidence from other studies indicating that women who used local oxytocin were more prone to the
risks of obstetric complications (Amodu et al., 2017; Cuzzolin et al., 2010; Hill et al., 2014; Nyeko et al., 2016).

Despite the potentially negative impacts of cultural influences on pregnancy and labour management, the results also demonstrate that women follow these cultural distinctives in order to preserve community and family cultural heritage. Some wanted to deliver at home because that is what previous generations had done successfully, or because it was a symbol of personal strength. Given the lack of power ordinarily given to women, such actions are perhaps not surprising – instead, they are opportunities for empowerment.

Furthermore, it was found that appropriate foods are forbidden for cultural reasons which were alluded to, such as preventing baldness, evil and thievery in both mother and the unborn baby and avoiding a large baby which may lead to CS among other complications. The findings are consistent with the evidence that cultural beliefs related to food consumption in pregnancy have permeated the fabric of the entire sub-Saharan African region and many other low and middle-income countries, with attendant implications for pregnancy and birth outcomes (Baird, Smith, & DeBacco, 2015; Maimbolwa et al., 2003; Matsuoka et al., 2010; Mwini-Nyaledizigbor et al., 2013; Sychareun et al., 2016; Zerfu et al., 2016).

The culture of the communities, that is, the values, beliefs, attitudes and so on they espouse, have significant impacts on maternal health service delivery and utilisation in the study districts.

The findings also encapsulate the extent to which rights based practice is consistently being undermined in the study areas. Whilst women are the bearers and carers of children, men have the power and vested interest in maintaining the status quo (i.e. patriarchal societal structure); this is how they empower themselves in the face of poverty, lack of education, lack of employment opportunities.

This reflects the importance attached to culture in the bioecological, socioecological and cultural care theoretical underpinnings of a holistic perspective – i.e. it highlights the interactions between individuals, families, communities, healthcare professionals and systems, geography, economics, politics and so on.
11.3.2.2 Demographic determinants

This study found a significant association between relevant demographic characteristics of the mother, including the age of both mother and spouse, and ANC uptake and autonomy. The mothers’ age and place of birth and birth attendant, as well as “ever seeking alternative sources of prenatal care”, were all significantly associated with skilled service uptake in the study districts. Expectant mothers’ intake of local oxytocin during the pregnancy was also significantly associated with place of childbirth. However, results suggest that having previous experiences or achieving the minimum of four contacts with the health system played an insignificant role in determining skilled attendance at birth.

Similar findings were reported in Bangladesh and Ethiopia (Abebe et al., 2012; Sarker et al., 2018). In these studies, although geographical distances were implicit barriers, age (≥20), ANC visits and maternal health literacy were associated with place of birth and birth attendant.

Mothers in this study completed at least one contact with the health system during pregnancy, but the results suggested that older women were more likely to complete four or more visits and utilise SBAs than younger women, which agrees with previous studies in Zambia, Tanzania and Pakistan (Abebe et al., 2012; Ghani et al., 2018; Sialubanje et al., 2015).

The research findings indicate that the age of husbands/partners and marital status of mothers had a significant influence on BP/CR and use of skilled birth attendants during delivery. This means that women who were married were more likely to utilise skilled services and were also more likely to receive some form of family support. Nevertheless, the majority of the expectant mothers in this study were married and yet failed to utilise SBAs during labour, which demonstrates a contrary view to previous findings (Atekyereza & Mubiru, 2014; Gudu & Addo, 2017; Sumankuuro et al., 2016; Acharya et al., 2015; August et al., 2015), possibly due to factors other than marital status.

Also, the findings demonstrate that the general maternal health illiteracy and the jobs mothers were engaged in had significant influence on skilled healthcare utilisation as discussed below.

11.3.2.3 Literacy

As demonstrated in the interviews and FGDs with health workers and community members, education attainment was an explicit factor influencing
maternal knowledge. It must be acknowledged that, although educational attainment of expectant mothers had no statistically significant association with BP/CR, women who completed primary education or higher were slightly more likely to answer “yes” to BP/CR than those who never attended, which agrees with the findings in the Upper East Region (Sakeah, Doctor, et al., 2014b). The fact that in the study area, the majority of women and men were illiterate, may have had some impact on the low skilled maternal health services uptake (GSS, 2014a, 2014b; Sumankuuro et al., 2017b). However, this was not conclusive.

The results showed that ANC visits were significantly associated with BP/CR and SBA. Therefore, women who had attended ANC were more likely to exhibit a higher level of health literacy, probably arising from the advice they were given during ANC, than those who did not. Furthermore, pregnant women who utilised ANC early and completed the required minimum contacts with the health system were more likely to engage in BP/CR and utilise skilled attendance at birth. This is a common relationship identified in the literature (Gudu & Addo, 2017; Hailu et al., 2011; Kabakyenga et al., 2012). These results can be explained by the opportunities ANC presents to facilitate maternal engagement, supporting the argument that increased initiatives to engage with mothers in a cordial and professional relationship throughout the gestation, as opined by maternal engagement theory, will enable them to make early decisions to utilise skilled birth attendants (Zwelling & Phillips, 2001).

Therefore considering the current understanding of the communities of the relevance of skilled maternal services, the findings on the manner in which BP/CR education is provided during ANC (i.e. by completing BP/CR form) suggest that the appropriate BP/CR messages needed to increase their knowledge for improved health service utilisation and outcomes may not be conveyed (Kreuter & McClure, 2004; Mbalinda et al., 2014).

The findings also suggest that the TBAs interviewed in the study had poor maternal health literacy. TBAs believed maternal and newborn morbidities and mortalities are caused by nature, concerns over infection control, use of oxytocin, and so on. Of course, there is a reasonable basis for this view in some circumstances. For example, genetic defects, among other issues, are caused ‘by nature’ (i.e. the parent/s have no control over them). There will always be miscarriage, stillbirth or disabilities caused by these ‘natural’ factors; no amount of medical intervention or level of maternal health literacy will prevent these.
From the perspectives of health workers, the cultural and spiritual diagnostics marketing strategy employed by TBAs in this study also gives rise to fear in mothers, which can be perceived as a measure to ensure continuity of their job, rather than acting for the benefit of expectant mothers.

11.3.2.4 Economic (cost) factors

A significant proportion (61.3%) of the mothers fell within the lowest income cohort, which agrees with previous findings in rural Ghana (Afulani, 2015a; Afulani, 2016). The findings showed that skilled service delivery and ANC uptake was associated with women’s wealth quintile, and those that had the financial means were likely to utilise ANC and SBAs in appropriate health facilities (Afulani, 2016). Thus, poverty is a significant issue for many women, and the findings demonstrate that a women’s inability to utilise maternal health services and skilled delivery care was often influenced by financial and physical access costs, related to transport, laboratory tests, ANC medicines and skilled delivery, thereby militating against service uptake. This was often despite their high level of awareness of the benefits of ANC, BP/CR and skilled delivery and in spite of the supposedly free maternal services funded by the National Health Insurance Scheme. As a result, there is often simply not enough money to pay for maternal health services, which suggests cheaper healthcare options such as home births and the use of TBAs were the only viable options.

Cost limitations were also a determinant for the choice of health service provider during obstetric emergency referral in many other countries, including Uttar Pradesh, India (Raj et al., 2015), Malawi (Kongnyuy et al., 2009) and Ethiopia (Abebe et al., 2012). Thus, expectant women must secure costly means of transport using their meagre incomes (Lawler, 2001; Sialubanje et al., 2015; Storeng et al., 2012). In some earlier research, women who had not saved enough for obstetric complications and labour used a micro loan facility to secure means of transport thereby leading to loan default (August et al., 2015; Bayu et al., 2015; Udofia et al., 2013a), but there was no evidence of this occurring in the study regions.

Furthermore, the more affordable sources of medications including herbal uterotonic (local oxytocin) used by TBAs was believed to contribute to late reporting to healthcare settings for complications (Sumankuuro et al., 2017a; WHO, 2004b), and was significantly associated with the place of childbirth in the study districts. Consequently, the interference of TBAs in the
the continuum of care can be seen as a barrier to skilled maternal health messages and interventions in the study area. Perhaps there is a way to harness the positive perceptions of TBAs held by many community members in order to convey ANC and BP/CR messages more effectively.

Expectant mothers in Nadowli-Kaleo and Daffiama-Bussie-Issa districts often failed to honour ANC appointments and obstetric referrals due to lack of monetary savings for transport and medicinal costs and would opt for alternative sources of care rather than the mainstream maternal health service delivery systems (Sumankuuro et al., 2017b). This is common elsewhere in Ghana, Tanzania and Ethiopia, where pregnant women who planned for health facility delivery but could not afford transport charges missed the opportunity (Abebe et al., 2012; Bayu et al., 2015). Furthermore, pregnant women’s BP/CR and the level of freedom of mothers, measured in terms of their financial resources, were also correlated in this study. These results correspond with findings elsewhere that conclude that women who do not have control over their financial resources are less likely to utilise skilled emergency and birth services (Afulani, 2015b; Sarker et al., 2018).

Social exchange theorists posit that the spouses and family should bear the cost of seeking care as their reward for the union (Kuo et al., 2012; Nakonezny & Denton, 2008). There is no doubt that receiving relevant financial support from spouses in the prenatal stage has had a significant influence on pregnant women’s intentions to prepare for health facility childbirth. However, the difference in the findings of this study is that unmarried and younger mothers had no family support to attend skilled delivery care, whereas they did have this support in other locations (August et al., 2015; Kuganab-Lem et al., 2014; Mbalinda et al., 2014). Expectant mothers with employment could seek care devoid of spousal influence, unlike in this study and previous ones in Malawi and Kenya, where mothers live in remote communities and were basically engaged in subsistence farming and were less likely to afford costs of reaching a health facility (Botha et al., 2013; Cheptum et al., 2017).

Other findings run counter to social exchange theory, in that non-pregnant women who had significant birthing experiences demonstrated that, regardless of the woman’s financial status, she is obliged to succumb to spousal decisions on healthcare use. From the socioecological viewpoint, the findings demonstrate persistent unhealthy behaviour, which may at any lengths
potentially negate the efforts in seeking care. These suggest a timely need for community health education for the desired change (Kossek et al., 2008; Kruske et al., 2013).

11.3.2.5 Geographical isolation of communities

The research findings indicate that geographical isolation of communities impacted upon maternal outcomes in four main ways, namely: distances to health facilities, poor roads, lack of transport services and poor communication infrastructure.

In results very similar to other studies (Atuoye et al., 2015; Buor, 2003; Abebe et al., 2012; Bayu et al., 2015; Kabakyenga et al., 2012; Sumankuuro et al., 2017b; Kongnyuy et al., 2009; Raj et al., 2015; Kwambai et al., 2013; Matsuoka et al., 2010), the geographical distances of communities from healthcare services in the study regions, coupled with poor road networks and lack of public and private transport options (Ganle, Parker, Fitzpatrick, & Otupiri, 2014; Sakeah, Doctor, et al., 2014b; Udofia et al., 2013a), was found to have great implications for the utilisation of skilled delivery care at a health facility. That is, while women were willing and prepared for facility services, physical access posed a significant challenge (Afulani, 2015c; Atuoye et al., 2015).

The World Bank identified that more than half of the rural population in SSA do not have vehicular access (Atuoye et al., 2015; Yahaya, 2014), and this is readily apparent in the study areas, where poor quality roads (or no roads at all) force women to walk long distances to receive care. These women are therefore more disadvantaged compared to the urban and peri-urban communities in southern Ghana (Udofia, Obed, Calys-Tagoe, & Nimo, 2013).

Delays in accessing appropriate transport, including the unsuitability of motorbikes and tricycles for carrying labouring mothers, along with the poor quality of roads, were particularly challenging during emergency referrals, with often adverse outcomes for both mother and child. Not all transport related delays were entirely infrastructure related, with men often criticised as having access to transport but not making it available at times of need, or not making money available to finance transportation.

Whilst bottlenecks abound in the service delivery systems in this study, delay reaching the sub-district healthcare setting accounted for some avoidable complications and the mortalities recorded in the communities. In these districts,
the health centres and CHPS compounds may facilitate and ensure prompt referrals to the appropriate healthcare facility, but lack of vehicular transport services connecting the study communities, especially during obstructed labour, was a significant challenge. The implications vary, but unskilled deliveries, as recorded in this study, are the most likely outcome (Sumankuuro et al., 2017b). Similar findings were reported elsewhere (Harris et al., 2010; Udofia, Obed, Calys-Tagoe, & Nimo, 2013b).

Consequent to the geographical access problems in Ghana, the Ministry of Health (MoH) and Ghana Health Service (GHS) prepared the country’s first referral policy guideline in 2013 (MoH, 2012). This was adopted and operationalised in the UWR in 2016 (Ampiah, 2016), in the form of one vehicle for the estimated 100,000 plus population. The accompanying protocol encourages accompaniment by the midwife to the receiving health facility (Ampiah, 2016; Martel et al., 2014). However, as the midwives in the study observe, this gives rise to problems should there be more than one referred obstetric complication or labour case after the midwife leaves the health facility, occasionally resulting in the need to refer a mother in labour to the next closest facility. Overall, therefore, distances and transport barriers have remained a key issue impacting on access to maternity care in the study areas, which mirrors problems elsewhere in the Upper West, in Upper East, Ashanti and even the peri-urban communities around the nation’s capital (Aborigo et al., 2014; Atuoye et al., 2015; Buor, 2005; Sumankuuro et al., 2017b).

The findings also indicate that the poor telecommunication network had a profound impact on health service delivery in this study. Telecommunication networks claimed complete national coverage of their services was achieved, yet most of the communities beyond Nadowli Township could not readily access mobile phone networks (Sumankuuro et al., 2017b). Although the referral protocol instructs the referral point to pre-inform the receiving health facility of the pending health condition and possibly arrange for vehicular pick-up as well, the disconnect in the flow of communication due to poor service accounted for some avoidable delays in providing appropriate care to clients on arrival.

11.3.2.6 Health service delivery factors

Six overarching yet interrelated health service delivery factors impacting on maternal morbidity and mortality were identified, namely: low
staff numbers; inadequate facilities; insufficient consumables; ineffectual referral policies; poor treatment by midwives. All are underpinned by inadequate internal revenue and delays reimbursing insurance claims.

*Lack of skilled professionals*

The WHO recognises a skilled delivery as one undertaken by a person trained to proficiency and licensed to practice, and that qualifies the midwives and medical doctors alone in the case of the study area to provide maternal care (Rishworth et al., 2016; WHO, 2017d). Having skilled staff available when needed is essential as it engenders trust and confidence in the healthcare system. This in turn enhances maternal engagement and improved maternal health (Zwelling & Phillips, 2001). However, this study’s results show there is a shortage of professional midwives and doctors in the study regions, which poses a significant barrier to provision of skilled ANC services and SBAs during labour in these communities, along similar lines to research outcomes in other rural communities (Koblinsky et al., 2016; WHO, 2017d; Fenny, Crentsul, & Ackah, 2017). The shortages span all health facilities in the study area, and affect timeliness and duration of care and the number of clients per nurse (Sumankuuro et al., 2017b), as well as limiting time spent on general counselling, education, BP/CR, and explaining laboratory reports during ANC sessions. Overall, it means there can be no guarantee of receiving skilled and quality care after travelling for long distances.

Thus, although the CHPS initiative in Ghana was an appropriate policy to provide preventive health services, including obstetric first aid and taking hygiene and promotional messages to the doorsteps of community members (Sakeah, McCloskey, et al., 2014), it has not resolved the problem. Staffing inadequacies in this and other studies mean that some mothers are compelled to utilise unskilled care to avoid delays and frustration at health facilities (Rishworth et al., 2016; Sakeah, McCloskey, et al., 2014; Cheptum et al., 2014; Gudu & Addo, 2017), particularly during an emergency delivery. Thus, whilst there has been a modest increase in ANC uptake, this has not been matched by a commensurate increase in staff numbers.

Expecting low skilled staff to provide assistance during delivery may lead to role stress and strain which could result in poor outcomes. Delivery of culturally inappropriate care can also be high in such instances (Amankwaa,
2005; Conrad & Pacquiao, 2005), evidenced in the behaviour of many nurses towards expectant mothers. Under these circumstances, it is not surprising that TBAs are often required to be involved in a delivery despite their being officially banned from practicing (Sumankuuro et al., 2017b).

The findings also show that the study area had fewer than the number of health facilities required to provide health services to the residents. Although the CHPS increased the number of health facilities, the facilities themselves are often inadequate and below regulatory standards (Drislane, Akpalu, & Wegdam, 2014), which limits lower-tier facilities to emergency obstetric and preventive care only. Part of the problem relates to inadequate drug and non-drug consumables in the health facilities, with medicines, gloves, canulas, delivery beds and resuscitation equipment among other items, in short supply in many health facilities, including the hospital in NKD. Although the health centres and CHPS compounds were supplied with basic delivery equipment such as forceps and autoclaves, there was no gas to sterilise them. The majority also depended on a single bed for both ANC and delivery, which postpones ANC if there is a labour case, causing pain and stress for the mothers who have travelled long distances without receiving care.

Facilities such as poor lighting caused a violation of clients’ rights during labour. Blood and medicinal shortages contributed to maternal deaths and increased service costs to clients in the study area. The findings corroborate previous research where lack of skilled staff contributed to diverse avoidable morbidities (including haemorrhagic shocks) and mortalities (Lozano et al., 2012; Perry et al., 2014; Petersen et al., 2004; Tort, Rozenberg, Traoré, Fournier, & Dumont, 2015). Whilst culturally appropriate care is encouraged by health professions in line with Leininger’s (2002) transcultural care perspective, the logistical shortages and poor facilities consistently undermine this goal (Leininger, 1988; Williamson & Harrison, 2010), not only in the study areas but in other locations, such as in Ghana (Afulani, 2016; Moyer et al., 2012) and India and Malawi (Kongnyuy et al., 2009; Raj et al., 2015). Furthermore, skilled staff shortages leave women with no choice of caregiver, which is contrary to best practice according to maternal engagement and human rights-based approaches (Amzat, 2015; Zwelling & Phillips, 2001).

According to the theory of maternal engagement and the conservation theory, prenatal and postnatal services are designed to provide holistic care for
the conservation of the clients in ways that promote family-centred and individualised maternal care (Pedercini & Barney, 2010; Petersen et al., 2004; Peterson et al., 2012; Phillips, 1996; Jack et al, 2005). Thus psychologically appropriate relationships and engagement with mothers are critical to the provision of satisfactory care. Unfortunately, in the study regions, breaches of these fundamental principles are common, as evidenced in mistreatment and abuse of mothers by health professionals throughout pregnancy, and particularly during delivery. The health professionals acknowledged this was a problem, attributing it to stress from overtime duties and to staff inadequacies. Adverse experiences of expectant mothers reduce the likelihood of them seeking skilled assistance, and this concurs with previous findings in other studies in Ghana and other sub-Saharan countries (Bradley et al., 2016; Moyer & Mustafa, 2013; Moyer et al., 2014; Bayu et al., 2015).

The interviews demonstrate that the provision of appropriate and quality maternal service delivery and referrals becomes difficult, if not impossible, due to the failure of the NHIS to reimburse claims for services provided, for a protracted period. The findings in this study correspond to previous investigations in developing communities in Ghana, Burkina Faso and India (Abdullah et al., 2011; Raj et al., 2015; Storeng et al., 2012). Thus, while the potential of the health insurance scheme to reduce the cost of healthcare to the rural poor is profound, there are many deep-seated challenges to successfully managing the policy (Ganle et al., 2014; Witter et al., 2013) which result in a significant mismatch between income and expenditure.

Although this study did not explicitly investigate health financing mechanisms, the primary impediment to facilitating repayments was reported to be the inability of the National Health Insurance Authority to confirm the services claimed by the public and private facilities had actually been provided, and to match the amounts being claimed (in order to avoid fraudulent behaviour). Although other unknown factors within the NHIS management could account for the high debt profile, the implications of the delay were that cost of services including routine ANC medicines were shifted to mothers or their families, often meaning that prescribed medicines were never purchased in the first place, and also resulting in increased demand for over-the-counter-sale medicines and self-medication. Overall, logistics and medicines supplies were
hampered by health facilities’ indebtedness to suppliers and the Ghana Health Service Medical Stores.

11.3.2.7 Patronage of traditional birth attendants’ services

Utilising the services of TBAs for prenatal care, obstetric complications and discomfort as well as childbirth was common practice in the study area. Consequently, the interference of TBAs in the continuum of care can be seen as a barrier to skilled maternal health messages and interventions in the study area. Perhaps there is a way to harness the positive perceptions held by many community members towards TBAs, to better convey ANC and BP/CR messages.

Although the findings demonstrate poor outcomes for women who utilise local oxytocin and may subsequently be at risk of infections, which corroborates with the literature (Moyer et al., 2012), cultural breaches at health facilities also influenced their [mothers and families] decisions. Continued use of TBAs can be attributed to maternal illiteracy (as has been the case in the literature (Sychareun et al., 2012), and to the personal preferences of the husband or family (Ghani et al., 2018; Nanjala & Wamalwa, 2012), but can just as readily on the basis of the results be attributed to their perceived competence, cultural appropriateness, low cost, ready accessibility and ease of access to oxytocin (drug). Giving birth under the care of the TBA may give women the opportunity to feel empowered in a socially acceptable way.

Given the many challenges to health service delivery, viz economic, cultural and geographical barriers, it is not surprising that a significant proportion of mothers continue to prefer the care of a TBA; notwithstanding the possibility that the TBA may practice under unhygienic conditions and not follow appropriate infection control procedures, including the use of bare hands to assess and to conduct labour as reported elsewhere (Moyer et al., 2012), which may expose clients to risks of puerperal and neonatal sepsis.

From a transcultural care perspective, the evidence suggests that there is a need for the health organisations and stakeholders to re-pattern service interventions, and renegotiate with communities to incorporate the different cultural contexts, in order to increase care acceptability and the holistic healing mandate of the nursing/midwifery professions (Kruske, Young, Jenkinson, & Catchlove, 2013; Leininger, 2002; Williamson & Harrison, 2010).
In effect, the findings presented point to the strong interplay of cultural concerns, distance issues, behavioural matters and health service delivery system factors affecting maternal and newborn health outcomes in NKD and DBID.

11.3.2.8 Cultural conflicts

What emerges from the above discussion are profound cultural conflicts over the manner in which maternal healthcare should be provided. This is because culture influences both the healthcare seeker/user and the provider which may lead to conflict or social connectivity related to the values, norms, beliefs and traditions which each of them aims to preserve/follow. Cultural clashes may dictate limits to the understanding, interpretation and choice of appropriate and feasible solutions to the given health problem. For example, an expectant mother who wishes to implement practices reflecting her values, traditions and norms may experience dissonance with the service provider such as Ghana Health Service, which requires husbands to accompany their wives to ANC services.

The health professionals work under codes of ethics regulated by the Ghana Health Service and Teaching Hospitals Act, 1996 (Act 525) and the Health Professions Regulatory Bodies Act, 2013 (Act 857) (Koranteng & Larbi, 2008). These require staff to be loyal to their professions instead of their clients. Although the profession seeks to provide comfort and wholeness as well as ensure clients’ privacy, there are relatively no incentives to work, which coupled with the numerous systemic limitations in the work environment, was found to significantly affect staff ability to provide timely effective and appropriate care. That aside, nurses feared losing their jobs if a maternal death occurred under their care, due to the government’s commitment to the global goal of reducing avoidable maternal mortalities, which placed burdens upon them created by the health system barriers.

There were also conflicts between the regulations/code of ethics and care provision. Disrespect for mothers during ANC and labour was repeatedly mentioned across many communities. This study perceives maltreatment as the result of conflicts created partly by the health system barriers. Therefore, whereas the pregnant women should not be blamed for using alternative sources of healthcare, the nurses should take responsibility for their actions and the violation of mothers’ privacy.
It is apparent that current policy initiatives and guidelines, particularly management of childbirth and labour and infection control protocols, do not give due consideration to the culture of the community. This leaves the health service providers indecisive over how to provide appropriate care to clients while satisfying professional ethics and external protocols. The results of these cultural and practical conflicts included the increased use of culturally appropriate consultations and diagnostics, the use of herbal remedies, and a preference for TBAs and home deliveries by expectant mothers.

11.4 Lessons and implications for modelling

With reference to the foregoing discussions on the determinants of maternal morbidities and mortalities, ANC service delivery and utilisation as well as BP/CR, and drawing upon a number of theoretical approaches that were foundational to the research, particularly the socioecological and bioecological models, life course theory, maternal engagement theory, and transcultural care and human rights-based approach to health, a new model “maternal ecological model” is proposed. This model not only encapsulates the many complex factors contributing to maternal outcomes, but also identifies those factors which need to be addressed to improve service delivery and utilisation outcomes in the Nadowli-Kaleo and Daffiama-Bussie-Issa districts in the Upper West Region of Ghana [Figure 11.1].
The model draws upon ecological and socioecological models of human development, with a focus on the expectant mother and her interrelationships with social structures at different levels and the biophysical environment over time.

Six key interdependent and interacting elements are identified in the model as impacting on the expectant mothers’ thinking and behaviours. These not only reflect her agency but also social structures such as family, community, the health facilities, education system, and the policy environment, all of which operate within a unique biophysical environment and across time, and which place limits on the woman’s agency [Figure 11.1].

11.4.1 Expectant mother

In the centre of the model is the mother. The model acknowledges the expectant mothers themselves had values, beliefs and preferences regarding health service uptake, how they want to be treated as they seek care, and their actions in relation to ANC, BP/CR and skilled delivery. Their age, gender, parity, education, income level and the work they perform will also influence their actions.
However, her thinking and actions are, she is at least partially constrained by the culture of the community (and family), and by other social structures such as education system, health system, political system, NGOs interventions, each of which has their specific cultures and sub-cultures.

11.4.2 Family

Family is a place where culture is interpreted and shared and transmitted. In the study, families more often than not reflect the culture of the community. As an institution, the family is a place where culture is transferred between generations. Olson, Sprenkle, and Russell (1979) demonstrate that family builds a wall around its values, norms and beliefs and is willing to resist external pressures to change these aspects of culture. This appears to be the case in many of the families involved in this study, leaving women particularly vulnerable.

In spite of this vulnerability, perceptions of which are increased as a result of pregnancy, expectant mothers are subject to abuse, violence and discrimination on the grounds of needing to perpetuate cultural heritage over time. Thus, the family upholds values and norms which may conflict with or complement expectant mothers’ desire to utilise appropriate health services.

It is important to note that the family’s beliefs, values and behaviours are also influenced by demographic and economic factors which combine to shape their understanding and approach to quality care, including low incomes, reliance on subsistence agriculture, education, age and so on.

11.4.3 Community

The community is made up of individuals and groups, most of whom are adhering to a specific culture which they are seeking to uphold. Communities are also impacted upon by economic, political and geographical factors, such as the nature of economic production, climate and soils, poor roads and other infrastructure, and regional government, which impact on decisions related to health and well-being. In other words, little action in the communities occurs ‘out of the blue’; instead, they are challenged over time through socialisation and a number of external forces.

For instance, farmers are not used to accompanying their wives in some communities – community members expect them to fulfil other responsibilities to maintain their farms and sustain the family in that way, often based on the premise that the benefits of ANC screening for risks is much less important than
economic survival. Beliefs related to food restrictions, “miscarriage is normal”, the ‘praise’ and ‘dignity’ associated with a home birth, are often seemingly imposed on women by community members, resulting in avoidable mortalities and lifelong disabilities.

Likewise, the pregnant woman’s preference for TBA care and local oxytocin intake may not entirely be her personal decision or the decision of the family; it also reflects the views of the broader community and the perceived and actual inadequacies of the healthcare system.

Overall, these theorists suggest that nothing occurs in communities “out of the blue”; rather change occurs over time, through concerted efforts and by socialisation.

11.4.4 Organisations

The model has two tiers of organisations – the local and regional ones, and then national and global ones. Tier one organisations (i.e. subgroups of the central/ministries/national and global organisations) comprise the immediate governmental and non-governmental organisations such as District Assemblies, hospitals, Health Centres, CHPS compounds, Herbal Centres/Clinics, Regional Health Directorate, banks and allied financial institutions, district health insurance at the various district and regional levels, and so on, in the case of Ghana. These are primarily service providers for healthy living and community development. They are local level governance bodies whose activities may impact on behaviours, perceptions, livelihoods, safe health, maternity service delivery and utilisation. In many ways, their operations could have some influence on the individual expectant woman, her family and her community. Thus, they implement policies formulated by the tier two organisations - national (central or ministry level) and global (e.g. WHO, UN, and so on).

Globalisation can play a significant role in shaping culture and can polarise community cultures to an extent. The facets of polarisation involve international and multinational treaties, laws and conventions, art (the media, music, and movies), education and the like. The UN and its partner institutions/agencies have conventions and proposed strategies for implementing policies at the local level.

Policies are implemented by local and regional level organisations. The policy environment/context in this study constitutes international and national laws and policies regarding maternal health service delivery. The policies may
include health financing such as the NHIS, CHIPS policies, and management of emergency referrals among others in relation to their impact on expectant mothers. Policy challenges regarding financing, provision of logistics and ambulance services to health institutions all contribute to maternal health outcomes.

Nevertheless, Ghana Health Service (implementing body) has distinct practices, norms, values and procedures based on the local situations, with the intention of improving the health of the mothers. That is, the local context and the expectant mother should be the focus of the maternal health service, pursuant to the transcultural model of nursing and human rights-based practice. However, this does not always occur in a health service, and the model reflects how local health service factors both cultural (for example, attitudes of nurses towards expectant mothers) and resources related to staff and logistical shortages, financial barriers and distance to health facilities also impact on maternal outcomes. Specific problems emerge where health workers and facilities attempt to follow standard work procedures without recourse to the expectant mother’s beliefs, values, preferences and practices, and those of her family and community.

Overall, health services’ operations are not designed to specifically meet local needs, but rather are expected to implement national policies and to utilise particular health practices according to professional expectations/standards. For example, there is no reason why women should not be encouraged to deliver squatting, simply because that may be contrary to how the midwives are trained to carry out a delivery and the fact that the delivery rooms do not provide space for diversity of birth positions.

For example, external health policy, including policies implemented to reflect the demands of NGOs and the expectations of the WHO and UN (such as the ban on TBAs services in the face of skilled staff shortages and geographical isolation of communities), may theoretically improve services, but also may compound access problems that worsen the health situations of expectant mothers.

11.4.5 Geography

Geography is another layer; it encompasses both the bio-ecosystem (the biological environment) which impacts on unreliability of rainfall, quality of soils and the nature of the agricultural system upon which the economy is based,
and accessibility (including poor roads, low levels of transport and telecommunications, distance to health facilities and so on), all of which can impact on the health of the expectant mother. For example, expectant mothers and families are left without alternative means of accessing healthcare, which sometimes compels them to utilise the services of TBAs or manage the entire gestation period up to delivery without skilled care.

11.4.6 Implications of maternal ecological model for maternal care delivery
It is clear from the model that cultural, economic and demographic factors must be taken into consideration when developing healthcare policy in and for rural communities at all levels, but particularly at community, family and individual levels. It is worth noting that there are innumerable linkages between the different layers of the model – certainly not arguing that they are separate, or that there are irreconcilable differences between different layers, especially between local/regional/national/global organisations. They are inextricably linked (see Section 11.3.2) and the participants themselves highlighted the differences.

Drawing upon the model, understanding maternal and newborn healthcare needs is crucial for effective policies. Mostly, health policies are objective interventions, which should guide actions toward a desired outcome. Most importantly, the model demonstrates that expectant mothers, as the end users and receivers of maternal health decisions, should contribute to the policy formulation process. The community houses families and institutions, and the analysis suggests that values, beliefs, physical location, economies and reception of development interventions are all critical issues.

Recognising the implications of family and community culture and incorporating their impacts into maternal care interventions, designs and implementation will provide a variety of alternatives to mitigate unintended adverse impacts on expectant mothers and newborns. Policy makers must also consider organisational, economic, geographic and demographic factors.

Thus, MEM engenders a holistic approach to maternal health policy formulation and translation and health service delivery actions over time. This will address significant gaps in health programmes which currently give inadequate attention to the views of the end-users (expectant mothers and families) which are rarely prioritised in development agendas. However, the
MEM is not in itself a solution to maternal health policy formulation and implementation, but a tool for that highlights the process of interventions and ways to improve the resilience and sustainability of maternal health policy formulation and implementation that can potentially lead to improved maternal health. Policies must also acknowledge how distinct community characteristics inform service delivery and uptake.

The maternal ecological model also indicates that decisions made at regional, national and international levels impact on the expectant woman, even when they may be traditionally considered to be outside the reach of the mother and her family.

Finally, professional ethics and health system challenges compound the situation. For example, the healthcare providers are conflicted between the professional responsibilities and values required to provide best quality care and so on, and the constraints of the healthcare system in which they operate plus expectations of aid agencies. Expectant mothers and families are economically and geographically constrained in accessing available health services, with adverse implications on health outcomes in the face of limited alternatives.

In summary, efforts to improve maternal health are constrained by the issues at each level of the MEM. Thus, pregnant women lack agency. In this case, it would be appropriate to state that women’s actions are constrained by societal values, beliefs, attitudes and so on – i.e. the social structures of the communities in which they live. Therefore, for increases in service delivery and utilisation by mothers, families and communities, and to maintain the quality of services provided, ANC, BP/CR, skilled delivery and the ultimate SDGs must incorporate the impacts of each level of the model.

11.4.6.1 Purpose of MEM

MEM is a way of ensuring that different perspectives reflected in the different layers/tiers of the model (i.e. the views, opinions, beliefs, values, attitudes, behaviours of the different actors/institutions), other determinants of maternal health and the relationships between them are considered in the development and implementation of maternal health care policy at all levels, especially given limited resources. It is also valuable in exploring why previous and current initiatives aren’t always successful.
Thus, the MEM is not in itself a solution to maternal health policy formulation and implementation, but a tool that highlights the process of interventions and ways to improve the resilience and sustainability of maternal health policy formulation and implementation that can potentially lead to improved maternal health.

11.4.6.2 Strengths of model (from theoretical perspective and as a tool)

MEM is a timely guide maternal health decision making. It emerged from an extensive survey of the communities, involving many focus group sessions and individual interviews involving remote residents. The model can be applied in other settings. This is because the literature suggests that all of the stakeholders and factors impacting on the stakeholders identified in the model, have more or less of a role to play in other lower income countries, and there will be relationships, to a greater or lesser extent, between the different layers in these settings.

The MEM as designed, recommends reinforcement of efforts in knowledge integration and participation to influence the different levels of organisational priorities in their activities using avenues such as community workshops, primary research involving the direct users of maternal health services and health practitioners in the design and implementation and monitoring and evaluation of development projects aimed to better the health and lives of mothers. The implementation of such an ideal model (MEM) in maternal health research process, policy formulation and project implementation, is still a guide rather than a prescriptive model.

11.4.6.3 Challenges to applicability of maternal ecological model

Despite the potential of the model to help guide decisions in relation to maternal health policy and delivery, applying MEM can require considerable resources, both in terms of time and finances, particularly for teams hoping to work collaboratively across multiple levels. Likewise, working out how best to spend limited finances in managing an activity could be a significant challenge.

One of the reasons applying MEM will be resource intensive is because it will be most effective with active involvement of all relevant stakeholders in health across the levels of the model. This is inherently comparatively expensive. A low-cost approach could be to use local level organisations to
engage with the mothers and family/community members as a pragmatic way of collecting and prioritising the needs of mothers pertaining to maternal health service delivery and utilisation for programming at the national level. Global maternal health interventions mostly use data and relevant information at the national level and thus, would be indirectly engaging with the expectant mother once their needs would have been identified.

Another limitation in using MEM are the challenges arising from intercultural/organisational integration and collaboration among the different actors given their diverse values and beliefs. For instance, as acknowledged in the results chapters, different knowledge backgrounds of the health professionals and community members on matters of maternal health, the forms and mediums of health communication, managing the differences in ideology and interests, institutional structures, perceptions of communities and so on are obvious and may combine to limit MEM’s applicability.

These constraints are epitomised in the lack of autonomy health workers have in changing their behaviours. For example, community health nurses must implement directives/policies from district health directorates, district health directorates must implement policies and directives from regional health directorates and regional health directorates implement policies and directives from mostly Ghana Health Services (GHS). Consequently, Ghana Health Services policies are directly affected by Ministry of Health’s (MoH) policies and priorities, and both MoH and GHS are heavily influenced by donor policies and international priorities, including guidelines and recommendations from the WHO. Thus, different stakeholders will exhibit varying levels of ability to engage with each other, with some being more constrained than others.

One of the reasons for these constraints relate to the profound complexities of achieving change in long-standing cultural values, beliefs and attitudes within families, communities and health care delivery services related to maternal health in the face of constant population growth, changing policy environments, and economic and environmental determinants.
Chapter 12 - Conclusion

12.1 Introduction

The overarching aim of this research was to understand and explain the perspectives of the community members and health professionals in two districts in the Upper West Region of Ghana towards antenatal care, the birth preparedness and complication readiness strategy and access to skilled maternal care. Using a mixed methods approach and drawing upon the pragmatist paradigm, a number of overt and underlying determinants of poor maternal health outcomes in the study communities have been identified, including sociocultural, economic, geographical distances, policy issues and the inadequate knowledge and understanding of the importance of skilled maternal service utilisation among the rural residents. These are illustrated in the ‘maternal ecological model’, which builds on the long-established bioecological model and socioecological model and draws upon theories of ecological and socioecological models (Bronfenbrenner & Morris, 2006; CDC, 2009; Golden & Earp, 2012).

The conventional process of translating ANC and BP/CR knowledge into practice, as has been promoted extensively in the study communities over the last decade, has been shown to fail in many cases, often due to the contradictions between family and community expectations and those of the healthcare services. It is apparent from the evidence that there is no single way of addressing these issues; a one-size-fits-all approach simply will not work.

12.2 Contribution to knowledge

Following the analysis of the different data types obtained from various local participants, this study provides new depth and insights into maternal and newborn health service delivery interventions and outcomes, the determinants of maternal deaths as well as the barriers to service delivery initiatives and uptake by the communities.

Many previous studies have identified the various influences and often focus on some individual barriers. However, this study has collected data that supports a more holistic explanatory picture, highlighting how cultural contradictions and conflicts and disempowerment of women, coupled with geographical and logistical barriers, significantly determined service delivery
and utilisation. Fundamentally, the women were disempowered in and by the family, community and healthcare system, which left them with limited choices. They would therefore seize every opportunity to seek care that did empower them, even in the smallest degree - reflected in use of TBAs, herbal uterotonics, and so on.

Providing insights into these barriers to improved maternal outcomes, which go far beyond the traditional ‘medical’ explanations, will enable local health services and the policy makers at a national and international level to develop programmes that better address the needs of the expectant mother.

The study’s results also shed light on the value of existing theoretical constructs related to maternal health in explaining maternal health outcomes in the study regions. Unlike the advanced countries, in the study area the rights of women are violated at many levels which gives credence to the value of maternal engagement theory and human rights-based approaches to maternal healthcare, notwithstanding their western orientation and other limitations. There is little evidence of equitable social exchange within the marital relationship in this study. Whilst maternal engagement theory, human rights-based approach to decision-making, ecological theories and social exchange theory encourage family involvement in ANC and BP/CR, this does not happen for a host of cultural reasons. Furthermore, the delivery of health services was often culturally inappropriate, which is contrary to the principles espoused in cultural care theory. Leininger’s (1988) cultural care perspective explains the implications of the findings and is, in turn, confirmed by these findings. For instance, during home birth, relatives provide comfort by holding the mother, vary birth positions to facilitate delivery and so on which are not allowed in the facility setting. Also, women may want to convey the afterbirth home to fulfil their beliefs, which is not often allowed during a facility birth, thereby discouraging women from using the health facility despite its advantages.

What is clear is that no single theory or model can adequately explain the complexities underpinning maternal outcomes in the study regions. To address this, a maternal ecological model is proposed (section 11.4). The MEM evolved from the information gathered from the literature, existing theory and the study’s findings. In so doing, it places the pregnant woman at the centre, and then identifies the many factors operating at different levels and over time to impact on her decisions in relation to seeking ANC and skilled delivery, and
engaging with BP/CR. Thus, it demonstrates the need to adapt and align health service delivery policy and interventions to the expectant mother. For instance, the multiple problems found in the study, with the attendant implications on maternal health, clearly explain the position of the model.

Secondly, the multiple factors suggest that this new model is relevant in understanding the characteristics of the study variables and the general health outcomes in the study area. Socioecological, bioecological and transcultural care theories are focused on human well-being. Whilst transcultural care theory in nursing encourages the need to tailor care taking cognisance of the values, beliefs and norms of the patient, MEM provides a direct approach to addressing the numerous concerns in maternal healthcare beginning from policy formulation to care provision.

The model not only encapsulates the many factors impacting on maternal outcomes and the interactions between them, it also provides a foundation for the development of better targeted maternal and newborn programmes into the future. This will not only improve outcomes for women and their babies, but also facilitate the achievement of WHO goals.

With regards to the study results and the descriptions given above, barriers to improve maternal outcomes identified at each level of the model can be summarised as follows [Figure 12.1].
In low and middle-income countries, similar theoretical provisions were the bedrock which increasingly provides solid recommendations for improved health outcomes. Notable among them were the investigations into the influence of maternal autonomy on service utilisation using the human rights-based approach in Africa, Bangladesh and India (Amzat, 2015; Ghose et al., 2017; Jat et al., 2015). Similar insightful investigations were conducted of the daily life experiences and activities and pre-obstetric histories of women, and the plausible impact on pregnancy and birth outcomes (Jack et al., 2005), among others. Many reasons, including population characteristics and community cultural perspectives, necessitate the adoption and application of multiple theoretical frameworks in research.

Certainly, interventions need to take the factors discussed above into account. Significant change is not going to be achieved until women are more empowered, which will require profound cultural shifts.
12.3 Recommendations and remedies

The following recommendations are made to help tackle the barriers to improved skilled care provision and outcomes in the study area, and in similar communities in low and middle-income countries.

First, as a national policy, cheap and easy to access foods should be listed in the maternity records cards, to primarily provide knowledge and encourage families and mothers to utilise the opportunity to boost pregnant women’s immune systems for safe pregnancy and delivery of a healthy infant. Harnessing strategies against iron deficiency anaemia in newborns in Ghana should be as dear as campaigns on maternal morbidities and mortalities.

Also, to address the barriers to care, the fundamental solution is more empowerment for women, although this may take decades and generations to change. Nevertheless, empowerment brings with it risks, including increased risk of family violence as women make decisions that violate cultural norms, and increased decisions to fulfil personal preferences in maternal care in ways which are not necessarily in accordance with evidence-based practice. Community norms, values and belief systems impacting on maternal health service uptake tend to explicitly limit a pregnant woman’s access to the healthcare system.

Third, the study found that regular invitations to men to participate in Father-to-Father (F2F) and similar support groups at the community level to discuss the problems associated with pregnancy and childbirth, particularly about family support to mothers and the importance of their participation in the continuum of care, are important. Spousal participation may potentially increase involvement and support during emergency situations and BP/CR interventions, and the F2F groups could create the platform and medium for communicating health education and promotion messages related to beliefs and practices such as “pregnancy cleansing”, “food restrictions” and “family planning acceptance” among others, which could have significant potential to improve the general health of women and newborns.

These findings mean that maternal health literacy needs to be stepped-up at the community level to demystify myths underpinning sociocultural beliefs and practices that may negatively impact on prenatal care. It is also important to increase education levels more generally, with at least primary education for all.
The study communities generally have low formal education and literacy, which reflects in poor maternal health literacy among the communities, including the elderly. Therefore, increased community sensitisation campaigns could help improve the knowledge of families of maternal health and especially obstetric risks. Satellite sectional meetings at the communities may have more impact on male turn-up than the mass durbars.

Subsequently, a crucial intervention with the potential to reduce or eradicate the harmful cultural practices could be enforced through male involvement in maternal healthcare. This is because maternal health service issues found in this study are rooted explicitly or otherwise on historical norms and maternal health illiteracy. Although formal education was generally low across the study communities, professional engagement with couples in service provision could reduce the burden of risky income generating activities and possibly step-up the readiness for obstetric complications as they occur.

Furthermore, the International Confederacy of the Midwife (ICM global) directives allow each country to adopt the policy content to suit their health and cultural context. Although family-centered maternity care is a core module and work placement case study in the training of midwives in Ghana, it was not practised in the study area. Unhealthy household and community behaviours associated with alternative sources of care and the intake of harmful herbal medicines (such as local oxytocin), and preference for home delivery which was grounded on similar belief patterns, could be reduced significantly through the implementation of the module by healthcare providers. Having regular contacts with mothers and their spouses/family throughout the gestation of the pregnancy could increase health literacy and knowledge of obstetric danger signs. Paraprofessional home visitors, called village health workers in Ghana, could positively influence early ANC uptake and BP/CR interventions in the rural communities.

Ghana Health Service (GHS) in consonance with global maternal health goals provisions, bans TBAs from providing care to mothers, although in times past, some received basic obstetric management and hygiene education from GHS to provide emergency obstetric first aid before referral and delivery care. In this study, it was found that mothers persistently utilised their services, and often preferred their delivery care to the free and subsidised health facility care for pregnant women and newborns. Strict regulations and clear sanctions are
required to discourage TBAs from providing services. Alternatively, these women could be upskilled so they are available in times of emergency or when health facilities are understaffed. This would be a potential and more culturally appropriate approach.

The government’s involvement of the private sector requires tightened monitoring measures to avoid over-blown figures on NHIS claims by service providers. While public health facilities should be commended for the continuing services provided amidst the financing bottlenecks, there may still exist irregularities, which heightens the financial burden on the NHA. Thus, there could be a modified procedure to reconcile the services provided with the claims documents and thus prevent financial malfeasance and expedite reimbursements.

The components of MEM and the research findings suggest a timely need to diversify the channels of health education and promotion activities on maternal health services, possibly from the traditional mass durbars (which may be yielding less than anticipated results) to one-on-one engagement at the community sectional levels with the elderly and the youth, to demystify harmful traditions and cultural practices in maternal health. A cost-effective approach could be to equip and engage the sub-district (Health centres and CHPS compounds) staff and the community-based health surveillance volunteers (CBHVs) in a quarterly roster at their zones, as part of their mandate. District level health education and promotion staff responsibilities could be reinforced to occasionally oversee and provide expert views, which may address the possible oppositions/challenges from the community members. It is crucial to note that this is not the place to extensively critique the recommendations made by the people in the study community; rather it is focused on giving the participants a voice. However, it is pertinent to acknowledge the difficulties of implementing health policies in a different environment, and so the prospects and challenges as discussed in this study should help guide decisions on translating these recommendations into actions.

Since field work was completed, the use of maternal health monitoring tools, such as the partograph chart, have been increasingly implemented in some rural locations in Ghana. Exploring the efficacy of such tools and their implications for maternal health outcomes will be a valuable avenue for future research.
12.5 Other strengths of the study

A key strength of the study lies in the multi-data sources of evidence from an array of participants; expectant mothers, community residents and health providers. The sequential approach helped to understand emergent perspectives and explored during the qualitative components, thereby allowing for in-depth and comprehensive understanding of the quantitative responses. Thus, future studies into new aspects of human endeavour may consider using similar design as it allows more room for data collection and clearer understanding of the subject being studied.

The researcher’s knowledge of the study communities was an advantage, as many community members were eager to volunteer the needed information to one of their ‘own’ who was interested in helping to improve their lives. The common language and cultural backgrounds facilitated community entry dynamics and the gathering of pertinent, yet sensitive information related to healthcare uptake.

The use of multiple theoretical underpinnings in this study provides a substantial strength. The literature identifies different weaknesses of the theories/approaches/models which makes it unsuited to adopt one-fit tenets for all aspects of the study. Therefore, using the multiple perspectives of the individual theories/approaches/models ensured complementarity of beliefs to underscore the determinants of maternal health service delivery and utilisation in these communities, yet it was also much more time consuming than using single a lens. For instance, human rights-based approaches to health is mostly associated with woman’s ability to choose and act on her healthcare preferences whilst cultural care theory focuses on woman/families/community’s cultural needs, values, norms and beliefs during healthcare provision. Similar varied beliefs are presented by all the other theories/approaches/models. Therefore, the complementarity of theoretical position used in this study helps in providing a more comprehensive design and presentation of the findings and offers greater strength to MEM model considering the impacts of decision-making and service delivery at the different levels for improved maternal health.
12.6 Limitations

Although the literature provides sufficient evidence to support the use of pragmatic methodology and mixed methods for health services and related research works in rural community contexts, the approach does not symbolise absolute reality, partly due to the fact that a purposive sampling procedure was followed in selecting the majority (all FGD participants and health professionals/managerial staff) of the participants, which could have its own biases (see chapter 4).

The data processing and presentation of results were carried out using computer software (SPSS and NVivo) which could have programming limitations to the user and that could affect the analysis. The comparatively small number of participants in the “expectant mother” category limited the statistical analysis and issue of power that was possible. Although the sample size was small, it was still adequate to conduct the univariate analyses of association (the chi-square analyses), but insufficient for a regression analysis. For this reason, it was necessary to run a number of statistical tests, and that running multiple comparisons without adjustment of the p value threshold for significance has been criticised by some – but not all authors (Bonferroni correction for multiple comparisons arguments for and against) by Gelman et al., 2012. It may open up the chance of type 1 errors (incorrectly rejecting the null hypothesis, which states that there is no difference or no association). This is also known as a false positive (to see an association when there really is not one).

I recognised that simple random with minimal purposive sampling procedures were the key techniques used in participant selection, and these sampling techniques have their weaknesses. The study was not conducted in all communities in the research area, and it must be acknowledged that although these findings may be transferable, different barriers and determinants may exist in the other communities not sampled. Thus, further studies are recommended in those areas to best inform health policy decision-making policy in those specific communities. The community specific nature of the study means that the conclusions may not be readily extrapolated to other locations in rural Ghana. Also, two experienced male researchers conducted the focus group discussions. Considering the paternalism currently inherent in the Upper West
Region of Ghana, women may have felt intimidated to provide responses that were ‘gender appropriate’ rather than they would have otherwise intended. However, the pragmatism and diversity of the responses by many participants hopefully allay these concerns. Purposive sampling has its own biases about the selection of participants which could influence the results, although we believe this did not happen.

Also, the study did not explore into newborn care aside the causes of their deaths that relates to health service delivery and community level beliefs and practices. Therefore, it limits the extent to which the findings can substantiate what pertains in postnatal check-ups on the babies. The original survey was designed with both quantitative and qualitative components, which would have extended the interview beyond 45 minutes duration. The Human Ethics Committee considered interviews of longer duration had the potential to cause discomfort to the expectant mothers and foetuses and therefore did not give approval to more lengthy interviews. This limited the researcher’s ability to obtain substantive views of mothers through in-depth interviews.

Also, the study mainly reported on participants’ opinions, and it is assumed that personal views are subjective. The interviews with pregnant women and the FGD sessions were also conducted in the local language (“Dagaare”) and transcribed and translated into English by the researcher; although Dagaare is the mother tongue of the researcher, the processing stages could have flaws regarding language appreciation and interpretation errors which may affect the original intent of the participants.

There may be some concerns raised over the common ethnic and cultural background of participants and the researcher, and the potential for this to bias results. The potential negative effects of the common background were addressed through proactive measures, including gathering data from multiple sources. This helped to eliminate any potential biases in the results.

**12.7 Future research**

There are significant gaps identified in the study that are worth investigating for improved maternal health service delivery and utilisation outcomes. Primarily, the study recommends further investigation into:
1. Male involvement from the perspectives of health service providers, women and men.

2. The sociocultural beliefs and practices associated with spouse involvement in antenatal, delivery and postnatal care.

3. Redesign of the antenatal model to include spouses.


12.8 Closing remarks

The findings demonstrate that maternal health use and delivery outcomes are affected by multiple factors. Whilst policy gaps and geographical isolation account for some delays in seeking care, the interplay of cultural and related societal factors compounds these problems, all of which indirectly increases the cost and limitations to access to health services.

The maternal ecological model is coined to provide contextual meaning and a way forward to addressing these barriers to improvement in maternal care in the study area and similar communities. Campaigns to increase skilled care and reduce avoidable maternal morbidities and mortalities in rural contexts may remain unsuccessful unless they address the socioeconomic, cultural and policy barriers impacting health seeking and delivery interventions at the expectant mother, family, communities, health systems and policy levels.
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Appendices

Appendix 1: Healthcare staff structured and semi-structured interview guide

Participants: Heads of Health Facilities

Your response to this questionnaire will serve as source of information to the research paper for academic purpose. Any response you provide here is strictly confidential and will be used exclusively for the research purpose. Your honesty in giving exact information is vital for the research outcome - improved maternal health, to be reliable.

What are the categories of staff in your facility?

(Complete the table on the Staffing Capacity of the Health Facility)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Category</th>
<th>No. at Post</th>
<th>Male</th>
<th>Female</th>
<th>No. Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Physician Assistants</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2.</td>
<td>Public Health Nurse</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Midwives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Nutrition Officers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Registered General Nurses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Community Health Nurses</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Enrolled Nurses</td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td>Record Assistants</td>
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<tr>
<td>9.</td>
<td>Health Promotion Officers</td>
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<tr>
<td>10.</td>
<td>Field Technicians</td>
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<tr>
<td>11.</td>
<td>Mental Health Officers</td>
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<tr>
<td>12.</td>
<td>Health Information Officers</td>
<td></td>
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</tbody>
</table>
### Obstetric Information and General Status of Preparedness

<table>
<thead>
<tr>
<th>S/ N</th>
<th>Variable</th>
<th>Response</th>
<th>Code</th>
<th>Field Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does the facility receive emergency referrals on pregnancy complications from communities?</td>
<td>a) Yes</td>
<td>1</td>
<td>Receiveemergencyreferralsinpregnancy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Which areas in the sub-district do you mostly receive emergency obstetric cases from?</td>
<td>a) Very remote parts</td>
<td>1</td>
<td>Majorreferralplaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) nearby areas</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) all parts of the district</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>What is your primary means for emergency referrals?</td>
<td>a) Facility ambulance</td>
<td>1</td>
<td>meansuseduringreferrals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) National ambulance service</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>c) Client -arranged means</td>
<td>3</td>
<td></td>
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<td></td>
<td></td>
<td>d) Facility van</td>
<td>4</td>
<td></td>
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<td></td>
<td></td>
<td>e) Public Transport</td>
<td>5</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td>f) Other</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Are there some cultural beliefs in these communities that affect save pregnancy management?</td>
<td>a) Yes</td>
<td>1</td>
<td>Culturalbeliefsinpregnancies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>If yes, what are the most important cultural issues? (multiple responses allowed)</td>
<td>a) meal exclusion e.g. egg/meat intake will make child witch</td>
<td>1</td>
<td>culturalissuesinpregnacy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) taking shower at night will infest the baby</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>c) pregnant women should not eat meat, will be tagged as witch</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Questions</td>
<td>Options</td>
<td>No.</td>
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<td>----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
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<td></td>
<td>d) no spicy food intake in pregnancy</td>
<td>e) must take traditional herbs “mansugo”</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td>f) must not eat beans related food</td>
<td></td>
<td>5</td>
<td></td>
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<td></td>
<td>6 If YES, what efforts have the facility and the community made about it?</td>
<td>a) Mass community sensitisation</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>b) Education during ANC</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>c) Targeted public health education</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 Do some pregnant women still patronise TBAs services?</td>
<td>a) Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
<td></td>
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<tr>
<td></td>
<td>8 Have you ever had obstetric cases within the past two years</td>
<td>a) Yes</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>(January 2013-December 2015)?</td>
<td>b) No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 If Yes, how many on the average do you record per week times?</td>
<td>a) one case</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>b) two cases</td>
<td>2</td>
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<td></td>
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<td>c) three cases</td>
<td>3</td>
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<td></td>
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<td>d) four cases</td>
<td>4</td>
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<td></td>
<td></td>
<td>e) five cases and above</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 How many of these cases required basic and or comprehensive care?</td>
<td>a) basic ………</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>b) comprehensive ………</td>
<td>2</td>
<td></td>
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<td></td>
<td>11 Does the facility contain all required skilled personnel to handle both</td>
<td>BEmoNC and CEmoNC?</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>a) Yes</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>b) No</td>
<td></td>
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</tbody>
</table>
| 12 | What were the outcomes of those cases? (multiple responses allowed) | a) Referral  
b) Still births  
c) Loss of women  
d) Miscarriage  
e) Successful delivery? | 1 | Outcomes of obstetric cases  
2  
3  
4  
5 |
| 13 | Do you have adequate equipment to handle pregnancies? | a) Yes  
b) No | 1 | Equipment availability  
2 |
| 14 | What advice do you render to clients during ANC on BPCR? (multiple options allowed) | a) Danger signs  
b) Where to go for care  
c) Place of birth  
d) Transport arrangement  
e) Finance  
f) Blood donor  
g) Other (specify) | 1 | Conten of ANC services  
2  
3  
4  
5  
6  
7 |
| 15 | Has your facility conducted any EmONC in the past one year? | a) Yes  
b) No | 1 | EmONC Services  
2 |
| 16 | Which of these BEmONC services have you conducted? | a) Administering antibiotics, uterotonic drugs (oxytocin) and anticonvulsants (magnesium sulphate)  
b) Manual removal of the placenta  
c) Removal of retained products following miscarriage or abortion  
d) Assisted vaginal birth, preferably with vacuum extractor;  
e) Basic neonatal resuscitation care  
f) Other ............. | 1 | BEmONC Services rendered  
2  
3  
4  
5  
6 |
| 17 | Do you conduct these CEmONC services in your facility? | a) Blood transfusion  
b) Performing caesarean sections  
c) Care to sick and low-birth weight newborns and resuscitation  
d) Other ........ | 1 | CEmONC Services rendered  
2  
3  
4 |
18. Do you have all the required staff and supplies to carry out this service?

- **a)** Yes
- **b)** No

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19. Have you failed in conducting any of these BEmONC services?

- **a)** Yes
- **b)** No

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</table>

20. What are the causes of maternal deaths recorded in your facility *(the table is ONLY a guide)*

<table>
<thead>
<tr>
<th>S/N</th>
<th>Period/Cause</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal deaths</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Haemorrhage</td>
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<td></td>
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<tr>
<td>2</td>
<td>Preeclampsia</td>
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<tr>
<td>3</td>
<td>Infection</td>
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<tr>
<td>4</td>
<td>Sepsis</td>
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<tr>
<td>5</td>
<td>Caesarean Section error</td>
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<tr>
<td>6</td>
<td>Prolonged labour</td>
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<td>7</td>
<td>Inadequate obstetric care</td>
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<tr>
<td>8</td>
<td>Indirect causes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>Ante partum</td>
<td></td>
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<tr>
<td>10</td>
<td>Postpartum</td>
<td></td>
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<tr>
<td>11</td>
<td>Others.........</td>
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</table>

21. What are the causes of still births in the Catchment Area of the facility?

<table>
<thead>
<tr>
<th>S/N</th>
<th>Cause/Period</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>bacterial infection</td>
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</tbody>
</table>
2. Birth asphyxia

3. birth defects, especially pulmonary hypoplasia

4. chromosomal aberrations

5. growth retardation

6. Induced Foetal Demise

7. intrahepatic cholestasis of pregnancy

8. maternal diabetes

9. high blood pressure, including preeclampsia

10. maternal consumption of recreational drugs (such as alcohol, nicotine, etc.) or pharmaceutical drugs contraindicated in pregnancy

11. postdate pregnancy

12. placental abruptions

13. physical trauma

14. Others (specify)

22. What equipment do you use during pregnancy management - antenatal, labour, birth and post-birth care?

[List the WHO/MoH/GHS recommended equipment for safe management of pregnancy complications through to post-delivery (Labour/Birth Suppliers/Equipment Capacity Assessment)]

<table>
<thead>
<tr>
<th>S/N</th>
<th>Name of Equipment</th>
<th>Year supplied</th>
<th>Quantity in Use (good condition)</th>
<th>Quantity not in Use (poor condition)</th>
<th>Quantity required</th>
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</thead>
<tbody>
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</table>

23. What maternal and newborn intervention programmes do you run in the catchment area of your facility?
24. What is the average distance of the communities within your sub-district to the facility?

(List the Communities and their Average Distances to the nearest Health Facility)

<table>
<thead>
<tr>
<th>Name of Study Community</th>
<th>Av. Distance to nearest facility</th>
<th>Av. Distance to nearest referral hospital</th>
</tr>
</thead>
<tbody>
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</table>

25. What sexual reproductive cultural beliefs are practiced in these communities?

26. What challenges does the facility experience in executing health education relating to maternal and new-born health?

27. What institutional challenges are you facing in your carrying out maternal and new-born health programmes?

28. To what extent do community leaders assist during any intervention programmes implemented by the facility?

29. Are there any local initiatives by the community to prevent maternal and still births? If yes, please give details of those programs.

30. What suggestions can you make to help improve maternal and new-born outcomes in this district?
Appendix 2: Focus group discussion guide

PARTICIPANTS: OPINION LEADERS

1. What kinds of things/activities should a woman do when pregnant?
   - prompts – at home? – at work? – in the community
2. What activities (cultural, social, economic) should pregnant women not do in your community?
3. What are the things women should do to stay healthy during pregnancy?
4. What do you think are the main determinants of deaths of pregnant women or after delivery in this community/district?
5. What do you think are the main determinants of deaths of newborns in this community/district?
6. If someone talked to you about birth preparedness and being ready for complications in pregnancy, what do you think they would be talking about?
7. What can you tell me about community initiatives towards ensuring safe motherhood?
8. What can you tell me about other settings (places) or groups where pregnancy related matters are talked about in the community?
9. What forms of support do these groupings offer to pregnant women?
10. What sorts of things does your family do (or do families do) to help ensure safe pregnancy and child birth?
11. What reproductive cultural practices exist in your communities?
12. a. what do you think stops women from seeking antenatal care?
   b. What do you think stops women from wanting to give birth in a health facility?
13. What do you suggest are the roles of men in pregnancy?
14. Are men active as expected in supporting the woman during the period of pregnancy?
15. What do you think are the best ways to prevent maternal deaths and still births in the community?
PARTICIPANTS: NON-PREGNANT WOMEN
1. What are the determinants of maternal deaths in your community?
2. What are the determinants of Neonatal deaths in your community?
3. What things/activities should pregnant women do in your community?
4. What activities (cultural, social, economic) and general daily lifestyle should pregnant women not do in your community?
5. What are the things women should do to stay healthy during pregnancy?
6. If someone talked to you about birth preparedness and being ready for complications in pregnancy, what do you think they would be talking about?
7. What can you tell me about community initiatives towards ensuring safe motherhood?
8. What can you tell me about other settings (places) or groups where pregnancy related matters are talked about in the community?
9. What forms of support do these groupings offer to pregnant women?
10. What sorts of things does your family do (or do families do) to help ensure safe pregnancy and child birth?
11. What reproductive cultural practices exist in your communities?
12. a. what do you think stops women from seeking antenatal care?
12. b. What do you think stops women from wanting to give birth in a health facility?
13. What do you think are the best ways to prevent maternal deaths and still births in the community?
14. What will you suggest should be done to prevent pregnant women and new-borns from dying?

PARTICIPANTS: YOUTH
1. If someone talked to you about birth preparedness and being prepared for complications in pregnancy, what do you think they would be talking about?
2. What are your perceptions of safe pregnancy?
3. What are the various kinds of support pregnant women receive from family members?
4. What community plans are there for emergency situations in pregnancy?
5. What reproductive cultural practices exist in the community?
6. How do you think these practices have some effects on pregnancy outcomes?
7. What do you think can be done in the community to improve the health of pregnant women and newborns?
Appendix 3: Semi-Structured Interview Guide – other nurses

PARTICIPANTS: OTHER NURSES

1. What arrangements are put in place for pregnancy/birth emergency referrals?
2. What is your perception on why some pregnant refusal to use antenatal care services or complete the recommended number of visits?
3. Do you think clients’ physical and social integrity are compromised when nurses/midwives are carrying out their duty of care?
4. What is your broad view about the challenges midwives face in carrying out duty of care to clients (antenatal care, women in labour or postnatal care)?
5. In your opinion, what recommendations will you make for improved maternal and neonatal health outcomes in the rural/hard-to-reach areas?
Appendix 4: Traditional birth attendants semi-structured interview guide

PARTICIPANTS: TRADITIONAL BIRTH ATTENDANTS

1. Do you still provide care during pregnancy and/or childbirth? If so, in what ways?
2. Approximately how many deliveries could you conduct in a year before the ban?
   a) How many childbirths have you been involved in, on the average, in a year since the ban?
3. How has the ban affected expectant mothers’ demand for your services?
4. Are there collaborations between you and the health facilities?
5. Are there some material and/or financial benefits you receive for:
   a) Providing prenatal care?
   b) Conducting childbirths?
6. Are there some peculiar reasons motivating your continued practice, despite the ban?
7. In your opinion, what are the determinants of maternal deaths in the area?
8. In your opinion, what are the determinants of neonatal deaths in the area?
9. What challenges do you face in your practice as a TBA?
10. What is your view on Ghana health service’ ban on your services?
Appendix 5: Prenatal survey questionnaire

PARTICIPANTS: PREGNANT WOMEN

Basic Demographic Data

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>Response (to be circled by interviewer)</th>
<th>Code</th>
<th>Field Name</th>
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<td></td>
<td>BASIC DEMOGRAPHICS OF PARTICIPANT</td>
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<tr>
<td>1</td>
<td>What is the highest level of education you have achieved?</td>
<td>a) Never attended</td>
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<td>Educationalstatus</td>
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<td></td>
<td></td>
<td>b) Primary</td>
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<td>c) JHS</td>
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<td>d) SHS</td>
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<td></td>
<td></td>
<td>e) Tertiary</td>
<td>5</td>
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<td>What is your current marital status?</td>
<td>a) Single</td>
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<td>Maritalstatus</td>
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<td></td>
<td></td>
<td>b) Married</td>
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<td></td>
<td></td>
<td>c) Divorced</td>
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<td>d) Co-habitation</td>
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<td></td>
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<td>e) Separated</td>
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<td>3</td>
<td>What is the current job you do for a living? <em>(multiple options allowed)</em></td>
<td>a) Housewife</td>
<td>1</td>
<td>Occupationalstatus</td>
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<td></td>
<td></td>
<td>b) Farmer</td>
<td>2</td>
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<td></td>
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<td>c) Wood logging/charcoal burning</td>
<td>3</td>
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<td>d) Local wine brewing</td>
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<td>e) Civil Service</td>
<td>5</td>
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<td></td>
<td></td>
<td>f) other (specify)</td>
<td>6</td>
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</tr>
</tbody>
</table>

Obstetric History – Present History

<p>|     | How old is your current pregnancy?                                      | a) 1\textsuperscript{st} Trimester      | 1    | Gestationofpregnancy |
|     |                                                                          | b) 2\textsuperscript{nd} Trimester      | 2    |                 |
|     |                                                                          | c) 3\textsuperscript{rd} Trimester      | 3    |                 |
| 5   | Were you on any Family Planning method when you conceived?              | a) Yes                                  | 1    | PregnancyonFP    |
|     |                                                                          | b) No                                   | 2    |                 |
| 6   | IF YES TO Q.5, Did you expect this pregnancy?                           | a) Planned                              | 1    | Plannedornot     |
|     |                                                                          | b) Unplanned                            | 2    |                 |</p>
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<tr>
<th>No.</th>
<th>Question</th>
<th>Options</th>
<th>Code</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>IF <strong>unplanned</strong>, did you attempt to terminate the pregnancy?</td>
<td>a) Yes</td>
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<td>Attempt to terminate pregnancy</td>
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<td>b) No</td>
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<td>8</td>
<td>Have you been admitted to hospital for complications in this pregnancy?</td>
<td>a) Yes</td>
<td>1</td>
<td>Admission history</td>
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<td>b) No</td>
<td>2</td>
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<td>9</td>
<td>IF YES TO Q.8; For what reason/s where you admitted?</td>
<td>a) Bed rest</td>
<td>1</td>
<td>Complications in pregnancy</td>
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<td></td>
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<td>b) breech presentation</td>
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<td>c) pre-eclampsia (high blood pressure, protein in the urine and swelling of the hands, feet and face)</td>
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<td>d) diabetes</td>
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<td>e) general observation</td>
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<td>f) others (specify)</td>
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<td>10</td>
<td>Have you been on admission on any sickness other than pregnancy?</td>
<td>a) Yes</td>
<td>1</td>
<td>Other admissions</td>
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<td></td>
<td></td>
<td>b) No</td>
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<td>11</td>
<td>IF YES TO Q.10, (else go to Q.12) What were you told was the cause of the sickness?</td>
<td>a) Anaemia</td>
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<td>Complications in pregnancy</td>
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<td>b) Urinary tract infections (e.g. fever, pressure in lower belly, smelly urine, cloudy or reddish urine, back pain)</td>
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<td>c) high blood pressure</td>
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<td>d) mental health conditions (e.g. sad/low mood, feeling of worthlessness, changes in appetite or sleep or energy, problems thinking/deciding/concentrating, guilt or shameful feeling)</td>
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<td>e) Diabetes (e.g. Gestational diabetes mellitus)</td>
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<td>f) Nausea or vomiting</td>
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<td>g) Weight gain in pregnancy/obesity</td>
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<td>h) others (specify)</td>
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<td><strong>IF NO TO Q.10, Why do you think your pregnancy is staying healthy? (Multiple options allowed)?</strong></td>
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<td>12</td>
<td>a) I do apply the knowledge acquired from ANC lessons b) I comply to all recommended ANC visits c) I attend ANC on time d) I follow other healthy pregnancy advice given e) I do all recommended tests, scans and immunisations f) I make advance preparations for early recognition of danger signs and seek early treatment h) Others (specify)</td>
<td>1</td>
<td>Reasons for healthy pregnancy</td>
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<td><strong>Obstetric History – Past History</strong></td>
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<td>13</td>
<td>How many times have you been pregnant? (if more than to q.13, continue to q.18; if first pregnancy go to q.34)</td>
<td>a) One b) Two c) Three d) Four e) Five and above</td>
<td>1</td>
<td>Gravity</td>
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<td>14</td>
<td>How many of them were live births?</td>
<td>a) One b) Two c) Three d) Four e) Five and above</td>
<td>1</td>
<td>Positive outcomes in conceptions</td>
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<td>15</td>
<td>Did you give birth to the child at your planned place of birth (multipara) (if no to Q.15, Continue to Q.16, else move to q.18)</td>
<td>a) Yes b) No</td>
<td>1</td>
<td>Deliver at planned place of delivery</td>
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<td>16</td>
<td>Why could you not give birth at the planned place of child birth?</td>
<td>a) Family reason b) Referral c) Delay in transport d) Unable to afford transport fare</td>
<td>1</td>
<td>Reasons for inability to deliver at planned place</td>
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<td>Where did you have your last child birth?</td>
<td>a) CHPS Zone</td>
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<td>Placeofdelivery</td>
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<td>b) Health Centre</td>
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<td></td>
<td>c) District Hospital</td>
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<td>d) Private Hospital</td>
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<td>e) TBA Home</td>
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<td>f) Home</td>
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<td>g) on the way to hospital/referral van</td>
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<td>Have you ever had any still birth? (IF NO TO Q.18, go to Q.21)</td>
<td>a) Yes</td>
<td>1</td>
<td>Historyofstillbirths</td>
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<td>b) No</td>
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<tr>
<td>IF YES TO Q.18, how many have you had in the past three years (2012-2015)?</td>
<td>a) One</td>
<td>1</td>
<td>Previousstillbirths</td>
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<td>b) Two</td>
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<td>c) Three</td>
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<td>d) Four</td>
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<td></td>
<td>e) Five and above</td>
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<tr>
<td>IF YES TO Q.18; Which order did you have the still birth (s) (multiple options allowed)</td>
<td>a) First</td>
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<td>Orderofstillbirths</td>
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<td>b) Second</td>
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<td>c) Third</td>
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<td></td>
<td>d) Fourth and above</td>
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<tr>
<td>Have you had any obstetric complications in your recent past pregnancy?</td>
<td>a) Yes</td>
<td>1</td>
<td>Previouscomplications</td>
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<td>(IF “NO” TO Q.21, MOVE TO Q.34)</td>
<td>b) No</td>
<td>2</td>
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<tr>
<td>At what stage and form did it take? (multiple responses allowed - move to signs on chosen options)</td>
<td>a) Pregnancy</td>
<td>1</td>
<td>Stageandformofcomplication</td>
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<td></td>
<td>b) Labour &amp; birth</td>
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</tr>
<tr>
<td></td>
<td>c) Early postnatal</td>
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<tr>
<td>During pregnancy (multiple responses allowed)</td>
<td>a) Anaemia</td>
<td>1</td>
<td>Complicationsinpregnancy</td>
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<td></td>
<td>b) Urinary tract infections (e.g. fever, pressure in lower belly, smelly urine, cloudy or reddish urine, back pain)</td>
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<td></td>
<td>c) high blood pressure</td>
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|   |   | d) mental health conditions (e.g. sad/low mood, feeling of worthlessness, changes in appetite or sleep or energy, problems thinking/deciding/concentrating, guilt or shameful feeling)  
e) Diabetes (e.g. Gestational diabetes mellitus)  
f) Nausea or vomiting  
g) Weight gain in pregnancy/obesity  
h) others (specify) ...........   |   |   |
|---|---|---|---|---|
| 24 | During Labour and delivery *(multiple responses allowed)* | a) Profuse vaginal bleeding  
b) Prolonged labour longer than 12 hrs  
c) Convulsions  
d) Retained placenta  
e) General weakness or collapse  
f) Other ............... | 1 | Complications in labour |
| 25 | Early Postpartum *(multiple responses allowed)* | a) Severe vaginal bleeding  
b) Foul smelling discharge  
c) High fever  
d) Abdominal pain  
e) Other ............... | 1 | Complications in early postpartum |
| 26 | When did you first realise there might be a problem in the pregnancy? | a) during early warning signs  
b) it had already begun  
c) when on admission at health facility  
d) upon meeting a health volunteer  
e) during antenatal  
f) other (specify) ........... | 1 | Realise problem |
| 27 | How did the problem start? | a) after carrying head load  
b) after brewing local wine | 1 | Origin of problem |
<table>
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<tr>
<th>Question</th>
<th>Options</th>
<th>Code</th>
<th>Category</th>
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<tr>
<td>Have you had any previous pregnancy complications which led to miscarriage?</td>
<td>a) Yes</td>
<td>1</td>
<td>Pastcomplications leadingtomiscarriage</td>
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<td></td>
<td>b) No</td>
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<tr>
<td>Which pregnancy in the order did you have these complications?</td>
<td>a) First</td>
<td>1</td>
<td>Orderofpregnancy withcomplications</td>
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<td>b) Second</td>
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<td></td>
<td>c) Third</td>
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<td></td>
<td>d) Fourth and above</td>
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<tr>
<td>What complications did you experience in the order mentioned above (Q.32)?</td>
<td>(multiple responses allowed)</td>
<td></td>
<td>Complicationsinfirstpregnancy</td>
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<tr>
<td></td>
<td>a) Abdominal pains</td>
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<td></td>
<td>b) Fever</td>
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<td>c) headache</td>
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<td></td>
<td>d) blurred vision</td>
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<td>e) bleeding</td>
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<td>f) others</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>What form did it take? (multiple responses allowed)</td>
<td>a) Abdominal pains</td>
<td>1</td>
<td>Natureofpastcomplications</td>
</tr>
<tr>
<td></td>
<td>b) Fever</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Headache</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Blurred vision</td>
<td>4</td>
<td></td>
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<tr>
<td></td>
<td>e) Bleeding</td>
<td>5</td>
<td></td>
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<tr>
<td></td>
<td>f) Depression</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>g) others</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>IF NON-PRIMIGRAVID A:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was your most recent child birth Normal or Caesarean section?</td>
<td>a) Normal – V birth</td>
<td>1</td>
<td>Kindofdelivery</td>
</tr>
<tr>
<td></td>
<td>b) Normal – CS</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Emergency – V birth</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Emergency - CS</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>If Emergency – CS, What problems did you encounter after child birth?</td>
<td>(multiple</td>
<td></td>
<td>Problemsinemergencydelivery</td>
</tr>
<tr>
<td></td>
<td>a) Difficulty securing Blood donor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Severe bleeding</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Disability</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>…………………………</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Blurred vision</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>responses allowed</td>
<td>e) Infections</td>
<td>6</td>
<td></td>
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<tr>
<td><strong>Socioeconomic</strong></td>
<td>f) Other ............</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>What is your average income per month?</td>
<td>a) GHS 10-50</td>
<td>1</td>
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<td></td>
<td></td>
<td>b) GHS51-100</td>
<td>2</td>
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<tr>
<td></td>
<td></td>
<td>c) GHS101-200</td>
<td>3</td>
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<td></td>
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<td>d) GHS200 &amp; above</td>
<td>4</td>
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<tr>
<td>35</td>
<td>Do you receive some forms of support from family during pregnancy?</td>
<td>a) Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
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<tr>
<td>36</td>
<td>What form does the family support take? <em>(multiple responses allowed)</em></td>
<td>a) Assistance to ANC</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
<td>b) Financial provision to buy essential medicines</td>
<td>2</td>
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<td></td>
<td></td>
<td>c) Financial support to do lab. tests</td>
<td>3</td>
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<td></td>
<td></td>
<td>d) Financial support to renew health insurance</td>
<td>4</td>
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<td></td>
<td></td>
<td>e) Purchase of birth kits</td>
<td>5</td>
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<td></td>
<td></td>
<td>f) Money for complications/emergency</td>
<td>6</td>
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<tr>
<td>37</td>
<td>Is there any other support you need or would like from your family? <em>(IF YES to Q. 37, continue to next question, otherwise go to Q. 39)</em></td>
<td>a) Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
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<tr>
<td>38</td>
<td>What other forms of support do you need from your family? <em>(multiple options allowed)</em></td>
<td>a) emotional support</td>
<td>1</td>
</tr>
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<td></td>
<td></td>
<td>b) counselling from health professional</td>
<td>2</td>
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<td></td>
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<td>c) psychological support from husband</td>
<td>3</td>
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<td></td>
<td></td>
<td>d) sense of love from husband</td>
<td>4</td>
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<td></td>
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<td>e) anti-depressants</td>
<td>5</td>
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<td></td>
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<td>f) Religious counselling</td>
<td>6</td>
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**Transportation**
<p>| | | | | | |</p>
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<tbody>
<tr>
<td>39</td>
<td>Which sub-district are you coming from?</td>
<td>a) Nadowli</td>
<td>1</td>
<td>Attendance from Sub-district</td>
<td></td>
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<tr>
<td></td>
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<td>b) Charikpong</td>
<td>2</td>
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<td>c) Takpo</td>
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<td>d) Dapuori</td>
<td>4</td>
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<td></td>
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<td>e) Kaleo</td>
<td>5</td>
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<td>f) Jang</td>
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<td>g) Sombo</td>
<td>7</td>
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<td>h) Nanvilli</td>
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<td></td>
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<td>i) Daffiama</td>
<td>9</td>
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<td>j) Bussie</td>
<td>10</td>
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<td>k) Fian</td>
<td>11</td>
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<td>l) Kojokpere</td>
<td>12</td>
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<td>m) Issa</td>
<td>13</td>
<td></td>
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<tr>
<td>40</td>
<td>Is there any transport (trotro services) service available to your community?</td>
<td>a) Yes</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
<td></td>
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<td>41</td>
<td>IF NO TO Q.40</td>
<td>a) by motorbike</td>
<td>1</td>
<td>Main mode of travel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is your main regular mode of travel to health facility?</td>
<td>b) motorking/tricycle</td>
<td>2</td>
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<td></td>
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<td>c) on foot</td>
<td>3</td>
<td></td>
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<td></td>
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<td>d) by bicycle</td>
<td>4</td>
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<td></td>
<td></td>
<td>e) only when bus comes to the community</td>
<td>5</td>
<td></td>
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<tr>
<td>42</td>
<td>Is there a community vehicle for pregnancy emergency?</td>
<td>a) Yes</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>b) No</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>43</td>
<td>Which type of transport do you mostly use when accessing maternal health service?</td>
<td>a) Public transport (trotro)</td>
<td>1</td>
<td>Mode of transport</td>
<td></td>
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<td></td>
<td></td>
<td>b) Private car</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>c) Motorbike</td>
<td>3</td>
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<td></td>
<td></td>
<td>d) Motorking</td>
<td>4</td>
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<td></td>
<td></td>
<td>e) Walk</td>
<td>5</td>
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<tr>
<td>44</td>
<td>How many vehicle transfers do you make to access the nearest or most relevant health facility?</td>
<td>a) One transfer</td>
<td>1</td>
<td>Transit trips</td>
<td></td>
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<td></td>
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<td>b) Two transfers</td>
<td>2</td>
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<td></td>
<td></td>
<td>c) Three transfers</td>
<td>3</td>
<td></td>
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<td></td>
<td></td>
<td>d) Four transfers</td>
<td>4</td>
<td></td>
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<td></td>
<td></td>
<td>e) Straight/direct means</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>45</td>
<td>What is the state of roads linking your community to health facility?</td>
<td>a) Motorable all year round by car</td>
<td>1</td>
<td>State of roads</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Not motorable year-round by car</td>
<td>2</td>
<td></td>
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<td></td>
<td>c) Accessible by motorbike only all year round</td>
<td>3</td>
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<tr>
<td>46</td>
<td>Rate relevance of poor state of vehicles as maternal hazard</td>
<td>d) not accessible by motorbike all year round</td>
<td></td>
<td></td>
<td>Vehiclehazzard</td>
</tr>
<tr>
<td>47</td>
<td>What is the dominant means of transport during pregnancy complications?</td>
<td>a) Public transport (trotro)</td>
<td>1</td>
<td></td>
<td>Emergencytransport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Private car</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>c) Motor bike</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>d) Motorking/tricycle</td>
<td>4</td>
<td></td>
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<td></td>
<td></td>
<td>e) Ambulance</td>
<td>5</td>
<td></td>
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<tr>
<td>48</td>
<td>In case of obstetric complications, by what means do you make phone calls or reach out to health facility?</td>
<td>a) Through public phone booth network system</td>
<td>1</td>
<td></td>
<td>Emergencyphonecall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Personal mobile phone</td>
<td>2</td>
<td></td>
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<td></td>
<td></td>
<td>c) Sending for a health staff member</td>
<td>3</td>
<td></td>
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<td></td>
<td></td>
<td>d) Other (specify)</td>
<td>4</td>
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</table>

### Use of Antenatal Care

| 49 | Are you currently receiving (using/accessing) antenatal care? | a) Yes | 1 | Receivingandusing ANC |
|    |   | b) No | 2 |   |

| 50 | What care do the nurses provide you with during your visits? (multiple options allowed) | Monitoring blood pressure and signs of pre-eclampsia/eclampsia | 1 | Contentofcareprovided |
|    |   | PMTCT STIs prevention | 2 |   |
|    |   | Iron/folate supplementation | 3 |   |
|    |   | Treated bed nets distribution | 4 |   |
|    |   | Measure weight/body mass index | 5 |   |
|    |   | Risks detection | 6 |   |
|    |   | Tetanus toxoid immunisation | 7 |   |
|    |   | Birth preparedness/CR | 8 |   |
|    |   | Others (specify) | 9 |   |

| 51 | Do the nurses give you lessons during the visits? | Yes | 1 | LessonsatANC |
|    |   | No | 2 |   |

<p>| 52 | Is the content of the lessons helpful to your | a) Yes | 1 | relevanceofANCles |
|    |   | b) No | 2 | sons |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Options</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>53</td>
<td>Which week did you commence antenatal?</td>
<td>a) 4 weeks, b) 5 weeks, c) 6 weeks, d) 7 weeks, e) 8 weeks and above</td>
<td>Firstantenatalvisit</td>
</tr>
<tr>
<td>54</td>
<td>(IF NO TO Q.52; if YES, go to Q.55) What prevents you from attending antenatal care? <em>(multiple options allowed)</em></td>
<td>a) Distance to health facility, b) Cultural beliefs such as........, c) Could not afford essential medicines, d) Poor attitude of nurses towards clients, e) Religious Reasons,  f) Others (Specify)</td>
<td>Reasonfornonattendance</td>
</tr>
<tr>
<td>55</td>
<td>Do you seek maternal healthcare services from other sources?</td>
<td>Yes, No</td>
<td>Sourcesforcare</td>
</tr>
<tr>
<td>56</td>
<td>If YES TO Q.55, IF No, go to Q.58 from whom do you seek these services? <em>(multiple responses allowed)</em></td>
<td>a) TBA, b) Spiritualist/Pastors, c) Native Doctors, d) Herbalist, e) Other…………………</td>
<td>Othersourcesofcare</td>
</tr>
<tr>
<td>57</td>
<td>Why do you prefer TBAs or others to antenatal healthcare? <em>(multiple options allowed)</em></td>
<td>a) Financial constraints, b) Family preference, c) Negative attitude from nurses, d) TBA for massage, e) Advice from husband, f) fear of caesarean section, g) Church for spiritual attention, h) Others (specify)</td>
<td>reasonsforpreferencetBAs</td>
</tr>
<tr>
<td>58</td>
<td>Does your religion speak against skilled male attendance during care</td>
<td>a) Yes, b) No</td>
<td>Religiousinfluence</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
<td>Options</td>
<td>Code</td>
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</table>
| 59       | Why do you seek antenatal care services? | a) Protect child’s life  
b) For easy child birth  
c) Protect mother’s life  
d) Protect both child & mother’s life  
e) To identify any health problems during the pregnancy | 1, 2, 3, 4, 5 | Reasons for antenatal care |
| 60       | Where did you have your last child birth? | a) Home – TBA  
b) Home – Relatives  
c) Hospital/Health centre – SBA  
d) Others (specify) | 1, 2, 3, 4 | Place of delivery |
| 61       | How many visits did you make to antenatal care in your immediate past pregnancy? | a) One visit  
b) Two visits  
c) Three visits  
d) Four or more visits  
e) Never attended | 1, 2, 3 | Number of past antenatal care attendance |
| 62       | How many visits have you made to antenatal care in your current pregnancy? | a) One visit  
b) Two visits  
c) Three visits  
d) Four or more visits  
e) Never attended | 1, 2, 3 | Present ANC attendance |
| 63       | Why could you not make 4 or more visits | a) Distance to ANC venue  
b) Cultural reasons e.g. family objections  
c) Visited TBA  
d) Negative attitude from nurses  
e) Transport challenge  
f) Social reasons e.g. funeral  
g) Not far enough along in pregnancy | 1, 2, 3, 4, 5, 6, 7, 8 | Reasons for less than four visits |
### Knowledge of Basic Components of BP/CR

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<tbody>
<tr>
<td>64</td>
<td>What do you think/perceive to be the main purposes of antenatal care?</td>
<td></td>
<td>h) other (please specify)</td>
</tr>
<tr>
<td></td>
<td>a) only receive tetanus injection</td>
<td>1</td>
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<td></td>
<td>b) iron folic acid tablets distribution point</td>
<td>2</td>
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<td></td>
<td>c) a place nurses yell at clients</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>d) a social gathering</td>
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<td></td>
<td>e) other ..........</td>
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<td>65</td>
<td>What other benefits do you think the antenatal healthcare offer you?</td>
<td></td>
<td>Other perceived benefits of ANC</td>
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<tr>
<td></td>
<td>a) Healthy pregnancy classes/lessons</td>
<td>1</td>
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<td>b) Preventive measures through including immunisations throughout the period</td>
<td>2</td>
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<td>c) Health education and promotion for you and family</td>
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<td>d) Recognition and management of pregnancy and related complications</td>
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<td></td>
<td>e) Prepare us emotionally and physically for the pregnancy</td>
<td>5</td>
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<td></td>
<td>f) others (specify)</td>
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**Knowledge of Basic Components of BP/CR**

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<tr>
<td>66</td>
<td>Have you made any preparations for safe pregnancy and delivery( <strong>IF no, to Q.58 go to Q.61</strong> )</td>
<td></td>
<td>Made preparation</td>
</tr>
<tr>
<td></td>
<td>a) Yes</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>b) No</td>
<td>2</td>
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**IF “YES” TO Q.66:** Can you mention the kinds of preparations you have done or are doing for a safe pregnancy and delivery? *(multiple response allowed)*

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<th>Notes</th>
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<tbody>
<tr>
<td>67</td>
<td>a) Saving money for use in emergencies or during labour</td>
<td>1</td>
<td>componentsofBPC R</td>
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<td></td>
<td>b) Plan/Preparations for place of birth</td>
<td>2</td>
<td></td>
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<tr>
<td></td>
<td>c) Identifying transport in case of complications and during labour</td>
<td>3</td>
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<td></td>
<td>d) Identifying a birth companion</td>
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<td>Question</td>
<td>Options</td>
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<td><strong>68</strong></td>
<td>Are there any other preparations for safe pregnancy and delivery that you still plan to do? <em>(mention them; multiple response allowed)</em></td>
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<tr>
<td>a)</td>
<td>Saving money for use in emergencies or during labour</td>
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<tr>
<td>b)</td>
<td>Plan/Preparations for place of birth</td>
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<tr>
<td>c)</td>
<td>Identifying transport in case of complications and during labour</td>
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<tr>
<td>d)</td>
<td>Identifying a birth companion</td>
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<tr>
<td>e)</td>
<td>Identifying a blood donor</td>
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<tr>
<td>f)</td>
<td>Identifying Skilled attendant</td>
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<td>g)</td>
<td>Buy birth kit</td>
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<td>h)</td>
<td>Other (specify)</td>
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<td><strong>69</strong></td>
<td>Where do you get information about birth/complication preparedness?</td>
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<tr>
<td>a)</td>
<td>Nurses</td>
<td></td>
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<tr>
<td>b)</td>
<td>Family members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Friends</td>
<td></td>
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<tr>
<td>d)</td>
<td>Local media</td>
<td></td>
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<tr>
<td>e)</td>
<td>Others (specify)</td>
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<td><strong>70</strong></td>
<td>Do you follow the advice of the nurses or choose your own way?</td>
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<tr>
<td>a)</td>
<td>Take to their advice</td>
<td></td>
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<tr>
<td>b)</td>
<td>Choose my own way</td>
<td></td>
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<td><strong>71</strong></td>
<td><em>(IF OPTION “b”, to Q. 70)</em> Why do you choose your own way?</td>
<td></td>
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<tr>
<td>a)</td>
<td>Do not trust their ideas</td>
<td></td>
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</tr>
<tr>
<td>b)</td>
<td>Thought it is for those with complications</td>
<td></td>
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</tr>
<tr>
<td>c)</td>
<td>Communicated to me with no respect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>Social/cultural values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Heeded to the advice from TBAs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f)</td>
<td>Other (Specify)</td>
<td></td>
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<tr>
<td><strong>72</strong></td>
<td>Do you discuss with family members about interventions in BPCR?</td>
<td></td>
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<tr>
<td>a)</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>No</td>
<td></td>
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</tbody>
</table>
75. Are there some other issues you want me to know about pregnancy and complications in this community?

76. What other information will like me to pass on to the government for improved maternal and neonatal health in your community?

77. In your own words, what can you say about the behaviour of nurses towards pregnant women during antenatal?

78. What suggestions do you want to make for better antenatal services in your area?

| 73 | Which area of support do you receive support from family members? | a) danger signs  
    b) where to give birth  
    c) finance arrangement  
    d) arrangement for transport  
    e) arrangement of blood donor  
    f) accompanying person  
    g) no discussion with family members | 1  
   2  
   3  
   4  
   5  
   6  
   7 | Support from family members |
|---|---|---|---|---|
| 74 | Who accompanies you to health facility during ANC/Complications? | a) Husband  
    b) Mother-in-law  
    c) Mother  
    d) Close relatives | 1  
   2  
   3  
   4 | Support to facility |
### BASIC DEMOGRAPHIC FEATURES – HUSBAND/PARTNER & POSTNATAL MOTHER

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>Responses (to be circled)</th>
<th>Codes</th>
<th>Skip pattern</th>
</tr>
</thead>
</table>
| 1   | How old are you now? | <18  
18-25  
26-30  
31-35  
36-40  
41-45  
>45  | 1  
2  
3  
4  
5  
6  
7  |              |
| 2   | How old is your husband/partner? | <18  
18-25  
26-30  
31-35  
36-40  
41-45  
>45  | 1  
2  
3  
4  
5  
6  
7  |              |
| 3   | What is the occupation of your husband? | Farming  
Non-farmer (specify job) | 1  
2  |              |
| 4   | What is the average income level of your family per month (in GHS)? | ≤100  
101-500  
501-999  
≥1000 | 1  
2  
3  
4  |              |
| 5   | Did you save money as family for your most recent pregnancy? | Yes  
No | 1  
2  |              |
| 6   | Did you save money as family for any potential emergency? | Yes  
No | 1  
2  |              |
| 8   | Was money readily available to you during the prenatal period? | Yes  
No | 1  
2  |              |
| 9   | Did you save money as family for your most recent childbirth? | Yes  
No | 1  
2  |              |
| 10  | What is the educational level of your husband/partner? | literate  
Illiterate | 1  
2  |              |
| 11  | Did you live with your current husband/partner throughout the gestation period of your most recent pregnancy? | Yes  
No | 1  
2  |              |
| 12  | If no to Q.11, how long did he stay away whilst you were pregnant? | One month  
Two months  
Three months | 1  
2  
3  |              |
### Four or more months

| 13 | Why did he stay away? | He has another wife  
It is a tradition  
To fend for family  
Others  
……………………………………  
…………………………………… |
| 14 | Do you get remittances when he was away? | Yes  
No |
| 15 | Do you own a motorbike/tricycle | Yes  
No |

### PREGNANCY

| 16 | How many ANC visits did you make throughout the pregnancy? | 4 or more visits  
Less than 4 visits |
| 17 | Did you know of your expected date of childbirth (EDC)? | Yes  
No |

### Barriers to prenatal care

| 18 | In your view, how do you see the waiting time at the health facility during antenatal care? | Too long  
Long  
Moderate  
Short |
| 19 | Why were you not able to make 4 or more ANC visits | Distance factor  
Financial factor  
Family decisions  
Other (specify)………………… |
| 20 | During your antenatal visits, were you told of danger signs in complications? | Yes  
No |
| 21 | Have you ever sought prenatal care from other sources aside health facility? | Yes  
No |
| 22 | If Yes to Q.21, from whom did you seek prenatal care? | Traditional birth attendant  
Spiritualist and/or pastor  
Other (specify)………………… |
| 23 | What role do spiritualist/Traditional birth attendant play in antenatal care? | Provide prenatal care  
Restore good health  
Prevent complications from occurring  
Other (specify)………………… |
| 24 | What role do spiritualist/TBAs play in obstetric complications? | Provide treatment  
Restore safe health  
Prevent complications from worsening |
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>What role did your husband/partner play during the prenatal care period?</td>
<td>Support in household activities&lt;br&gt;Financial support during care-seeking&lt;br&gt;Care for the children&lt;br&gt;Supported and accompanied to health facility for care and birth</td>
</tr>
<tr>
<td>26</td>
<td>Did you seek maternity care at health facility during your pregnancy without informing or seeking approval from anyone?</td>
<td>Yes&lt;br&gt;No</td>
</tr>
<tr>
<td></td>
<td>Maternal autonomy and family support</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>If no to Q. 26, Why didn’t you inform anyone?</td>
<td>My husband/partner had travelled&lt;br&gt;It is our custom&lt;br&gt;I fend for myself&lt;br&gt;Other (specify)..........</td>
</tr>
<tr>
<td>28</td>
<td>How will you rate your freedom to decide on maternal healthcare during the pregnancy?</td>
<td>Full control&lt;br&gt;Partial control (explore further)&lt;br&gt;.................................................................&lt;br&gt;.............&lt;br&gt;No control</td>
</tr>
<tr>
<td>29</td>
<td>What area/s of care during your pregnancy did you receive support from other family members? (multiple responses allowed)</td>
<td>Danger signs&lt;br&gt;Place of birth&lt;br&gt;Transport arrangement&lt;br&gt;Finance arrangement&lt;br&gt;Blood donor&lt;br&gt;Accompanying person&lt;br&gt;No support from family</td>
</tr>
<tr>
<td>30</td>
<td>If “no support from husband/partner” why did you not get support from your husband/partner?</td>
<td>Men do not support pregnant women here&lt;br&gt;It is a tradition&lt;br&gt;Others (specify)..........................</td>
</tr>
<tr>
<td>31</td>
<td>If “no support from family” why did you not get support from your family?</td>
<td>Family do not support pregnant women here&lt;br&gt;It is a tradition in the community</td>
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<td></td>
<td>Childbirth outcomes</td>
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<tr>
<td>32</td>
<td>Did you carry the pregnancy to term?</td>
<td>Yes</td>
</tr>
<tr>
<td>33</td>
<td>If <strong>No to Q. 32</strong>, what happened to the pregnancy?</td>
<td>Miscarriage</td>
</tr>
<tr>
<td>34</td>
<td>If <strong>Yes to Q.32</strong>, what was the outcome of pregnancy?</td>
<td>Livebirth</td>
</tr>
<tr>
<td>35</td>
<td>If <strong>stillbirth</strong>, what was the cause of it?</td>
<td>Birth asphyxia</td>
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<thead>
<tr>
<th></th>
<th>Complications and care utilisation</th>
<th></th>
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<tbody>
<tr>
<td>36</td>
<td>Did you have complications in your most recent pregnancy?</td>
<td>Yes</td>
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<tr>
<td>37</td>
<td>If <strong>Yes to Q.36</strong>, mention the signs you experienced in pregnancy?</td>
<td>Bleeding</td>
</tr>
<tr>
<td>38</td>
<td>What actions did you take (if any) in response to the complications?</td>
<td>Sought assistance from health facility/traditional birth attendants</td>
</tr>
<tr>
<td>39</td>
<td>If you <strong>sought assistance</strong>, was this helpful?</td>
<td>Yes</td>
</tr>
<tr>
<td>40</td>
<td>If you <strong>sought assistance</strong> during the complications, who accompanied you to get it (e.g. to health facility?)</td>
<td>Husband/partner</td>
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</table>
### LABOUR AND CHILDBIRTH

<table>
<thead>
<tr>
<th>Question</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
<th>Option 5</th>
<th>Option 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>If No to Q.36, what else could have been done to assist you?</td>
<td>If I received prompt care</td>
<td>If I had means of transport</td>
<td>If I had a companion to assist me reach health facility on time</td>
<td>If I recognised danger signs early</td>
<td>If I were ready for complications</td>
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<tr>
<td>42</td>
<td>What items did you purchase prior to childbirth for use during childbirth at health facility?</td>
<td>Gloves</td>
<td>IV solutions</td>
<td>Suture materials</td>
<td>Sanitary pad</td>
<td>Antiseptic solutions e.g. Dettol, parazone</td>
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<td>43</td>
<td>Did you administer local oxytocin during the gestation of your recent pregnancy?</td>
<td>Yes</td>
<td>No</td>
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<td>44</td>
<td>If Yes to Q.43, what was the reason for taking local oxytocin?</td>
<td>Complications</td>
<td>Advice from TBAs</td>
<td>Advice from family/friends</td>
<td>To induce or facilitate labour</td>
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<td>45</td>
<td>Did you apply local oxytocin when you felt you were in labour?</td>
<td>Yes</td>
<td>No</td>
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<td>46</td>
<td>Did you plan to have childbirth at health facility?</td>
<td>Yes</td>
<td>No</td>
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<td>47</td>
<td>Where did your labour set in?</td>
<td>Home</td>
<td>farm</td>
<td>health facility</td>
<td>Social programme eg. Funeral, market</td>
<td>Other ……</td>
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<td>48</td>
<td>Did you give birth at planned place?</td>
<td>Yes</td>
<td>No</td>
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</table>
| 49 Where did you have your childbirth?                                  | Home  
CHPS compound  
Health centre  
Hospital  
Farm  
On the road to referral hospital  
on the way to health centre/CHPS compound  
on my way from social gathering e.g. funeral, festival  
Other (specify)……………………………………  
……………………………………  
………………                              | 1    |
| 50 In your opinion, how would you judge the distance from your home to the facility during your childbirth? | Very far  
Not far nor near  
Near  
Very near                                            | 1    |
| 51 If childbirth occurred outside health facility, why could you not give birth at health facility? | Traditional norm *(write name of norm)*  
Was referred from health centre  
Referral from CHPS compound  
Referral from Nadowli hospital  
No money to arrange for transport  
Delay in decision –making  
Other (specify)……………………………………  
……………………………………  
………………                              | 1    |
| 52 What was the mode of your childbirth?                                | Spontaneous vaginal childbirth  
Assisted vaginal childbirth  
Caesarean section  
Other (specify)……………………………………  
……………………………………  
………………                              | 1    |
| 53 Did you inform family or closest person during your labour the moment it began? | Yes  
No                                                                                     | 1    |
| 54 If no to Q.53, why did you not tell anyone?                          | Felt it was not far advanced  
Traditional norms e.g. will prolong if I tell someone  
Other (specify)……………………………………  
……………………………………  
………………                              | 1    |
| 55 Did you have a birth companion when going to the health facility?    | Yes  
No                                                                                     | 1    |
<p>| | | | |</p>
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<tbody>
<tr>
<td>56</td>
<td><strong>If no to Q.54</strong> who supported you during labour and childbirth?</td>
<td>Managed it alone</td>
<td>Other (specify)………</td>
</tr>
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<td>1 2</td>
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<tr>
<td>57</td>
<td><strong>If Yes, to Q.54,</strong> who accompanied you to the health facility during childbirth?</td>
<td>Husband/partner</td>
<td>Mother-in-law</td>
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<td>1 2</td>
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<td></td>
<td>Mother</td>
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<td>3</td>
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<td>Close relatives</td>
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<td>Friend</td>
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<td>5</td>
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<td></td>
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<td>No one/ went alone</td>
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<td>6</td>
</tr>
<tr>
<td>58</td>
<td>Did you receive some form (s) of support from family during labour and childbirth?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>1 2 Go to 60</td>
</tr>
<tr>
<td>59</td>
<td><strong>If Yes, to Q.58,</strong> what form did the support take? <em>(multiple responses allowed)</em></td>
<td>Transport arrangement during labour</td>
<td>Financial support to do laboratory tests</td>
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<td>1 2</td>
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<td></td>
<td>Money for complications and emergency situations</td>
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<td>3</td>
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<td></td>
<td>Arrangement for blood donor</td>
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<td>4</td>
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<td>Other (specify)……………………</td>
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<td>5</td>
</tr>
<tr>
<td>60</td>
<td>After you gave birth, did someone check on your health?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
<tr>
<td>61</td>
<td>Within what time did the person(s) check on your health?</td>
<td>Hours</td>
<td>Days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Weeks</td>
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<td>3</td>
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<td></td>
<td></td>
<td></td>
<td>Month</td>
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<td>4</td>
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<td></td>
<td></td>
<td></td>
<td>Do not know</td>
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<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>62</td>
<td>Who checked on your health?</td>
<td>Doctor</td>
<td>Midwife</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nurse</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Community based health volunteer</td>
</tr>
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<td></td>
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<td></td>
<td>4</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>TBA/Spiritualist</td>
</tr>
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<td></td>
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<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other (specify)……………………</td>
</tr>
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<td></td>
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<td></td>
<td>6</td>
</tr>
<tr>
<td>63</td>
<td>How were retained matter drained after birth (if home birth)?</td>
<td>Warm water press</td>
<td>Tired a cloth around abdomen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Applied local oxytocin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other (specify)……………………</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
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<td></td>
<td></td>
<td></td>
<td>…………….</td>
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<td></td>
<td></td>
<td></td>
<td>………….</td>
</tr>
<tr>
<td>64</td>
<td>How long did you stay in labour?</td>
<td>Short labour</td>
<td>Prolonged labour <em>(≥12hours)</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
<tr>
<td>65</td>
<td>In your view, how do you see the waiting time at the health facility during childbirth?</td>
<td>Too long</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short</td>
<td>4</td>
</tr>
<tr>
<td>66</td>
<td>Did you experience other complications during labour and childbirth?</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>67</td>
<td>If Yes to Q.66, mention the danger signs experienced in labour and childbirth?</td>
<td>Excessive vaginal bleeding</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retained placenta</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High fever</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foul smelling discharge</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe headache</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of consciousness</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prolonged labour</td>
<td>7</td>
</tr>
<tr>
<td>68</td>
<td>Within few days (2) after you gave birth, did you experience any problems related to childbirth?</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>69</td>
<td>If Yes to Q.66, what problems did you experience?</td>
<td>Severe bleeding</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe headache</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blurred vision</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swollen hands/face</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convulsions</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vaginal discharge</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of consciousness</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (specify)</td>
<td>8</td>
</tr>
<tr>
<td>70</td>
<td>Which one of the problems was the most severe?</td>
<td>Severe bleeding</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convulsions</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe headache</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High fever</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of consciousness</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Labour for more than 12 hours</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retained placenta for 30 minutes after baby</td>
<td>7</td>
</tr>
<tr>
<td>71</td>
<td>Where were you when the problem started?</td>
<td>Home</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Farm</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Friend’s house</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hospital</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHPS compound</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health centre</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>other (specify)</td>
<td>7</td>
</tr>
<tr>
<td>72</td>
<td>What was your mode of transport to the sub-district facility during labour?</td>
<td>Foot</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bicycle</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motorbike</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tricycle</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public transport</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>73</td>
<td>Did you spend money during childbirth at the health facility?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>74</td>
<td>If <strong>Yes to Q.73</strong>, what items or service(s) did you make out-of-pocket payments?</td>
<td>Blood transfusion</td>
<td>Medicines (write exact name of medicines)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drip of water</td>
<td>Delivery items</td>
</tr>
<tr>
<td>75</td>
<td>Who attended your childbirth?</td>
<td>Nurse (CHO/CHN/EN)</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midwife</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relative</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBA</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No one/ alone</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (specify)………</td>
<td>7</td>
</tr>
<tr>
<td>76</td>
<td>If <strong>you delivered at the hospital</strong>, why were you not able to give birth at the sub-district facility?</td>
<td>emergency referral</td>
<td>prenatal care advice</td>
</tr>
<tr>
<td>77</td>
<td>Who arranged the means of transport during referral?</td>
<td>Nurse/midwife</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-arranged</td>
<td>3</td>
</tr>
<tr>
<td>78</td>
<td>What was the mode of transport to the referral facility?</td>
<td>Foot</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bicycle</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motorbike</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tricycle</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public transport (“trotro”)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ambulance</td>
<td>6</td>
</tr>
<tr>
<td>79</td>
<td>At what stage of pregnancy were you referred?</td>
<td>prenatal care – normal labour</td>
<td>emergency</td>
</tr>
<tr>
<td>80</td>
<td>Why were you referred to hospital (<strong>multiple responses allowed</strong>)</td>
<td>Anaemia</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-eclampsia (e.g. High blood pressure)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eclampsia</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foetal distress (including cord prolapse)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Haemorrhage</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obstructed or prolonged labour (including impending uterine rupture with IUFD)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor obstetric history</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mal-presentation (including arm prolapse)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Previous caesarean section</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ruptured uterus</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Preterm labour</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postpartum haemorrhage</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>How did you feel when you were referred to hospital?</td>
<td>Self-referral</td>
<td>13</td>
</tr>
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<td>-----------------------------------------------------</td>
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<tr>
<td></td>
<td>Quality of care assured</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality of care not assured</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial difficulty</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fear of Caesarean Section childbirth</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Was not ready for emergency/referral</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (specify)</td>
<td>6</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you went to hospital for childbirth without sub-district facility referral, what were your fears?</td>
<td>Felt insecure</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Traditional norms <em>(please explain these details if possible)</em></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Means of transport</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fear of risks (e.g. prolonged labour, lack of oxytocin, prolapses, Can you please mention the risks)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Did not have food items</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (specify)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Did you apply or orally take in local oxytocin during labour?</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What role did your husband play during your postnatal care?</td>
<td>Support in household activities</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial support during care-seeking</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Care for the children</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supported and accompanied to health facility for care and birth</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>None (please explain)</td>
<td>5</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>What role did your other family members play during your postnatal care?</td>
<td>Help to recognise danger signs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Place of birth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transport arrangement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finance arrangement</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blood donor</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accompanying person</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No support from family</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Were you allowed to spend family money on healthcare without seeking approval?</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To what extend do you believe that birth preparedness and complication readiness is important?</td>
<td>Yes, I believe it is important</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No, I don’t believe it is important</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not sure, it is important</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I don’t know</td>
<td>4</td>
</tr>
</tbody>
</table>
What is your believe/opinion about birth preparedness and complication readiness?

- Helps me recognise danger signs of complications
- Ensure access to skilled healthcare for health problems
- Follow instructions for safe care
- Plan for place of childbirth
- Arrange for transport for any emergency situations
- Save money or access funds
- Others …………..

89. What were the general challenges you faced throughout the gestation of the pregnancy on BPCR? ………………………

90. In your family, what can you say about maternal healthcare decision-making and utilisation?

91. What suggestions will you make for improved BPCR interventions in your communities? .................................................................
Appendix 7: Healthcare staff semi-structured interview guide – Phase 2

PARTICIPANTS: HEAD NURSE/MIDWIFE OF HEALTH CENTRES & CHPS COMPOUNDS

1. In your opinion, what are the main causes of maternal deaths in the communities?
2. What are the main causes of neonatal deaths in the communities?
3. The first phase of the research indicated that lack of maternal resources negatively impacts on care by nurses/midwives despite care being (technically) free to encourage ANC and skills attendance at birth. Why do you think this happens?
4. The first phase of the research also showed that there are many social and cultural factors affecting birth preparedness and complication readiness interventions in the communities. What do you think are the most significant? For each factor, please explain why you think it is so significant.
5. What are the issues pertaining in distribution of insecticide treated bed nets to expectant and postnatal mothers?
6. Many expectant mothers I talked to said they were worried about taking the ‘medicine’ advised during ANC. What would these medicines be? What are they for? Why do you think expectant mothers don’t want to take them?
7. Why do expectant mothers hide pregnancies from community members and thereby miss early uptake of ANC?
8. In what ways do you provide advice and support to pregnant women and family in developing a BP/CR plan?

PARTICIPANT: MEDICAL DIRECTOR - REFERRAL HOSPITAL (NADOWLI)

1. In your opinion, what are the main causes of maternal deaths in the communities?
2. What are the main causes of neonatal deaths in the communities?
3. The first phase of the research showed that lack of maternal resources negatively impacts on care by midwives/nurses despite care being (technically) free to encourage ANC and skills attendance at birth. Why do you think this happens?
4. The first phase of the research also showed that there are many social and cultural factors affecting birth preparedness and complication readiness
interventions in the communities. What do you think are the most significant social and cultural influences on BP/CR in this community? Why do they have an impact?

5. What are the challenges involved in securing adequate skilled staff?
   a) Doctors
   b) Midwives
   c) Anaesthetics

6. Are there any surgical and laboratory equipment that you need at the hospital? What barriers are there to obtaining these equipment?

7. What, if any, motivational packages do you have for skilled healthcare staff, e.g. midwives, nurses, anaesthetists? How often do you provide these packages to staff? Are there some challenges in motivating staff? Explain.

8. What are the arrangements put in place to effect maternal referrals to next level of care?

9. What are the usual arrangements for blood during emergencies of labouring and postnatal mothers in the facility?

10. Does the hospital have any difficulties in fulfilling these arrangements? If so, in what ways?

11. In your view, in what ways does the fee-exemption policy of the national health insurance scheme (NHIS) affect maternal and newborn health care provision?
   a) Does it cover all aspects of maternal and newborn health?

12. What are the major issues pertaining in the national health insurance scheme, especially in relation to expectant mothers and newborns?

**PHARMACIST – REFERRAL HOSPITAL (NADOWLI)**

1. Do you receive regular reimbursements for national health insurance scheme claims? If no, what are the problems you experience in receiving reimbursements?

2. Are there measures put in place to procure maternal and neonatal healthcare essential medicines during emergency situations from their NHIS subscriptions?

3. What are the challenges facing medicinal drug policy under the national health insurance scheme, particularly in relation to maternal and newborn health?
PARTICIPANT: MATERNITY IN-CHARGE (REFERRAL HOSPITAL-NADOWLI)

1. What is your current staff strength?
   a) Midwives
   b) Supporting nurses

2. How many maternity cases on the average do you receive per month?

3. How many deliveries, on the average do you conduct per month?

4. Are there adequate equipment for conducting deliveries and or saving lives?
   a. If not, what equipment is needed?
   b. What barriers are there to obtaining this equipment?

5. In your opinion, what are the main causes of maternal deaths in the communities?

6. What are the main causes of neonatal deaths in the communities?

7. The first phase of the research indicated that lack of maternal resources negatively impacts on care by nurses/midwives despite care being (technically) free to encourage ANC and skills attendance at birth. Why do you think this happens?

8. The first phase of the research also showed that there are many social and cultural factors affecting birth preparedness and complication readiness interventions in the communities. What do you think are the most significant? For each factor, please explain why you think it is so significant.

9. What are the issues pertaining in distribution of insecticide treated bed nets to expectant and postnatal mothers?

10. Many expectant mothers I talked to said they were worried about taking the ‘medicine’ advised during ANC. What would these medicines be? What are they for? Why do you think expectant mothers don’t want to take them?

11. Why do expectant mothers hide pregnancies from community members and thereby miss early uptake of ANC?

12. In what ways do you provide advice and support to pregnant women and family in developing a BP/CR plan?
Appendix 8: Human Ethics Approval letter – Phase 1

12 February 2016

Mr Joshua Sumankuuro
Charles Sturt University
PO Box 883
Locked Bag 1
Leeds Parade
ORANGE NSW 2800

Dear Mr Sumankuuro,

Thank you for the additional information forwarded in response to a request from the Human Research Ethics Committee (HREC).

The CSU HREC reviews projects in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Research Involving Humans.

I am pleased to advise that your project entitled “Preparedness For Birth In Rural Areas: Perspectives Of Expectant Mothers, Community Residents And Birth Attendants in Two Rural (Kaninga/Kaleo And Daffiama/Bussie/Issa) Districts In Ghana” meets the requirements of the National Statement; and ethical approval for this research is granted for a twelve-month period from 12 February 2016.

The protocol number issued with respect to this project is 2016/013. Please be sure to quote this number when responding to any request made by the Committee.

Please note the following conditions of approval:

- all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
- you must notify the Committee immediately in writing should any other research differ in any way from that proposed. Forms are available at: http://www.csu.edu.au/__data/assets/word_doc/0007/963763/Report-on-Research-Project_20130503.doc (please copy and paste the address into your browser);
- you must notify the Committee immediately if any serious and any unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website; as above;
- amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;
- if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
- you are required to complete a Report On Research Project, which can be downloaded as above, by 18 November 2016 if your research has not been completed by that date;
- you are required to submit a final report; the form is available from the website above.
10 January 2017

Mr Joshua Sumankuuro  
By Email: jsumankuuro@csu.edu.au

Dear Mr Sumankuuro,

Thank you for the additional information forwarded in response to a request from the Charles Sturt University (CSU) Human Research Ethics Committee (HREC).

The CSU HREC reviews projects in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Research Involving Humans.

I am pleased to advise that your project entitled “Preparedness for birth in rural areas - perspectives of expectant and postnatal mothers, community residents and birth attendants in two rural (Nadowli/Kaleo and Daffiama/Bussie/Issa) Districts in Ghana” meets the requirements of the National Statement, and ethical approval for this research is granted for a twelve-month period from the date of this letter.

The protocol number issued with respect to this project is H18178. Please be sure to quote this number when responding to any request made by the Committee.

Please note the following conditions of approval:

- all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
- you must notify the Committee immediately in writing should your research differ in any way from that proposed. Forms are available at: http://www.csu.edu.au/__data/assets/word_doc/0007/663763/Report-on-Research-Project_20130503.doc (please copy and paste the address into your browser)
- you must notify the Committee immediately if any serious and or unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website as above;
- amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;
- if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
- you are required to complete a Report On Research Project, which can be downloaded as above, by 17 November 2017 if your research has not been completed by that date;
- you are required to submit a final report, the form is available from the website above.

YOU ARE REMINDED THAT AN APPROVAL LETTER FROM THE CSU HREC CONSTITUTES ETHICAL APPROVAL ONLY.

If your research involves the use of radion, biological materials, chemicals or animals a separate approval is required from the appropriate University Committee.
Appendix 10: Ghana Health Service clearance letter – Phase 1

In case of the reply the number and date of this letter should be quoted.

My Ref No GHS/UWR/51
Your Ref No………………

Tel: +233 07 56 22 204 or 22 016
Fax: +233 07 56 22 471
Email: ghs.uwr@africonline.com.gh

THE DDHS, NADOWLI-KALEO
THE DDHS, DAFFIAMA-BUSSE-ISSAH

INTRODUCTORY LETTER: JOSHUA SUMANKUURO

The bearer of this letter is a PhD student from the University of Charles Sturt, Australia.

He is conducting a research entitled “Preparedness for Birth in Rural Areas: perspectives of expectant mothers, community residents and birth attendants in two rural districts (Nadowli-Kaleo and Daffiama-Bussie-Issa) in Ghana.”

Kindly accord him the necessary support and take steps to ensure that the confidentiality and safety of our staff and clients participating in the study are guaranteed.

Thank you.

RICHARD BASADI
DEPUTY CHIEF HEALTH RESEARCH OFFICER
FOR: AG. REGIONAL DIRECTOR OF HEALTH SERVICES

Cc: Research file

Mr Joshua Sumankuuro

E/0

All to note

4/3/16
Appendix 11: Ghana Health Service clearance letter – Phase 2

INTRODUCTORY LETTER: JOSHUA SUMANKURO

The bearer of this letter is to embark on a doctoral research project on preparedness for birth in rural areas and the perspectives of expectant mother, community residents and birth attendants in two rural districts.

Kindly accord him the necessary support and cooperation and take the necessary steps to ensure that the privacy and confidentiality of staff and clients who will be participating in the study are guaranteed.

Thank you.

BASADI RICHARD
DEPUTY CHIEF HEALTH RESEARCH OFFICER
FOR: REGIONAL DIRECTOR OF HEALTH SERVICES

Cc: Research file
    Mr. Joshua Sumankuro

12-1-17
Appendix 12: District Assembly support letters

NADOWL-KALEO DISTRICT ASSEMBLY

The Executive Officers
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Paragonia Avenues
Bullmomr NSW 2935
Tel: (07) 6333-6588
Email: ethics@csu.edu.au

Dear Sir/Madam,

LETTER OF ASSURANCE FOR CONDUCT OF STUDY

MR. JOSUA M. MANSURU

The District writes in support of the conduct of Joshua's study. We are aware of his study on "Preparedness for Birth in Rural Areas: Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts in Ghana", a study of the School of Community Health, Charles Sturt University - Australia, as maternal and neonatal health outcomes has been our utmost priority.

The District refers to inform your office of our willingness to allow Joshua entry into the communities to collect whatever information he may need to meet his research requirements.

Counting on your cooperation and necessary assistance he may require.

MR. JOHN BONKO ROMANSAAN
THE DIST. CHIEF EXECUTIVE
NADOWL-KALEO DISTRICT

389
LETTER OF ASSURANCE

MR. JOSHUA SUMANKURO

The purpose of this letter is to inform you that the management of the Daffiama-Bussie-Issa District have granted Mr. Joshua Sumankuro permission to conduct the research titled "Preparedness for Birth in Rural Areas: Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts in Ghana", a student of Charles Sturt University, Australia. This also serves as assurance that this study complies with the ethics conditions in Ghana.

He shall be permitted collect from any employee or citizen including the pregnant women, subject to their personal consent. It is my fervent hope that this request will be granted him.

Thank you.

HON. FIDELES N. ZUMAKEY
DISTRICT CHIEF EXECUTIVE
DAFFIAMA/BUSSI/ISSA
DISTRICT
ISSA

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panaroma Avenue
Bathurst NSW 2795
Tel: (02) 6338 4628
Email: ethics@csu.edu.au
Appendix 13: District Health Administration support letter

GHANA HEALTH SERVICE
DISTRICT HEALTH DIRECTORATE
P.O. BOX 6
NACCOLA, VILLAGE
GHANA
9th November, 2015

The Directors of:
Ahman Research Ethics Committee
Office of Administration
Management

We hereby consent to Edward Kofi Nyarko conducting a survey among midwives and pregnant women in the district to support his research on "Labor and Birth in Rural Areas - Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts in Ghana," a student of Charles Sturt University, Australia.

We have ensured thatEdward Kofi Nyarko conducts his research by administering a survey questionnaire to the employees and pregnant women willing to participate in the research, which will enable him to obtain an understanding of issues pertaining to birth preparation and complications in rural and remote areas.

By this letter, I authorize you to provide relevant information to support the conduct of this study.

I thank you.

[Signature]

Recipient's Name

Director of Health Services
Naccola Rural District

PERMISSION GRANT NOTIFICATION

[Recipient's Name]
CONSENT FORM (Focus Group Participants)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

To be read or given to the participant at the start of the research

Thank you for agreeing to take part in this research. I am a researcher from Charles Sturt University, Australia, working on the above-mentioned project.

Please sign below indicating that:

“I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained.

The purpose of the research has been explained to me, including the potential risks/discomforts, and I have been given the opportunity to ask questions about the research and received satisfactory answers.

I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information such as positions in government or institution will be used or published without my written permission.
I understand that this focus group will be recorded in hand-written, photographic and audio forms as part of this project. I consent to participating in a focus group discussion and having it recorded and photos taken.

I understand that if I decide to leave the research project, the researcher will not collect additional personal information from me, although personal information already collected will be retained to ensure that the results of the research project can be measured properly. I understand the researcher cannot guarantee my anonymity and confidentiality in the focus group setting, and that I cannot withdraw my contributions after the focus group has been held.

I understand that the signed informed consent is an indication of my willingness to participate in this research”.

**Interviewee’s statement**
I understand the information I have been given and agree to participate in the focus group.

**Signature**........................................

**Date**................................................

**Note**: Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer  
Human Research Ethics Committee  
Office of Academic Governance  
Charles Sturt University  
Panorama Avenue  
Bathurst NSW 2795  
Tel: (02) 6338 4628  
Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.
Contact details:

<table>
<thead>
<tr>
<th>Joshua Sumankuuro</th>
<th>Dr. Judith Crockett (Principal Supervisor)</th>
<th>Dr. Shaoyu (Shaun) Wang (Co-Supervisor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>School of Community Health</td>
<td>School of Community Health</td>
</tr>
<tr>
<td>PhD Student</td>
<td>Biomedical Sciences &amp; Health and</td>
<td>Biomedical Sciences</td>
</tr>
<tr>
<td>Tel: +233(0)240 397</td>
<td>Rehabilitation Science</td>
<td>Charles Sturt University</td>
</tr>
<tr>
<td>234</td>
<td>Charles Sturt University</td>
<td></td>
</tr>
<tr>
<td></td>
<td>346 Leeds Parade, Orange, NSW, 2800,</td>
<td>346 Leeds Parade, Orange, NSW, 2800,</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>Australia</td>
</tr>
<tr>
<td></td>
<td>Ph: +61 2 6365 7582</td>
<td>Ph: +61 2 6365 7512</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:jcrockett@csu.edu.au">jcrockett@csu.edu.au</a></td>
<td>Email: <a href="mailto:shawang@csu.edu.au">shawang@csu.edu.au</a></td>
</tr>
</tbody>
</table>

ijoshua200@gmail.com
CONSENT FORM (Survey Participants)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. I am a researcher from Charles Sturt University, Australia, working on the above mentioned project.

Please sign below indicating that:

“I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained.

I understand that I am not obliged to participate in this research and that I am free to withdraw my participation in the research without being subjected to any penalty or discriminatory treatment.

The purpose of the research has been explained to me, including the potential risks/discomforts and I have been given the opportunity to ask questions about the research and received satisfactory answers.

I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information such as positions in government or institution will be used or published without my written permission. I am aware that, even though someone gave my name to the researcher, the person will not know whether I participated or not.

I understand that this interview will be recorded in hand-written and audio forms as part of this project. I consent to participating in an interview and having it recorded. I understand that if I decide to leave the research project, the researcher will not collect additional personal information from me, although personal information already collected will be retained to ensure that the results of the research project can be measured properly. I am aware that data collected
up to the time I withdraw will form part of the research project results unless I
tell the researcher I do not want the data to be included in the study.
I understand that the signed informed consent is an indication of my willingness
to participate in this research”.

**Interviewee’s statement**

I understand the information I have been given and agree to be interviewed.

**Signature**....................................................

**Date**................................................................

---

**Note:** Charles Sturt University’s Ethics in Human Research Committee has
approved this project. If you have any complaints or reservations about the
ethical conduct of this project, you may contact the Committee through the
Executive Officer:

**The Executive Officer**

**Human Research Ethics Committee**

**Office of Academic Governance**

Charles Sturt University

Panorama Avenue

Bathurst NSW 2795

Tel: (02) 6338 4628

**Email:** ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

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<td>School of Community Health Biomedical Sciences</td>
</tr>
<tr>
<td>PhD Student</td>
<td>Charles Sturt University 346 Leeds Parade, Orange, NSW, 2800, Australia</td>
<td>Charles Sturt University</td>
</tr>
<tr>
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<td>Email: <a href="mailto:shawang@csu.edu.au">shawang@csu.edu.au</a></td>
</tr>
</tbody>
</table>
Appendix 15: Research Participants consent forms – Phase 2

CONSENT FORM (Postnatal Mothers)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. I am a researcher from Charles Sturt University, Australia, working on the above-mentioned project.

Please sign below indicating that:
“I agree to participate in the above research project and give my consent freely. I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained. I understand I am not obliged to participate in this research and that I am free to withdraw my participation in the research without being subjected to any penalty or discriminatory treatment. The purpose of the research has been explained to me, including the potential risks/discomforts and I have been given the opportunity to ask questions about the research and received satisfactory answers. I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information such as positions in government or institution will be used or published without my written permission. I am aware that, even though someone gave my name to the researcher, the person will not know whether I participated or not. I understand that this interview will be recorded in hand-written and audio forms as part of this project. I consent to participating in an interview and having it recorded. I understand that if I decide to leave the research project, the researcher will not collect additional personal information from me, although personal information already collected will be retained to ensure that the results of the research project can be measured properly.”
I am aware that data collected up to the time I withdraw will form part of the research project results unless I tell the researcher I do not want the data to be included in the study.

I understand that the signed informed consent is an indication of my willingness to participate in this research”.

**Interviewee’s statement**

I understand the information I have been given and agree to be interviewed.

**Signature**

**Date**

---

**Note:** Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

**The Executive Officer**

**Human Research Ethics Committee**

**Office of Academic Governance**

**Charles Sturt University**

Panorama Avenue

Bathurst NSW 2795

Tel: (02) 6338 4628

Email: [ethics@csu.edu.au](mailto:ethics@csu.edu.au)

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

---

**Contact details:**

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<th><strong>Dr Shaoyu Wang (Co-Supervisor)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher PhD Student</td>
<td>School of Community Health Biomedical Sciences &amp; Health and Rehabilitation Science Charles Sturt University Orange, NSW, 2800, Australia</td>
<td>School of Community Health Biomedical Sciences Charles Sturt University Orange, NSW, 2800, Australia</td>
</tr>
<tr>
<td>Mob: +233(0)240 397 234 <a href="mailto:ijoshua200@gmail.com">ijoshua200@gmail.com</a></td>
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<td>Ph: +61 2 6365 7512 Email: <a href="mailto:shawang@csu.edu.au">shawang@csu.edu.au</a></td>
</tr>
</tbody>
</table>
CONSENT FORM (Healthcare Staff)

Research Project: Preparedness for Birth in Rural Areas—Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. I am a researcher from Charles Sturt University, Australia, working on the above mentioned project.

Please sign below indicating that:

“I agree to participate in the above research project and give my consent freely.
I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained.
I understand that I am not obliged to participate in this research and that I am free to withdraw my participation in the research without being subjected to any penalty or discriminatory treatment.
The purpose of the research has been explained to me, including the potential risks/discomforts and I have been given the opportunity to ask questions about the research and received satisfactory answers.
I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information such as positions in government or institution will be used or published without my written permission.

I am aware that, even though someone gave my name to the researcher, the person will not know whether I participated or not.
I understand that this interview will be recorded in hand-written and audio forms as part of this project.
I consent to participating in an interview and having it recorded. I understand that if I decide to leave the research project, the researcher will not collect additional personal information from me, although personal information already collected will be retained to ensure that the results of the research project can be measured properly.
I am aware that data collected up to the time I withdraw will form part of the research project results unless I tell the researcher I do not want the data to be included in the study.

I understand that the signed informed consent is an indication of my willingness to participate in this research”.

**Interviewee’s statement**

I understand the information I have been given and agree to be interviewed.

**Signature**

**Date**

---

**Note**: Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

**The Executive Officer**

**Human Research Ethics Committee**

**Office of Academic Governance**

**Charles Sturt University**

**Panorama Avenue**

**Bathurst NSW 2795**

**Tel**: (02) 6338 4628

**Email**: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

---

**Contact details:**

| Joshua Sumankuuro  
| Researcher  
| PhD Student  
| Mob: +233(0)240 397 234  
| joshua200@gmail.com | Dr Judith Crockett  
| (Principal Supervisor)  
| School of Community Health  
| Biomedical Sciences & Health and Rehabilitation Science  
| Charles Sturt University  
| Orange, NSW, 2800, Australia  
| Ph: +61 2 6365 7582  
| Email: jcrockett@csu.edu.au | Dr Shaoyu Wang  
| (Co-Supervisor)  
| School of Community Health  
| Biomedical Sciences  
| Charles Sturt University  
| Orange, NSW, 2800, Australia  
| Ph: +61 2 6365 7512  
| Email: shawang@csu.edu.au |
CONSENT FORM (Traditional Birth Attendants)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. I am a researcher from Charles Sturt University, Australia, working on the above-mentioned project.

Please sign below indicating that:
I agree to participate in the above research project and give my consent freely.
I understand that the project will be conducted as described in the Information Statement, a copy of which I have retained.
I understand that I am not obliged to participate in this research and that I am free to withdraw my participation in the research without being subjected to any penalty or discriminatory treatment.
The purpose of the research has been explained to me, including the potential risks/discomforts and I have been given the opportunity to ask questions about the research and received satisfactory answers.
I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information such as positions in government or institution will be used or published without my written permission. I am aware that, even though someone gave my name to the researcher, the person will not know whether I participated or not.

I understand that this interview will be recorded in hand-written and audio forms as part of this project. I consent to participating in an interview and having it recorded. I understand that if I decide to leave the research project, the researcher will not collect additional personal information from me, although personal information already collected will be retained to ensure that the results of the research project can be measured properly. I am aware that data collected up to the time I withdraw will form part of the research project results unless I tell the researcher I do not want the data to be included in the study.
I understand that the signed informed consent is an indication of my willingness to participate in this research”.

**Interviewee’s statement**

I understand the information I have been given and agree to be interviewed.

**Signature**

**Date**

---

**Note:** Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

**The Executive Officer**
**Human Research Ethics Committee**
**Office of Academic Governance**
**Charles Sturt University**
**Panorama Avenue**
**Bathurst NSW 2795**
**Tel: (02) 6338 4628**
**Email:** [ethics@csu.edu.au](mailto:ethics@csu.edu.au)

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

---

**Contact Details:**

<table>
<thead>
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<th>Dr Shaoyu Wang (Co-Supervisor)</th>
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<td>Biomedical Sciences &amp; Health and</td>
<td>Biomedical Sciences</td>
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<td>Charles Sturt University</td>
<td>Orange, NSW, 2800, Australia</td>
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<td>Email: <a href="mailto:shawang@csu.edu.au">shawang@csu.edu.au</a></td>
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</table>
Appendix 16: Research Participants Information Sheet – Phase 1

Information Sheet for Research Participants (Focus Groups)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

To be read or given to the participant at the start of the research

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD student at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas. To assist me with my research I will be supervised by two experienced researchers: Dr Judith Crockett will be my principal supervisor and Dr Shaoyu (Shaun) Wang will be my co-supervisor. Our contact details are included at the end of this information sheet should you need to contact any of us for any reason.

My research is also supported and approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?

Reports on maternal and neonatal health programmes’ implementation in the districts show that direct maternal death account for majority of all deaths in rural areas of Ghana. At least some of these morbidities and mortalities can be attributed to birth unpreparedness and complication readiness. Therefore, the project aims to investigate preparedness for birth and potential complications from the perspectives of mothers/pregnant women, their families, communities and the health workers in the study areas. The outcome of the study will inform policy direction on safe motherhood interventions and ultimate improvement of maternal and neonatal healthcare outcomes in rural areas, particularly in hard-to-reach parts of Ghana.
2. Why have I been invited to participate in this study?
You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and Daffiama/Bussie/Issa Districts on their view of birth preparedness. Your Assembly member provided your name, role and contact details to the chief investigator.

Birth preparedness and complication readiness programs are a shared responsibility involving pregnant women and their families, community members, health workers, and the government. You have been invited to participate in a focus group because you are a community member of Nadowli/Kaleo and Daffiama/Bussie/Issa Districts who falls into one of these three groups:

(1) Opinion leader and live in Nadowli/Kaleo and Daffiama/Bussie/Issa Districts – as a community leader, who is looked upon by your fellow community members as likeable, trustworthy and influential in community development. Because of your role, your focus group discussion will be centred on: initiatives in treating and managing maternal and neonate health outcomes; the causes of maternal and newborn deaths; socio-cultural beliefs and practices relating to maternal/newborn health, your knowledge and local interventions on birth preparedness and complication readiness, community support to ensuring safe pregnancy and child birth outcomes and the challenges you face in executing birth preparedness projects.

(2) Non-pregnant women who have had childbirth experience at the time of the project, and live Nadowli/Kaleo and Daffiama/Bussie/Issa Districts – As people who have had experience involving pregnancy and childbirth, your focus group discussion will be centred on: knowledge of the causes of maternal and newborn deaths, traditional beliefs and practices on maternal/newborn health, safe motherhood programmes, the conduct and experiences of antenatal care services, knowledge of BP/CR, and the community initiatives towards improved health outcomes. Your experience in past birth preparedness/complication readiness or not prior to child birth will also be significant to the project.
(3) Young people within the ages of 18 to 35 (both sexes) who are leaders or do participate/support in community development projects. As youth, you may have had birth preparedness and complications in pregnancy experiences or have heard about maternal mortalities and are zealous towards ensuring the health of pregnant women is safe. Because of your role, your focus group discussion will be centred on; community initiatives on safe pregnancy and birth outcomes, causes of maternal and neonate deaths, key issues and knowledge on birth preparedness and complication readiness in the community, the traditional beliefs and practices relating to maternal health in the community, your knowledge on safe pregnancy and the way forward for the community.

3. What does this study involve?
Your participation will involve:
(1) Giving your opinions to a semi-structured focus group discussion;
(2) The discussions will last for about one and half hours;
(3) The group discussions will be written, audio recorded, and photos taken to support the analysis;
(4) The interview will ask questions about birth preparedness and complication readiness.

Participation in this focus group is voluntary. You do not have to participate, it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the focus group. As you will be participating in a focus group your anonymity with the other group members cannot be guaranteed. However, I will maintain your anonymity in any publications that occur as a result of this research.

4. What if I participate and want to withdraw later?
Please note that if you do participate in the focus group discussion then it will not be possible to withdraw anything that you contributed during the discussion because of the nature of the discussion being an interaction between the members. However, if you decide that you would like to reconsider something that you contributed when the focus group has been completed, you can contact the researcher to discuss this and to see what can be done. Also, if you do not
want to be audio recorded or be included in photos, then you will not be able to be included in the focus group.

5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?
You are not going to travel outside of your community for the discussion and there is no cost involved in participation. The discussions will take place in your community and at your convenience. Your participation is solely voluntary; therefore, you will not be paid for participating in the discussion.

6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, is your decision and will not disadvantage you. If you do decide to participate, you may withdraw from the project at any time without giving a reason and have the option of withdrawing any data which identifies you.

7. Are there risks and benefits to me in taking part in this study?
Risks/side effects of participating in focus group
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer, or you may quit the focus group entirely.

Benefits of participating in the focus group
The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in a focus group. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in your community and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

8. How will my confidentiality be protected?
Your anonymity and confidentiality cannot be guaranteed in the focus group setting and individual contributions cannot be withdrawn if a decision is made
to withdraw participation after the focus group has been held. Anonymity of the participants will be protected when using the research data for publications one the discussions will not include the names of participants. Even though someone gave your name to the researcher, that person will not know whether you participated in the research or not.

9. What will happen to the information that I give you?
Your information will be used as part of a postgraduate study at Charles Sturt University. The data collected in the focus groups will be analysed and form part of a postgraduate research studies at Charles Sturt University. The results of the data analysis will also be published in academic journals and presented at conferences, and a summary can be made available to participants after completion of the research by request. If you are interested in receiving the results please contact me by email: jsumankuuro@csu.edu.au.

10. What should I do if I want to discuss this study further before I decide?
If you are interested in being involved in this study or wish to know more, please contact: the chief investigator: Joshua Sumankuuro or his Principal Supervisor on any of the contacts listed at the end of this sheet.

11. Who should I contact if I have concerns about the conduct of this study?

Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Tel: (02) 6338 4628
Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.
You are also welcome to contact the researchers involved at any time.

**Contact Details:**

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ijoshua200@gmail.com | **Dr. Judith Crockett (Principal Supervisor)**  
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Information Sheet for Research Participants (Healthcare Workers)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this project, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD student at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas. To assist me with my research I will be supervised by two experienced researchers: Dr Judith Crockett will be my principal supervisor and Dr. Shaoyu (Shaun) Wang will be my co-supervisor. Our contact details are included at the end of this information sheet should you need to contact any of us for any reason. My research is also supported/approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?
Direct maternal deaths account for majority of all deaths in rural areas of Ghana. Recent data from these districts indicates, there has not been any acceptable improvement in maternal and newborns health outcomes, and these morbidities and mortalities are attributed to birth unpreparedness and not being ready for complications. Therefore, the project aims to investigate preparedness for birth and potential complications from the perspectives of mothers/pregnant women, their families, communities and the health facilities in the study areas. The outcome of the study will help explain reasons for poor birth outcomes and ultimate improvement of maternal and neonatal healthcare outcomes in rural areas, particularly in the hard-to-reach communities.

2. Why have I been invited to participate in this study?
You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and Daffiama/Bussie/Issa District on their view of birth preparedness and complication readiness. Healthcare workers are key stakeholders in maternal and neonate health outcomes and do share in the responsibility for getting pregnant women and their families prepared for birth and emergencies. You are the lead implementers of government’s maternal health policies, programmes and projects across the country.

Hence, you have been invited to join the study because you are a healthcare worker in the Nadowli/Kaleo and Daffiama/Bussie/Issa Districts who is either:

(1) The Director of health services in Nadowli/Kaleo or Daffiama/Bussie/Issa Districts. The interview will be centred on the following key areas: causes of maternal/newborn deaths, social and physical integrity of pregnant women, handling of referrals, issues on duty of care and the way forward on maternal and newborn healthcare.

(2) In-charge of a health facility in Nadowli/Kaleo or Daffiama/Bussie/Issa Districts. Your interview will be based on: staffing capacity, causes of maternal/newborn deaths, birth preparedness interventions, socio-cultural beliefs and practices, pregnancy management, arrangements during emergency referrals, and the challenges and way forward for maternal healthcare in the area.

(3) A nurse who works in Nadowli/Kaleo or Daffiama/Bussie/Issa Districts and does not conduct antenatal care but live in the above district. You will be asked questions on: birth and pregnancy referral management, physical and social integrity of clients, the prospects and challenges for improved maternal healthcare.

3. **What does this study involve?**

Your participation will involve:

(1) Giving your opinions to a structured/semi-structured interview;

(2) The interview will last for about one and half hours;
(3) The interview will be audio recorded and photos taken to support the analysis;
(4) The interview will also ask questions about birth preparedness and complication readiness.

Participation in this interview is voluntary. You do not have to participate, it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the interview.

4. What if I participate and want to withdraw later?
Participation in this interview is voluntary and you can withdraw your participation at any time, without being subjected to any penalty or discriminatory treatment. You are free to withdraw your data from being part of the project by telling the researcher prior to data analysis.

5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?
You are not going to travel outside of your community or workplace for the interview and there is no cost involved in participation. The interview will be conducted at the venue of your convenience and suitable to your job shifts. Your participation is solely voluntary; therefore you will not be paid for participating in the interview.

Even though your supervisor (Director of health services) gave you permission to participate, your supervisor will not know whether you participated in the research or not.

6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project.

7. Are there risks and benefits to me in taking part in this study?
Risks/side effects of participating in an interview
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer or you may quit the interview entirely.

Benefits of participating in the interview
The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in an interview. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in the districts and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

8. How will my confidentiality be protected?
The anonymity of the participants will be protected when using the research data for publications. Your name and any identifying feature will not be included in any publication that occurs as a result of this research.

9. What will happen to the information that I give you?
Your information will be used as part of a post-graduate study at Charles Sturt University. The data collected in the focus groups will be analysed and form part of a postgraduate research studies at Charles Sturt University. The results of the data analysis will also be published in academic journals and presented at conferences, and a summary can be made available to participants after completion of the research by request. If you are interested in receiving the results please contact me by email: jsumankuuro@csu.edu.au

10. What should I do if I want to discuss this study further before I decide?
If you are interested in being involved in this study or wish to know more, please contact: the chief investigator - Joshua Sumankuuro or Dr. Judith Crockett (researcher’s Principal Supervisor) via their contacts listed at the end of this sheet.

11. Who should I contact if I have concerns about the conduct of this study?
Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Tel: (02) 6338 4628
Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

You are also welcome to contact the researchers involved at any time.

Contact Details:

<table>
<thead>
<tr>
<th><strong>Joshua Sumankuuro</strong></th>
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<tbody>
<tr>
<td>Researcher</td>
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<tr>
<th><strong>Dr. Judith Crockett</strong></th>
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<td>(Principal Supervisor)</td>
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<td>School of Community</td>
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<td>Biomedical Sciences &amp;</td>
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<td>Health and Rehabilitation Science</td>
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<td>Email: <a href="mailto:jcrockett@csu.edu.au">jcrockett@csu.edu.au</a></td>
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<tr>
<th><strong>Dr. Shaoyu (Shaun) Wang</strong></th>
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<td>(Co-Supervisor)</td>
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<td>Email: <a href="mailto:shawang@csu.edu.au">shawang@csu.edu.au</a></td>
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Information Sheet for Research Participants (Pregnant Women)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD student at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas. To assist me with my research I will be supervised by two experienced researchers: Dr Judith Crockett will be my principal supervisor and Dr Shaoyu (Shaun) Wang will be my co-supervisor. Our contact details are included at the end of this information sheet should you need to contact any of them for any reason. My research is also supported/approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?
Direct maternal deaths account for majority of all deaths in rural areas of Ghana. Recent data from these districts indicates there has not been any acceptable improvement in maternal and newborns health outcomes. At least some of these morbidities and mortalities are attributed to birth unpreparedness and not being ready for complications. Therefore, the project aims to investigate preparedness for birth and potential complications from the perspectives of mothers/pregnant women, their families, communities and the health facilities in the study areas. The outcome of the study will help explain reasons for poor birth outcomes and ultimate improvement of maternal and neonatal healthcare outcomes in rural areas, particularly in the hard-to-reach communities.

2. Why have I been invited to participate in this study?
You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and Daffiama/Bussie/Issa District on their view of birth preparedness and complication readiness. As a pregnant woman, you are involved in birth preparedness and complication readiness interventions. As people who are directly affected by pregnancy and child birth outcomes, your opinion will be relevant to the research aims. Therefore, you have been invited to join the study because you are pregnant and in the 2nd and 3rd trimester and live in a selected community in Nadowli/Kaleo or Daffiama/Bussie/Issa Districts. Your name and contact details were provided by the antenatal care unit/community-based surveillance volunteers.

3. What does this study involve?

Your participation will involve giving your opinions to a structured interview that will last for about 45 minutes. The interview will ask questions about birth preparedness and complication readiness.

Participation in this interview is voluntary. You do not have to participate; it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the interview.

4. What if I participate and want to withdraw later?

Participation in this interview is voluntary and you can withdraw your participation at any time, without being subjected to any penalty or discriminatory treatment. You are free to withdraw your data from being part of the project by telling the research prior to data analysis.

5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?

You are not going to travel outside of your community or workplace for the interview and there is no cost involved in participation. The interview will be conducted at the venue of your convenience and suitable to your daily schedule. Your participation is solely voluntary; therefore, you will not be paid for participating in the interview.
6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project.

7. Are there risks and benefits to me in taking part in this study?

Risks/side effects of participating in an interview
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer, or you may quit the interview entirely.

Benefits of participating in the interview
The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in an interview. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in your community and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

8. How will my confidentiality be protected?
The anonymity of the participants will be protected when using the research data for publications. Your name and any identifying feature will not be included in any publication that occurs as a result of this research. Also, even though someone gave your name to the researcher, that person will not know whether you participated in the research or not.

9. What will happen to the information that I give you?
Your information will be used as part of a post-graduate study at Charles Sturt University. The data collected in the focus groups will be analysed and form part of a postgraduate research studies at Charles Sturt University. The results of the data analysis will also be published in academic journals and presented at conferences, and a summary can be made available to participants after completion of the research by request. If you are interested in receiving the results please contact me by email: jsumankuuro@csu.edu.au.
10. What should I do if I want to discuss this study further before I decide?
If you are interested in being involved in this study or wish to know more, please contact: the chief investigator - Joshua Sumankuuro or Dr Judith Crockett (researcher’s Principal Supervisor) via their contacts listed at the end of this sheet.

11. Who should I contact if I have concerns about the conduct of this study?
Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

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Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

You are also welcome to contact the researchers involved at any time.

Contact Details:

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Appendix 17: Research Participants Information sheet – Phase 2

Information Sheet for Research Participants (Healthcare Workers)

Research Project: Preparedness for Birth in Rural Areas– Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this project, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD Candidate at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas. To assist me with my research I will be supervised by two experienced researchers: Dr Judith Crockett and Dr Shaoyu Wang are my principal and co-supervisors respectively. Our contact details are included at the end of this information sheet should you need to contact any of us, for any reason. My research is also supported/approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?

Direct maternal deaths account for majority of all deaths in rural areas of Ghana. The first phase of this research project, carried out in 2016, indicates there has not been any acceptable improvement in maternal and newborns health outcomes in recent years, and that many of these morbidities and mortalities are attributed to birth unpreparedness and not being ready for complications. Therefore, this phase of the research aims to gain a better understanding of what the barriers are to preparedness for birth and potential complications, and why these barriers exist. The outcome of the study will help explain reasons for poor birth outcomes and ultimate improvement of maternal and neonatal healthcare outcomes in rural areas, particularly in the hard-to-reach communities.

2. Why have I been invited to participate in this study?

You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and
Daffiama/Bussie/Issa District on their view of birth preparedness and complication readiness. Healthcare workers are key stakeholders in maternal and neonate health outcomes and share in the responsibility for getting pregnant women and their families prepared for birth and emergencies. You are the lead implementers of the government’s maternal health policies, programmes and projects across the country.

Hence, you have been invited to join the study because you are a healthcare worker in the Nadowli/Kaleo and Daffiama/Bussie/Issa Districts who is either:

1. The Director of health services in Nadowli/Kaleo or Daffiama/Bussie/Issa Districts. The interview will be centred on the following key areas: the causes of maternal/newborn deaths, socio-cultural beliefs and practices impacting on maternal healthcare delivery, handling of referrals of pregnant women and labouring mothers, skilled staffing issues, health facilities’ logistical and infrastructural arrangements and refurbishments, associated challenges and the way forward on maternal and newborn healthcare.

2. In-charge of maternity unit Nadowli district hospital and or health centre/CHPS compound in selected communities in Nadowli/Kaleo and Daffiama/Bussie/Issa Districts. Your interview will be centred on: staffing capacity, causes of maternal/newborn deaths, birth preparedness and complication readiness interventions, socio-cultural beliefs and practices, pregnancy management, arrangements during emergency referrals, the challenges and way forward for maternal healthcare in the area.

3. Head Pharmacist for Nadowli district hospital and provides care related to drug and non-drug supplies and national health insurance scheme (NHIS) claims/cost management within the hospital. You will be asked questions on: costs issue on medicines for prenatal/postnatal care, challenges pertaining on NHIS, the prospects and challenges for improved maternal healthcare.

3. What does this study involve?
Your participation will involve:

1. Giving your opinions to a semi-structured interview asking questions regarding the above;
(2) The interview will last for up to one and half hours for all other healthcare staff and about 45 minutes for the Pharmacist;
(3) The interview will be audio recorded and photos of antenatal care bed/s, labour and delivery rooms and the available equipment will also be taken to support the analysis;

Participation in this interview is voluntary. You do not have to participate, it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the interview.

4. What if I participate and want to withdraw later?
Participation in this interview is voluntary and you can withdraw your participation at any time, without being subjected to any penalty or discriminatory treatment. You are free to withdraw your data from being part of the project by telling the researcher prior to data analysis.

5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?
You are not going to travel outside of your community or workplace for the interview and there is no cost involved in participation. The interview will be conducted at the venue of your convenience and suitable to your job shifts. Your participation is solely voluntary; therefore, you will not be paid for participating in the interview.

Even though your supervisor (Director of Health Services) gave you permission to participate, your supervisor will not know whether you participated in the research or not.

6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project.

7. Are there risks and benefits to me in taking part in this study?
Risks/side effects of participating in an interview
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer or you may quit the interview entirely.

**Benefits of participating in the interview**

The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in an interview. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in the districts and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

**8. How will my confidentiality be protected?**

The anonymity of the participants will be protected when using the research data for publications. Your name and any identifying feature will not be included in any publication that occurs as a result of this research.

**9. What will happen to the information that I give you?**

Your information will be used as part of a post-graduate study at Charles Sturt University. The data collected will be analysed and the results presented in the form of a thesis, published in academic journals and presented at conferences. A summary can be made available to participants after completion of the research by request. If you are interested in receiving the results, please contact me by email: jsumankuuro@csu.edu.au

**10. What should I do if I want to discuss this study further before I decide?**

If you are interested in being involved in this study or wish to know more, please contact: the chief investigator - Joshua Sumankuuro or Dr Judith Crockett (researcher’s Principal Supervisor) via their contacts listed at the end of this sheet.
11. Who should I contact if I have concerns about the conduct of this study?

**Note:** Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

**The Executive Officer**

**Human Research Ethics Committee**

**Office of Academic Governance**

**Charles Sturt University**

**Panorama Avenue**

**Bathurst NSW 2795**

**Tel: (02) 6338 4628**

**Email:** ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

You are also welcome to contact the researchers involved at any time.

**Contact Details:**

| Joshua Sumankuuro  
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joshua200@gmail.com |  
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Information Sheet for Research Participants (Postnatal Women)

Research Project: Preparedness for Birth in Rural Areas – Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD student at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas in Ghana. To assist me with the research I will be supervised by two experienced researchers: Dr Judith Crockett and Dr Shaoyu Wang are my principal and co-supervisors respectively. Our contact details are included at the end of this information sheet should you need to contact any of them for any reason. My research is also supported/approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?
Direct maternal deaths account for majority of all deaths in rural areas of Ghana. The first stage of the study (in 2016) from these districts indicates there has not been any significant improvement in maternal and newborns health outcomes in recent years. At least some of these morbidities and mortalities are attributed to birth unpreparedness and not being ready for complications. This phase of the research aims to gain a better understanding of the progress and outcomes of recent pregnancies, the maternal experience throughout the gestation, what the barriers there are to preparedness for birth and potential complications, and why these barriers exist. The outcome of the study will help explain reasons for poor birth outcomes and ultimately lead to improvement of maternal and neonatal healthcare outcomes in rural areas, particularly in the hard-to-reach communities.
2. Why have I been invited to participate in this study?
You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and Daffiama/Bussie/Issa District on their view of birth preparedness and complication readiness. As an expectant mother, you participated in the project during your second or third trimester (within March to June 2016). You are being asked to participate again because you have had birth related experiences since the first interview with the principal investigator. This will help us better understand your experiences on maternal and neonatal health issues pertaining in birth preparedness and complication readiness. As people who have recently experienced pregnancy and child birth, your opinion is important the research aims.

Your name and contact details were provided by the antenatal care unit and or the community-based surveillance volunteers for your locality (of Ghana Health Service).

3. What does this study involve?
Your participation will involve giving your opinions to a structured interview that will last for about 45 minutes. The interview will ask questions about birth preparedness and complication readiness, including labour and early postnatal matters, especially in relation to your most recent pregnancy.

Participation in this interview is voluntary. You do not have to participate; it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the interview.

4. What if I participate and want to withdraw later?
Participation in this interview is voluntary and you can withdraw your participation at any time, without being subjected to any penalty or discriminatory treatment. You are free to withdraw your data from being part of the project by telling the research prior to data analysis.
5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?
You are not going to travel outside of your community or workplace for the interview and there is no cost involved in participation. The interview will be conducted at the venue of your convenience and suitable to your daily schedule. Your participation is solely voluntary; therefore, you will not be paid for participating in the interview.

6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project.

7. Are there risks and benefits to me in taking part in this study?
Risks/side effects of participating in an interview
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer, or you may quit the interview entirely. However, there will be a midwife/community health nurse to provide free counselling support on any emotional distress that may affect your general well-being, before and during the interview.

Benefits of participating in the interview
The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in an interview. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in your community and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

8. How will my confidentiality be protected?
The anonymity of the participants will be protected when using the research data for publications. Your name and any other identifying feature will not be included in any publication that occurs as a result of this research.
Also, even though someone gave your name to the researcher, that person will not know whether you participated in the research or not.

9. What will happen to the information that I give you?
Your information will be used as part of a post-graduate study at Charles Sturt University. The data collected will be analysed and the results presented in the form of a thesis, published in academic journals and presented at conferences. A summary can be made available to participants after completion of the research by request. If you are interested in receiving the results, I can provide them to you at the end of the study.

10. What should I do if I want to discuss this study further before I decide?
If you are interested in being involved in this study or wish to know more, please contact: the chief investigator - Joshua Sumankuuro or Dr Judith Crockett (researcher’s Principal Supervisor) via their contacts listed at the end of this sheet.

11. Who should I contact if I have concerns about the conduct of this study?

Note: Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

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Human Research Ethics Committee  
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Panorama Avenue  
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Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

You are also welcome to contact the researchers involved at any time.
## Contact Details:

<table>
<thead>
<tr>
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Information Sheet for Research Participants (Traditional Birth Attendants)

Research Project: Preparedness for Birth in Rural Areas – Perspectives of Expectant Mothers, Community Residents and Birth Attendants in Two Rural Districts (Nadowli/Kaleo and Daffiama/Bussie/Issa) in Ghana

Thank you for agreeing to take part in this research. Before you decide whether or not you wish to participate in this project, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

My name is Joshua Sumankuuro. I am a PhD Candidate at Charles Sturt University, Australia. My research focuses on birth preparedness and complication readiness among residents of rural areas. To assist me with my research I will be supervised by two experienced researchers: Dr Judith Crockett and Dr Shaoyu Wang are my principal and co-supervisors respectively. Our contact details are included at the end of this information sheet should you need to contact any of us for any reason. My research is also supported/approved by the District Assemblies (Nadowli/Kaleo and Daffiama/Bussie/Issa Districts) and the District Directors of Health Services.

1. What is the purpose of this study?

Direct maternal deaths account for majority of all deaths in rural areas of Ghana. Data collected from the above districts in an earlier stage of this project indicates there has not been any significant improvement in maternal and newborns health outcomes in recent years. The research also shows many of these morbidities and mortalities are related to birth unpreparedness and not being ready for complications. The results further show many women preferred maternity care provided by TBAs but there was only limited information gathered about why this is the case. This phase of the study explores the continuing importance of TBAs in the study areas and ask for their views about the reasons for poor birth outcomes and what can be done to achieve improved maternal and neonatal healthcare outcomes in rural areas, particularly in the hard-to-reach communities.

2. Why have I been invited to participate in this study?
You are invited to participate in this research as it is important to gather information from a wide range of people who live in Nadowli/Kaleo and Daffiama/Bussie/Issa District on their view of birth preparedness and complication readiness. Traditional Birth Attendants are key stakeholders in maternal and neonate health outcomes and share in the responsibility for getting pregnant women and their families prepared for birth and providing timely referrals during emergencies. You are part of the continuum of maternity care and the efforts to ensure avoidable causes of mortalities and morbidities are prevented in our communities and Ghana as a whole.

Hence, you have been invited to join the study because you are a Traditional birth attendant and live within one of the selected communities in the Nadowli/Kaleo and Daffiama/Bussie/Issa Districts who provides prenatal care or postnatal care/newborn care or both. The interview will be centred on the following key areas: causes of maternal/newborn deaths, social and physical integrity of pregnant women, handling of emergency referrals to health facility, socio-cultural and traditional beliefs in relation to maternal and neonatal health, challenges you face in providing care and the way forward on maternal and newborn healthcare.

3. What does this study involve?
Your participation will involve:
(1) Giving your opinions to a semi-structured interview, which will ask questions about birth preparedness and complication readiness in your community;
(2) The interview will last for about one hour;
(3) The interview will be audio recorded and photos of your antenatal care area, labour and delivery room and the equipment used in providing care, will also be taken to support the analysis;

Participation in this interview is voluntary. You do not have to participate, it is completely up to you if whether you decide to participate or not. You will not be subjected to any penalty or discriminatory treatment if you decide that you do not want to participate in the interview.
4. What if I participate and want to withdraw later?
Participation in this interview is voluntary and you can withdraw your participation at any time, without being subjected to any penalty or discriminatory treatment. You are free to withdraw your data from being part of the project by telling the researcher prior to data analysis.

5. Will taking part in this study (or travelling to) cost me anything, and will I be paid?
You are not going to travel outside of your community or workplace for the interview and there is no cost involved in participation. The interview will be conducted at the venue of your convenience and suitable to your daily activities. Your participation is solely voluntary; therefore, you will not be paid for participating in the interview. Even though expectant mothers gave your name, they will not know whether you participated in the project or not.

6. What if I don't want to take part in this study?
Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project.

7. Are there risks and benefits to me in taking part in this study?

Risks/side effects of participating in an interview
You may feel that some of the questions the researcher asks are stressful or upsetting. If you do not wish to answer or contribute to a question, you can refuse to answer or you may quit the interview entirely.

Benefits of participating in the interview
The researcher cannot guarantee or promise any personal benefits to you if you decide to participate in an interview. However, your participation will contribute to gaining a better understanding of the reasons for poor birth outcomes in the districts and to the development of policies to improve the situation at a local level. It is anticipated that this will lead to improved maternal and child health outcomes and preventing avoidable deaths and saving lives in the future.

8. How will my confidentiality be protected?
The anonymity of the participants will be protected when using the research data for publications. Your name and any other identifying feature will not be included in any publication that occurs as a result of this research.

9. What will happen to the information that I give you?
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If you are interested in being involved in this study or wish to know more, please contact: the chief investigator - Joshua Sumankuuro or Dr Judith Crockett (researcher’s Principal Supervisor) via their contacts listed at the end of this sheet.

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Mob: +233(0)240 397 234  
ijoshua200@gmail.com | **Dr Judith Crockett (Principal Supervisor)**  
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