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ABSTRACT

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by Region after the Implementation of the Free Maternal Care Policy. Master of
Public Health (Health Management and Policy) May 2009, 72pp, 9 tables, 2
illustrations, bibliography, 21 titles. Maternal Mortality has been placed as a high
priority with the signing of the Millennium development goals.

Ghana is one of the many countries who have the desire to show their commitment to reducing the burden of Maternal Mortality. To show that commitment, Ghana implemented a Free Maternal Policy in 2003 as a pilot in 4 regions and later to all the 10 regions to increase the number of women getting skilled attendance. Using regional data allowed the researcher to look at the changes in utilization among pregnant women in the various regions. Findings show that there is still a great need to reach out to the rural populations.

UTILIZATION OF MATERNAL CARE SERVICES IN GHANA BY REGION AFTER THE IMPLEMENTATION OF THE FREE MATERNAL CARE POLICY

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UTILIZATION OF MATERNAL CARE SERVICES IN GHANA BY REGION AFTER THE IMPLEMENTATION OF THE FREE MATERNAL CARE POLICY

THESIS

Presented to the School of Public Health
University of North Texas
Health Science Center at Fort Worth
In Partial Fulfillment of the Requirements

For the Degree of

Master of Public Health

Ву

Efua Aboagyewah Opoku, B.S.

Fort Worth, Texas

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CHAPTER 1

INTRODUCTION

Research Problem

At the turn of this century, 189 countries endorsed the Millennium Declaration and signed up to meeting eight goals. One of these (Millennium Development Goal [MDG] 5) is to "improve maternal health" (Lancet, 2005). Maternal death was, however, chosen as the outcome with which to judge progress towards this goal, thus bringing renewed attention to what is a 21st century problem essentially only for the poor, and one virtually eliminated for people with the means and status to access health care. Such a marker of global inequity is shocking and is an indication of wider development issues targeted in some of the other MDGs, especially on poverty, education and gender (Ronsmans & Graham, 2006). The Millennium Declaration is, however, the first time that maternal mortality has featured so prominently in the high ranks of a global pronouncement, providing an opportunity to galvanize action and so help ensure that the risk of maternal death is minimized for all women (Ronsmans & Graham, 2006).

Each year it is estimated 529,000 maternal deaths occur. This number is based on calculations for the year 2000, the most recent date for such crude data (Ronsmans & Graham, 2006). Of the estimated total of 536,000 maternal deaths worldwide in 2005, developing countries accounted for 99% (533,000) of these deaths (World Health Organization, 2005). More than half of the maternal deaths (270,000) occurred in the sub-Saharan Africa region alone, followed by South Asia (188,000) (World Health Organization, 2005). Maternal deaths are not uniformly distributed throughout

the world, and obstetric risk is highest by far in sub-Saharan Africa was estimated to be nearly 1000 per 100,000 live births: almost twice that of south Asia, four times as high as in Latin America and the Caribbean, and nearly 50 times higher than in industrialized countries. Most maternal deaths occur in sub-Saharan Africa, with a staggering lifetime risk of 1 in 16, and south Asia with a lifetime risk of 1 in 43 (Ronsmans & Graham, 2006).

In 2003, in an effort to improve maternal health and survival, the government of Ghana implemented a new policy that removed delivery fees in Health facilities in the four most-deprived regions of the country. Less than two years later, the government extended the policy to the rest of Ghana, removing delivery fees in all public, private and mission facilities (Immpact, PRB, 2007). On July 1st, 2008 the president of Ghana announced that the government is providing free maternal care for pregnant women to improve the attainment of MDG 4 and 5. The decision was made to implement this through NHIS (National Health insurance scheme) so that mothers have the full package of antenatal, prenatal and postnatal care (NHIS, 2008).

Reducing maternal mortality and reaching the MDG5 target by 2015 is proving a serious challenge for many countries, including Ghana. The estimate of MMR in Ghana in 2005 was 560 per 100,000 live births (World Health Organization, 2005). The institutional MMR is around 210 per 100,000 live births. Translating MDG 5 for Ghana, a national target to reduce the (MMR) from 214 in 1990 to 54 by 2015 (MMR = maternal deaths per 100,000 live births) was set (MOH, 2008). Ghana is in the category of countries with a high-burden of maternal mortality. In this year's Aide Memoire, the Hon. Minister of Health declared the high maternal mortality in the country as a national emergency highlighted the need to accord greater priority to

reproductive health services (Immpact, PRB, 2007).

Importance of the Study

This is an issue that highlights the importance of having a stable health care system. These African countries facing the problem of maternal mortality are losing an important component of their human capital. This is certainly an issue that affects the globe as a whole. This study will add to the reflection/evaluation papers that take a look at what exists, what can be done and what needs to be taken into consideration to achieve the desired goal. One part of public health's goal is to make health care accessible to all people. A concentrated effort is needed to reach out to those who are currently excluded from maternal care.

Statement of the Purpose

The aim of this study is to review the progress of the free maternal care policy since it's inception in its role to reduce maternal mortality in Ghana. The study will also look at the recent connection between the policy and NHIS (National Health Insurance). I would like to explore the effect it has had on the use of maternal services since the removal of user fees and the potential it has on impacting to goal to achieve MDG5 (Millennium Development Goal 5).

Hypothesis/Research Question

This study aims to address the following questions;

What impact has the policy had on health care and outcomes?

Has the removal of delivery fees led to more deliveries in health facilities?

What are the major factors affecting the policy negatively that could lead to its

downfall?

How sustainable will the policy be with NHIS backing it?

Limitations

The study was limited because the issue of Maternal Mortality and the collection of data in regards to the issue have not been consistent. Therefore the data retrieved is a mixture of annual statistics, half year reports and trend data. One did not have access to complete data for all the years but fragments of what has been done in order to understand the issue in Ghana.

Definition of Terms

TBA (Traditional Birth Attendant) - The term TBA refers to traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period (USAID, 2008)

Millennium Development Goal (MDGs) - Eight goals to be achieved by 2015 that respond to the world's main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations-and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000 (UNDP, 2006)

MMR (Maternal Mortality Rate) – Number of maternal deaths in given time period per 100,000 women of reproductive age, or woman-years of risk exposure, in same period (Lancet, 2006)

Maternal death- the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, form any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (Lancet, 2006)

CHAPTER 2

REVIEW OF LITERATURE

In sub-Saharan Africa, one in 16 women dies in pregnancy or childbirth. This risk is 175 times higher than that in developed countries (one in 2800) (Dr. Filippi et al, 2006). The 529 000 maternal deaths are the tip of the iceberg, and many more women are estimated to suffer pregnancy-related illnesses (9·5 million), near-miss events (1·4 million), and other potentially devastating consequences after birth (Dr. Filippi et al, 2006).

Despite the commitment expressed with the Millennium initiative, maternal, newborn, and child health have not been given financial priority internationally. Maternal mortality only affects women in a narrow age range; one dilemma is that the number of maternal deaths can seem small compared with deaths due to other disorders (Dr. Filippi et al, 2006). Safe motherhood programs compete for funding with other priorities such as tuberculosis (2·4 million yearly deaths), malaria (1 million), and HIV/AIDS (3 million). Partitioning of maternal and child health between different vertical programs, in particular malaria and HIV, was recognized as a problem in a previous Lancet series on child health (Dr. Filippi et al, 2006).

Competition for funds is fierce, and advocates for well funded disease initiatives even feel the need to compete for the meager resources of maternal health: one website states that "tuberculosis kills more women worldwide than all causes of maternal mortality" (Dr. Filippi et al, 2006).

The MDG declaration after the 2005 G8 summit in Scotland referred mostly to infectious diseases and did not draw attention to maternal and child health as an

important problem to which further resources would be channeled (Dr. Filippi et al, 2006). Furthermore, maternal health represents only a tiny proportion of the overall aid budget (1% of the aid budget of one of the main donor countries). The Bellagio Study Group on Child Survival, Knowledge into action for child survival, Lancet 362 (2003), pp. 323–327.

Global development assistance to maternal and neonatal health has been estimated at more than US\$663 million in 2003 (Dr. Filippi et al, 2006) An estimated extra US\$1 billion in 2006, increasing to US\$6.1 billion in 2015, is needed to increase coverage to desired levels; such estimates omit the cost of incentives to improve quality of care, ensure staff retention in rural areas, and deter the imposition of informal charges (Dr. Filippi et al, 2006). The extent to which such health system investment will affect maternal health is difficult to quantify and is a challenge to cost-calculating exercises. Effective health interventions exist for mothers and babies, and several proven means of distribution are available that can be used to put these in place and take them to scale (Dr. Filippi et al, 2006). However, none of them will work if political will is absent where it matters most: at national and district levels. Shiffman and colleagues noted substantial progress in getting maternal health onto the national political agenda in Nigeria and India, two countries that contribute up to a third of all maternal deaths worldwide (Dr. Filippi et al, 2006). Several factors helped this progress in Nigeria, including interest from the federal government, the emergence of local political champions in the national assembly, an increased health budget, and an active civil society (Dr. Filippi et al, 2006).

Crucial barriers to successful implementation remain, however, such as absence of adherence to the cause at district level and of commitment of domestic revenues, with maternal health seen as funded mostly by donors. Further political sensitization is needed at local level, particularly with local policy makers.

Improvements towards safe motherhood are not as visible to the public as a successfully constructed road (Dr. Filippi et al, 2006). Today, the desire to show progress in reducing the burden of mortality is universal: across developing and developed countries; at international, national and local levels; and for all causes and conditions (Graham, 2008).

Maternal Mortality in Ghana

Ghana has persistently high maternal mortality ratios, estimated to range from 214 to 800 per 100,000 live births. Ghana also has growing social inequalities for this indicator, with rates of skilled attendance either stagnant or declining for poorer women (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). While deliveries with health professionals rose from 85% to 90% from 1993 to 2003 for the richest quintile, according to Demographic and Health Survey data, deliveries with health professionals for the poorest quintile dropped from 25% to 19%. Nationally, 45% of births were attended by a medical practitioner (79% in urban areas, 33% in rural); 31% by traditional birth attendants (TBAs) and 25% were unsupervised. There were also significant regional variations. The three northern regions have the highest levels of poverty and maternal mortality and the lowest levels of supervised deliveries (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

In the Ghana health system, basic obstetric and antenatal care is provided by health centers, health posts, mission clinics and private midwifery homes. Each health centre or post serves a population of approximately 20,000 (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). In the rural areas, TBAs continue to carry out deliveries, though they are trained to refer more complex cases. Comprehensive emergency obstetric care is available from district hospitals and regional hospitals, as well as national referral hospitals. Most are run by the Ghana Health Services, though the mission sector plays a significant role, especially in more remote regions. All care is paid for, unless the service is exempt or the person has private or public health insurance, though user fees are subsidized by public inputs into the services (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). Financial barriers are believed to be one of the most important constraints to seeking skilled care during delivery in Ghana. A study costing maternal health care in one district in 1999 found cost recovery rates of between 152% for deliveries and 211% for caesareans in mission hospitals, but did not shed light on affordability relative to women's income (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). Problems such as under-funding of exemptions from user fees in general have also been found, which have meant that exemptions are available in theory but not always in practice if the provider is not reimbursed for lost income (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

To further understand what actions are needed to save women's lives, we must first understand why so many women are dying. In Ghana, as in many developing countries, deaths during pregnancy and childbirth are often linked to the three delays (GHS, 2006):

1. Delays in the Home

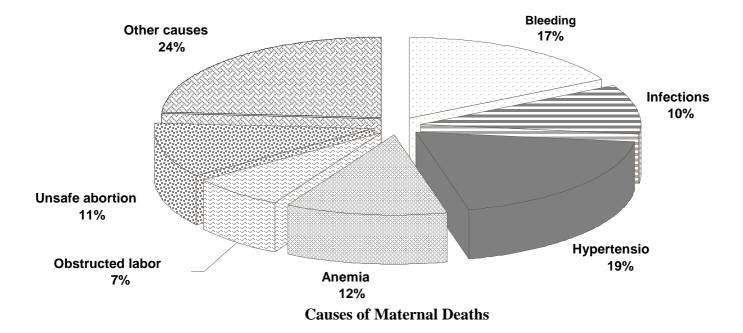
The first delay is deciding whether to seek care. Lack of information and inadequate knowledge are responsible for the delay in responding to initial warning signs of complications of pregnancy and danger signals during labor (GHS, 2006). Certain traditions and cultures maintain that women must wait for approval from male relatives before seeking help further compound the situation (GHS, 2006).

2. Delays in Accessing Health Facility

The second delay is linked to the constraints that women face in accessing health facilities. Weak referral linkages exist between community, health centers and district hospitals making it difficult for women in emergency situations to get the care they need (GHS, 2006). The situation is made worse by poor road and communication networks, distant health facilities, and a lack of transportation and inadequate community support (GHS, 2006).

3. Delays at Health Facility

The third delay occurs between the time the woman arrives at the health facility and the facilities response in providing appropriate care (GHS, 2006). At health centre's, preparedness to respond to obstetric emergencies is generally inadequate in terms of skilled attendants, equipment, supplies and drugs, and motivated staff (GHS, 2006).



The major causes of newborn deaths include bleeding, hypertension, anemia, unsafe abortions, infections and obstructed labor. A majority of these deaths can be prevented with adequate care (GHS, 2006).

Hemorrhage

The prevalence of severe anemia is substantial, so that a given degree of blood loss is more likely to cause hemodynamic instability; many women deliver at home and are often attended by unskilled providers (traditional birth attendants, family members) who are unable to recognize the signs of excessive bleeding (Gijs Walraven MD, Wanyonyi, & Stones, 2008). Once the problem is recognized and the decision to take the woman to a health facility is made, emergency transport might not be available or affordable, and distances might be long; gender relations can present barriers to care seeking; for example, it might not be possible to arrange transfer to a health facility without the authority of male relatives (Gijs Walraven MD, Wanyonyi, & Stones, 2008). Whether or not a pregnant woman arrives at a health facility or hospital in time; the facility might not have the trained staff available or the necessary supplies and equipment to treat her. The provision of effective care for women with hemorrhage is often beyond the capacities of health systems and communities in countries where maternal mortality is high (Gijs Walraven MD, Wanyonyi, & Stones, 2008)

Other Causes

In developed countries, the most important cause of maternal death is "other direct causes" (21%), which includes largely complications during interventions such as those related to caesarean section and anesthesia, followed by hypertensive disorders and embolism (WHO, 2006). It also includes ectopic pregnancy, renal failure and cardiac disorders (Senah, 2003).

Anemia

The WHO has estimated that 52 percent of pregnant women in Africa – 56 percent in West Africa- have hemoglobin levels below IOO g/L (WHO 1982). Severe anemia can contribute to maternal mortality by impairing a pregnant woman's ability to resist infection or severe hemorrhage, hi Ghana, parasitic infestation, especially malaria, significantly contributes to this condition (Senah, 2003).

Obstructed Labor

This is a complication in which the process of labor does not function normally due to mechanical blockage of the birth canal. In very severe cases, it may lead to fistulation in which urine and fecal matter gain entry into the reproductive system. Obstructed labor may be due to early pregnancy, inadequate nutrition during childhood, fetal-pelvic disproportion, multiparity and abnormal fetal presentation (Senah, 2003).

Abortion

This is voluntary or involuntary termination of pregnancy before 20 weeks of gestation. It is characterized by bleeding, lower abdominal pains, and passage of fetal and placental tissue (Senah, 2003).

Hypertensive Disorders (Hypertension)

In pregnancy these are associated with pedal and facial oedema and protein in urine. They are the most difficult of the obstetric emergencies to prevent and manage. Yet they are an important cause of maternal death in Africa (Senah, 2003). If untreated, they may progress to eclampsia characterized by convulsion, brain damage, renal failure and death (Senah, 2003).

Sepsis

Infection occurs when aseptic procedures are not followed, when the amniotic sac ruptures long before delivery occurs, when vaginal examinations are too frequent or when obstructed labor occurs. Long term consequences of puerperal sepsis include pelvic inflammatory diseases, secondary infertility and in rare cases, maternal tetanus (Senah, 2003).

Free Maternal Care Policy

In resource-poor countries, the high cost of user fees for deliveries limits access to skilled attendance, and contributes to maternal and neonatal mortality and the impoverishment of vulnerable households (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). A growing number of countries are experimenting with different approaches to tackling financial barriers to maternal health care (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

The Government of Ghana introduced exemptions from delivery fees in September 2003 in the four most deprived regions of the country, which in April 2005 was extended (without formal evaluation) to the remaining six regions (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). The aim was to reduce financial barriers to using maternity services to help reduce maternal and perinatal mortality and contribute to poverty reduction (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

The policy was funded through Highly Indebted Poor Country (HIPC) debt relief funds, which were channeled to the districts to reimburse public, mission and private facilities according to the number and type of deliveries they attended monthly (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). A tariff was approved by the Ministry of Health, which set reimbursement rates according to type of delivery (e.g. normal, assisted or caesarean section) and type of facility. Mission and private facilities were reimbursed at a higher rate, because they did not receive public subsidies. Women would then only have to bear the costs of reaching facilities (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

In 2005, an evaluation by IMMPACT of the free delivery policy was initiated. The first stage was based on a series of key informant interviews to establish the state of implementation of the exemption policy and seek the views of stakeholders (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). These findings fed into the overall evaluation, which included tracking of finance flows, a household survey, a survey of health workers and TBAs, qualitative investigations in communities and among providers, and quality of care assessments. These were completed in 2006 (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007).

The policy of user fee exemptions is now to some extent being superseded by a new National Health Insurance system, which has reached effective coverage of just under 20% of the population (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). This provides protection against user fee costs for a wide range of health services, including maternal health care, for formal sector workers, those in the informal sector who take up voluntary coverage, children of members, pensioners and a small category of "indigents" (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). However, the delivery fee exemption policy remains in place, officially, at this writing (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007). The decision was made to implement this through NHIS (National Health insurance scheme) so that mothers have the full package of antenatal, perinatal and postnatal care (NHIS, 2008).

National Health Insurance Scheme

In 1985 the Hospital Fees Regulations (LI 1313) mandated fees to be charged for health services (Asante & Aikins, 2007). The introduction of user fees resulted in a decline in utilization of health services in the country (Asante & Aikins, 2007). To offset the negative effects of the "Cash and Carry" system, especially its consequences on the poor, the Government commissioned various studies into alternatives, principally insurance-based (Asante & Aikins, 2007). Initially, a lot of efforts were vested into investigating the feasibility of a national health insurance scheme. The enactment of the National Health Insurance Scheme (NHIS) law in 2003 provided the basis for setting up health insurance schemes at the district level in Ghana. In 2004, Legislative Instrument (LI) 1809 was passed (Asante & Aikins, 2007). The LI is the arrangement of regulations for the health insurance scheme.

NHIS operates with three categories of registrants; *registrants*, who have registered with NHIS but have not necessarily paid the full premium for the current year; *members*, who have registered and paid the full premium, and who are eligible to hold a membership card; and *card holders*, who hold a valid membership card, providing access to health services under the scheme (Asante & Aikins, 2007).

Currently, the NHIS has been established in all districts in Ghana. The proportion of NHIS members increased from 15 percent of the Ghanaian population in 2005 to 38 percent in June 2007, approximately 3.2 million and 8.2 million people respectively (Asante & Aikins, 2007). Under the directive of the president the decision to implement the free maternal care policy was initiated and a package was put together by the NHIS to give mothers coverage for antenatal, perinatal and postnatal care. The

Maternal Benefit Package includes the following: Six antenatal visits; additional medically necessary visits captured as OPD visits, delivery including all emergencies arising from the delivery, 2 post-natal visits within 6 weeks, care of the baby up to three months on the mother's registration and all other NHIS covered benefits (NHIS, 2008).

The registration of women occur at the Scheme offices or NHIS desks at healthcare facilities. There is no payment of premium made by the women and there is no charge for the processing fee as well as no waiting period (NHIS, 2008). The waiting period was waived so as to ensure that the women can start using their benefits under the NHIS plan immediately. Normal NHIS insured persons would have the waiting period because they would need to be issued an ID card for reimbursement processing, for the pregnant women who would not have a card a slip would be attached to the claim form.

After the announcement was made by the President to the people of Ghana about the free maternal care policy, the NHIS tracked the progress of the registration of pregnant women. In July the number of registrants was 166,009, in August it was 80,217 and in September 44,135 registrants. The challenges with these number of registrants was duly noted by the Chief Executive Officer (National Health Insurance Authority) in his presentation on the NHIS delivering on it's promise. He noted that the expansion in capacity at health facilities has not matched sudden increase in people assessing services (NHIS, 2008). The processin of member's registration and production of ID cards was an issue as well as timely claims reimbursement.



Map of Ghana with Regions

(Ghana has a total area of 92,456 sq mi (239,460 sq km); it is slightly smaller than Oregon)

Greater Accra Region

The Greater Accra Region is located in the south-central part of the country. It shares common borders with the Central Region on the west, Volta Region on the east, Eastern Region on the north and the Gulf of Guinea on the south (Modern Ghana, 2001-2009). It is the smallest of the 10 administrative regions, occupying a land surface area of 3,245 square kilometers or 1.4 per cent of the total land area of Ghana (Modern Ghana, 2001-2009) it has a coastline of approximately 225 kilometers, stretching from Kokrobite in the west to Ada in the east. The soils have low organic contents with shallow top soils which limit the capacity for crop production (Modern Ghana, 2001-2009). The vegetation is mainly coastal savannah shrubs interspersed with thickets. Some trees are however found mostly in the Dangme West and Ga districts. The region is relatively dry since it falls within the dry coastal equatorial climatic zone (Modern Ghana, 2001-2009).

The occupational structure of the region shows that 42.0 per cent of the economically active population is engaged in sales and service occupations, while professional, technical and related workers comprise 10.8 percent (Modern Ghana, 2001-2009). According to the most recent MICS (Multiple Indicator Cluster Survey) of 2006, women aged 15-24 have a literacy rate of 87.6% and the males at 89.7 % (MICS, 2006). Literacy of women aged 15-49 is 78.5% and men 88% (MICS, 2006). The overall literacy rate in the rural areas is a much lower 41% (D&S). As of the year 2000 the ratio of males to females was 97.7 per 100 (Modern Ghana, 2001-2009).

Central Region

It occupies an area of 9,826 square kilometers or 4.1 per cent of Ghana's land area, making it the third smallest in area after Greater Accra and Upper East (Modern Ghana, 2001-2009). It shares common boundaries with Western Region on the west, Ashanti and Eastern Regions on the north, and Greater Accra Region on the east. The region can be broadly divided into two: the coast, which consists of undulating plains with isolated hills and occasional cliffs characterized by sandy beaches and marsh in certain areas and the hinterland, where the land rises between 250 meters and 300 meters above sea level (Modern Ghana, 2001-2009). The coastal savannah with grassland and few trees can be found along the coast, while semi deciduous forest dominates the inland areas. Much of the original dense forest vegetation has been cleared for the cultivation of cocoa and oil palm.

The region is endowed with rich natural resources like: gold, beryl and bauxite, petroleum and natural gas, kaolin diamond, clay including pigment clay in all the districts; tantalite and columbite quartz, muscovite; and other minerals like mica, granite, feldspar as well as timber in all the forest areas; rich fishing grounds along the coast; forests and rich arable land (Modern Ghana, 2001-2009). Adult literacy rate in the region is at 68.4% for women aged 15-24 and for men 74.4% (MICS, 2006). For women between the ages 15-49 the literacy rate is 53.9% and 73.8% for men (MICS, 2006).

Western Region

It is located in the south-western part of Ghana, bordered by Ivory Coast on the west, Central Region on the east, Ashanti and Brong-Ahafo Regions on the north and on the south by 192 km of coastline of the Atlantic Ocean (Modern Ghana, 2001-2009). The level of literacy in the region for women between the ages 15-24 is 70.8% and for men 86% (MICS Ghana, 2006). Women between the ages 15-49 have a literacy percentage of 61.2 and men 79.3 (MICS, 2006). The region is endowed with considerable natural resources, which give it a significant economic importance within the context of national development (Modern Ghana, 2001-2009).

It is the largest producer of cocoa, rubber and coconut, and one of the major producers of oil palm. The rich tropical forest makes it one of the largest producers of raw and sawn timber as well as processed wood products. A wide variety of minerals, including gold, bauxite, iron, diamonds (Modern Ghana, 2001-2009). The Western Region is one of the most economically active regions in the country. Both agriculture and industry feature prominently in the region's economic activities (Modern Ghana, 2001-2009). The region is now the country's largest producer of cocoa, and has the highest concentration of individual gold mines in the country. Only Ashanti Goldfields in Obuasi surpasses the mines in the region in both size of operations and quantity of gold production (Modern Ghana, 2001-2009).

Ashanti Region

The Ashanti Region is centrally located in the middle belt of Ghana. The region shares boundaries with four of the ten political regions, Brong Ahafo in the north, Eastern region in the east, Central region in the south and Western region in the Southwest (Modern Ghana, 2001-2009). The major occupation in the district is Agriculture/Animal husbandry/Forestry, except in the Kumasi metropolis, where Sales workers predominate (Modern Ghana, 2001-2009). The percentage of women aged 15-24 that are literate is 75.1 and 90.2 for men (MICS, 2006). The percentage of women aged 15-49 is 65.9 and 83.9 for men (MICS, 2006)

Apart from traditional healers, community facilities such as schools, hospitals/clinics and telephones, all of which contribute to the improvement in the living conditions of people, are scarcely found in all the districts, except the Kumasi metropolis (Modern Ghana, 2001-2009). The urban population (51.3%) in the region exceeds that of the rural population (48.7%). The region is currently the second most urbanized in the country after Greater Accra (87.7%). The growth of the mining industry in Obuasi and the increase in commercial activities in Kumasi may account partly for the relatively high urban population in the region (Modern Ghana, 2001-2009). The Adansi West District where the Ashanti Goldfields Company has its largest operational mine in Ghana, has a relatively high proportion (19.4%) of its population engaged in Mining/Quarrying. The proportion engaged in Mining/Quarrying activity is not significant in the remaining districts (Regions, 2009). Due to human activities and bushfires, the forest vegetation of parts of the region, particularly the north-eastern part, has been reduced to savanna (Modern Ghana, 2001-2009).

Eastern Region

The Eastern Region occupies a land area of 19,323 kilometers and constitutes 8.1 percent of the total land area of Ghana (Modern Ghana, 2001-2009). It is the sixth largest region in terms of land area. The region shares common boundaries with the Greater Accra, Central, Ashanti, Brong Ahafo and Volta Regions. The region is rich in minerals such as gold, diamond, bauxite-tantalite, limestone, kaolin and clay. Gold and diamond are however the only minerals that are mined commercially (Modern Ghana, 2001-2009). For over 70 years, the diamond mines at Akwatia and Takrowase in the Birim River Valley was producing high quality industrial diamonds, but this has declined considerably over the last two decades.

The forest and savannah type of soils are suitable for the cultivation of a variety of crops including cocoa, cola-nuts, citrus, oil palm and staple food crops such as cassava, yam, cocoyam, maize, rice and vegetables (Modern Ghana, 2001-2009). The region contributes significantly to the production of industrial crops such as cocoa, pineapple, pawpaw, cola nut and oil palm and also has a substantial share in the national production of maize, cassava, and citrus (Modern Ghana, 2001-2009). Available also in the region are exotic crops such as black and sweet pepper, ginger, cashew nuts, Irish potatoes, rubber and mangoes, which are all gaining importance as export commodities (Regions, 2009). The level of literacy in the region for women between the ages 15-24 is 65.7% and for men 69.4 % (MICS, 2006). Women between the ages 15-49 have a literacy percentage of 58.7% and men 76.3 (MICS, 2006).

The population is made up of 49.2 per cent males and 50.8 per cent females, giving a sex ratio of 96.8 males to 100 females (Modern Ghana, 2001-2009). The main occupations of the economically active population in the region are Agriculture and related work (54.8%), Sales (14.3%), Production, Transport and Equipment work (14.0%) and Professional and Technical work (6.9%) with Services accounting for 5.0 per cent (Modern Ghana, 2001-2009).

Volta Region

The Volta Region is located along the southern half of the eastern border of Ghana, which it shares with the Republic of Togo. Greater Accra, Eastern and Brong Ahafo regions share boundaries with it on the west, on the north by the Northern Region, and on the south by the Gulf of Guinea (Modern Ghana, 2001-2009). The region occupies an area of about 20,570 square kilometers or 8.6 per cent of the total land area of Ghana. It encompasses most of the vegetation zones found in the country, that is, the coastal grassland and mangrove swamps, replete with sandy beaches, the guinea savannah through moist semi deciduous forests in the central highland areas to the undulating Sahel-savannah and the mountainous wooded savannah in the north (Modern Ghana, 2001-2009). A little under three fifths (59.7%) are in Agriculture and related occupations. Slightly higher proportions are in Production, Transport and Equipment Operation (13.7%) as in Sales Work (12.8%). Professional, Technical and Related workers account for 6.3 per cent and Services 3.9% (Modern Ghana, 2001-2009).

The percentage of Clerical and related workers in the region is low (2.8%); all other groups of workers constitute less than 1.0 per cent. Males are mainly in Agriculture and related work (61.9%), Production, Equipment Operation and related work (15.5%), and professional and Technical work (8.2%) (Modern Ghana, 2001-2009). On the other hand, females are in Agriculture (57.7%) followed by Sales (19.2%) and Production, Transport and related work (12.1%) (Modern Ghana, 2001-2009) Except in Sales work, males predominate in all other occupations. With the Volta River and the Volta Lake running almost the whole length of the region, there is a good potential for inland fishing as well as irrigation (Modern Ghana, 2001-2009).

The Volta River and Volta Lake are the largest sources of Ghana's fresh water fish but irrigated agriculture is yet to be exploited. Shallot, which is exported to many parts of West Africa, is cultivated on a large scale by irrigation, using ground water and borehole. The sex ratio in 2000 is 93.6 males per 100 females, which is virtually the same as the 93.9 ratio in 1984 (Modern Ghana, 2001-2009). The Volta Region accounts for 8.6 per cent of the country's population and has majority of its population (73.0%) living in rural areas (Modern Ghana, 2001-2009). The most urbanized parts of the region are in the south. The level of literacy in the region for women between the ages 15-24 is 58.1% and for men 65.4 % (MICS, 2006). Women between the ages 15-49 have a literacy percentage of 48.9% and men 69.4% (MICS, 2006) females.

Brong Ahafo Region

Brong Ahafo, with a territorial size of 39,557 square kilometers, is the second largest region in the country (16.6%). The region shares boundaries with the Northern Region to the north, the Volta and Eastern Regions to the south-east, Ashanti and Western Regions to the south, and Cote d'Ivoire to the west. The central point of the landmass of Ghana is in the region, at Kintampo (Modern Ghana, 2001-2009).

The region has two main vegetation types, the moist semi-deciduous forest, mostly in the southern and southeastern parts, and the guinea savannah woodland, which is predominant in the northern and northeastern parts of the region (Modern Ghana, 2001-2009). The level of development and variations in economic activity are largely due to these two vegetation types. Brong Ahafo is one of the three largest cocoa producing areas in the country, mainly in the Ahafo area, which shares common border with western Ashanti.

A lot of the cashew in Ghana is produced in Brong Ahafo, some of which are processed into brandy and cashew wine at Nsawkaw in Wenchi. Timber is also an important forest product, produced mainly in the Ahafo area around Mim, Goaso and Acherensua. Other cash crops grown in the forest area are coffee, rubber and tobacco (Modern Ghana, 2001-2009). The main food crops are maize, cassava, plantain, yam, cocoyam, rice and tomatoes. The level of literacy in the region for women between the ages 15-24 is 72.2% and for men 85.7% (MICS Ghana, 2006). Women between the ages 15-49 have a literacy percentage of 57.8% and men 79.6% (MICS, 2006).

The region, (37.4%) is the fourth most urbanized, coming after Greater Accra (87.7%), Ashanti (51%) and Central (37.5%), Regions (Modern Ghana, 2001-2009). Agriculture and related work is the major occupation in all districts, accounting for 66.4 per cent of the region's economically active population (Modern Ghana, 2001-2009). It is the main occupation for about two-thirds of the economically active group in nine of the 13 districts. Females outnumber males in Service and Sales work in all the districts, and also in Production, Transport and laborer work in all districts, except Kintampo and Asutifi (Modern Ghana, 2001-2009). On the other hand, males are predominant in Professional, Technical and related work in all districts, with only the Kintampo District recording the same proportion for both sexes (Modern Ghana, 2001-2009).

Northern Region

The Northern Region, which occupies an area of about 70,383 square kilometers, is the largest region in Ghana in terms of land area (Modern Ghana, 2001-2009). It shares boundaries with the Upper East and the Upper West Regions to the north, the Brong Ahafo and the Volta Regions to the south, and two neighboring countries, the Republic of Togo to the east, and La Cote d' Ivoire to the west (Modern Ghana, 2001-2009). The sex composition of the regional population reflects differential mortality between males and females. At birth, the sex ratio is roughly about 105 boys to 100 girls (Modern Ghana, 2001-2009). The region's population has gradually changed from a slightly masculine population in 1960, with a sex ratio of 104.0, through 102.1 in 1970 to an almost balanced sex ratio (99.3) in 2000 (Modern Ghana, 2001-2009). The level of literacy in the region for women between the ages

15-24 is 36.9% and for men 49.7 % (MICS Ghana, 2006) (Ghana MICS, 2006). Women between the ages 15-49 have a literacy percentage of 19.4% and men 39.0% (MICS, 2006). The main vegetation is classified as vast areas of grassland, interspersed with the guinea savannah woodland, characterized by drought-resistant trees such as the acacia, baobab, Shea nut, dawa dawa, mango, neem (Modern Ghana, 2001-2009).

Upper East Region

Upper East Region is located in the north-eastern corner of the country. It is bordered to the north by Burkina Faso, the east by the Republic of Togo, the west by Sissala in Upper West and the south by West Mamprusi in the Northern Region (Modern Ghana, 2001-2009). Agriculture, hunting and forestry are the main economic activities in the region. About eighty per cent of the economically active population engages in agriculture (Modern Ghana, 2001-2009). The main produce is millet, guinea-corn, maize, groundnut, beans, sorghum and dry season tomatoes and onions.

The natural vegetation is that of the savannah woodland characterized by short scattered drought-resistant trees and grass that gets burnt by bushfire or scorched by the sun during the long dry season (Modern Ghana, 2001-2009). The population is primarily rural (84.3%) and scattered in dispersed settlements. The level of literacy in the region for women between the ages 15-24 is 42.3% and for men 49.5% (MICS, 2006). Women between the ages 15-49 have a literacy percentage of 21.0% and men 39.3% (MICS, 2006).

Upper West Region

The region covers a geographical area of approximately 18,478 square kilometers. This constitutes about 12.7 per cent of the total land area of Ghana (Modern Ghana, 2001-2009). The region is bordered on the North by the Republic of Burkina Faso, on the East by Upper East Region, on the South by Northern Region and on the West by Cote d'Ivoire (Modern Ghana, 2001-2009). The main economic activity of the people of the region is peasant farming. This is supported by the fact that 72.2 per cent of the economically active groups are engaged in agriculture or related activities (Modern Ghana, 2001-2009). The hard working farmers of the region cultivate maize, guinea corn, millet, yam, rice, soya beans and cotton in addition to the rearing of cattle in large numbers (Modern Ghana, 2001-2009).

The region is located in the guinea savannah vegetation belt. The vegetation consists of grass with scattered drought resistant trees such as the shea, the baobab, dawa dawa, and neem trees (Modern Ghana, 2001-2009). The heterogeneous collection of trees provides all domestic requirements for fuel wood and charcoal, construction of houses, cattle kraals and fencing of gardens (Modern Ghana, 2001-2009). The shorter shrubs and grass provide fodder for livestock. The sex composition of the districts favors females. In each district, females form a little over one-half of the population (Modern Ghana, 2001-2009). The proportion of females in the region is 1.6 percentage points higher than the national average. Women between the ages 15-49 have a literacy percentage of 18.7% and men 36.2% (MICS, 2006). The major occupations in the region are Agriculture and related work (72.0%), Production and

Transport Equipment work (12.1%), Sales work (5.2%), Service work (4.0%), and Professional, Technical and related work (4.0%) (Modern Ghana, 2001-2009)

CHAPTER 3

METHODOLOGY

Data Collection

A search strategy was conducted of electronic databases. Information was sourced from Medline, Pub Med, Lancet, WHO and Immpact. Information was also derived from documents at the Ministry of Health of Ghana as well as Ghana Health Services. Key words included maternal mortality, fee exemptions, and free maternal care policy. The literature reviewed includes health reports, policy documents, and international research articles. Data was received during the fall and spring semester in the form of reports, presentations at key conferences, annual statistics, half year reports, policy documents and other documents pertaining to maternal care in Ghana.

Data Analysis

The data analysis was conducted using available program descriptive sets.

The analysis will involve cross referencing of regional level data that looks at the following; regional literacy rates, regional rates of mortality in Ghana, percentage of poverty levels in the regions, parity levels of the women in the regions, skilled attendants availability in the regions, percentage of population that is of child bearing age, number of staff in the various facilities (regionally) and the percentage increase of services due to exemption policy. A comparison of issues concerning maternal care in the regions was conducted. The analysis involved the use of the 2007 annual statistics data provided by the Ministry of Health, Ghana. Percentages were tabulated from the tables to look at the situation in the regions.

CHAPTER 4

RESULTS

This section is based primarily on data analyzed from the 2006 Annual Statistics data from RCH (), the Multiple Indicator Cluster Survey Ghana 2006 and the GHS (Ghana Health Services) half-year 2006,2007 & 2008 report was used. These datasets provided information on what has happened on the regional level. Percentages were calculated from the original data sets in order to compare the various situations occurring in the regions.

Population of WIFA (Women of Fertile Age)

The focus of Table 1 is on the percentage of the population that was of fertile age. The data in table one shows the distribution of WIFA (women of fertile age) is fairly even. The Ashanti region contains the largest amount of the population (4, 415, and 555) and the Greater Accra region contains the second largest amount of the population (3,741,158). The Greater Accra region is the most urbanized in the country (87.7%) with the Ashanti region second at 51.3 percent and the Central region third at 37.5 percent (GSS, 2002). The Ashanti, Brong-Ahafo, Central, Eastern, Greater Accra, Northern, Volta and Western regions contain over one million of the Ghanaian population. The data in table one shows the distribution of WIFA (women in fertile age) is fairly even.

Although the Ashanti region has the highest population, it is second highest in regards to the percentage of WIFA (Women of Fertile Age) in comparison to the population of the region. Accra shows a greater percentage (28.1) of WIFA for the

2006 annual statistic data compiled on all the regions. The Ashanti region is second with a percentage of 23.2 and the remaining regions show an even distribution with the average percentage being (22.5) percent. The Upper West region has the least amount of people in its region (637,956). The region is the largest rural area (84.3%) with over 70% of its economically active group involved in agricultural work. (GSS, 2002) The Northern and Upper West region show the lowest percentage of WIFA at 21.0 percent.

	Table 1							
Percentage of Population that are fertile								
Regions	Total Population	Women of Fertile Age	Percentage Fertile					
Ashanti	4,415,555.00	1,024,409.00	23.2					
Brong-Ahafo	2,105,339.00	486,333.00	23.1					
Central	1,805,489.00	415,262.00	23.0					
Eastern	2,279,214.00	524,219.00	23.0					
Greater Accra	3,741,158.00	1,051,265.00	28.1					
Northern	2,172,700.00	456,267.00	21.0					
Upper East	982,510.00	225,977.00	23.0					
Upper West	637,956.00	133,971.00	21.0					
Volta	1,918,270.00	441,202.00	23.0					
Western	2,327,079.00	535,228.00	23.0					
National	22,385,270.00	5,294,133.00	23.65					

Expected Number of Pregnancies

Table 2 looks at the percentage of expected number of pregnancies registered. Three regions immediately stand out with percentages above 100 percent. The central region shows a percentage of (103.8%), Northern (109%) and the Upper East (104.2%). All three regions show a higher number of registrants against the expected number of pregnancies for the region. The regions showing the lowest percentages are Ashanti (74%) and Greater Accra region (77.2%) although these two regions combined account for approximately 36% of the total population of Ghana. Brong-Ahafo and Upper West were close to a 100 percent registrant rate compared to the number of expected pregnancies. The Brong-Ahafo region recorded at (97.4%), Upper West at (99.4%).

	Table 2								
Percentage of Expected number of Pregnancies Registered									
Regions	Expected No. of Pregnancies	Registrants	Percentage of Pregnancies Registered						
Ashanti	176,622.00	130,698.00	74.0						
Brong-Ahafo	84,214.00	82,041.00	97.4						
Central	72,220.00	74,945.00	103.8						
Eastern	91,169.00	78,393.00	86.0						
Greater Accra	149,646.00	115,598.00	77.2						
Northern	86,908.00	94,693.00	109.0						
Upper East	39,300.00	40,949.00	104.2						
Upper West	25,518.00	25,360.00	99.4						
Volta	76,731.00	64,924.00	84.6						
Western	93,083.00	83,565.00	89.8						
National	895,411.00	791,166.00	88.4						

Infant Deaths

A high proportion of infant deaths occur in the Ashanti Region, as the data in Table 3 shows. Explanations for this include the region housing the highest amount of the Ghanaian population (4,415,555) from the 2000 Census (RCH, 2006). This is also consistent with the Greater Accra region coming in second with a high amount of neonatal infant mortality. The Greater Accra Region as of the 2000 Census had a population projection of 3,741,158. Both regions had lower percentages of supervised

deliveries, which may account for poor outcomes with the survival of infants 0-1 month after birth.

The Ashanti region had (14.4 %) of deliveries by a TBA and Accra (5.9%) although there is a great difference between the mortality in the Ashanti region (25.6) and the Greater Accra region (9.9). The lowest proportion of infant deaths is shown in the Central (1.6), Upper West (1.9) and Northern (3.0) regions. The Northern and Upper West region showed the highest percent of births delivered by a TBA with percentage of 54.2 percent and 59.8 percent respectively. The Greater Accra region was the lowest wit ha percentage of 5.9 followed by the Volta region at 11.9 %.

			Tal	ole 3						
	Percentage of Infant Deaths									
Regions	TBA Deliveries	Percentage TBA Del.	Live Births	Still Births	Total Births	Infant Deaths	Neonatal Infant Mortality			
						(0-1) months				
Ashanti	12,139	14.4	82,465	1,736	84,201	2,155	25.6			
Brong- Ahafo	12,739	24.2	51,366	1,262	52,628	395	7.5			
Central	18,236	25.4	70,461	1,233	71,694	117	1.6			
Eastern	16,486	31.0	51,925	1,287	53,212	304	5.7			
Greater Accra	5,777	5.9	95,454	2,182	97,636	966	9.9			
Northern	27,038	54.2	48,863	995	49,858	148	3.0			
Upper East	4,479	22.4	19,555	435	19,990	75	3.8			
Upper West	10,128	59.8	16,838	99	16,937	32	1.9			
Volta	3,688	11.9	29,893	989	30,882	176	5.7			
Western	13,062	28.7	44,315	1,169	45,484	301	6.6			
Total	123,772	23.6	511,135	11,387	522,522	4,669	8.9			

Assistance during Delivery

Table 4 looks at the percent of deliveries receiving assistance and where the assistance is coming from. About half the births occurring in the 2 years prior to the MICS survey were delivered by skilled personnel (MICS, 2006). This percentage is highest in the Greater Accra region (83 %) with seven of the regions below 50 % (Western, Central, Volta, Eastern, Northern, Upper East and Upper West). The Upper West shows the lowest percentage of any skilled attendance (29.1%).

The column designated other includes delivery by friends/relatives, other/missing or no attendant. According to the MICS survey fifteen percent of births were delivered by either relatives or friends with the highest proportion recorded in Upper West (38 percent) and Volta Region (31 percent) (MICS, 2006). The highest proportion of 18 and 16 percent of deliveries in Northern and Eastern Regions respectively were done by untrained TBAs (MICS, 2006)

The lowest proportion of 1 percent and 4.9 percent of deliveries in the Greater Accra and Brong-Ahafo Regions respectively were done by untrained TBAs. The Greater Accra Region and the Ashanti Region show the highest percentages of assistance from a medical doctor at 28.7 percent and 14.5 percent respectively. The Northern and Western region show the lowest percentages of assistance from a medical doctor at 1.0 and 2.0 respectively.

The distribution of percentages of nurse/midwife assisted deliveries looks even across the regions. The Greater Accra and Brong-Ahafo region show approximately 54 percent of their deliveries by a nurse/midwife. The Upper West and Eastern region show the lowest percentage of deliveries by a nurse/midwife compared

to the other regions. The Greater Accra Region showed the highest percentage of deliveries in a health facility at 83.1 percent followed in second at 59.6 percent by the Ashanti Region. The Upper West Region showed the lowest percentage at 28.4 percent followed by the Northern Regions at 34.4 percent.

Table 4 Assistance During Delivery

Person Assisting at Delivery

Percent distribution of women aged 15-49 with a birth in two years preceding the survey by type of personnel assisting at delivery, Ghana,2006

	Medical Doctor	Nurse/Midwife	Trained TBA	Untrained TBA	Other	Number of women who gave birth in preceding 2 years
Region						
Ashanti	14.5	46.0	23.5	6.6	9.5	207
Brong- Ahafo	4.1	54.0	21.1	4.9	15.9	107
Central	5.9	37.7	35.1	7.1	14.2	105
Eastern	8.3	30.5	26.5	16.0	18.7	182
Greater Accra	28.7	54.3	3.7	1.0	12.4	167
Northern	1.0	37.1	16.1	17.7	28.2	260
Upper East	2.2	41.8	17.3	10.8	27.8	58
Upper West	4.0	25.1	27.1	1.6	42.2	37
Volta	9.6	35.0	7.0	8.2	40.2	97
Western	2.0	37.6	42.3	9.2	8.8	144

(MICS, 2006)

Sites of Delivery

The findings in table 5 look at the skilled delivery percentage coverage in the regions during the half years 2007, 2008 and 2009. Both total deliveries and deliveries conducted by skilled personnel were higher in 2006 compared with 2007. Currently access to delivery services remains low as women in labor have difficulty in reaching health facilities. The referral linkages between community, health centers and district hospitals are weak (GHS, 2007). It is clear from the table that for the years 2006, 2007 and 2008 the Ashanti and Greater Accra region had the most skilled delivery coverage. Both Regions accounted for the majority of the deliveries during the period the data was put together.

In 2006 the lowest percentage was in the Upper West (64.2%) and Northern (71.6%) region. In 2007 the Western (52.9%) and the Upper West (41.4%) had the lowest percentage. In 2008 the Northern (44.9%) and Central (51.5%) had the lowest coverage percentage. In 2006 coverage in all regions was above 50%, in 2007 and 2008 the Upper West is below 50% skilled deliveries and the Northern region in 2008. In 2008 the percentage of coverage of skilled delivery shows a lower range than the previous years (2006 & 2007).

During the five year period 2003-2007 according to the GHS annual report between 30-40% of the midwives within the Service at any time practiced midwifery. This situation adversely affected access by pregnant women to quality obstetrical services. This could account for the year to year fluctuations seen in skilled attendance at the time of delivery.

Table 5
Total Deliveries, TBA Deliveries and Skilled Delivery Coverage by Region, Half year 2006, 2007 and 2008

Region		2006			2007			2008	
	Total Deliveries	Skilled Deliveries	(%)	Total Deliveries	Skilled Deliveries	(%)	Total Deliveries	Skilled Deliveries	(%)
Ashanti	53,090	42,809	80.6	36,981	34,684	93.8	41,308	28,951	70.1
B/Ahafo	22,267	21,247	95.4	20,612	14,401	69.9	20,543	20,543	100.0
Central	28,822	25,881	89.8	26,694	18,280	68.5	19,777	10,176	51.5
Eastern	19,733	19,733	100.0	28,856	20,229	70.1	27,508	21,548	78.3
G/Accra	38,416	37,087	96.5	37,606	34,183	90.9	40,682	38,570	94.8
Northern	30,709	21,980	71.6	24,412	20,494	84.0	27,791	12,470	44.9
U/East	11,211	8,999	80.3	10,381	8,420	81.1	8,851	7,768	87.8
U/West	13,705	8,802	64.2	9,716	4,019	41.4	8,333	5,964	71.6
Volta	15,930	14,797	92.9	16,173	12,540	77.5	17,016	13,323	78.3
Western	26,395	20,232	76.7	17,266	9,127	52.9	17,542	12,154	69.3
Total	259,145	221,567	85.5	228,697	156,377	68.4	229,351	171,467	74.8

Table 6 looks at the percentage of registrants at the various facilities present in the regions. Government hospital facilities appear to be the most frequented facilities in all the regions. Majority of the registrants in the Ashanti region frequented the Government institutions (44,022 registrants) followed by 8,983 registrants showing up at the Christian Health Association of Ghana facilities (CHAG). The Greater

Accra region shows majority of the registrants visiting the Government institutions (40,986 registrants) and 5,364 registrants visiting the Quasi Governmental Institutions. Quasi-Governmental institutions include police prison hospitals/clinics, military hospitals, mines and university hospitals. The Brong-Ahafo and Central region follow a similar trend as Greater Accra, with their second highest frequented facility being CHAG.

The Upper West and Upper East regions show the lowest amount of registrants at the governmental institutions. Both of these regions are the largest rural areas in the country, Upper East (82.5%) and Upper West (84.3%) (GSS, 2002) This might explain why there is not a large influx of their registrants attending the government facilities due to the distance of the facility from the areas the registrants inhabit. The Ashanti and Greater Accra region had the largest amount of registrants attend Private hospitals and the Upper East and Upper West region showing the lowest amount of registrants to Private hospitals.

The three regions dominating in total facility deliveries are the Ashanti region first with 52,917 facility deliveries which is 63.2% of its registrants. Second is the Greater Accra Region with 52,676 facility deliveries which is 78.5% of its registrants. Third is the Brong-Ahafo region with 32, 391 facility deliveries which is 71.4% of its registrants.

The three regions at the lower end of total number of facility deliveries are the Upper West shows 5,514 facility deliveries which are 39.8 % of its registered deliveries. The Upper East region shows 12,910 facility deliveries which accounts for 51.1% of its registered deliveries. The Northern region shows 19,785 facility deliveries which accounts for 32.4% of its registered deliveries. The Northern region has 73.4% of its region as rural (GSS, 2002)

Table 6									
	Percent	age of Registran	ts at the Various	s sites of Deliv	ery				
Regions	Registrants	Gov't HC&HP & Teaching Hospitals	Private Hospital	СНАС	Quasi Gov't Institution	Total Facility Deliveries			
Ashanti	91596	44222	2196	8983	2516	57,917			
	%	48.3	2.4	9.8	2.8	63.2			
Brong Ahafo	45345	24371	1019	6876	125	32,391			
	%	53.7	2.2	15.2	0.3	71.4			
Central	49477	24275	315	4190	458	29,238			
	%	49.1	0.6	8.5	0.9	59.1			
Eastern	55418	20845	862	7427	447	29,581			
	%	37.6	1.6	13.4	0.8	53.4			
Greater Accra	67082	40986	4467	1859	5364	52,676			
	%	61.1	6.7	2.8	8.0	78.5			
Northern	61100	16664	255	2808	58	19,785			
	%	27.3	0.4	4.6	0.1	32.4			
Upper East	23845	9006	41	2568	575	12,190			
	%	37.8	0.2	10.8	2.4	51.1			
Upper West	13852	3536	108	1842	28	5,514			
	%	25.5	0.8	13.3	0.0	39.8			
Volta	39905	19385	378	4630	8	24,401			
	%	48.6	0.9	11.6	0.0	61.1			
Western	33006	16616	1047	1437	1077	20,177			
	%	50.3	3.2	4.4	3.2	61.1			
National	480626	219906	10688	42620	10656	283,870			
	%	45.8	2.2	8.9	2.2	59.1			

Low Birth Weight

Low birth is a good indicator not only of a mother's health and nutritional status but also the newborn's chances for survival, growth, long-term health and psychosocial development (MICS, 2006).

According to the low birth weight Infants in table 7, the Western region has a higher record (10.4%) of children weighing below 2,500 grams followed by Upper East (9.9%). The Central (7.9%) and Brong-Ahafo (7.6%) region have a lower percentage of children weighing less than 2,500 grams.

Because many infants are not weighed at birth and those who are weighed may be a biased sample of all births, the reported birth weights usually cannot be used to estimate the prevalence of low birth weight among all children (MICS, 2006). The percentage of births weighing below 2,500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's size at birth and the mother's recall of the child's weight or the weight as recorded on a health card if the child was weighed at birth (MICS, 2006). Overall, nearly 2 in 5 babies were weighed at birth and approximately 9 percent of infants are estimated to weigh less than 2500 grams at birth (MICS, 2006).

Table 7 Low Birth Weight Infants

Percentage of live births in the 2years preceding the survey that weighed below 2,500 grams at birth, Ghana, 2006

Percent of live births							
Regions	Below 2,500 grams	Weighed at birth	Number of live births				
Ashanti	shanti 8.5		207				
Brong-Ahafo	7.6	36.8	107				
Central 7.9		19.2	105				
Eastern	10.1	23.8	182				
Greater Accra	9.3	74.3	167				
Northern	9.0	27.8	260				
Upper East	9.9	38.9	58				
Upper West	8.8	20.4	37				
Volta	9.5	30.6	97				
Western	10.4	34.3	144				
Total	9.1	36.1	1365				

MICS Ghana, 2006

Percentage Parity of Mothers at Registration

Table 8 looks at the percentage parity of the mothers at registration. The Central region has the highest number of women registered at the 5+ parity level. With a parity of greater than 5, the Northern region has the second highest percentage (17.0%). The Northern region also shows the highest amount of registrants having their 3rd or 4th child at a percentage of 29.7 of the total number of registrants. The Upper West region shows the second largest percentage of registrants on their 3rd or 4th child and the region is also has the second largest percentage of registrants having their 1st or 2nd child. The Brong–Ahafo region has the highest population of registrants having their 1st or 2nd child.

Greater Accra has a high percentage of registrants having a child for the first time with a percentage of 43.8 and the Eastern region has the second highest percentage of 27.5. The Greater Region has the lowest amount of registrants having more than 5 children with a percentage of (4.0%). The Upper West region which is the largest rural area has the second lowest 5+ parity of registrants with a percentage of (6.9). The Brong-Ahafo and Greater Accra region showed the lowest amount of registrants at parity level 3-4. The central region and Northern region show the lowest amount of registrants at parity level 1-2. The Northern and Upper West region show the lowest amount of registrants at parity level 0.

	Table 8									
	Percentage of	of the Parity o	of Mothers at	t Registration	n					
	Parity of Motl	ners at Regist	ration							
Regions	Registrants	0	1-2	3-4	5+					
Ashanti	130,698	33,965	49,883	32,023	14,827					
	%	26.0	38.2	24.5	11.3					
Brong- Ahafo	82,041	20,774	43,571	11,496	6,200					
Allalo	%	25.3	53.1	14.0	7.6					
Central	74,945	20,473	24,160	16,107	14,205					
	%	27.3	32.2	21.5	19.0					
Eastern	78,393	21,553	32,649	18,054	6,137					
	%	27.5	41.6	23.0	7.8					
Greater	115,598	50,632	40,859	19,471	4,636					
Accra	%	43.8	35.3	16.8	4.0					
Northern	94,693	21,512	28,983	28,083	16,115					
	%	22.7	30.6	29.7	17.0					
Upper East	40,949	10,140	14,558	11,330	4,921					
East	%	24.8	35.6	27.7	12.0					
Upper West	25,360	5,078	11,333	7,200	1,749					
West	%	20.0	44.7	28.4	6.9					
Volta	64,924	15,916	28,064	16,064	4,880					
	%	24.5	43.2	24.7	7.5					
Western	83,565	20,913	36,279	19,471	6,902					
	%	25.0	43.4	23.3	8.3					
National	791,166	220,956	310,339	179,299	80,572					
	%	27.9	39.2	22.7	10.2					
	I									

Anemia

Table 9 shows the hemoglobin levels of some ANC attendees at Registration and 36weeks. Adverse effects of anemia in pregnancy include low birth weight and adverse outcomes in the case of hemorrhage (GHS, 2007). There is a high proportion (25.5%) of pregnant women nationally who are anemic at the time they registered and it increases to (28%) after 36 weeks.

The increases in the percentage of anemic pregnant women from the time of registration until the 36th week are high in the Ashanti (27.4%-36.1%), Central (8.2%-32.9%) and Upper West Region (26.9%-38.7%). Decreases in the percentage of anemic pregnant women at 36 weeks are shown in the Upper East (25.8%-14.7%), Western (28.3%-26.8%) and Greater Accra (27.0-25.5%) regions

Table 9
Haemoglobin Level of some ANC attendees at Registration and 36 weeks

Region	No. with Hb checked at Registration	No. who are anemic at Registration	% who anemic at Registration	No. with Hb checked at 36 weeks	No. who are anemic at 36 weeks	% who anemic at 36 weeks
Ashanti	63,614	17,414	27.4	16,175	5,833	36.1
Brong- Ahafo	41,685	8,577	20.6	12,590	2,836	22.5
Central	34,055	2,787	8.2	9,871	3,248	32.9
Eastern	25,986	6,941	26.7	6,814	1,539	22.6
Greater Accra	46,564	12,583	27.0	18,384	4,684	25.5
Northern	25,572	8,782	34.3	6,775	1,973	29.1
Upper East	17,263	4,447	25.8	4,841	714	14.7
Upper West	8,521	2,291	26.9	2,478	959	38.7
Volta	23,855	8,319	34.9	6,601	2,003	30.3
Western	36,090	10,213	28.3	6,989	1,873	26.8
National	323,205	82,354	25.5	91,518	25,662	28.0

CHAPTER 5

DISCUSSION

Assistance during Delivery

Three quarters of all maternal deaths occur during delivery and the immediate post-partum period (Ghana MICS, 2006). The single most critical intervention for safe motherhood is to ensure a competent health worker with midwifery skills is present at every birth, and transport is available to a referral facility for obstetric care in case of emergency (Ghana MICS, 2006). The indicators are the proportion of births with a skilled atendant and proportion of institutional deliveries (Ghana MICS, 2006). Supervised delivery is a percentage of deliveries attended by skilled health personnel irrespective of the outcome (Ghana Health Services, 2006). The main objective of labor and delivery care is to ensure safe delivery. The specific objectives are to ensure:

- Proper management of the four stages of labor, and
- Early identification, proper management, and/or referral of complications.

In Ghana, skilled providers include Midwives, General Medical Practitioners, and Obstetricians. In the absence of these CHOs and trained TBAs also provide delivery services in the communities (Ghana Health Services, 2006).

It has long been observed that supervised delivery is central in any effort at reducing maternal mortality. Even with the best possible antenatal screening any delivery can

become a complicated one therefore skilled assistance is essential to delivery care (Ghana Health Services , 2006).

The Greater Accra and Ashanti Region showed to have the highest percentage of skilled delivery coverage with percentages above 50 percent within the period the data covered. The Upper West and Northern Region had the lowest percentage of skilled delivery coverage with percentages below 40 percent. The other low percentage regions were Western and Upper West for the half year 2007. Northern and Central Region had the lowest percentage of skilled delivery coverage in the half year 2008 report. The unevenness in coverage for skilled delivery within the region highlights the issue of human resource in the country. There is an inadequate number of practicing midwives and difficulties in getting to health facilities while in labor are still an issue (GHS, 2007).

According to the (GHS, 2007) report, the reasons for the poor performance include the cessation of fee-free deliver at public health facilities. The exemption was to be replaced by Health insurance but many women had not registered at that time. The industrial unrest in the health sector in 2007 is also a possible factor (GHS, 2007).

Access to Facility

There are three delays in maternal care that have been attributed to the majority of maternal deaths in many developing countries. The first delay in the home, the decision as to whether one will seek treatment is made. Factors in this decision is based on the knowledge of the women and in certain traditions the approval from male relatives. The second delay is accessing the facility. Women face

constraints in accessing health facilities. The constraints are in part due to weak referral linkages that exist between community, health centers and district hospitals (GHS, 2007). The situation is not any easier with poor road and communication networks, distant health facilities and a lack of transportation along with inadequate community support (GHS, 2007).

In the previous section, table 5 shows the distribution of the percentage of registrants' delivery at the various sites; the sites being either governmental, private, Christian health facility or Quasi governmental. The Greater Accra and Ashanti region dominate with high percentages of deliveries in Government facilities, private hospitals and have a high total percentage of deliveries in a facility.

The Upper West and Upper East have the lowest percentage of deliveries in Government facilities, private hospitals and a low percentage of deliveries in a facility. The table shows a clear separation between the two regions with high urban areas and the two regions with high rural areas. The concentration in the high urban areas with the highest population shows that care is centralized in the more urban areas and in the rural areas there are not as many facility options.

According to the Reproductive & Child Health Annual programs of work report, In Ghana, antenatal care services are provided by both public and private healthcare facilities and in some circumstances by trained TBAs (Ghana Health Services , 2006). Most pregnant women receive ANC services at GHS facilities and the teaching hospitals. Ghana Health Service and the Teaching Hospitals accounted for 69.6% of registrants in 2006, an increase over that of 2005 (64.9%). The

Teaching Hospitals alone accounted for 2% (Ghana Health Services , 2006). The CHAG (Faith-Based health institutions) and quasi-government institutions registered a slight decrease in their contribution (14.8%) as compared to that of 2005 (15.5%) (Ghana Health Services , 2006). There was also a decrease in the contribution from private hospitals and maternity homes for the year 2006 (10.9%) as compared to 2005 (11.7%) (Ghana Health Services , 2006) Contribution by trained TBAs continued to decline. In 2006 TBA contribution was 4.4%, a slight decline from that of the previous year (4.9%) (Ministry of Health (MoH), 2006). This reinforces the importance of women getting to facilities where the proper services and attendance is available to them.

Nutrition

The nutrition of the mother before and during pregnancy is an important factor not only in the wellbeing of the mother but also of the child. Low birth weight is one of the main outcomes due to poor nutrition of the mother. One of the best ways to check the mothers for poor nutrition is to look at their hemoglobin levels to find out if there is an issue with anemia. In table 8 one realizes that there is a high proportion (25.5%) of pregnant women nationally who are anemic at the time of registration and it increases to (28%) after 36 weeks.

The Ashanti, Central and Upper West Region according to table 8 show increases in percentage of anemic pregnant women from registration until the 36th week. Decreases in the percentage are reflected in the Upper East, Western and Greater Accra Region. When a mother is undernourished the chances of the child being

undernourished and being born underweight is high and the chance of the child's survival during the early stages of life is also low. The percentage of infant deaths can be attributed to poor nutrition among the other factors of poor birth outcomes. The regional data on the hemoglobin levels is alarming because one would hope that as many women who go for their antenatal visit, there should be a greater reduction in anemia levels during the pregnancy. Hemoglobin is still not checked at term routinely as is done at registration (Ghana Health Services, 2006). There is low capacity in assessing hemoglobin levels (lack of trained staff, unavailability of Hemoglobinometers and lack of reagents) especially in the rural areas and in the three northern regions (Ghana Health Services, 2006).

Only three out of the ten regions seemed to show a decline in women with cases of anemia. There is an opportunity here to use these visits to educate the women better about proper nutrition and how to do that with what is available to them during their pregnancy. The number of women checked at registration is relatively low when one compares that number of women to the number of expected pregnancies and the number of women who register their pregnancy. Antenatal care has long been regarded as a core component of routine maternal and child health services, and receives the largest allocation of budgetary resource in many developing countries (Campbell & Graham, 2006). These strategies target a predominantly healthy population of pregnant women in order to screen and detect early signs of risk factors for disease, followed by timely intervention, originally with the aspiration of reducing maternal and prenatal mortality and morbidity (Campbell & Graham, 2006).

Parity

Age of mother during pregnancy is an important risk factor as it influences pregnancy and birth outcomes. It exerts its influence anthropometrically, medically and socio- Ghana Health Services , 2006). Pregnancy in women 19 years and below and those aged 35 years and above carry a greater risk. Age between 20 and 35 normally carries a lower risk (Ghana Health Services , 2006). Chronic diseases such as diabetes and hypertension are fewer among this group and the body is adequately developed to carry pregnancy (Ghana Health Services , 2006).

Out of a total of 791,166 pregnant women who registered in 2006, 104,510 representing 13.2% were adolescents, a decrease as compared to that of the previous year (108,731; 14.1%) (Ghana Health Services, 2006) The contribution by early teens (10-14 years) to the total registered pregnancies also reduced (from 0.3% to 0.2%) (Ghana Health Services ,2006) The proportion of adolescent pregnancies has shown a gradually declined over the past four years. With the exception of Upper East, Upper West and Brong Ahafo regions, all other regions recorded decreases in the proportion of adolescent pregnancies between 2005 and 2006, with Greater Accra registering the highest reduction and the lowest coverage (12.2% to 10.0%) (Ghana Health Services, 2006) Upper East region recorded the highest proportion of adolescent pregnancies (16.9%), the highest proportion since 2004, followed by Central region (Ghana Health Services , 2006).

The proportion of pregnant women aged 35 years and above was 13.9%, a slight increase over that for 2005 (13.6%) (Ghana Health Services, 2006) There is an

upward trend in the over 35 year's pregnancy as expected. Volta region recorded the highest proportion of 32.6% of all registrants followed by Upper West region with 19.9% (Ghana Health Services, 2006). Greater Accra recorded the least of 9.9%, followed by Ashanti and Upper East regions (11.2% and 11.4% respectively) (Ghana Health Services, 2006).

In the results from Table 7 the proportion of pregnant women with parity 5+ for the year under review was 10.2%. Central region recorded the highest proportion of 19.0%, followed by Northern region (17.0%) and Ashanti region (11.3%). The proportion of pregnant women with parity 3-4 for the year under review was 22.7, parity of 1-2 was 39.2 and parity at 0 was 27.9. The greatest risks stem from parity level 0 and 5+. At the parity level 0 if any complications are to arise it will show up with the woman's first birth. At parity level 5+ the concern is with the age of the woman and how her body has changed with age and the ability of her body to handle that many births.

Low Birth Weight & Infant Mortality

Low birth weight rate is a proportion of babies born weighing less than 2.5Kg (2500g). Infants who may be at risk and need special care may be identified by this indicator (Ghana Health Services, 2006). It is also an indirect indication of the health status of a pregnant woman and the adequacy of antenatal care services. The main causes of low birth weight in our environment are malaria in pregnancy, maternal malnutrition, pre-maturity and HIV/AIDS (Ghana Health Services, 2006). In Table 6 the range for low birth weight is from a low of 7.6 (Brong-Ahafo Region) to a high of

10.4 (Western Region). According to the Multiple Indicator Cluster Survey 2006 on Ghana, approximately 9 percent of infants are estimated to have weighed less than 2500 grams at birth for the 2 years preceding the survey (2003-2005).

The total number of babies born weighing less than 2.5kg in 2006 was 31,902 representing 6.2% of all live births (Ghana Health Services , 2006). This decrease is an achievement as compared to figures for the past three years, during which the proportion of low birth weight remained around 7% (Ghana Health Services , 2006). This decline in the proportion of low birth weight nationwide may be attributed to the increasing coverage of IPT. However not all births are weighed (TBAs and some health centers), Upper West region recorded the lowest proportion of babies weighing less than 2.5kg and Brong Ahafo, Volta and Western regions recorded the most significant decreases (Ghana Health Services , 2006). Ashanti and Greater Accra regions recorded the highest proportions of low birth weights (7.5% and 7.4%) respectively (Ghana Health Services , 2006).

Still birth rate is an indirect measure of the effectiveness in the management of pregnancy, labor and delivery. The still birth rate has remained elusive to reduction (Ghana Health Services, 2006). The major causes are malaria, prolonged labor and poor management of labor. The still birth rate for 2006 was 2.2% (representing 11,387 babies), a slight decrease from that of 2005 (2.4%) (Ghana Health Services, 2006)

Rural & Urban Regions

In reviewing the results it is important to understand how the regions are separated into the more urban and more rural areas. The percentage of Urbanization from highest to lowest is as follows; Greater Accra Region (87.7%), Ashanti Region (51.3%), Central Region (37.5%), Brong-Ahafo Region (37.4%), Volta Region (34.6%), Western Region (36.3%), Eastern Region (27%), Northern Region (26.6%), Upper East Region (17.5%) and Upper West Region (15.7%) (Agyei-Mensah, 2006) The data shows that some of the issues with maternal care have an urban & rural trend.

The Greater Accra and Ashanti Region exhibit the highest coverage for assistance during delivery during the year 2006-2008 in table four. Both regions hold a greater amount of facilities, which is evident in their higher rate of total facility deliveries based on the 2006 annual statistics. The two regions have the highest percentage of their population in fertile age; both regions have the greatest amount of the population of the country (Ministry of Health, 2008). The more rural regions of Northern and Upper West region show low percentages of sites available for delivery, total facility delivery and assistance during delivery.

Delivery Fees in Ghana

Immpact conducted an evaluation of how the delivery-fee-exemption policy affected the utilisation and quality of services, and maternal health and survival (Immpact, PRB, 2007). Studies were carried out in the Central and Volta regions to examine the implementation of the policy; assess whether the removal of delivery fees led to more deliveries in health facilities; evaluate the conseequences of the policy on health care and health outcomes; and quantify the effects on cost of removing delivery fees to households and the health system (Immpact, PRB, 2007).

Data from Ghana showed and increase in utilisation of delivery care services (Immpact, PRB, 2007). In the Central region, facility based deliveries increased by 12 percentage points and in the Volta region, by 5 percentage points between 2003 and 2005 (Immpact, PRB, 2007). Despite increases in utilisation, quality of care did not improve during the implementation of the policy (Immpact, PRB, 2007).

Overall quality of care was poor prior to the implementation of the exemption policy and remained so after the new policy took effect (Immpact, PRB, 2007). Providers did report however that needed drugs and supplies such as delivery kits, were generally available (Immpact, PRB, 2007). The primary challenge to quality of care was the magnitude of the workload (Immpact, PRB, 2007).

Transportation, cultural, social and other financial barriers remained and impeded access to skilled care (Immpact, PRB, 2007). According to results from surveys of the community these barriers included: cost of transportation, medications,

and supplies; long distances to health facilities; cultural and social barriers; custom of using traditional birth attendants; and poor quality of care.

Insights from Experience Within Ghana

Writing this thesis would not have been possible without my exposure to the topic at hand of maternal mortality which gained quite a bit of publicity while I was interning in Ghana. It began with the health summit held in April 2008, where the Honarable Minister of Health declared Maternal mortality a national emergency. An announcement from the Former President of Ghana that Maternal Care is free for the women of Ghana came in July of 2008. I was fortunate enough to have arrived at a time when the MDG 5 Task Team was getting ready to host a two day counsultative meeting to address the issue of maternal mortality and share ideas/recommendations as to the way forward for Ghana. Since the summit the Minister of Health set up a task to to address the following things concerning maternal mortality:

- Advocate for strong and continuing national commitment to reduction of maternal deaths
- Mobilize additional resources for maternity care
- Identify areas for technical support to strengthen implementation actions for the reduction of maternal mortality
- Define milestones for the implementers to reduce maternal deaths
- Monitor progress being made in the reduction of maternal mortality in the country

In light of the situation being a national emergency, the two day consultative meeting was arranged on the theme Partnership for Action'. Ideas, opinions, experiences, best practices and any information that would aid the reduction of maternal mortality would be instrumental in helping the task team advance their efforts. The objective of the two day consultative meeting was to present evidence on maternal mortality from available local and international souces, share experiences and best practices and also recommend practical actions for achieving MDG5. As a team we made sure to educate the public by getting air time and television appearances on popular talk shows just to make the public aware of the situation and to get more women to see a health care professional. Arrangements were made for nurses, doctors, MoH and GHS representatives to talk at the various places and covered all the main languages in the country.

Going through this process as an intern was truly eye opening and a rewarding experience because when I look at the data I was able to receive and what it shows, I understand what is happening in the background because of the exposure I had. Aside from working on the task team, I worked in the monitoring and evaluation department of the Ministry of Health. In that setting I was allowed to participate in a site visit to the Volta region to assess the stages that the implementation of the Free maternal care policy has arrived. The three hospitals I visited were Sogakope Govenrment Hospital, Adidome Government Hospital and Bator Catholic Hospital. There were several issues they raised in regards to the free maternal care policy in place.

The main worry from all three locations was about the reimbursement for the services provided at their facilities to the women. The Bator Catholic Hospital reflected on their bad experience with another initiative that came about for which payments are still owed to them. Another issue was about staff present from the National Health Insurance Scheme to register the pregnant women when they arrive at the facilities. At the Adidome Government hospital the medical officer in charge expressed his concern for the major cause of maternal death(PPH-post partum haemorrhage), he felt that the free delivery alone is not enough and that the right equipment is needed in the facilities to help reduce maternal mortality.

I was not able to tour the facilities in their entirement but I understood what the medical officer was trying to express in his concern about the reduction of the mortality rate. The removal of the fee is to alleviate financial burden on the women which is a part of the reason why women would choose not to go to the hospital for care. The Ghananian health care industry has not always been a friendly one to those of poorer economic background. There was a time that the "cash and carry system" was the order of the day, I lived in Ghana during those times. If you went to the hospital and were not able to pay for services, you would not get treatment.

At Sogakope Government hospital an interesting question was raised from our conversation with a doctor. He asked what they should do about criminal abortion cases since it is not clearly stated or addressed in the plan. The doctor spoke of many cases of young girls coming into the clinic after trying to terminate their pregnancy and they have to do the best they can to bring them back to good health. The

suggestion was made to have clearer guidelines coming from the NHIA (national health insurance authority).

I understood once again why access to facilities would be difficult for pregnant women in some the areas we visited. On our way to Adidome, I was not sure if we knew where we were heading but I forgot so quickly that this is something that is common living in Ghana. There are many areas that do not have accessible roads and so one has to resort to driving through thich tall grass./bushes to arrive at certain destination. These journey's can be perilous if you would imagine a pregnant woman who goes into labour late at night, would an ambulance be available to pick her up? The team was spread out and visited the Brong-Ahafo, Greater Accra, Eastern and Volta region to conduct this assessment.

Conclusion

The issue of Maternal Mortality in Ghana is of concern and will continue to be of concern if certain parts of the problem are not addressed well. Although the maternal mortality rate is very high, Ghana as a whole is taking a big step to try and address the issue of Maternal Mortality. Evidence of their efforts was evident during my internship there in the summer of 2008 shortly after the April 2008 summit in which a call for action was placed on the issue of Maternal Mortality.

The most alarming causes of maternal death are anaemia, hypertension and haemorrage. A majority of these cases can be prevented with adequate care. The regional level data points out clear areas that are still of concern in Ghana. There is still a shortage of skilled attendants for the country, the ratio of people to health

professionals is low. There is a great division between the rural and urban areas, a further divide between the wealthy and poor within these areas.

The parity levels of pregnant women is also of concern in certain regions of the country. There is a relationship between the regions being of majority rural or urban composition. This brings up the problem of low education of women in these areas and shows that there needs to be an increase in women's knowledge about maternal health and reproductive rights to make informed choices.

The three delays during pregnancy are evident in the results of the data in the tables. The first delay is in the home, the second delay is in the access to a health facility and the third delay is at the health facility upon arrival. These are the three main barriers including some costs for transportation that pregnant women face when making a decision to visit the hospital to deliver. There is a great need to strengthen the referall system in the country between the community, health centers and distric hospitals.

The ulitmate goal for MDG 5 attainment is to reduce maternal mortality by three quarters by the year 2015. It was agreed at the consultative meeting that this goal may not be attainable for Ghana but the country will be able to make some strong reductions in specific areas of trouble they are currently facing with the high rate of maternal mortality. Ghana is heading in the right direction with their sense of urgency to come up with solutions with the problem and their willlingness to draw from various expertise.

Recommendations

The free maternal care policy is one step in the right direction but must not be the only solution to the issue of maternal mortality. Fianancial barriers are a hinderance for majority of the population of pregnant women and alleviating the women from paying for delivery is recommended because a large part of them have limited access to economic opportunities and lack decision making authority.

Ghana needs to focus on several key areas to help reduce maternal mortality. Skilled care needs to be scaled up which would mean better usage of the human power that is available. Facilities need to be fully equipped with what is needed to treat the women who come in with more complex situations. Aneamia levels needs to be checked on a higher percentage of the pregnant women when they register so that nutritional plans can be discussed with the women. The parity levels in some of the regions are of concern, education of the women in the community would help lessen the high percentages found in those regions. Quality of care must be addressed to imporve maternal health survival. Steady and secure funding must be in place to ensure that the policy is sustainable so that the policy can be strengthened. This will require strong management systems to monitor funding and reimbursement must be conducted in a timely manner.

The were recommendations made at the two day consultative meeting that I believe the country should focus on to attain the goal of reducing maternal mortality by three quarters. These are some of the recommendation made that I feel strongly about :

- Commit to decentralization and support districts in providing healthcare services
- Involve communities and particularly pregnant women in the governance and management of maternity services
- Empower women with knowledge and information on maternal health
- Address district and facility-level challenges
- Invest in infrastructure and equipment for maternity care
- Document and replicate best practices
- Reintroduce rural and deprived areas incentives, attract and retain staff in rural and deprived areas and make national staff distribution equitable.

These recommendations address the fianancial&policy, health systems, socioeconomic and cultural changes that can be made (Ministry of Health, 2008).

The Way Forward

Ghana has the opportunity to turn the situation around if it truly focuses on the key areas of their high maternal mortality rate. It will take great collaboration between the various agencies and participants internationally who are ready to assist with solutions to the problem. The best thing to do will be for the country to adopt the habit of documentation for replication. There are a range of best practices that were discussed at the consultative meeting which need to be documented and replicated in areas where those practices would work. The main thing to remember is that the ten regions of Ghana have different characteristics which makes it important to address

maternal mortality not just nationally but more importantly at the district level. There is a major issue of understaffing in the various facilities, it would be good to include the workers in the facilities on the development of the policy to create an incentive for the workers to keep providing quality care. The decision that Ghana has taken to try to solve the problem of women accessing care is a step in the right direction. Ghana must pay attention to what is happening in the various regions and find ways to tackle the issues that will arise with the policy.

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