



The Emerging Midwifery Crisis in Ghana: Mapping of Midwives and Service Availability Highlights Gaps in Maternal Care



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ABSTRACT

Objective: We studied midwives in 10 districts of five regions in Ghana to examine specific skill sets, scopes of practice, and referral systems to identify gaps in access and service delivery, legal and operational barriers to practice, and geographical disparities in coverage.

Key Words: midwives, human resource retention, health service access, maternal and child health, policy

Methods: Policy environment analysis, focus group discussions, survey of practicing midwives, and geospatial mapping of midwives

Conclusions: As critical healthcare providers, midwives in Ghana share similar concerns and face similar challenges, despite differences in professional affiliation and training. To increase access to their services and reduce the number and burden of referrals to other health clinics, midwives require expanded pre- and in-service training opportunities and more resources to enhance the scope and quality of the services they are able to provide. The combination of an aging midwife population, inadequate salaries, and few incentives to remain in rural areas all pose challenges to reducing maternal and child mortality by supplying skilled providers who attend deliveries and provide services. Without addressing these concerns through policy interventions, Ghana is likely to lose the advances it has made in maternal mortality reduction.

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Cover photo: Women and children in Kecheibi, Ghana. © 2003 Melissa May, Courtesy of Photoshare.

EXECUTIVE SUMMARY

This report presents information regarding practicing midwives' skill sets, scopes and protocols of practice, and referral systems to identify gaps in access and service delivery, legal and operational barriers to practice, and geographical disparities in coverage. These data provide important direction for policymakers to increase the ability of Ghanaian women to access comprehensive services and strengthen midwives' ability to provide those services.

Midwives are important providers of reproductive healthcare in Ghana. There are more than 3,379 midwives in Ghana compared with fewer than 2,000 physicians. While midwives practice throughout the country, physicians tend to be clustered in large cities. As a result, midwives provide the majority of antenatal, delivery, and newborn and postpartum care, including emergency obstetric care, especially in rural areas. Further, midwives provide family planning services, postabortion care, treatment of sexually transmitted infections (STIs), nutrition and breastfeeding counseling, and child health services.

The purpose of the Midwife Mapping Project was to assess the accessibility to comprehensive reproductive healthcare, including routine and emergency obstetric care, as provided by midwives, as well as to learn about midwives' experiences in service provision throughout Ghana. The study included three complementary research methodologies:

- Policy environment analysis
- Survey of practicing midwives and geospatial mapping
- Focus group discussions (FGDs) with practicing and non-practicing midwives

Overview of Existing Policies

Ghana has an overall favorable policy environment in support of the reduction of maternal and neonatal mortality and the provision of high-quality maternal health care by midwives.

Results of Survey and Focus Group Discussions

Key findings from the survey results and focus group discussions include information regarding midwife characteristics, training, services provided, referrals, and reimbursement.

Characteristics of midwives

- Two-thirds of the midwives surveyed practice in the public sector in facilities of the Ghana Health Service (GHS).
- The midwife population is reaching advanced age: 79 percent of surveyed midwives are between 41 and 60 years (39 percent between ages 41 and 50 and 40 percent between 51 and 60).

Pre-service Training

- The majority of midwives received between 7–12 months of formal didactic and clinical training.

- Midwives described the amount of material covered during their pre-service training program as “intensive,” and “hectic,” but voiced a desire for less theory and more skills-based learning.

In-service Training (IST)

- The most common IST training topics were breastfeeding, family planning, infection prevention, normal labor and delivery, use of a partograph, and antenatal care.
- The percentage of midwives receiving IST increased as their years of service increased.
- All midwives desired more IST opportunities and felt it a critical component to providing high-quality care.
- Barriers to receiving these valued trainings include a perceived decline in the number of IST opportunities offered, inconsistent availability of IST offerings across districts, and unclear selection processes for participation in IST.
- Supervising midwives felt they should be included in IST offerings so they could stay abreast of changes in practice.

Services Provided

- Midwives reported providing “routine packages of care”—the core competencies a student midwife needs to be eligible for accreditation—within the last three months. Routine packages include:
 - **Routine Antenatal care (ANC):** infection prevention, counseling about gender-based violence, treatment of sexually transmitted infections/reproductive tract infections, health education, nutrition counseling, malaria in pregnancy, immunizations, and growth promotion
 - **Routine Postpartum Care:** promotion of breastfeeding and postpartum family planning
 - **Routine Reproductive Healthcare:** health education and provision of family planning products and services, including treatment of STIs and other infections
 - **Routine Infant Care:** newborn care, immunizations, and growth promotion
- Fewer midwives reported provision of “specialized packages of care,” which usually require some IST for competency, or a routine package of delivery, within the last three months. These packages include:
 - **Routine Delivery and Care:** use of the partograph, assistance during a normal delivery, and promotion of breastfeeding and postpartum family planning
 - **Specialized ANC:** HIV prevention and management, especially prevention of mother-to-child transmission of HIV (PMTCT), and management of pre-eclampsia/eclampsia, ante-partum hemorrhage, and miscarriage
 - **Specialized Delivery and Care,** which includes removal of retained placenta and active management of the third stage of labor
 - **Specialized Postpartum Care,** which includes cervical laceration repair and addressing postpartum hemorrhage
 - **Specialized Reproductive Healthcare,** which includes postabortion care (PAC), adolescent reproductive health education and care, and menopause care
- The findings suggest that surveyed midwives are not in clinical settings that support being able to provide the entire range of specialized packages of care due to lack of equipment and supplies or lack of supervision, and are therefore not performing to their

ability. Efforts could be made to strengthen midwives' scope of practice through pre- and in-service training, by ensuring that midwives have the appropriate equipment and working conditions, and by ensuring that the pre-service training program includes more practical skills development.

- Midwives agreed that their scope of practice prohibited practice of some services, such as PAC services, labor induction, use of forceps, and the prescription of certain medicines.
- Midwives did not refer to a specific document that outlined which services were prohibited or which policies were relevant to their work—most midwives learned via word of mouth and/or in pre-service training.

Referrals

- 84 percent of midwives reported having deliveries referred to them by traditional birth attendants.
- 92 percent of midwives reported referring a woman to other health services for complications.
- The most common complications requiring a referral were prolonged 2nd stage of labor, hemorrhage, fetal distress, and dysfunctional labor.
- Midwives often encounter resistance from other health professionals when they refer a client for additional care, but attribute this lack of responsiveness to the overburdened health system, and not necessarily their perceived lack of skills.

Fees for Service and Reimbursement

- 72 percent reported government reimbursement for services (most commonly for delivery and antenatal care).
- 59 percent reported client reimbursement for services (most commonly for PAC and family planning).
- Midwives affiliated with the Ghana Health Service reported the highest levels of government reimbursement; midwives affiliated with the Ghana Registered Midwives Association reported the highest levels of client reimbursement.
- Fee for service payments vary significantly by region and facility. Midwives in the Northern Region reported that facilities are reimbursed 50,000 cedis per delivery while Central Region facilities receive 80,000 cedis per delivery. Midwives unanimously agreed that the actual cost of a normal delivery is closer to 100,000 cedis.
- Poverty among clients, resulting in inability to pay for services or required supplies and medications, was voiced as a major challenge to midwives in their ability to provide services.

Mapping Results from the Geographic Information System (GIS)

Three types of GIS results are presented:

1. *Geographical distribution of service sites:* by examining the location and distribution of facilities offering maternal and neonatal services in each district, we were able to identify areas that are underserved and focus on border areas where some district gaps could be eased by access to facilities in neighboring districts.

2. Uniformity of scope of work: by mapping the services offered at each facility, we were able to see differences in the scope of work among midwives and the resulting differences in access to services. The maps visually demonstrate areas where facilities operate, but services are limited or unavailable due to these differences in scope of work.

3. Population access to service sites: by narrowing our focus to women within a 10-mile radius of service sites, we were able to use mapping to examine the effect of service distribution on access. Understanding proximity is especially important for emergency obstetric care.

Conclusions and Recommendations

This study shows that, regardless of training or affiliation, midwives in Ghana share a common identity as critical healthcare providers in the community. The combined challenges of an aging midwife population with inadequate salaries and few incentives to remain in rural areas must be addressed immediately to maintain Ghana's trend in reducing maternal and child mortality.

By analyzing the service maps in the context of population density, it becomes clear that the number of midwives is inadequate to meet the needs of the current population of women of reproductive age. These shortages are even more alarming in light of growing populations and reductions in the number of midwives. Recruitment of new midwives, strengthening of IST for practicing midwives, standardization of curricula, and increased resources for those entering the field are essential activities to improve the range and level of services available to women.

Because of its commitment to improving access to healthcare services to all Ghanaians and introducing national insurance and reimbursement schemes for services, Ghana has the opportunity to act as a leader both regionally and internationally by championing the importance of providing comprehensive healthcare to combat maternal and infant mortality. The Ghana Health Service and the Ghanaian government already have taken several key steps toward increasing access for women to essential services by introducing a direct training program for midwives, creating the National Health Insurance, and reimbursing normal deliveries in select regions. With the knowledge gained about the concerns of midwives, the challenges they face, and the geographic coverage of the existing midwifery system, the next step is to transform this information into effective advocacy messages and work with policymakers to develop and implement policies that reduce maternal mortality through increased access to services.

The following policy recommendations are offered as an approach to address these critical issues:

Immediate

Immediate areas for action include expansion of national health insurance benefits to include family planning; establishment of clear guidelines for the reimbursement for services system for all affiliations of midwives in all geographical areas; operationalization of a national system monitoring of recruitment and retention of health care providers, including midwives; upgrade

pre-service and in-service training curricula to move toward standardizing the scope of practice for midwives; and establishment of a national Midwifery Advisory Council to represent and advocate for midwives in the policy and implementation process.

Longer term

Key action areas over the longer term are as follows: development and implementation of mechanisms for the re-appointment of retired and repatriating health professionals; institutionalization obligatory service in exchange for a government-subsidized education; provision of education schemes for free post-secondary degree once a midwife has worked in the public sector for a specified number of years; development of a national contraceptive security plan to include services and commodities that support and complement the National Health Insurance Scheme.

ABBREVIATIONS

ADHA	additional duty hours allowance
AIDS	acquired immune deficiency syndrome
AMTSL	active management of third stage of labor
ANC	antenatal care
CERSGIS	Centre for Remote Sensing and Geographic Information Services
CHAG	Christian Health Association of Ghana
CHPS	Community-based Health Planning and Services Initiative
DBMS	database management system
DHS	Demographic and Health Survey
EMOC	emergency obstetric care
FGD	focus group discussion
FIGO	International Federation of Obstetrics and Gynecology
FP	family planning
GBV	gender-based violence
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GIS	Geographic Information System
GPRS	Ghana Poverty Reduction Strategy
GPS	Global Positioning Systems
GRMA	Ghana Registered Midwives Association
HIV	human immunodeficiency virus
HRDD	Human Resource Development Department
ICPD	International Conference on Population and Development
ICM	International Confederation of Midwives
IST	in-service training
IUD	intrauterine device
JLI	Joint Learning Initiative
MDG	Millennium Development Goal
MHO	Mutual Health Organization
MIS	management information system
MMR	maternal mortality ratio
MNPI	Maternal and Neonatal Program Index
MOH	Ministry of Health
MWRA	married women of reproductive age
MVA	manual vacuum aspiration
NHI	National Health Insurance
NMR	neonatal mortality rate
NPC	National Population Council
OECD	Organization for Economic Cooperation and Development
PAC	postabortion care
PP	postpartum
PPC	postpartum care
PMTCT	prevention of mother-to-child transmission (of HIV/AIDS)
PRB	Population Reference Bureau
PST	pre-service training
RH	reproductive health
STIs	sexually transmitted infections
SOP	scope of practice

SPSS	Statistical Package for the Social Sciences
SSA	Sub-Saharan Africa
TBA	traditional birth attendant
TFR	total fertility rate
WHO	World Health Organization
WRA	women of reproductive age
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund

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I. INTRODUCTION

Each year, approximately half a million women in the world die from pregnancy- and childbirth-related complications, and an additional 8 million women suffer from illnesses or disabilities related to these complications (WHO, 2004). According to maternal mortality estimates from 2000, a woman in Africa has a one in 20 lifetime risk of dying from pregnancy-related causes (WHO, UNICEF, and UNFPA, 2004). The leading causes of maternal mortality and morbidity in Africa include hemorrhage, sepsis, hypertensive disorders, and HIV/AIDS (Khan et al., 2006). Poor postpartum (PP) care also results in the deaths of neonates (defined as infants less than 28 days old) due to direct causes such as sepsis and asphyxia.

With appropriate, accessible, and affordable care delivered by skilled providers, including midwives, millions of women's and newborn's lives could be saved and morbidity effectively prevented. Maternal mortality is generally lower in countries where there is a higher number of births attended by skilled providers, including those with midwifery skills (Safe Motherhood Inter-Agency Working Group, 2002). While countries define the role and functions of midwives differently, the World Health Organization (WHO), the International Confederation of Midwives (ICM), and the International Federation of Gynecology and Obstetrics (FIGO) refer to the following standard definition:

A person who, having been regularly admitted to a midwifery educational program, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies and has acquired the requisite qualification to be registered and/or legally licensed to practice midwifery.

She must be able to give the necessary supervision care and advice to women during pregnancy, labor, and the postpartum period; to conduct deliveries on her own responsibility; and to care for the newborn and the infant. This care includes preventive measures, the detection of abnormal conditions in the mother and child, the procurement of medical assistance, and the execution of emergency measures in the absence of medical help. She has an important task in health counseling and education, not only for the patient, but also within the family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of gynecology, family planning (FP), and child care. She may practice in hospitals, clinics, health units, domiciliary conditions or any other service (as cited in Sherratt, 2000).

When women are unable to access the necessary services provided by midwives, they cannot benefit from these lifesaving services. Ghana has taken innovative steps to increase women's access to healthcare, which will be discussed in the following sections. However, maternal mortality in Ghana remains high, while both the contraceptive prevalence rate and the number of provider-assisted deliveries are low. Gaps in women's access to comprehensive reproductive healthcare are due in part to barriers midwives face, such as legal limitations of service

provision; outdated facilities and equipment; few support networks; limited opportunities for continuing education; and traditional beliefs and practices—all of which affect maternal and neonatal health outcomes. Midwives often find themselves practicing within a context of rooted cultural practices and beliefs, rules governing social behavior, and clients' limited exposure to modern medicine. As a result, a supportive and informative environment needs to be developed so that midwives are better able to explain the relevance and value of their services to clients and their communities.

In an effort to identify gaps in coverage and policy barriers to effective implementation of basic and life-saving healthcare, the POLICY Project undertook a study on midwifery in Ghana. This report reviews existing maternal and child healthcare in Ghana; explores the policy environment using qualitative, quantitative, and special data to identify gaps in midwife coverage by geographic area and services provided; and offers policy recommendations to support decreases in maternal and neonatal mortality rates and improvements in maternal and neonatal health in Ghana.

II. BACKGROUND

Reproductive, Maternal, and Infant Health in Ghana

Ghana is located in Western Africa between Côte d'Ivoire and Togo. Ghana has a population of more than 20 million people and has an annual population growth rate of 2.3 percent, which is higher than the global growth rate of 1.4 percent (GSS, 2003; PRB, 2005). Currently, 5.5 million women in Ghana are of childbearing age. The total fertility rate (TFR) declined from 6.4 children per woman in 1988 to 4.4 children per woman in 1998, an almost two-child decrease in fertility (see Table 1 on page 4), but remained at 4.4 in 2003.

Currently, about one-quarter of married women of reproductive age (MWRA), ages 15–49, use any form of contraception, with only 19 percent using modern contraceptive methods. The unmet need for family planning among MWRA is high in Ghana at 34 percent—of which 22 percent is attributed to the unmet need for spacing births and 12 percent is attributed to the unmet need for limiting births.

Ghana's maternal mortality ratio (MMR) has declined since the 1990s, but the country still suffers from relatively high maternal and neonatal mortality. A series of demographic and health surveys (DHS) conducted in Ghana documented substantial improvements in infant and childhood mortality rates between 1988 and 1998. In 2003, however, these rates had plateaued or stagnated at high levels (Johnson, Rutstein, and Govindasamy, 2005).

In 1990, Ghana's MMR was estimated at 740 per 100,000 live births, while in 2000, the MMR was estimated to be in a range of 214–540 deaths per 100,000 live births (WHO/UNICEF, 1996; MOH/GHS, 2003; PRB, 2005). However, regional variations likely exist within Ghana; one study of a hospital in the Upper East region reported an estimated MMR of 759 deaths per 100,000 live births (Baiden et al., 2006). Ghana's MMR is lower than those of its other West African neighbors—Côte d'Ivoire (MMR=690), Togo (MMR=570), and Senegal (MMR=690) (WHO/UNICEF/UNFPA, 2004).

Ghana's neonatal mortality rate (NMR) averaged 43 deaths per 1,000 live births in 2003, which is an increase from 1988 (38 per 1,000 live births) and 1998 (39 per 1,000 live births). Infant mortality rates in Ghana have remained static since 1988 at 64 deaths per 1,000 live births, but the NMR increased from 38 to 43 deaths per 1,000, meaning that neonatal deaths are now making up a greater proportion of infant deaths (GSS, 1988; GSS, 1998; GSS, 2003).

The percentage of pregnancies for which antenatal care (ANC) was received from a health provider increased from 82 percent in 1988 to 92 percent in 2003. Skilled attendance at delivery is less widespread than ANC coverage—likely because transportation difficulties are easier to overcome during pregnancy than at the time of delivery. Although ANC is free according to government regulations, the cost of delivery can be prohibitive for many women, and skilled personnel often are not available at the time of delivery (Antwi and Ababio, 2001). In 2005, the government mandated a free delivery policy nationwide. All normal deliveries are therefore free, similar to ANC. The 2003 Ghana Health Service (GDHS) results indicate that close to half (47%) of all births take place in a health facility (37% at public facilities and 10% at private

facilities); the remaining 53 percent take place in the home (see Table 1). Home births, which represent more than half of all births, are assisted by traditional birth attendants (TBAs) (31%), relatives/others (19%), or no one (2%) (GSS, 2003).

Table 1. Select Health Indicators from Ghana

Indicator	Value
Total fertility rate*	4.4
Contraceptive prevalence rate (among married women 15–49), any method*	25%
Contraceptive prevalence rate (among married women 15–49), modern methods*	19%
Unmet need for contraception*	34%
Deliveries in health facilities*	47%
Deliveries at home*	53%
Skilled assistance (doctor, nurse, midwife) at birth*	47%
Live births annually [¥]	645,000
Maternal deaths per 100,000 live births	540 [§] 214**
Neonatal mortality rate (per 1,000 live births)*	43
Infant mortality rate (per 1,000 live births)*	64
* GSS, 2003 [¥] PRB, 2005 [§] WHO, 2000 **MOH/GHS official figure	

Ghana faces significant regional and economic disparities in reproductive and maternal health indicators, which must be addressed in order to reach the Millennium Development Goals (MDGs) and other national goals. For example, as shown in Table 2, modern contraceptive use among MWRA varies from 9 percent among women in the lowest wealth quintile to 26 percent among women in the highest wealth quintile, and between 8 percent in the isolated Northern region and 26 percent in the Greater Accra region. The likelihood of having a birth assisted by a skilled attendant also increases with wealth—from 21 percent in the lowest wealth quintile to just over 90 percent in the highest wealth quintile. In addition, there are regional disparities regarding skilled attendance at delivery—81 percent of deliveries in greater Accra were attended by a doctor or nurse/midwife, compared with 38 percent in the Central Region, 28 percent in the Upper East, and 18 percent in the Northern Region. These figures have remained almost static since 1993. Ninety-eight percent of pregnant women in urban areas and 89 percent of pregnant women in rural areas received ANC from a trained health professional at least once during their most recent pregnancy. However, regional variations also show large differences; in 2003, one in six mothers in the Northern Region and one in seven mothers in the Upper East still did not receive any ANC. In 2003 the TFR was 5.6 births in rural areas, which is more than two births higher than the rate for urban areas (3.1 births).

Table 2. Regional and Economic Disparities in Demographic and Health Indicators

	Total Fertility Rate	Use of Modern Methods	ANC Provided by Skilled Attendant	Delivery by Skilled Attendant
Residence				
Urban	3.1	24.2	97.9	79.7
Rural	5.6	14.9	88.6	30.9
Region				
Western	4.5	17.7	94.9	38.6
Central	5.0	13.2	94.6	38.4
Greater Accra	2.9	26.0	96.3	72.6
Volta	4.4	19.3	89.5	81.4
Eastern	4.3	21.5	91.7	46.5
Ashanti	4.1	21.0	94.2	59.9
Brong Ahafo	4.8	24.8	95.7	58.4
Northern	7.0	7.7	82.7	18.3
Upper East	4.7	9.7	85.4	27.8
Upper West	5.5	19.5	90.9	33.3
Wealth Quintile				
Lowest	6.4	8.6	83.3	20.6
Second	5.9	19.1	91.3	31.9
Middle	4.9	18.6	94.7	43.3
Fourth	3.3	21.3	95.3	73.1
Highest	2.5	26.3	98.2	90.4
TOTAL	4.4	18.7	91.9	47.1

Source: GSS, 1993 and 2003

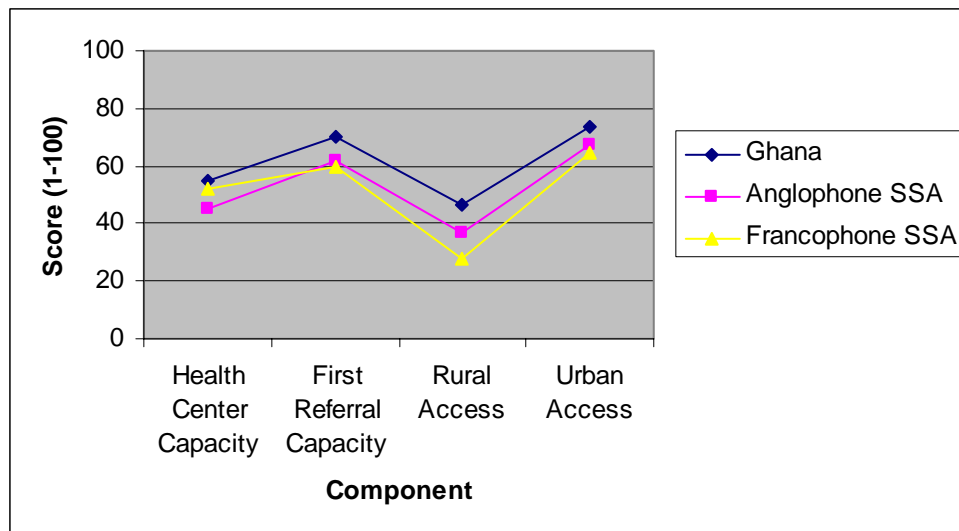
Ghana participated in the POLICY Project's 2005 round of the Maternal and Neonatal Program Effort Index (MNPI), in which reproductive health (RH) experts in Ghana evaluated 14 major components of maternal and neonatal health services on a scale from 0 (low score) to 100 (high score) (POLICY, 2006).¹

Figure 1 compares Ghana's scores for select components to regional scores for countries in Anglophone and Francophone sub-Saharan Africa (SSA). In 2005, Ghana scored higher than both the Anglophone and Francophone groups in the overall average, as well as in the highlighted components shown in Figure 1, suggesting that Ghana is performing better than many of the other countries that participated in the MNPI. However, as discussed previously,

¹ The 14 major components of the Maternal and Neonatal Program Effort Index include health center capacity, district hospital capacity, rural access to services, urban access to services, antenatal care, delivery care, newborn care, family planning services at health centers, family planning services at district hospitals, policies toward safe pregnancy and delivery, adequacy of resources, health promotion, staff training, and monitoring and evaluation. In 2005, 55 developing countries participated in the survey.

there are large disparities in access to services among women in rural and urban areas. The 2005 MNPI results highlight this situation, as shown in Figure 1. Ghana's score for rural access to services is 47, compared with 74 for urban areas. Also, the capacity of health centers, which are the primary source of healthcare in rural areas, scored 55, compared with 71 for first referral services, which are more likely to be present in urban areas, potentially limiting the scope of services easily available to rural women.

Figure 1. 2005 MNPI Scores for Select Components, Ghana and Anglophone and Francophone Sub-Saharan Africa (SSA)



The Role of Midwives in Ghana

Midwives are important providers of reproductive healthcare services in Ghana. There are more than 3,379 practicing midwives in the country, compared with fewer than 2,000 physicians. Moreover, physicians are mainly clustered in large cities, while midwives are more widely dispersed throughout the country. As a result, midwives provide the majority of antenatal, delivery, and postpartum care, including emergency obstetric care (EMOC), especially in rural areas. Seventy-one percent of women receive ANC from a nurse/midwife, compared with the 21 percent of women who receive care from a physician (GSS, 2003). Nurses or midwives assist 41 percent of births, compared with doctors who serve just 7 percent (GSS, 2003). Midwives perform the life-saving function of the referral of high-risk pregnant women to physicians in hospitals. Midwives also routinely provide FP services, postabortion care, treatment of sexually transmitted infections (STIs), nutrition and breastfeeding counseling, and child health services.

In Ghana, midwives practice through one of three affiliations: in public sector institutions within the Ghana Health Services (GHS); in private clinics as members of the Ghana Registered Midwives Association (GRMA); or through the nongovernmental organization, Christian Health Association of Ghana (CHAG) in its network of mission health facilities. Based on input from midwives and midwifery associations in Ghana, the midwives are divided into two main categories:

- *Nurse/Midwives*: Individuals with prior high-level nursing background plus six to 24 months of specialized midwifery training.
- *Midwives*: A combination of mid-level nurses who return for midwifery training and individuals with no prior nursing background who attend a specialized midwifery program, generally ranging from one to two years in length.

Since 1996, as a result of the *Ghana Health Service and Teaching Act*, the health system in Ghana has been structured as a tiered, decentralized system with 11 regional hospitals, 204 district hospitals, and 1,798 health centers (Canagara and Ye, 2001). Ghana's health system is operated via the autonomous healthcare service delivery arm of the Ministry of Health (MOH), the GHS, and semiautonomous Budget Management Centres (Bossert and Beauvais, 2002). The private sector complements government efforts in providing maternal and neonatal healthcare via private midwifery homes/clinics and mission hospitals/clinics. One study estimates that mission hospitals serve up to 40 percent of the population, most notably in the deprived rural areas (CERSGIS, 2005).

Existing Barriers to Access

A range of barriers limit women's access to maternal and child healthcare in Ghana, including distribution of health services and facilities, informal and formal fees at service sites, lack of client awareness about danger signs in maternal and neonatal health, presence of cultural beliefs and traditional practices in communities, aspects of midwifery practice, and a diminishing and aging workforce.

Distribution of health services

Long distances to health facilities and limited or lack of transportation options to those facilities are known barriers that women face in seeking timely maternal healthcare. Available evidence reveals that women who live closer to health facilities are more likely to seek professional maternal health services (Rose et al., 2000). In Ghana, while many modern medical facilities exist, they are not evenly distributed across the country, or even within regions. A study carried out in northern Ghana revealed that even though many women preferred that their deliveries be conducted by skilled attendants, women cited long distances to health facilities, high cost of transport, and poor conditions of roads as major obstacles to the receipt of such care (Mills and Bertrand, 2005).

Informal and formal user fees

Fees reduce women's use of reproductive healthcare services, prohibit women from delivering in health facilities, and reduce the likelihood of their seeking care when complications arise. Poor women's access to services is most affected by these fees because they have less ability to pay. Even when formal fees are low or non-existent, there may be "informal" or under-the-table fees or other costs that pose significant barriers to women's uses of services (Sharma et al., 2005). These hidden costs may include costs of travel to the health facility, drugs, and food or lodging for the woman and accompanying family members who help care for her in the hospital, as well as payments made to health personnel or support staff, including maintenance, housekeeping, and security guards.

In Ghana, although there are policies of fee-free ANC and delivery in place, other costs (e.g., transport, some drugs, caesarean delivery) are not covered. Fortunately, as part of the government policy of increasing access to health services, a National Health Insurance (NHI) scheme has been introduced. Those clients who are covered under one of the existing mutual health insurance schemes as part of the NHI are exempt from charges at the facility.

Awareness and cultural practices

Often, clients' cultural beliefs, traditional practices, and low awareness about the symptoms of obstetric and neonatal complications prevent midwives from providing care at opportune times. One study of Ghanaian women who died of pregnancy-related complications found that 64 percent of the women had sought help from an herbalist, soothsayer, or other traditional provider before going to a health facility. Families cited the belief that the woman's condition would improve and that she was not ill enough to justify the cost involved as the main reasons for not taking a woman to a hospital (Odoi-Agyarko et al., 1993).

Midwifery practice

Despite efforts by the Ghanaian government since the 1980s to improve the overall health sector, midwives themselves in Ghana face numerous challenges related to midwifery education and health systems, which inhibit midwives' ability to provide high-quality services to their clients. These challenges include

- Inadequate and non-standardized skills taught in pre- and in-service training;
- Legal and facility-specific restrictions applied to life-saving services such as
 - PAC services,
 - active management of the third stage of labor,
 - manual removal of the placenta, and
 - services relating to prevention of mother-to-child transmission of HIV (PMTCT);
- Low status of midwives within the healthcare provider hierarchy;
- Non-standardized reimbursement amounts for services rendered; and
- Limited equipment and supporting infrastructure (electricity, water, roads) in rural areas.

Shortage of health personnel and aging workforce

Attrition of health personnel from developing countries to more developed countries continues to diminish the supply of providers available to meet population demands (Buchan and Sochalski, 2004; Kupfer et al., 2004; High Level Forum on the Health MDGs, 2004; WHO, 2006). In 2000, more than 500 nurses and midwives left Ghana to work in industrialized countries, which is more than twice the number of new nurses and midwives who graduated from programs in the country that year (Buchan and Sochalski, 2004). Currently, there are about 17,322 nurses and midwives working in Ghana, while 2,267 have migrated to the Organization for Economic Co-operation and Development countries (WHO, 2006). This figure represents 13 percent of the total nurse and midwife workforce, placing Ghana fourth in the rankings of sub-Saharan countries suffering from nurse and midwife migration (WHO, 2006). In 2002, 47 percent of physician posts were unfilled and 57 percent of the registered nursing and midwife posts likewise were vacant (Dovlo, 2003b).

A better standard of living, higher salaries, and improved working conditions are significant variables in explaining the appeal of migration for Ghanaian midwives and other medical personnel to other countries (Library of Congress, 1995; Dovlo, 2003b; Kupfer et al., 2004; WHO, 2006). Similar factors contribute to the clustering of those medical personnel in Ghana's urban areas—recruitment to and retention of health personnel in rural postings are particularly challenging in Ghana.

Retirement of aging midwives is also contributing to the diminishing cadre of practicing midwives. Currently, in Ghana, the majority of practicing midwives are older women and many will soon retire. Younger midwives, while they train in country, often leave the country after completing their training to practice in other countries, disrupting the cycle of refreshing the workforce. Ghana faces significant challenges in ensuring a consistent supply of trained midwives in-country to meet the demand for services.

III. STUDY METHODOLOGY

The purpose of the Midwife Mapping Project was to assess accessibility to comprehensive reproductive healthcare services, including basic and EMOC, as provided by midwives, using both quantitative and qualitative methods. The study included three complementary research methodologies:

- Policy environment analysis: this component of the activity collected and analyzed national, subnational, and regional policies governing midwives and their practices. The results of the analysis began to identify policy gaps and potential barriers to service provision. The results of the analysis, integrated with the quantitative and qualitative findings, offer a more complete representation of reproductive healthcare service provision.
- Survey of practicing midwives and geospatial mapping: the quantitative component involved conducting a survey of practicing midwives to identify the geographic location of different types of midwives, their education, professional preparation, ages, range of services provided, and potential gaps in service provision. In addition, a geographic information system (GIS) was used to map the precise location of the midwives to estimate the range of services available within a geographic area. Each interview has one corresponding GIS point.
- Focus group discussions (FGDs) with practicing and retired midwives: the qualitative component included conducting FGDs with midwives in three regions of Ghana to understand the barriers they encounter in providing comprehensive reproductive healthcare services.

Staff from POLICY/Ghana coordinated and supervised the study activities, with technical support from POLICY/DC. This coordination included identifying, contracting, and collaborating with consultants, including the University of Ghana's Centre for Remote Sensing and Geographic Information Services (CERSGIS) to select an appropriate sample of midwives for both the qualitative and quantitative research needs.

District Selection

As shown in Map 1, Ghana's population is heavily concentrated in the middle and southern parts of the country, particularly along the coast and near the capital city of Accra. Our study area included five districts in densely populated regions such as Ashanti, Central, and Greater Accra; as well as more moderate and sparsely populated areas such as the Ahanta West district in the Western Region and West Mamprusi in the Northern Region. The Greater Accra Region, consisting of the capital city of Accra and environs, is characterized as coastal, the wealthiest and most developed part of the country, and benefiting from significant industry. In contrast, the Northern Region, while encompassing the largest land area in the country, has a sparse population and a desert climate and is characterized as mainly rural with high levels of poverty. Sections of the Central Region are characterized as rainforest. Within the regions, the selected districts vary in population density (see Table 3).

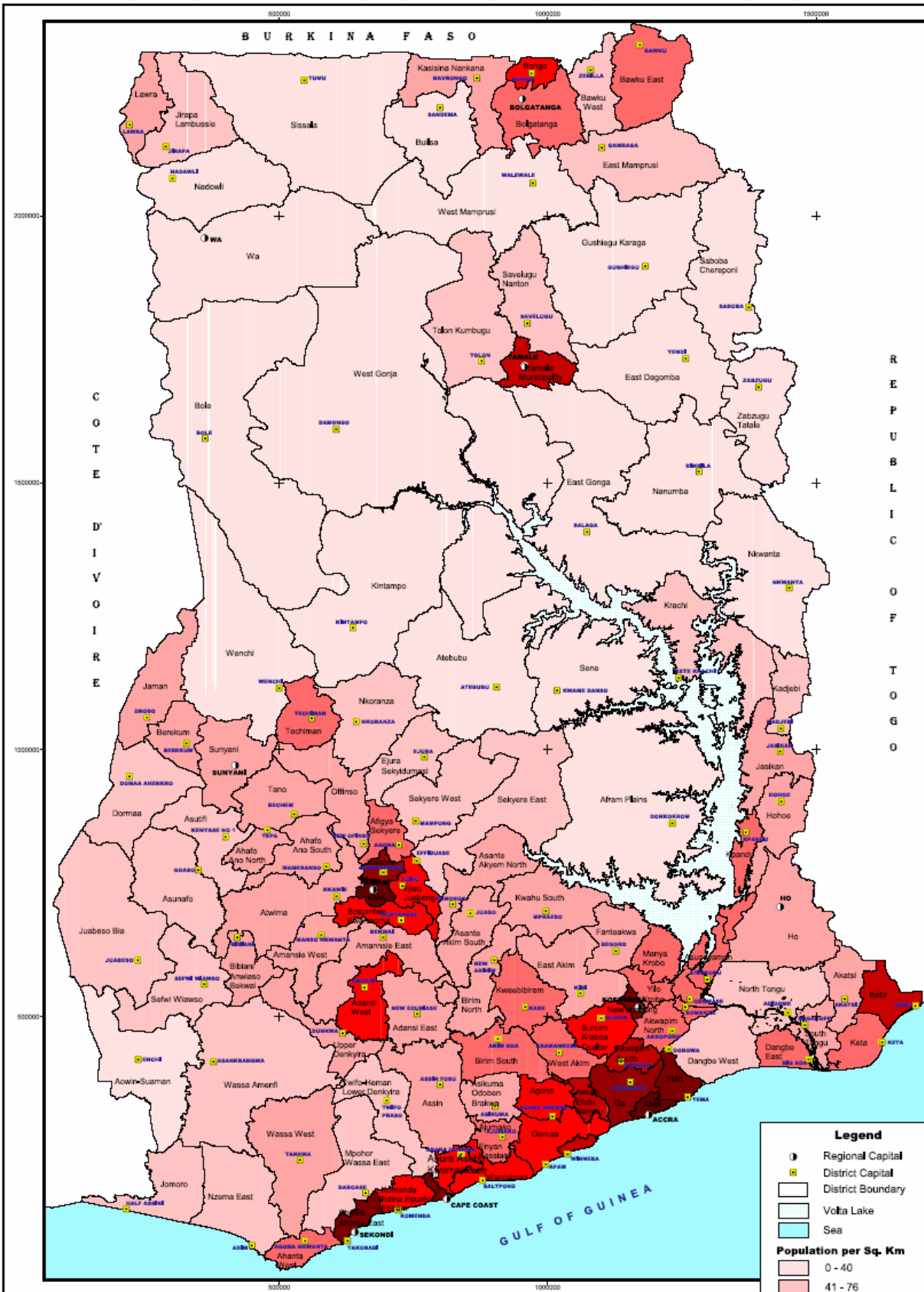
Table 3. Population Density of Studied Districts in Midwife Mapping Activity

Region	District	Population Density (people per sq. km)	Color Density (as displayed in GIS maps)
Northern	Tamale	<i>Moderate-Dense</i> (264–371)	
	West Mamprusi	<i>Very Sparse</i> (0–40)	
Ashanti	Kumasi	<i>Very Dense</i> (1157–7825)	
	Ejisu Juaben	<i>Moderate</i> (191–263)	
Western	Ahanta West	<i>Moderate</i> (129–190)	
	Shama Ahanta East	<i>Dense</i> (650–1156)	
Central	Gomoa	<i>Moderate</i> (191–263)	
	Awutu Efutu Senya	<i>Moderate-Dense</i> (264–371)	
Greater Accra	Accra Metro	<i>Very Dense</i> (1157–7825)	
	Dangbe West Dodowa	<i>Sparse</i> (41–76)	

With the exception of West Mamprusi and Dangbe West Dodowa districts, the study was conducted primarily within the most densely populated districts in Ghana, which are situated along the southern coast and in Kumasi and its environs. Table 3 indicates the population density levels along a spectrum; the darker the hue, the denser the population per square kilometer.

Map 1.

DISTRICT LEVEL POPULATION DENSITY MAP OF GHANA



Legend

- Regional Capital
- District Capital
- District Boundary
- ▭ Volta Lake
- ▭ Sea

Population per Sq. Km

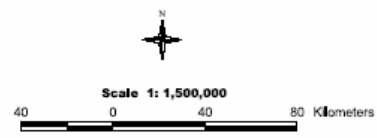
- 0 - 40
- 41 - 76
- 77 - 128
- 129 - 190
- 191 - 263
- 264 - 371
- 372 - 649
- 650 - 1156
- 1157 - 7825

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The delineation of the district boundaries should not be considered authoritative

Prepared for:
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 Policy Project Washington DC



The study was conducted in five regions and included 10 districts, as shown in Map 2. The districts included in the study were chosen based on high infant and maternal mortality indicators and the availability and accessibility of comprehensive reproductive healthcare services via GHS, CHAG, and GRMA facilities. The use of the qualitative and quantitative methodologies in selected districts is shown in Table 4. The facilities included referral centers and facilities for FP/child survival and HIV/AIDS interventions. The survey areas also took into account midwives and facilities in both urban and rural areas in each district or region. The Awutu Efutu Senya and Gomoa districts in the Central Region participated in both the qualitative and quantitative components, while the other regions and districts participated in either one or the other component.

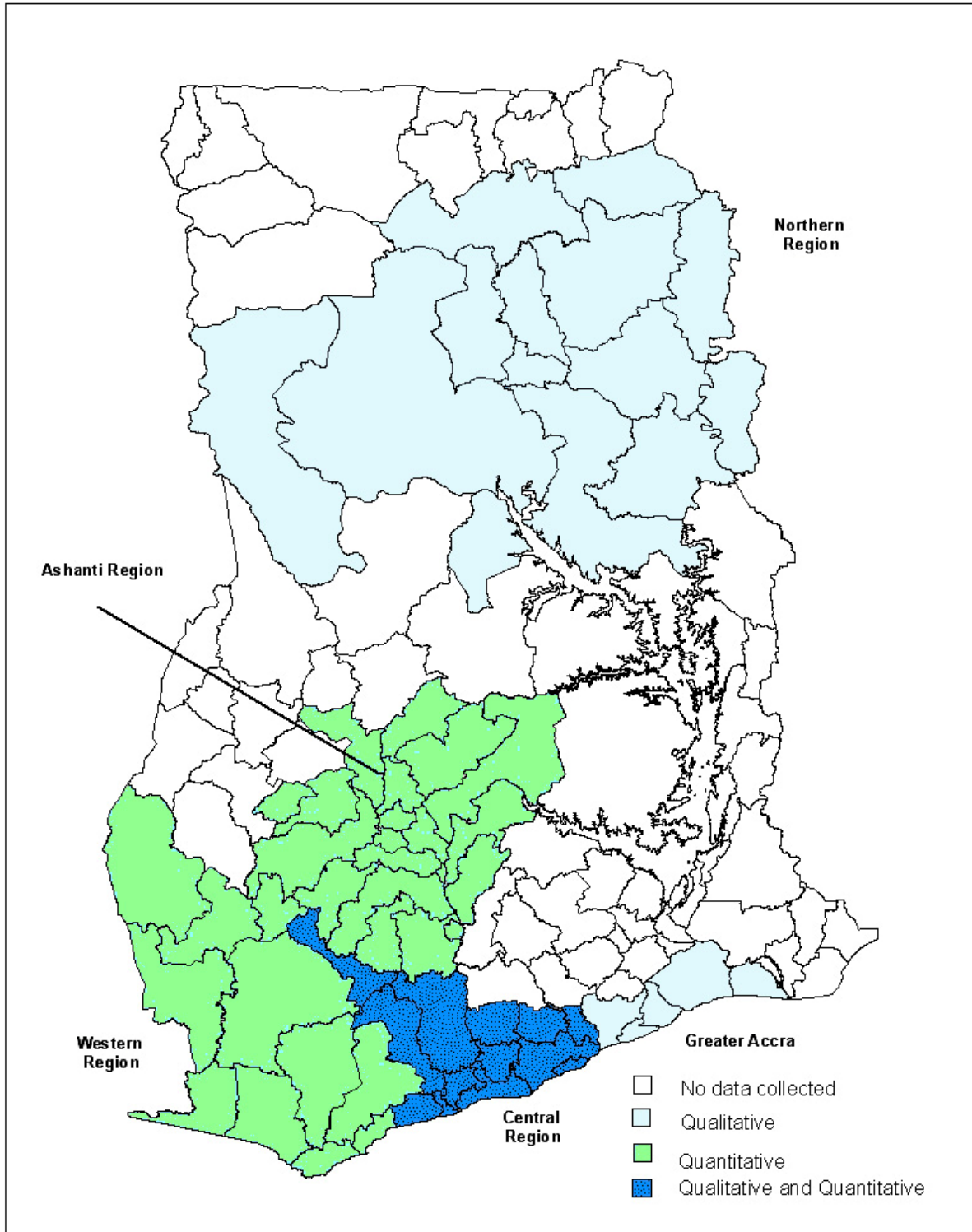
Table 4. Participation of Districts in Quantitative and/or Qualitative Components

Region	District	Quantitative	Qualitative
Northern	Tamale		X
	West Mamprusi		X
Ashanti	Kumasi	X	
	Ejisu Juaben	X	
Western	Ahanta West	X	
	Shama Ahanta East	X	
Central	Gomoa	X	X
	Awutu Efutu Senya	X	X
Greater Accra	Accra Metro		X
	Dangbe West Dodowa		X

Interviewing in the Northern Region allowed the study to incorporate the perspectives of midwives whose views may not otherwise have been heard due to their location in less populated and more remote parts of the country. Conducting the research in a variety of areas permitted the investigators to review commonalities across midwives in all geographic regions of Ghana, while operating on a limited research budget.

Map 2.

Ghana Regions Included in Data Collection



Quantitative Data Collection: Survey and GIS Mapping

The purpose of the quantitative portion of the study was to collect data on the skills and experiences of midwives and their ability to provide comprehensive reproductive healthcare services, including family planning and birth spacing; PMTCT; and antenatal, delivery, postpartum, and emergency obstetric care. This data collection was managed by geographically identifying the location of midwives, as well as their affiliations, levels of education, amount of professional preparation, current ages, and range of services in which they are trained and had provided within the previous three months. This data were then mapped to understand the distribution of midwives and their services throughout the selected districts. Based on the population density of the districts and geographic locations of cities and towns, the researchers were then able to estimate the access to specific services within a 10-mile radius of the midwives.

Survey settings

The quantitative portion of the survey was conducted in six districts from three regions in Ghana. While this did not provide complete regional coverage of the country, it allowed us to examine a broad geographic area overall and to identify trends within regions. The survey was conducted in the Ahanta West and Shama Ahanta East districts in the Western Region, Awutu Efutu Senya and Gomoa districts in the Central Region, and Kumasi and Ejisu Juaben districts in the Ashanti Region. The survey was conducted in two phases, with the Central and Western regions covered in phase one and the Ashanti Region in phase two.

The University of Ghana's CERSGIS hired and trained the interviewers for this study. The surveys were conducted at the same time that the Global Positioning System (GPS) data were collected. They were conducted at previously identified health facilities where it had been confirmed that GRMA, GHS, and/or CHAG midwives were providing services. Health facilities included government, mission, and private maternity home and health centers; clinics and polyclinics; and hospitals.

Survey Participant Selection

GHS, CHAG, and GRMA—the three affiliations providing midwifery services in Ghana—provided POLICY/DC with lists of members currently practicing in each district. CERSGIS was charged with achieving with locating and interviewing midwives working at all facilities within the selected districts. Convenience sampling methods were used to select midwives within each health facility, as midwives at each facility were asked to participate in the interview. Interviews were conducted at 62 facilities across the six districts, and often more than one midwife was interviewed per facility, resulting in a 73 percent coverage rate.

Survey data collection

Data collection steps included:

- Design of a database management system (DBMS) to capture and analyze collected data
- Development of the district maps using Arc View GIS mapping software
- Design and pre-testing of the survey questionnaire (see Appendix B for survey)
- Survey administration by trained interviewers to midwives at pre-determined facilities

- Collection of health facility location data using hand-held GPS devices
- Integration of survey information and GPS location information into the DBMS
- Creation of maps reflecting service coverage
- Analysis of survey data

GIS mapping and survey analysis

GIS is a computer-based system for the integration and analysis of geographic data. GIS identifies the location of features on the earth's surface so that they can be analyzed in relation to other characteristics, such as area-specific population size, health services, proximity, or similar characteristics. For the purpose of this activity, GIS allowed the researchers to manage a spatial database that included the physical locations of facilities where midwives provide services, analyze geographic data, and produce visual maps depicting the location of midwives based on education and training, services provided, age, and number of years in service. CERSGIS employed consultants who used hand-held GPS units and Arc View GIS mapping software to identify and map the exact locations of midwives; researchers then analyzed data on the characteristics of the midwives. Included in each map is a layer depicting the population density of the district/region. These maps were intended to demonstrate gaps in service with the goal of promoting discussion among policymakers regarding financial and human resource allocation to these areas.

The DBMS with GPS information was submitted to POLICY/DC for final analysis and production of maps. Statistical Package for the Social Sciences version 13.0 (SPSS) was used to analyze the data for relationships and differences between groups based on relevant markers. Descriptive statistics, including cross tabulations, were primarily used in this study. GPS information was used to create coverage maps through which gaps in service provision, district coverage, and age profiles were visually represented.

In this report, each dot on a map represents a facility or site where one or more midwife practices. Rather than representing each individual midwife with a dot—which would create layers of dots at a single facility—the format of one dot per site was chosen. (Although a higher number of midwives at each facility decreases the workload at that site, the number of midwives at each facility will not increase women's access to services.) In addition, provision of normal labor and delivery services is the baseline for comparing other services, as the most fundamental definition of a midwife includes the basic service of labor and delivery practices.

Qualitative Data Collection: Focus Group Discussions

From July 14 to August 18, 2005, a POLICY Project consultant from Ghana led 10 FGDs with midwives across the country. We selected 68 practicing and administrative midwives from both urban and rural areas of the Northern, Greater Accra, and Central regions, whose experience ranged from one to 52 years. Within these regions, the midwives practiced in six urban and rural districts: Accra Metropolitan Health Directorate, Dangbe West Dodowa, Awutu Efutu Senya, Gomoa, Tamale, and West Mamprusi.

Focus group research setting

We selected three distinct regions for inclusion in the qualitative data collection. While the project's intention was to collect quantitative data in the same regions and districts in which FGDs were held, human and financial resource constraints and challenges associated with accessing all of the districts via automobile resulted in a more limited study area and that differed somewhat from the quantitative study area.

Focus group participant selection

To draw on a wide range of perspectives, we solicited participation from midwives working within GHS, CHAG, and GRMA, in both urban and rural districts in the Northern, Greater Accra, and Central regions.

We sent letters to the participating districts to inform the authorities at the selected institutions about the study. The authorities in turn identified contact persons who identified the midwives to participate in the discussions. Midwives self-selected to participate in the FGDs, based on their availability. Table 5 shows the distribution of participating midwives.

Table 5. Midwives Participating in Focus Groups by Region, District, and Affiliation

Region	District	# FGDs	# GHS Midwives	# GRMA Midwives	# CHAG Midwives	Total # Midwives
Greater Accra (Urban)	Accra Metro	2	9	8	0	17
Greater Accra (Rural)	Dangbe West Dodowa	1	8	0	0	8
Central (Urban)	Awutu Efutu Senya	1	0	6	0	6
Central (Rural)	Gomoa	2	7	0	7	14
Northern (Urban)	Tamale	3	10	2	3	15
Northern (Rural)	West Mamprusi	1	8	0	0	8
Total		10	42	16	10	68

Focus group data collection

POLICY Project staff developed a FGD guide (Appendix A), which was pilot tested and subsequently modified. Main topics covered in the FGDs included the following:

- Education and Training
 - Pre-service training (PST) components
 - In-service training (IST) components
 - Additional skills desired for practicing midwives
- Service Provision
 - Midwives as part of the healthcare provider structure and service delivery system
 - Role of the midwife
 - Collaboration with other providers

- Autonomy of the midwife
- Scope of practice (SOP) and range of services provided
- Client interaction
- Fee charged for service
- Remuneration/salary versus cost of service provision
- Supervision
- Legislative instruments that set SOP and limits to service provision
- Retention and Attrition
 - Perceptions of number of practicing midwives in Ghana
 - Ideas and recommendations for retaining midwives in the system
- Recommendations from Midwives
 - How to improve training (pre-service and in-service)
 - Encouraging others to pursue a career in midwifery

FGDs took place in the health administrative offices of the GHS or GRMA or in conference rooms at hospitals. All FGDs were conducted in English and lasted between 45 minutes and four hours, with the majority lasting approximately 90 minutes. All FGDs were tape-recorded and most included a note taker, except for the Northern Region where it was difficult to recruit personnel. The tape-recorded discussions were transcribed verbatim.

Focus group data analysis

The qualitative component of the midwife project is based on the transcripts of the FGDs. A single individual coded the transcripts according to the FGD guide's main themes and questions. Participant comments were then entered into five matrices, organized by FGD topic and subtopic and separated by FGD. Subtopics were based on specific questions posed in the FGDs. Use of the matrices allowed easy detection of trends and themes within the discussion topics and subtopics. Comments with similar characteristics then were grouped together within a subtopic. Within each subtopic, areas with strong agreement also were identified. The analysis revealed perceptions commonly held by all groups, as well as within particular subgroups. Where appropriate, individuals' comments are provided to present the diversity of experience and opinion held by this group of midwives. Quotations included are drawn verbatim from FGD transcripts.

Study Limitations

Data collectors encountered several unfavorable field conditions that affected their ability to collect complete information.

Survey:

- Shift schedules at facilities prevented interviewers from accessing all midwives employed at facilities during a single visit to some facilities and resulted in lost opportunities for interviews.
- Doctors, nurses, TBAs, and other care providers capable of providing maternal and child services were not included in this study.

- The DBMS design, survey, pretesting, and data input were conducted simultaneously during the first round of data collection, limiting opportunities to fine-tune the data collection tools and methods.
- Due to funding limitations, complete coverage was not achieved in the six districts, so results cannot be extrapolated to the region or country levels.
- Questions on the survey relating to services were stated in terms of those provided within the last three months, so some midwives might provide additional services that they were not called on to perform during that time.

Focus groups:

- In the transcripts, FGD responses were not attributed to specific participants but rather to midwifery affiliation. This made it difficult to determine whether the same participants were speaking or whether the comments were coming from multiple participants.
- A 40 percent increase in gas prices reduced the ability of CERSGIS consultants to travel to the locations of focus groups included in the survey.

This study used a combination of methodologies, with the goal of creating a database on Ghanaian midwives and the range of services they provide. Revision of the survey tools and data collection processes and an increased application of GPS software would allow for the creation of a scientific methodology to track midwife coverage globally.

IV. POLICY ENVIRONMENT

Overall, Ghana has a policy environment favorable to reducing maternal mortality and providing high-quality care. Importantly, the government is working to reduce barriers to accessing healthcare services. However, resource constraints and the challenges of decentralization will continue to pose problems to Ghana's health system. This section reviews national maternal health policies, training policies and standards for midwives, and financing and reimbursement schemes for midwife services.

National Maternal Health Policies

Ghana adopted the International Conference on Population and Development (ICPD) Cairo declarations in 1994, updated its *National Population Policy* that aimed to reduce the total fertility rate and increase the contraceptive prevalence rate. In 2001, Ghana's First Lady signed the *Bamako Declaration*, which among other points, recognized high maternal and neonatal mortality as a social injustice (Antwi and Ababio, 2001). Midwives are central to the delivery of essential and emergency maternal health services as well as family planning and therefore have a critical role to play in implementing related healthcare policies.

Ministry of Health and partners

The MOH has a history of participatory population and reproductive health policy formulation and implementation. The MOH oversees the entire health system, coordinates all health initiatives, and formulates national health policies that are then implemented by various entities. The MOH also oversees all government of Ghana financial resources related to health. The GHS, which was established in 1996, but formally launched in February 2003, is the service delivery arm of the MOH, implementing broad policy directives and the five-year workplan developed in conjunction with the MOH. Under the GHS, there are national departments including the public health division that oversees maternal, child and reproductive health, as well as other health directorates at the regional, district, and subdistrict levels.

The Christian Health Association of Ghana (CHAG) is a key partner with GHS in the provision of healthcare services. CHAG is the umbrella organization that coordinates the activities of Christian health institutions and the health programs of churches in Ghana. CHAG coordinates its programs with the MOH and GHS. CHAG members predominately focus on the poorest and vulnerable groups and are therefore often located in the most remote areas of the country. Most of CHAG's service delivery is carried out from its 58 hospitals and 90 health centers in the country (Heyen-Perschon, 2005).

Another influential body is the National Population Council (NPC), a parastatal agency that advises the government on population issues and coordinates the population programs of public and private sector organizations.

The MOH adopted the *Safe Motherhood Initiative* in 1987 in line with international declarations that identified maternal and newborn health as priorities for health delivery systems. The *Safe Motherhood Initiative* ensures that midwives receive training in and are capable of counseling clients in premarital therapy, which incorporates genetic counseling; health education; ANC; safe

delivery; postnatal care, including breastfeeding; infant's and women's health; family planning; PMTCT; and PAC.

The policy framework of the national healthcare system is focused on the core problems of the country. The government of Ghana is determined to improve access and equity to essential healthcare and ensure that the health sector plays a role in the national Poverty Reduction Strategy, which has the following strategic objectives:

- **Improving geographical access** to primary health services and emergency services by placing health points with a community health officer in remote rural areas. So-called *CHPS zones* shall be established nationwide (community-based health planning and services).
- **Improving financial access to healthcare** for the financially vulnerable.
- **Improving socio-cultural access** for priority groups (children, women, elderly, people with chronic diseases, and the disabled) [see MOH five-year program of work, 2002–2006, April 2003].

Community-based Health Planning and Services Initiative (CHPS)

Adopted in 1999, Ghana's Community-based Health Planning and Services Initiative (CHPS) aims to reduce barriers to geographical access to healthcare, as well as to improve the efficiency and quality of health and FP services through mobile, community-based care.

Since its adoption, CHPS has been strongly supported through the national and regional health administrations because most communities lack access to health facilities. The CHPS Initiative involves community mobilization, construction/renovation of community health compounds, and posting of a community health officer to the community. Its objective can be stated as strengthening subdistrict health services, of which the community health officer is an extension agent. Although the initiative is relatively new, most subdistricts have developed plans to launch CHPS zones within their jurisdictions. The new USAID bilateral project, CHPS-TA, is focusing on 28 priority districts in the southern region of Ghana to strengthen and expand implementation of the CHPS Initiative as a means of expanding access to primary health services.

The decision to include CHPS as a component of the national health strategy to improve access to health stemmed from the positive results achieved in a pilot community-based health program, initiated by the Population Council in Navrongo, Upper East Region (Population Council, 2005). The Navrongo study findings clearly showed that posting nurses to community locations cut under-five mortality rates by two-thirds over six years. Once the intervention proved replicable in other similar settings, the government of Ghana committed to scaling up the CHPS model.

The impact on fertility in the study area was also remarkable—fertility rates declined by 15 percent, representing a reduction of one birth in total fertility over the 1997–2003 period. In addition, the incremental program costs added only \$1.92 per capita to the \$6.80 per capital primary healthcare budget (Phillips, Bawah, and Binka, 2006).

The success of the Navrongo study led to subsequent replication of CHPS in other districts in Ghana, including Nkwanta in the Volta Region, and Birim North in the Eastern Region. CHPS has led to improvements in health indicators, especially child survival, maternal health, and family planning in all areas where it has been implemented.

As part of the ongoing CHPS implementation, other reforms have been put in place to support the training and availability of trained nurses and midwives to work as community health officers. For example, the reorganization and launch of a direct training program for midwives under the CHPS Initiative is already increasing the number of young midwives entering the field. This program allows individuals to enter a midwifery program directly after secondary school graduation with no prior nursing background, opening the field to younger midwives and increasing the rate of replacement for an aging midwife population. Although few graduated from this new program its first year, approximately 150 students are scheduled to graduate in 2006 and move into active practice during the following two years. As of 2003, 104 of Ghana's 138 districts had started the CHPS Initiative (Nyonator et al., 2005).

The curriculum for the Direct Midwifery Diploma Program, designed in 2003, is already being used in the Nurses and Midwifery Training Schools as it was approved by the Nurses and Midwives Council for Ghana. The curriculum prepares student midwives to render efficient and effective reproductive healthcare to families in the community and in health institutions. The curriculum also considers the use of preceptors, learning guides, and the midwifery process as integral parts of the training program and includes a total of 20 weeks of practical, hands-on training sessions during vacation periods over the six-semester duration of the course.

Decentralization

The success of Ghana's population and RH policies and programs depend to a large extent on the government's decentralization process. Financial resources and planning authority are being transferred to district assemblies charged with facilitating government development initiatives and providing social services for residents. The overall government decentralization program is faced with significant challenges. Key among these is the tendency to retain control at the center, or headquarters, which is invariably located in Accra, where policy and financial/budget decisions are made. The following problems have been noted in the decentralized health sector:

- Lack of personal and health facilities due to the brain drain
- Lack of motivation of highly educated medical staff to work in rural regions, especially of those in the northern parts of Ghana
- Lack of supporting infrastructures and services for professional support (clean water, well-endowed midwifery schools, lack of medical journals and access to the internet)

In relation to the decentralization process in the 10 regions and 138 districts and subdistricts, the organizational structure of the national healthcare system in Ghana includes a hospital at the regional level. Below the regional level, rural healthcare is divided in three levels: district hospitals, subdistrict health centers or polyclinics, and CHPS/Community-level facilities. At the community level, a small health point is located in one village, covering several (5–10) villages. In the best-case scenario, a community health officer is assisted by a professional nurse, an auxiliary nurse, midwives, and one or two community health volunteers.

Midwife Education and Services Provided

The Ghana Nurses and Midwives Council is the regulatory body that controls midwifery education from curriculum development and review through license examination and certification. The council periodically reviews the midwifery curricula using a set of midwife tutors and practitioners.

Although the length of training differs between nurse/midwives and midwives, the midwifery curriculum is standardized such that all midwives in Ghana should complete training that gives them the capability to provide the same set of services. In addition to more general health training required for all medical personnel in the country, the training requirements specifically for midwives—as set forth in the *Ghana National Reproductive Health Service Policy and Standards*—include the following:

- Antenatal care
 - Risk assessment
 - Tetanus toxoid immunization
 - Breast examination
 - Identification and referral of pregnancy complications
- Labor and delivery
 - Use of partograph
 - Active management of labor
 - Vacuum aspiration (MVA)
 - Episiotomy repair
 - Resuscitation of mother and/or neonate
- Postnatal care, including initiation of breastfeeding and care of the neonate
- Prevention and management of abortion, including use of MVA, emergency treatment of abortion complications, and counseling and provision of postabortion contraceptive method of choice
- Intrauterine device (IUD) insertion and removal
- Contraceptive implant insertion and removal
- First-line management of side effects and complications of contraceptive methods
- Referral for other RH care services
- Screening for cancers of reproductive system, including visual inspection and gynoscropy
- Management information systems (MIS)
- Clinic organization and management
- Quality assurance for RH care services

Developed in 1996 by the MOH, the comprehensive *Ghana National Reproductive Health Policy and Standards* initially focused on health education, ANC, labor and delivery care, postnatal care, PMTCT, family planning, and prevention and management of abortion complications, among other issues. Updated in 2003, the revised policy identifies the role of midwives in interventions conducted at the community/household, primary health provider (health center), district hospital, and regional and teaching hospital levels. It also identifies four guiding principles for midwifery training and service delivery:

- Developing the capacity of providers to make appropriate decisions and respond to obstetric and neonatal emergencies;
- Increasing provider awareness of the rights, needs, and potential problems related to maternal and newborn health;
- Strengthening linkages for social support among women, men, families, and the healthcare delivery system; and
- Improving the quality of care for women, men, families, and communities.

Financing Schemes

Reimbursement

Although limited to select economically depressed regions (Northern, Central, Upper East and Upper West), a government system of cost reimbursement for midwives who provide normal labor and delivery services and ANC has reduced some barriers to access for women. Services now are provided free and midwives/facilities are reimbursed on a per capita basis. However, other services necessary due to complications, such as episiotomy and suturing or antibiotics and hospitalization, are not reimbursed and must be covered by the patient, which causes barriers to access to these services.

National Health Insurance (NHI)

One of Ghana's most significant policy achievements is the initiation of a NHI scheme. The National Health Insurance Act 650 was passed in 2003, and supports the establishment of district-wide insurance schemes as part of the NHI. The government of Ghana enacted this law to assure equitable and universal access for all its residents, replacing fee for service with a prepayment mechanism. Ghana was the first country in western Africa to introduce a NHI system. The scheme is still being developed; the framework is based on existing health insurance systems that cover both the formal and informal employment sectors, which would include midwives practicing at both public and private facilities.

The scheme is just one of several pro-poor government driven initiatives to combat poverty. The objective of the scheme is therefore aligned to the achievement of the Ghana Poverty Reduction Strategy (GPRS II).² The plan is designed to offer affordable medical care, especially to the poor and vulnerable. Various benevolent efforts are being made by NGOs to pay premiums on behalf of poor and vulnerable segments of society. Also, the Department of Social Welfare is implementing a pilot cash advance scheme to pay premiums for care givers and other providers caring for the poor and orphans and vulnerable children. The NHI scheme therefore has the potential to increase women's and children access to health services by reducing client financial barriers to seeking care.

The NHI covers a range of maternal health services, including ANC, deliveries, obstetric and gynecological emergencies, cesarean sections, and postnatal care. FP counseling is covered, but

² The government is pursuing several other pro-poor program initiatives, including the Capitation Grant that abolishes school fees in all publicly funded primary schools, the nationwide school feeding program, and the free ANC and delivery care policies—all targeted at ensuring equal access to health and being supportive of human development.

commodities are not, and clients will remain responsible for paying out-of-pocket for these. The proposed initial minimum premium is C72,000 (approximately \$8.00) per adult. The NHI premium structure requires that each household adult pay this amount, and all dependents (i.e., children under 18 years and the elderly) within the household will be covered.

At present, the scheme is in the early stages of implementation and it is too early to evaluate its impact. However, a recent *PHRPlus* report discusses the effects of enrollment in community-based health insurance schemes in Ghana to serve as a proxy of the potential effects of the NHI scheme. Survey results show that the NHI annual premium of 72,000 cedis per adult or 144,000 cedis (approximately US\$16) per two-parent family appears to be too high for many Ghanaian families. But when considering the amount that many Ghanaians are paying for healthcare, in particular the uninsured, the amount appears to be reasonable. For example, surveyed Ghanaians reported paying between 190,000–490,000 cedis (\$21–\$54) per hospitalization and 125,000–246,000 cedis (\$14–\$27) per delivery, suggesting that 72,000 or 144,000 cedis would not be prohibitive for most Ghanaians. Further, given that families only pay premiums for adults and all dependents are insured for free regardless of the number, the scheme in effect favors larger families. Regardless, it is critical that widespread, sustainable measures are implemented to ensure that those who cannot afford to pay the premiums can still be covered under the scheme (Sulzbach, Garshong, and Owusu-Banahene, 2005).

In spite of its promise, there remain organizational and planning challenges that need to be resolved, a shortage of adequately trained health providers to participate in the scheme, and public apathy toward the scheme. Managers of the scheme are currently working to address the aforementioned challenges to ensure the realization of the intended objectives of the NHI scheme. If well-implemented and actively used by Ghanaians, the NHI could present a valuable opportunity to expand health coverage to women and children who previously were not able to afford care.

V. SURVEY RESULTS AND FOCUS GROUP DISCUSSIONS

Distribution of Midwives

In the quantitative portion of the study, we surveyed 148 midwives in six districts at 62 facilities (see Table 6), covering 73 percent of registered midwives in the six selected districts.³ Interviewers visited a variety of clinics and maternity homes to complete interviews with selected midwives. Despite repeated attempts by CERSGIS, it was not possible to capture 100 percent of midwives in the six districts because of their varying schedules. Almost all of the remaining 27 percent of midwives worked out of the same facilities as those surveyed.

Table 6. Distribution of Midwives Surveyed

Region	District	No. Midwives Eligible	No. of Midwives Interviewed
Western	Ahanta West District	15	11
	Shama Ahanta East District	32	29
Central	Gomoa District	21	19
	Awutu Efutu Senya District	43	20
Ashanti	Kumasi District	67	50
	Ejisu Juaben District	23	16
No District Identified		3	3
TOTAL		204	148

The GHS, GRMA, and CHAG membership databases yielded a preliminary listing of practicing midwives in each district and region. The survey sample reflects the national distribution, with the largest number of midwives affiliated with GHS and significantly fewer associated with GRMA or CHAG (see Table 7).

Table 7. Distribution of Surveyed Midwives, by Affiliation

District	GRMA	GHS	CHAG	TOTAL
Ahanta West District	0	10	1	11
Shama Ahanta East District	6	23	0	29
Gomoa District	2	9	7	18 (19)*
Awutu Efutu Senya District	7	13	0	20
Kumasi District	12	29	6	47(50)*
Ejisu Juabeng District	0	11	5	16
No District Identified	2	1	0	3
TOTAL	29	96	19	148

* The number in parentheses represents the number of midwives that responded to the question, but four midwives did not indicate their affiliation. However, all 148 midwife responses have been included on other tables whenever possible.

³ Given that surveyed midwives did not answer every question, small variations in the number of midwives occur in the tables presented in this section.

In Ghana, 88 percent of midwives practice through GHS and 67 percent of those we surveyed practiced through GHS. According to the national registry, only 4 percent of Ghana’s midwives work through GRMA, but they represented 20 percent of those in our survey. CHAG midwives represent 8 percent of those in Ghana and 13 percent of survey respondents. GRMA midwives are more likely to be located near urban centers. The survey lacked GRMA midwives from Ahanta West and Ejisu Juaben Districts. Due to the low number of CHAG midwives in the country, their clustered representation in the Kumasi, Ejisu Juaben and Gomoa Districts only—which have higher levels of missionary facilities—is not surprising.

Age Profile

Seventy-nine percent of midwives in the survey reported being between the ages of 41 and 60; 39 percent were between the ages of 41 and 50; and 40 percent were between the ages of 51 and 60. Ahanta West and Awutu Efutu Senya districts have the oldest age distribution of midwives (see Table 8).

Table 8. Stratification of Midwives, by Age and District

Midwife Age	Ahanta West N= 11	Shama Ahanta East N= 29	Gomoa N= 19	Awutu Efutu Senya N= 20	Kumasi N= 50	Ejisu Juaben N= 16	TOTAL % N= 145*
20–30 yrs	0	0	0	0	4%	7%	2%
31–40 yrs	0	14%	11%	5%	8%	7%	8%
41–50 yrs	36%	38%	48%	30%	35%	47%	39%
51–60 yrs	55%	41%	26%	60%	37%	27%	40%
61–80 yrs	9%	7%	5%	5%	8%	0	6%
Missing age	0	0	10%	0	8%	12%	5%
TOTAL	100%	100%	100%	100%	100%	100%	100%

* The total is less than 148, as three midwives did not identify a district.

The age profile of GRMA midwives is particularly advanced, with 84 percent being over the age of 50 (see Table 9). In contrast, the age profile of CHAG is somewhat younger, with 85 percent below the age of 50. GHS, which has the vast majority of practicing midwives in Ghana, has 86 percent of its midwives between the ages of 41 and 60. IST is an important educational component for this older population to ensure clinical updates on evidence-based practices and policy guidelines.

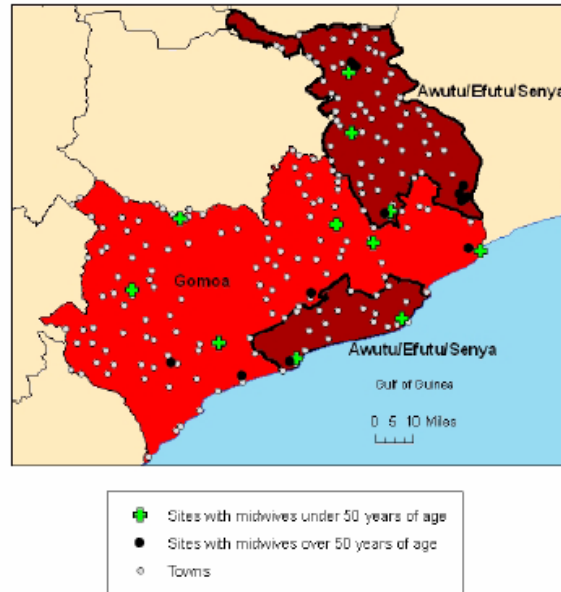
Without efforts to recruit younger midwives and retain those already in the field, the aging profile of Ghana’s midwives will become a major obstacle to access comprehensive reproductive healthcare services.

Table 9. Percent of Midwives by Age, by Affiliation

Midwife Age	GRMA N=29	GHS N=96	CHAG N=19
20–30 yrs	0	0	5%
31–40 yrs	3%	6%	25%
41–50 yrs	10%	44%	60%
51–60 yrs	59%	42%	5%
61–80 yrs	25%	2%	0
No age given	3%	6%	5%
TOTAL	100%	100%	100%

Map 3 of the Central Region indicates facilities employing midwives under the age of 50 with green crosses—compared with facilities employing midwives over the age of 50, which are indicated by black dots. In Gomoa, only 60 percent of the sites have midwives younger than 50 years old. In Awutu Efutu Senya, only 36 percent of the facilities currently employ midwives under the age of 50. Particularly in Awutu Efutu Senya, a substantial number of facilities are staffed by midwives who are older than age 50, and they are likely to retire soon. This map is a visual representation of the dire need to recruit younger midwives into Ghana’s health workforce. As the current midwives retire, new midwives must be brought in to maintain access to health services and continue Ghana’s trend in reducing maternal and child mortality.

Map 3.
Central Region
Awutu Efutu Senya and Gomoa Districts
Sites with Midwives Under/Over 50 Years of Age



Length of Service

Within this sample, the GRMA and GHS midwives were the most experienced, with high numbers who had been practicing for more than 15 years (see Table 10). In fact, all sampled GRMA midwives had at least six years of service. Since GRMA, particularly, but also GHS midwives tend to be older, it is not surprising that they claim more years of service as midwives.

Table 10. Length of Service in Years, by Affiliation

Length of Service	GRMA N=29	GHS N=96	CHAG N=19
< 1 year	0	8%	21%
1–5 years	0	32%	16%
6–15 years	16%	22%	42%
16 + years	84%	38%	21%
TOTAL	100%	100%	100%

Length of service is another indicator that highlights the aging population of midwives. Disaggregating the data by age mirrors these levels of experience. Although midwives were not asked about these trends in length of service, it is possible that midwives switch affiliations

during their careers. For example, midwives may work with GHS earlier in their careers and then move to private practice, affiliating themselves with the GRMA. In addition, midwives may choose to be seconded to another affiliation. Since CHAG is a more recent addition to Ghana’s midwife services, it follows that fewer midwives would be affiliated with it.

Education and Training

Pre-service training

The classroom component of midwife certification, PST, is described by midwives as “intensive,” “very rigorous,” and “hectic,” with an emphasis on memorization and theory. Midwives noted that there have been some welcome additions to PST content in the last 25 years, including the topics of family planning, PAC, and the use of partographs. Focus group participants also noted the shift toward client-centered care in more recent years:

“During our time we were doing counseling but we were not actually counseling the patients as we have been taught now. Ours was somewhat like advising...now with this new trend of counseling...we don’t choose for them, we take them through the process, guide them, and in the end they make a reasonable choice for themselves.”

The practical component of training provides hands-on experience while working in a variety of facilities and is considered by many midwives as the primary focus of their education. In the survey, 78 percent of GHS and 70 percent of CHAG midwives received at least seven months of practical experience. In contrast, 42 percent of GRMA midwives received less than six months of experience (see Table 11).

Table 11. Length of Practical Training, by Affiliation

Length of Practical Training	GRMA N=29	GHS N=96	CHAG N=19
No practical training	23%	7%	5%
< 6 mo	19%	15%	25%
7–12 mo	39%	53%	50%
13–24 mo	19%	21%	15%
25+ mo	0%	4%	5%
TOTAL	100%	100%	100%

Several midwives felt that they would benefit from more time spent on practical experience, so as to feel more prepared. One midwife in a focus group commented, “*With the practicals we have at our district, when we go to our district, we normally spend about two months; I think the duration is short.*” Given that the new direct entry PST program incorporates practical experience as a critical component, it appears that there have been recent improvements to this aspect of PST.

In-Service training

IST, or continuing education, is critical for practicing midwives to stay abreast of clinical practice updates and new technology. Midwives stated that IST sessions reduced the frequency

of referrals by teaching them how to manage complications. In addition, they commented that IST has the potential to standardize the skill set across midwives over time. Based on the survey, and as expected, the percentage of midwives who had received IST increased as the years of midwife service increased:

- 55 percent of midwives with one year or less of experience received IST
- 85 percent of midwives with 2–5 years of experience received IST
- 88 percent of midwives with 6–15 years of experience received IST
- 92 percent of midwives with 16 or more years of experience received IST

Survey results reveal that all midwife affiliations seemed to have access to training opportunities. Table 12 indicates the top trainings attended among each affiliation. GRMA and CHAG midwives appear to receive similar IST. Of the training topics listed on the survey, gender-based violence (GBV) and domestic violence counseling training was the least attended by all groups.

Table 12. Top Five IST Topics, by Affiliation

GRMA	GHS	CHAG
1. Partograph	1. Normal labor and delivery	1. Partograph
2. Infection prevention	2. ANC	2. Breastfeeding
3. Breastfeeding	3. Infection prevention	3. Infection prevention
4. Normal labor and delivery	4. Malaria in pregnancy	4. ANC
5. Postpartum care	5. Partograph	5. Normal labor and delivery

IST is viewed as a way to stay abreast of the latest changes in the standards of care. A GHS midwife practicing in Greater Accra commented on the importance of continuous IST throughout her practice: “When new things are introduced, we have to be upgraded again, if not you will be doing the old things.” While this additional training is highly desired, midwives in the FGDs noted that not as many midwives actually benefit from it as would like to. In particular, midwives in the more isolated Northern Region commented:

“If [you graduated] and you were lucky you will go for Safe Motherhood workshop. They will polish [your training] up and you would be upgraded. So if you are not lucky and they don’t call you for the Safe Motherhood workshop that means you won’t know the partograph.”

The process for selecting IST attendees also was unclear to most of the FGD participants, and the frequency of training opportunities seems to have decreased. Midwives deemed the lack of IST as problematic for several reasons, including a reduction in best practices and an increase in conflicts with supervisors. As one midwife phrased it,

“If the midwives go to learn something and the supervisor doesn’t learn the same thing, how do you supervise the person? So it means that instead of the work improving after they have attended the workshop, it does not.”

Among both the survey respondents and FGD participants, eclampsia and infection prevention trainings were mentioned as top IST topics, followed by ANC, partograph, breastfeeding, normal

labor and delivery, and newborn care. Few midwives reported receiving training for PAC, menopause, or GBV counseling.

Midwives also discussed the policies and regulations that limit their service provision, as well as the consequences of practicing outside of those boundaries: “*We care for normal cases and then we go by the laws they advise us, you go above that, you will be in trouble.*” Midwives implied that the boundaries are well known by practicing midwives. While few midwives in the FGDs named a specific legislative instrument, most stated that they learned about the limitations of midwifery service provision by word-of-mouth, through a colleague at work, or during training. While midwives are legally permitted to provide a range of services, many times the necessary equipment is not available for them to provide these services (i.e., manual vacuum aspiration, neonatal resuscitation, and so on) or they have not participated in the IST to update their scope of practice.

Recent Services Provided

To assess midwives’ experience in service delivery, they were asked about the services they had provided in the previous three months. Not providing a service in the previous three months may reflect clients’ lack of access to necessary clinical services—perhaps due to distance or financial barriers or because the service was not needed during the previous three months. Some midwives had been trained to provide additional services but had not been called upon to perform them or have had anyone qualified to supervise them in the facility in the past three months.

Affiliation comparisons

As expected, the majority (96 percent) of GHS midwives are providing services at government facilities. Thirty-one percent of CHAG midwives sampled also are contributing to the services available at public facilities (see Table 13).^{4,5} While GRMA midwives are responsible for the bulk of staffing in private facilities (65 percent), GRMA midwives also provide services at government facilities (16 percent).

Table 13. Midwives Providing Services at Government and Private Facilities, by Affiliation

Service Provision Sites	GRMA n=14*	GHS n=96 [§]	CHAG n=12 [#]
Government	16%	96%	31%
Private	65%	16%	5%
* 15 GRMA midwives did not respond to location of service provision. § All 96 GHS midwives provided the location of service provision. # 7 CHAG midwives did not respond to location of service provision.			

⁴ These data highlight cross-over of staffing between public and private facilities, showing that some midwives work at more than one location, resulting in percentages greater than 100.

⁵ Private facilities include client’s homes, private clinics, private maternity homes, or midwives’ homes.

More than half of the GRMA midwives did not indicate the location of their service provision. In addition, out of the 19 CHAG midwives surveyed, five stated they also worked at a government facility, one stated she had worked at a private facility, and seven stated that they had not provided services in either a private or a government facility within the previous three months.

Service provision facilities comparisons

Seventy-seven percent of midwives reported providing services at a government facility in the previous three months. Only 23 percent reported providing services at private facilities. While it might be expected that the districts with the highest percentage of services offered in government facilities would then be the districts with the lowest percentage of services provided through private facilities, this was not the case, as Shama Ahanta East and Kumasi both provided relatively high percentages of services at private facilities as well (See Table 14). The districts with the highest private facility service provision were Awutu Efutu Senya and Shama Ahanta East. Shama Ahanta East and Ahanta West midwives reported working in multiple facilities, resulting in overall higher levels of service provision.

Table 14. Midwives Providing Services at Government and Private Facilities, by District

District	Government Facilities	Private Facilities
Ahanta West¹	90%	18%
Shama Ahanta East	79%	31%
Gomoa²	56%	11%
Awutu Efutu Senya³	68%	35%
Kumasi⁴	71%	20%
Ejisu Juaben	87%	13%
1. 1 midwife response missing from Ahanta West. 2. 1 midwife response missing from Gomoa. 3. 1 midwife response missing from Awutu Efutu Senya. 4. 17 midwife responses missing from Kumasi.		

In Gomoa, eight midwives reported not providing services within the previous three months, limiting the provision of health services. In contrast to Gomoa, at least one midwife in every district reported providing services at both government and private facilities within the previous three months, and seven midwives in Kumasi provided services at both types of facilities.

Midwives working at a government facility in the last three months most frequently reported providing ANC, breastfeeding instruction, and infection management. Among services provided at private facilities, the most frequently provided services were ANC, newborn care, malaria in pregnancy, and health education. In both public and private facilities, the least reported services were GBV counseling and cervical laceration repair.

Packages of services

To facilitate analysis of service coverage, we clustered skills and services into standards of practice “packages” of services. “Routine packages” are the core competencies a student midwife needs to be eligible for accreditation. “Specialized packages” usually require some IST for competency and elevate the status of trained midwives by allowing them to provide more

services. Ideally, all midwives are trained and supervised in all these routine and specialized packages before they sit for the national exam and graduate.

In all government facilities in districts, the following care packages are provided:

- **Routine ANC**, which includes infection prevention, GBV counseling, treatment of sexually transmitted infections (STIs)/reproductive tract infections, health education, nutrition counseling, malaria in pregnancy, immunizations, and growth promotion
- **Routine Postpartum Care**, which includes promotion of breastfeeding and postpartum family planning
- **Routine Reproductive Healthcare**, which includes health education on timing and spacing of births, nutrition education, immunizations, treatment of STIs, reproductive tract infections, and infectious diseases, and provision of family planning products and services
- **Routine Infant Care**, which includes newborn care, immunizations, and growth promotion

The following care packages had *incomplete* coverage at service sites:

- **Specialized ANC**, which includes HIV prevention and management/PMTCT, and management of pre-eclampsia/eclampsia, ante-partum hemorrhage, and miscarriage
 - These services are available to some extent in most districts, but based on the survey responses, they were almost nonexistent in Ahanta West.
- **Routine Delivery and Care**, which includes use of the partograph, assistance during a normal delivery, and promotion of breastfeeding and postpartum family planning;
 - These services are present in all districts, but the survey suggested low partograph capability in Ahanta West.
- **Specialized Delivery and Care**, which includes removal of retained placenta and active management of the third stage of labor
 - These services were less available in Ahanta West.
- **Specialized Postpartum Care**, which includes cervical laceration repair and addressing PP hemorrhage
 - PP hemorrhage care in Ahanta West and Kumasi districts was severely limited.
- **Specialized Reproductive Healthcare**, which includes PAC, adolescent reproductive health education and care, and menopause care
 - Menopause and PAC services specifically were limited in Ahanta West and Shama Ahanta East.

Even in the districts where all services are provided, access to services may be limited due to the limited number of midwives performing them and the geographic location of those facilities. In general, service coverage appeared most comprehensive in government facilities and less comprehensive in private facilities. Midwives working in the private sector stated that, despite limitations in service provision, they felt they could offer more personalized, client-centered care than a public or government facility: “*Clients [at the private clinics] have care like they are just*

in their own homes, with their elder sister and their mother. At the hospital they treat you as another individual.”

Population Density Implications for Service Coverage

Because of differences in population density among the districts examined in this study, it is appropriate to discuss coverage in the context of the ratio of midwives to the population of women of reproductive age (WRA) at the district level. (Population density at the subdistrict level is not available. The number of midwives in each district is gathered from the national midwife registry.) As previously mentioned, 73 percent of registered midwives in the six districts were surveyed in this study. It is not clear whether the remaining registered midwives are currently practicing, where they practice, or what their scope of practice is, but we know that most midwives who are working do so at a facility included in the survey. Table 15 provides a comparison of the number of qualified midwives with residential populations per district.

Table 15. Midwives in the Context of Population Density

Region	District	Population	Women of Reproductive Age*	No. of Registered Midwives+	Ratio of Midwives to Women of Reproductive Age
Western	Ahanta West	95,140	23,405	15	1: 1560
Western	Shama Ahanta East	369,166	90,815	32	1: 2837
Central	Gomoa	194,792	47,919	21	1: 2282
Central	Awutu Efutu Senya	169,972	41,814	43	1: 973
Ashanti	Kumasi	1,170,270	287,887	67	1: 4297
Ashanti	Ejisu Juaben	124,176	30,548	23	1: 1329

*WRA was calculated by multiplying the district population by 24.6 percent.
+ Three midwives did not report district location and are not included here.

While there is no international standard for the ratio of midwives to population, the Joint Learning Initiative (JLI), a network of global health leaders launched by the Rockefeller Foundation, suggested that, on average, countries with fewer than 2.5 healthcare professionals (counting only doctors, nurses, and midwives) per 1,000 population failed to achieve an 80 percent coverage rate for deliveries by skilled birth attendants or for measles immunization (Joint Learning Initiative, 2004). Using that standard, and knowing that the number of physicians is less than half the number of midwives, the existing ratios of medical personnel to WRA suggest that the coverage of the population is inadequate to provide services to all women at both the national and district levels. Since midwives are the primary providers of RH care services to women in Ghana, ensuring a consistent and adequate ratio of midwives to WRA is essential in maintaining and supporting the health of women and neonates. This conclusion is further reinforced when the uneven distribution of midwife service locations is considered.

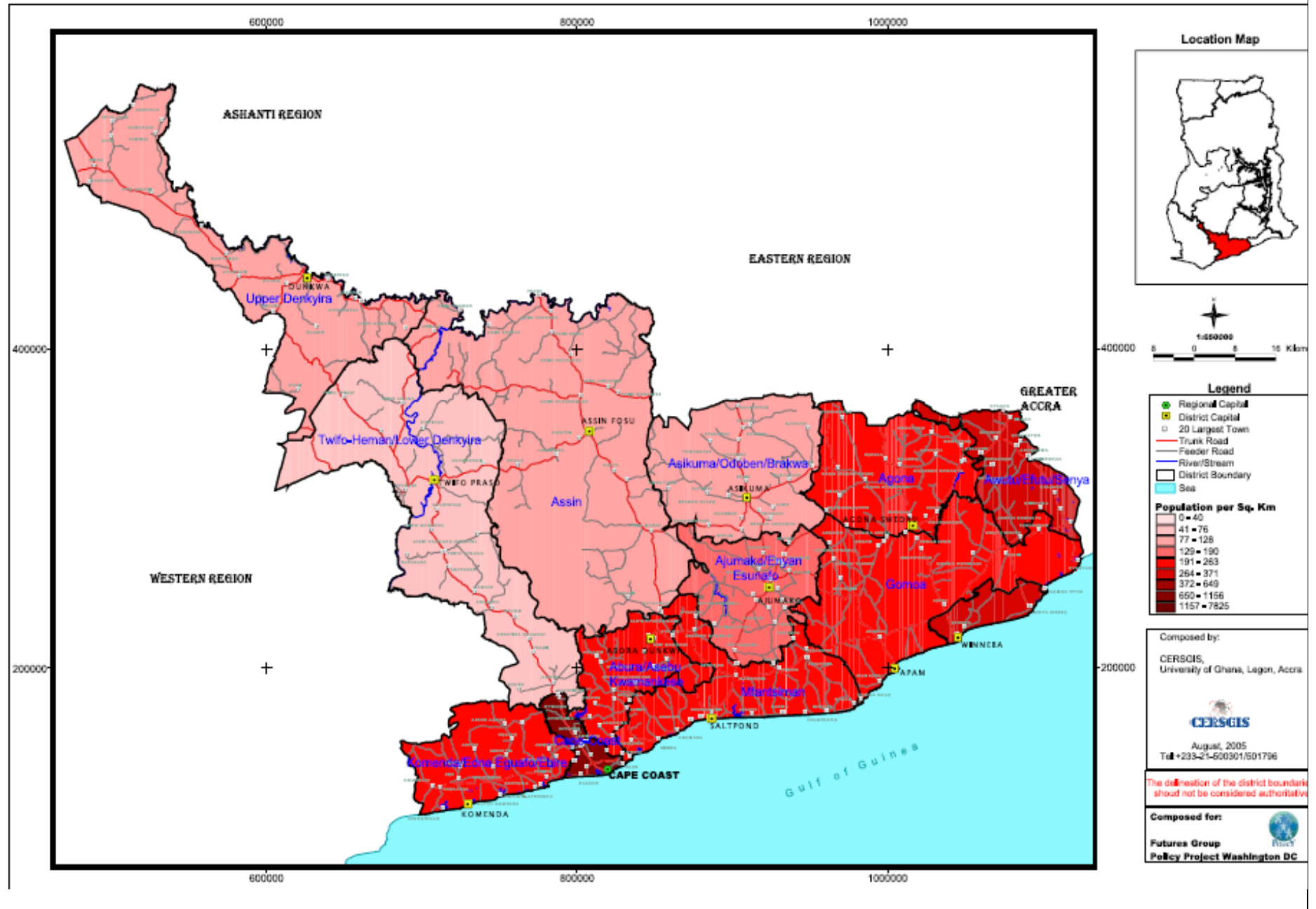
Population density differences among regions and districts can be seen in Maps 4, 5, and 6. In the Central Region, while Awutu Efutu Senya and Gomoa have similar populations and similar population densities, it appears that Awutu Efutu Senya has a greater ratio of midwives to WRA (1:973), compared with that of Gomoa (1:2,282) (see Map 4).

In the Ashanti Region, the two districts differ dramatically in size, with Ejisu Juaben's population being one-tenth that of Kumasi (see Map 5). Population distribution is high in Kumasi, with 1,157–7,825 persons per square kilometer, compared with Ejisu Juaben's more moderately distributed population of 191–263 persons per square kilometer. Similarly, the ratios of midwives to WRA in the districts are also different—1:1,329 for Ejisu Juaben and 1:4,297 for Kumasi.

Finally, in the Western Region, Ahanta West District has a moderate population density of 129–190 people per square kilometer, while Shama Ahanta East has a more dense population distribution, with 650–1,156 people per square kilometer (see Map 6). Ahanta West’s population is one-third that of the Shama Ahanta East’s, but it has a better ratio of midwives to WRA (1:1,560 versus 1:2,837).

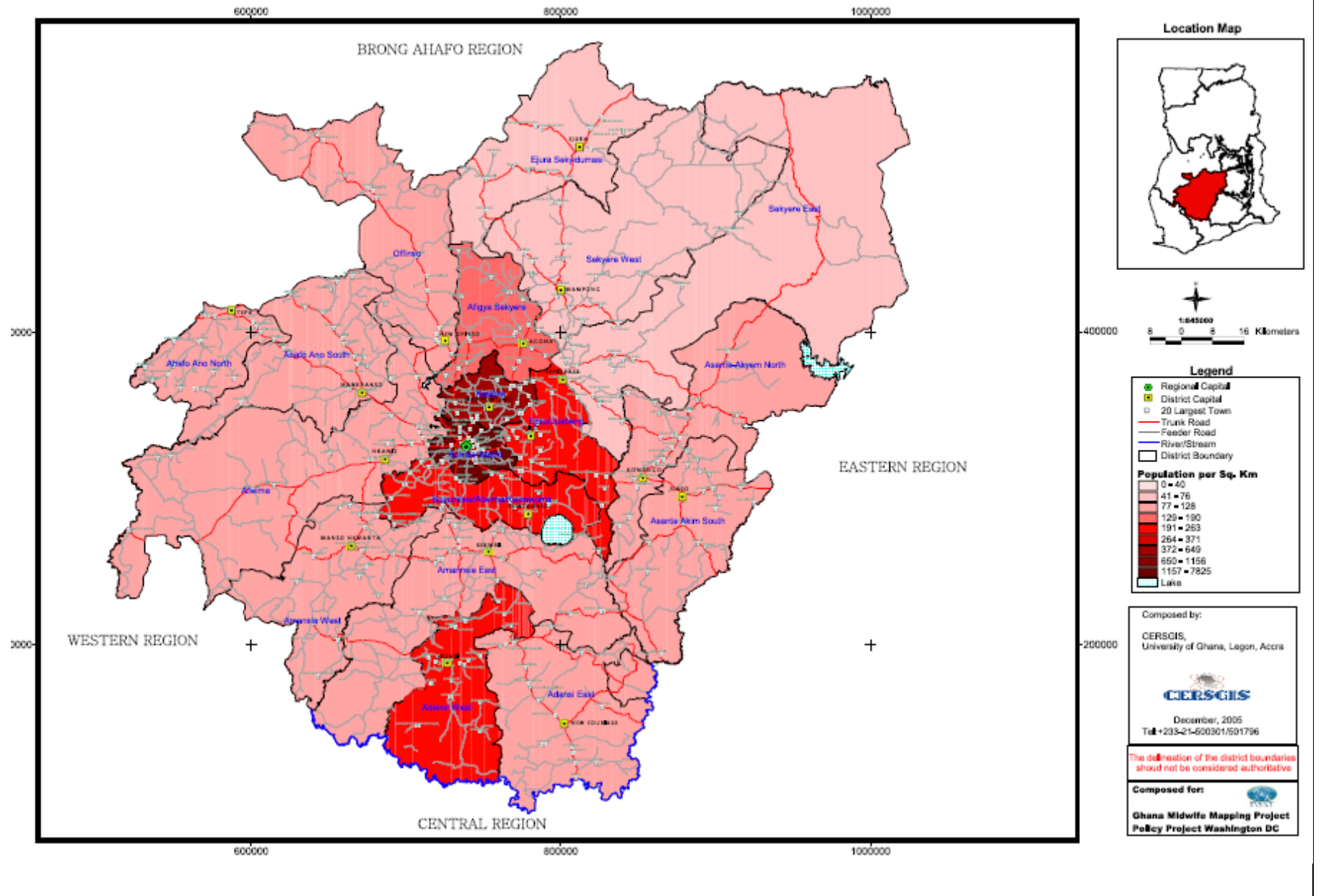
Map 4.

POPULATION DENSITY MAP OF THE CENTRAL REGION, GHANA

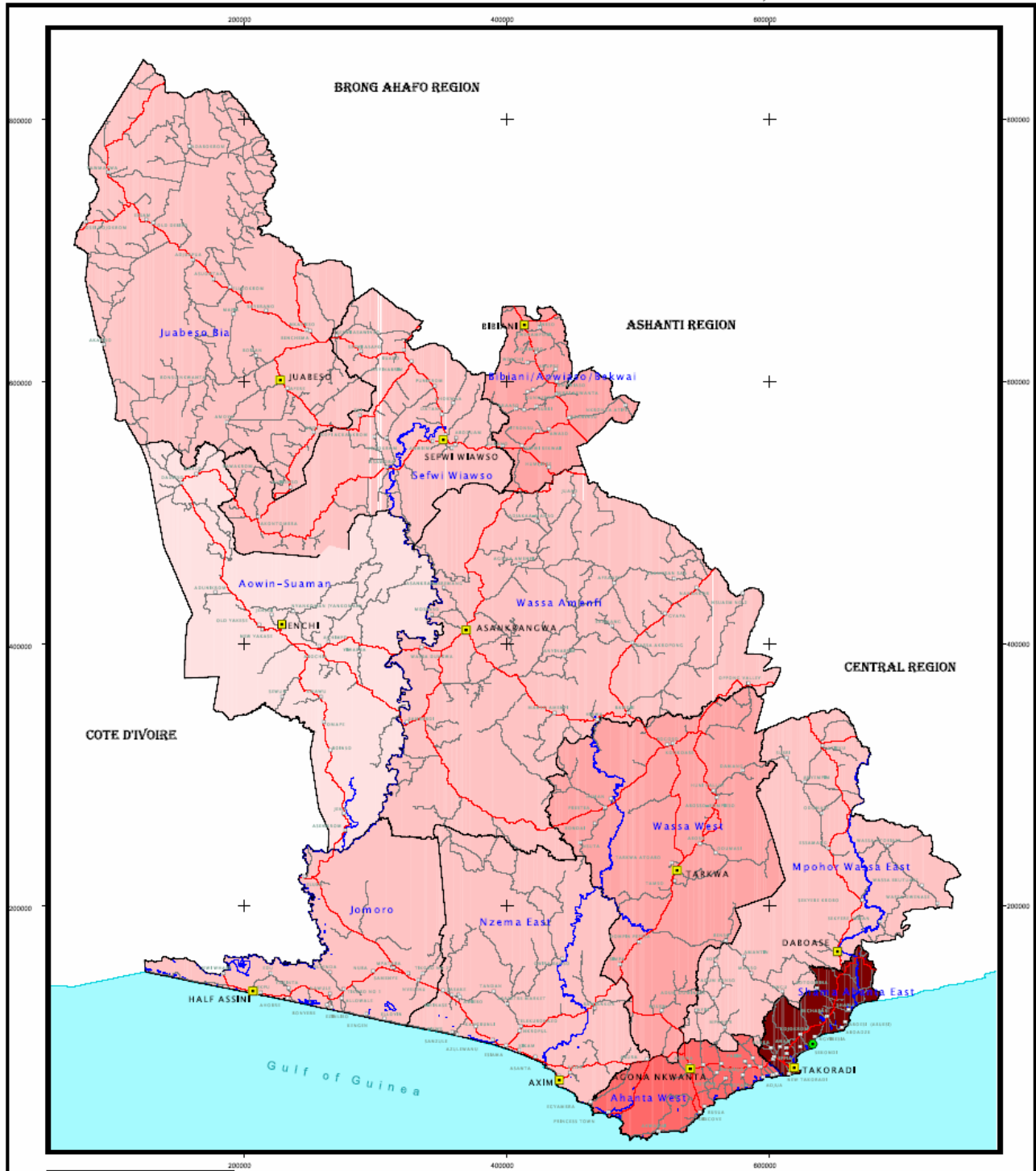


Map 5.

POPULATION DENSITY MAP OF THE ASHANTI REGION, GHANA



Map 6.
POPULATION DENSITY MAP OF THE WESTERN REGION, GHANA

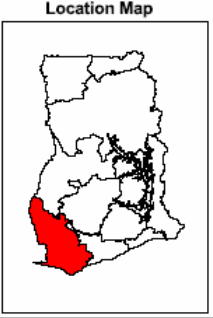
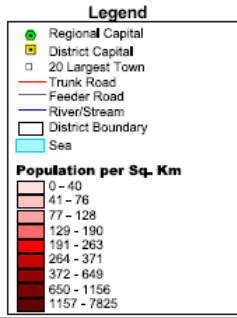
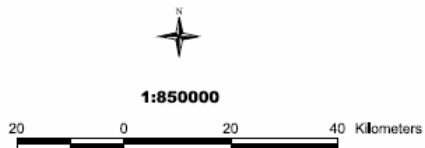


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The delineation of the district boundaries should not be considered authoritative

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Midwife Referrals

While midwives tend to refer serious complications to other providers at higher level facilities, they often receive referrals for complication from TBAs. Most midwives implied that working with TBAs requires patience, adding that “*TBAs have their limitations...They shouldn't attempt what they can't do.*” In the survey, 84 percent of midwives reported having deliveries referred to them by TBAs. Midwives commented that women in labor often stay with the TBAs for too long so that when the women are finally referred to midwives, there can be serious problems. The most frequently reported maternal postnatal complication treated by surveyed midwives was hemorrhage. The most common postnatal complication treated for babies was jaundice.

Ninety-two percent of midwives reported referring a woman to other health services for complications due to pregnancy and labor. The complications they most frequently sent for referral related to obstructed labor and included prolonged second stage of labor, hemorrhage, and fetal distress. Midwives also reported referring out more basic services, such as anemia, STIs, contraception, and ANC. The high percentage of midwives referring women to other facilities may indicate gaps in their skill sets or lack of resources for treating standard problems. Midwives in the FGDs indicated the latter reason, saying, “*Sometimes you want to work, you are trained, you see a patient, you want to work but the [equipment] is not there and you'll just be in a dilemma.*”

Fees for Service and Reimbursement of Midwives

A significant challenge midwives face is the inability of clients to pay for services, medicines, and needed supplies during antenatal, labor, delivery, and postpartum periods. “*[Our clients] are poor, they don't have the money so they don't get the drug that they are expected to have.*” Midwives in FGDs explained that fees for service vary significantly by region and facility. The government of Ghana has instituted geographic targeting of subsidized services, resulting in free normal delivery at any facility in the Northern and Central regions. Facilities are reimbursed 50,000 cedis (US\$5.50) per delivery in the Northern Region and 80,000 cedis (US\$8.80) per delivery in the Central Region. Yet, midwives in these regions unanimously agreed that those amounts were not sufficient to cover the costs of normal delivery; they estimated the actual cost of a normal delivery to be 100,000 cedis (US\$11.00). Midwives said that charges could be even greater for complicated cases requiring admission into a hospital. While many clients are not able to pay for accrued charges, one midwife noted optimistically, “*National health insurance will favor us...because there are some mothers in the communities you can just not charge them because they can't pay.*”

As a result of their clients' inability to pay for important aspects of care, midwives tend to be resourceful and provide what they can. They report addressing client needs by providing their personal materials, including food, baby clothes, maternity clothing, sheets, treated bednets, and even money for transportation to referral sites. Many midwives collect used clothing from other nurses and midwives to have on hand for clients who come “unprepared.”

Seventy-two percent of midwives reported that they had received reimbursement for services from the government and 59 percent reported receiving reimbursement from clients. Among

those receiving government reimbursement, services for which they most often were reimbursed were delivery and ANC (see Table 16). Clients were most likely to reimburse midwives out-of-pocket for PAC and family planning, suggesting that including these services/products in NHI could increase uptake.

Table 16. Percent of Midwives Reporting Reimbursement from Government and Clients, by Affiliation

Service	Reimbursement Source	GRMA	GHS	CHAG
ANC	<i>Government</i>	67%	91%	57%
	<i>Client</i>	54%	9%	50%
Delivery	<i>Government</i>	87%	95%	93%
	<i>Client</i>	42%	6%	19%
PP Care	<i>Government</i>	13%	48%	86%
	<i>Client</i>	61%	43%	13%
Family Planning	<i>Government</i>	20%	31%	36%
	<i>Client</i>	58%	80%	13%
PAC	<i>Government</i>	13%	19%	7%
	<i>Client</i>	70%	76%	94%
PMTCT	<i>Government</i>	7%	20%	0
	<i>Client</i>	19%	23%	19%

Considering that 88 percent of midwives work for the government through GHS, one would expect higher government reimbursement levels among GHS midwives than among GRMA or CHAG midwives. However, as Table 16 indicates, all three affiliations in the survey received government and client reimbursement, suggesting that private midwives within GRMA and CHAG are nearly equal participants in the existing reimbursement system.

Although most surveyed midwives indicated that they received some levels of reimbursement, midwives participating in FGDs considered salary and reimbursement as major issues of concern. For CHAG and GHS midwives, remuneration came in the form of salaries, bonuses, and/or non-monetary incentives. GHS midwives received salaries as well as an Additional Duty Hours Allowances (ADHAs) and occasional monetary bonuses. CHAG midwives in the Central Region said that the missions also provided them with non-monetary incentives, such as pots and

pans, free medical care for themselves and their dependents, and modest living quarters. Despite the introduction of government reimbursements in several districts and the implementation of NHI, most midwives felt that their salaries were too small, especially in the Northern and Central regions, resulting in high levels of frustration and a lack of sustainability. *“In fact, it is so bad that if you even mention your salary to others then they ask you why you are still working.”*

Recruitment and Retention

In 2000, more than 500 nurses and midwives left Ghana to work in other—mainly industrialized—countries, which is more than twice the number of new nurses and midwives who graduated from programs in the country the same year (Buchanan and Sochalski, 2004). In FGDs, several key themes emerged regarding levels of attrition.

First, midwives thought that while the education system currently trains more midwives than in previous years, there are fewer midwives actually practicing in Ghana because they are going abroad to “better things,” “greener pastures,” and “more money.” In addition, nurse/midwives are serving in other areas of healthcare, such as HIV/AIDS units, to compensate for the overall shortage of practicing nurses in the system. As one midwife explained:

“If I’ve been a principal nurse and I’ve gone to do midwifery, I expect to move up the scale. But because that is not done, that is some of the reasons why our midwives are leaving, back to their various [nursing, pediatrics, public health, and HIV/AIDS] units.”

Second, midwives commented that there were fewer midwives practicing in rural areas than in urban areas. The reasons for the disparity were attributed to undesirable working conditions, such as isolation and outdated clinics in rural areas, difficulty in finding a husband in rural areas, or that their husbands tended to work in the urban areas. A better standard of living, higher salaries, and improved working conditions are significant variables in explaining the appeal of migration for Ghanaian midwives to more urban areas and to other countries (Library of Congress, 1995; Dovlo, 2003a; Kupfer et al., 2004; WHO, 2006). One midwife suggested, *“Accommodations with electricity...If those are provided for the rural midwives, they will stay.”*

To increase recruitment and decrease attrition, midwives recommended providing better facilities to work in, increasing wages, equalizing pay scales with public health nurses, providing more educational opportunities, increasing the number and scope of midwifery schools, extending pre- and in-service training opportunities, offering housing stipends and other financial support, and bonding midwives to service in an area for a specific length of time.

Within the Ghana Health Services, the midwife is on a higher grade compared to nurses. For example, a staff nurse earns a monthly salary between 3.5m–4.5 million cedis; a senior staff nurse earns between 4.0–5.0 million cedis monthly; and a midwife earns between 4.8m–6.0m cedis. A public health nurse earns between 5.0–9.0 million cedis monthly.⁶ CHAG nurses and midwives are on a similar pay scale, while private midwives of the GRMA have their own reimbursement mechanisms.

⁶ US\$1 is equal to about 9,000 cedis.

VI. GIS MAPPING OF SERVICES

By including a GIS mapping component in the project design, we were able to conduct spatial analysis, an innovative approach that adds value to traditional survey techniques. Depicting facility locations and services available in the context of geographic distribution and population density allowed us to identify gaps in services and to acknowledge added barriers, such as distance to facilities and the availability of specific services in more remote or less populated areas.

We analyzed the maps at three levels:

1. *Geographical distribution of service sites:* by examining the location and distribution of facilities offering maternal and neonatal services in each district, we were able to identify areas that are underserved and focus on border areas where some district gaps could be eased by access to facilities in neighboring districts.

2. *Uniformity of scope of work:* by mapping the services offered at each facility we were able to see differences in the scope of work among midwives and the resulting differences in access to services. The maps visually demonstrate areas where facilities operate, but services are limited or unavailable due to these differences in scope of work.

3. *Population access to service sites:* by narrowing our focus to women within a 10-mile (15 km) radius of service sites, we were able to use mapping to examine the effect of service distribution on access. Understanding proximity is especially important for emergency care, which limits the feasibility of extended travel to facilities offering the needed services.

The maps on the following pages are based on service provision data collected via survey in conjunction with GIS data collection for service locations. Note that each dot represents a facility or site where midwives practice. More than one midwife may be practicing at any one mapped site. Several maps are presented under each of the three approaches listed above so as to provide an overview of select findings.

Geographical Distribution of Service Sites

The following maps show the distribution of all facilities with practicing midwives in each study district. These maps provide useful illustrations of how facilities are distributed geographically and potential gaps in access to care. Green crosses indicate sites providing specified services, white dots indicate towns, and black dots indicate sites not providing specified services. The shades of red indicate population density, with darker shades implying higher population densities.

Central Region

- While the sites in Gomoa are dispersed throughout the districts, there appear to be some areas that remain without coverage due to distance from facility, especially in the central areas of the district.

- Awutu Efutu Senya facilities appear clustered on the borders, requiring women to travel long distances to access services.

Western Region

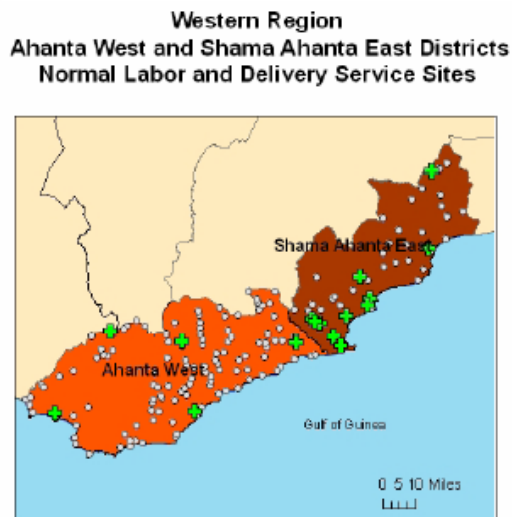
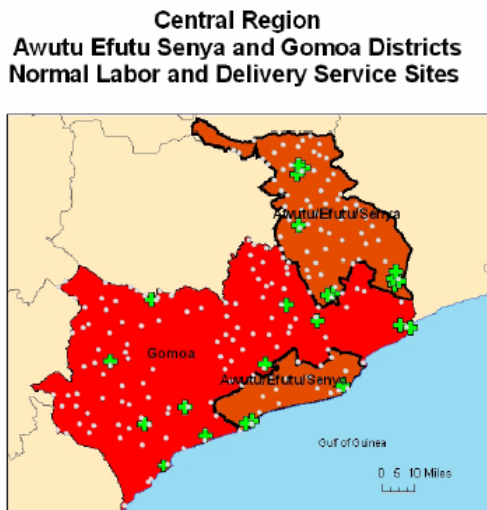
- Ahanta West has an equitable geographical distribution of facilities, but few sites overall.
- Facilities in Shama Ahanta East are clustered in the south, leaving the northern areas with only two sites.

Ashanti Region

- Kumasi provides multiple sites clustered in the center of the district, providing equitable coverage.
- Ejisu Juaben provides limited access due to the scarcity of sites overall.

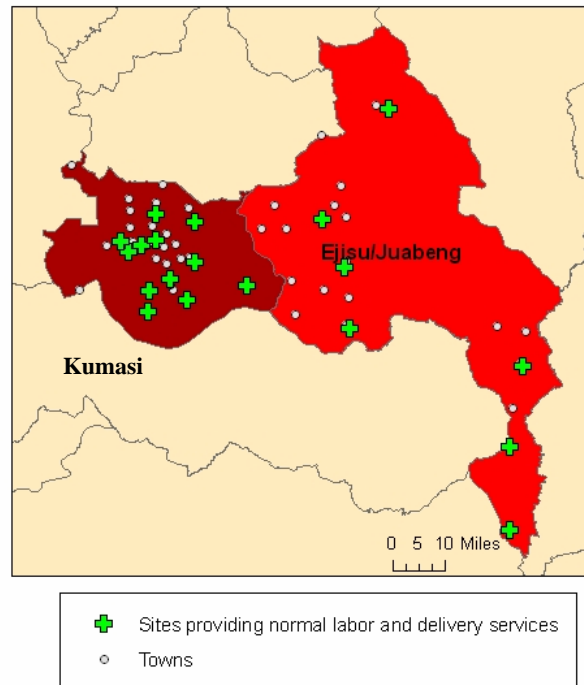
Map 7.

Map 8.



Map 9.

Ashanti Region Kumasi and Ejisu Juaben Districts Normal Labor and Delivery Service Sites



Uniformity of Scope of Work

Differences in the scopes of work for midwives present potential gaps in the availability of services for women. Because not all midwives are able to offer a standard set of services, as previously described, women may lack access to these services based on their geographic locations. Efforts to standardize both in-service and pre-service training of midwives can help to address this issue by ensuring that more midwives have a broader range of clinical skills. While enhancing skills may help upgrade existing sites that currently do not offer certain critical services, it does not help to fill gaps due to poor distribution or an overall lack of facilities.

The following maps examine selected services and packages of services and their distribution at the district level. The first set of maps looks at the distribution of midwives providing family planning and postabortion care services in all six districts, illustrating the impact of midwives having different scopes of work. The second set of maps looks at packages of services in select districts to highlight what services are offered more routinely and the resulting effect on access.

Selected Services

Family planning services

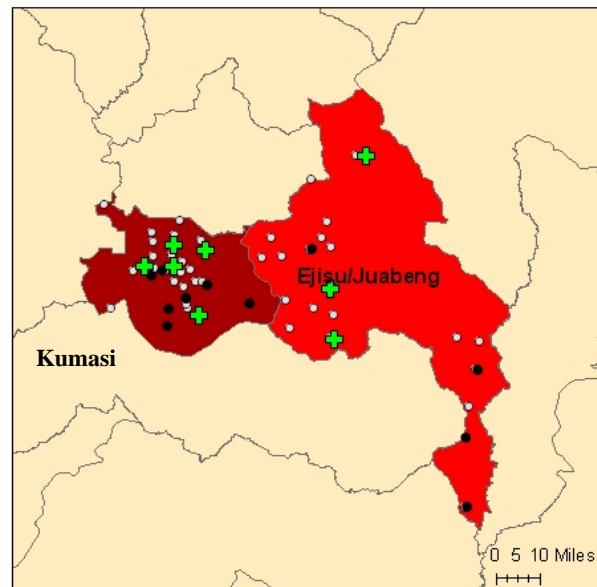
Family planning services and commodities are provided through a variety of mechanisms in Ghana. However, the following maps only refer to services provided by midwives.

FP services are provided by midwives at the majority of service sites in the Central and Western regions. While the scarcity of facilities in some areas translates to limited access, women who are able to reach service sites can usually receive family planning in these regions. As shown by Maps 10, 11, and 12, in the Ashanti and Western regions, FP provision is less accessible than in the Central Region.

The locations of FP service sites in relation to towns are better in Kumasi than in Ejisu Juaben; however, less than half of the facilities in each district offer family planning. Also, women living in the southern portions of Ejisu Juaben have extremely limited access to FP services through midwives.

Map 10.

Ashanti Region Kumasi and Ejisu Juaben Districts Family Planning Service Sites

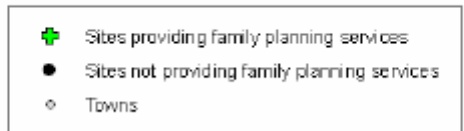
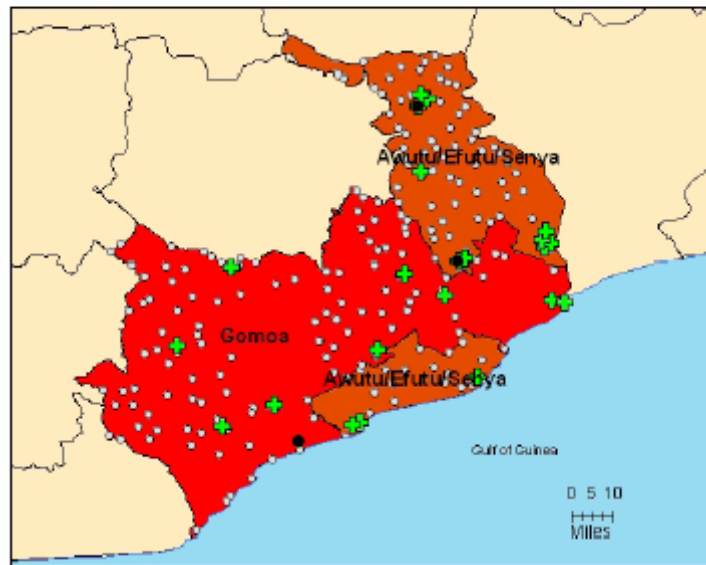


- + Sites providing family planning services
- Sites not providing family planning services
- Towns

Note that in the Central Region, shown in Map 11, there are few service sites in the central portion of Gomoa. Fortunately, this correlates with population distribution, as there appear to be no towns located in the central section. Women living in the western portion of Gomoa and along the outer borders of both Gomoa and Awutu Efutu Senya may have a more difficult time obtaining FP services through midwives.

Map 11.

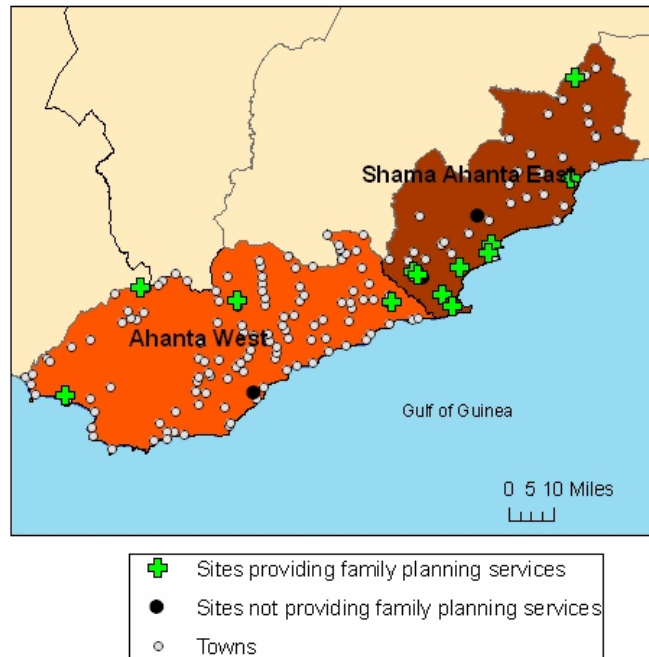
**Central Region
Awutu Efutu Senya and Gomoa Districts
Family Planning Service Sites**



Most sites in both Ahanta West and Shama Ahanta East districts contain midwives who offer family planning services. However, the small number of service sites in general could limit access for women in Ahanta West. Women who live along the ocean on the southern border of the district have severely limited access to family planning, both because of a general lack of service sites and the absence of family planning services at the one existing site. Women in the central part of Shama Ahanta East also have limited access to family planning because of a lack of service sites and the lack of family planning services at one centrally located facility.

Map 12.

Western Region Ahanta West and Shama Ahanta East Districts Family Planning Service Sites



PAC services

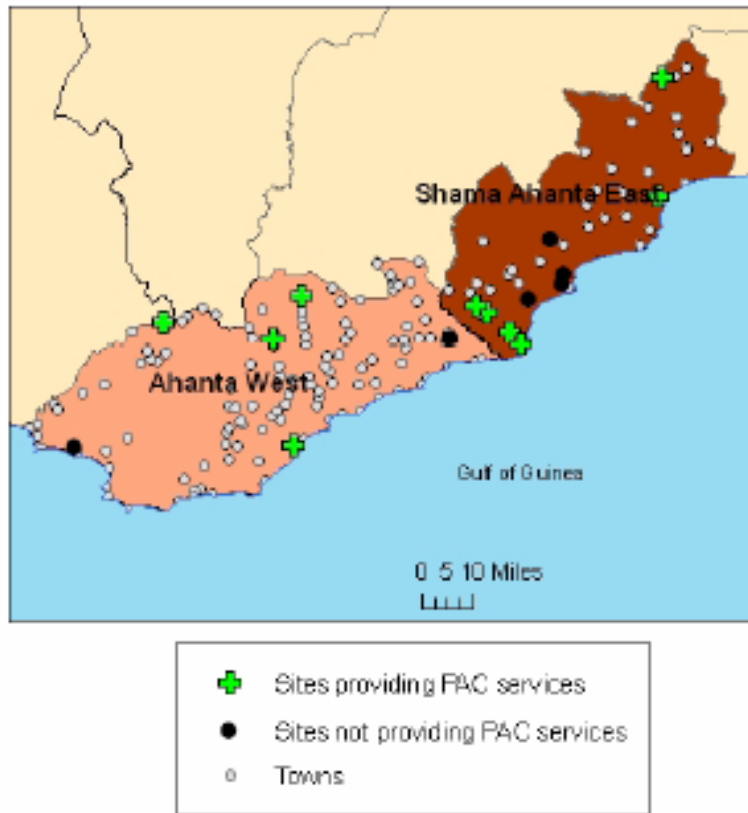
Access to PAC is a key factor in reducing maternal death and disability; the WHO reports that complications from abortions contribute 10 percent of maternal deaths globally (<http://www.who.int>).

Ahanta West continues to suffer from a low number of RH care service sites overall. As Map 13 indicates, because service points are limited, any facility that does not offer PAC, an essential emergency service, further strains an already weak system. The lack of PAC services in the west and the east of this district is especially problematic for women who live in coastal areas, because the option of accessing services in neighboring districts is not easily available.

For Shama Ahanta East the situation appears more dire because the majority of the district is without PAC coverage. Again, the distribution of midwives offering these services disproportionately affects those women living on the coast.

Map 13.

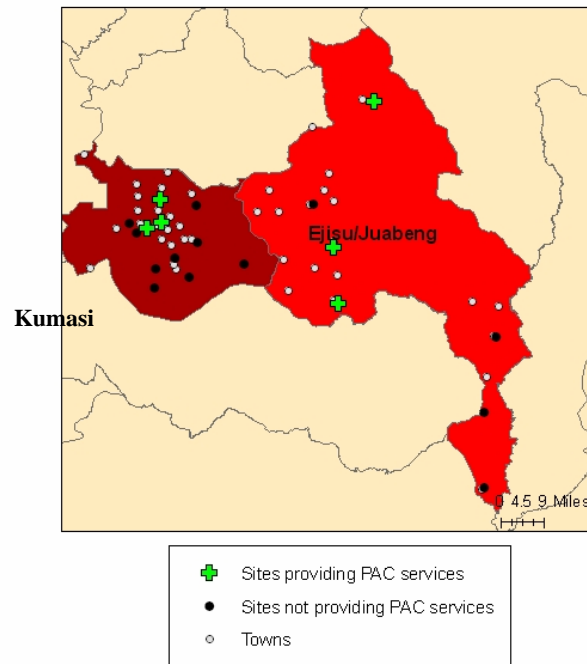
**Western Region
Ahanta West and Shama Ahanta East Districts
Postabortion Care Service Sites**



Map 14 indicates that access to PAC services in both districts in the Ashanti Region is equally limited, with most PAC providers in Kumasi and Ejisu Juaben clustered in the center of the districts. This distribution leaves large areas without easy access—a serious situation considering the emergency nature of PAC complications. The high population density in Kumasi intensifies the problem and puts more women at risk.

Map 14.

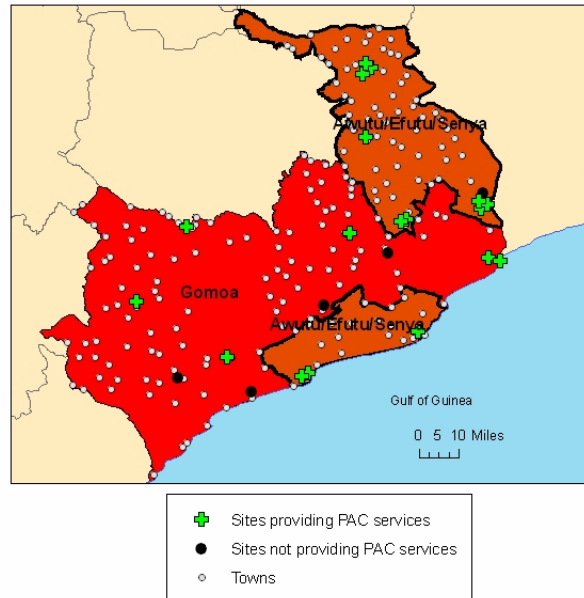
Ashanti Region Kumasi and Ejisu Juaben Districts Postabortion Care Service Sites



Map 15 shows that most service sites in Awutu Efutu Senya have midwives that offer PAC services. This is not the case for Gomoa where many service sites are without a midwife who provides PAC services. Women living in the central and southern part of Gomoa District have very limited access to PAC services.

Map 15.

Central Region Awutu Efutu Senya and Gomoa Districts Postabortion Care Service Sites



Packages of Services

As discussed earlier, it can be helpful to look at packages of services to see how certain kinds of basic and specialized care are covered. The following maps show access to comprehensive services for antenatal, postpartum, and delivery care packages.

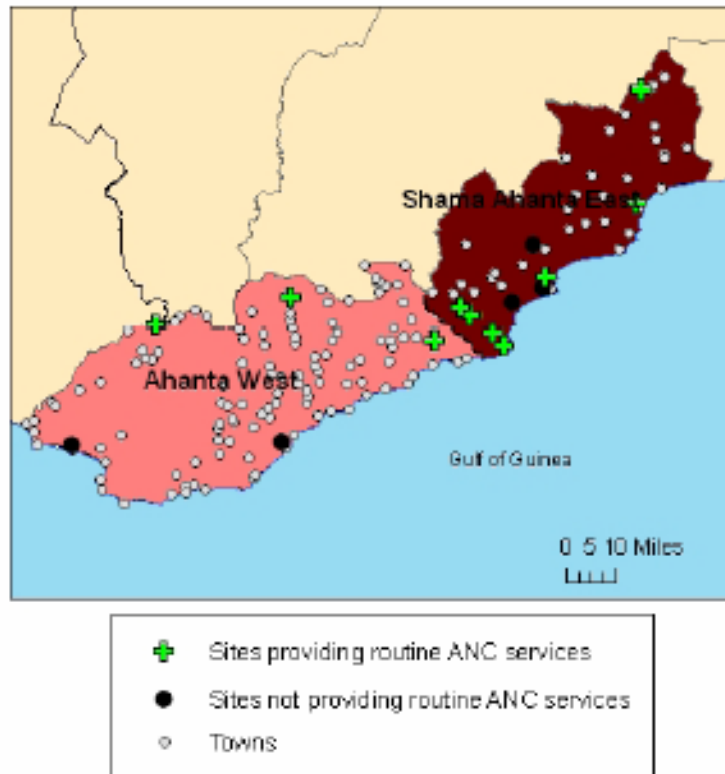
Routine ANC package

This package includes infection prevention, treatment of STIs/reproductive tract infections, health education, malaria in pregnancy, immunizations, and growth promotion. As previously defined, the package also includes GBV counseling, but because only one midwife in each of the districts provides this service, GBV counseling is not included for mapping purposes. These basic services can greatly influence the general health and well-being of women and children. The percentage of women receiving high-quality, focused ANC is often a key indicator included in national strategies. Limited access to these services could prevent the government from achieving development goals.

As illustrated by Map 16, women living in the southern half of Ahanta West again suffer from a severe lack of access to this routine package of services, especially those near the coast who have limited ability to access services in other districts. Midwives providing the ANC package in Shama Ahanta East are clustered in the southwest corner, leaving many women without access. The inequitable distribution of these basic services should be cause for alarm at the national level.

Map 16.

Western Region
Ahanta West and Shama Ahanta East Districts
Routine Antenatal Care Service Sites



Specialized Postpartum care package

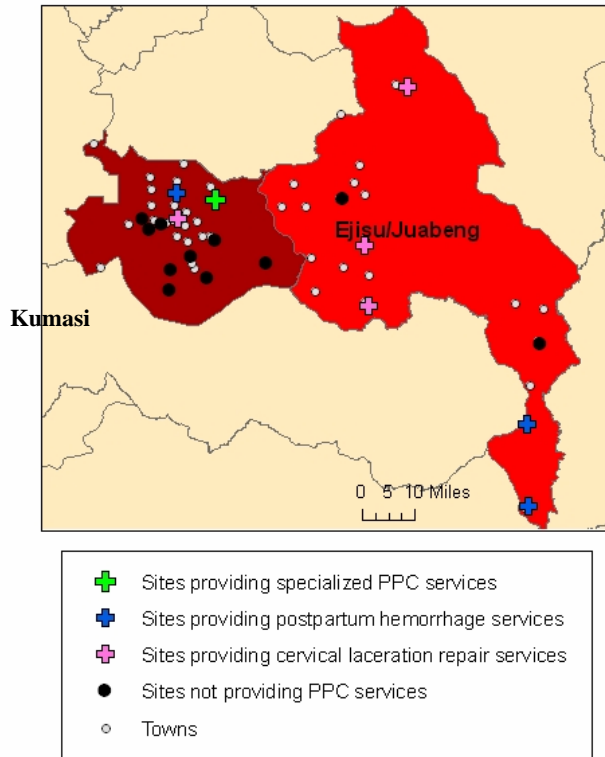
This package includes cervical laceration repair and care for PP hemorrhage, both of which are major causes of maternal death and disability and can negatively impact a woman's future reproductive health.

Map 17 of the Ashanti Region illustrates the alarming fact that this specialized package is offered by only one provider for both districts. Also of concern is the fact that few midwives identified by this study provide either of the services in Kumasi. Only one facility in the northeast part of Kumasi offers comprehensive PP care, and two sites offer one element of the package. In the southern part of the district, specialized PP care appears to be unavailable.

The situation in Ejisu Juaben is even more complex, with only PP hemorrhage care available in the south and cervical laceration repair available in the north and central areas of the district; no site offers both services.

Map 17.

**Ashanti Region
Kumasi and Ejisu Juaben Districts
Postpartum Hemorrhage and
Cervical Laceration Repair Sites**



Specialized delivery and care package

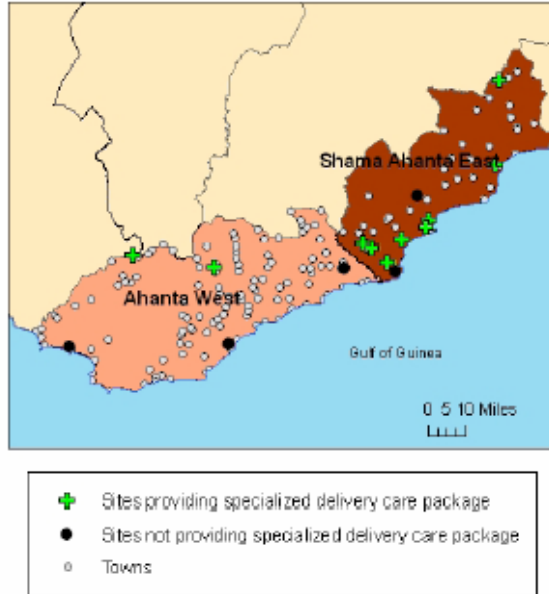
For the purpose of this map the definition of the specialized delivery and care package includes removal of retained placenta and active management of the third stage of labor.

Consistent with previous maps, access to services in Ahanta West are severely limited, with only two sites providing this package. Given the number of towns in the district on Map 18, the lack of access to the services poses potentially grave problems. This pattern is similar to that in Shama Ahanta East, where midwives offering these services are clustered mostly in the southern portion of the district.

Although not all midwives in Kumasi offer the full specialized delivery and care package, access to these services is not as limited as for other packages. Based on Map 19, the women residing along the border between Kumasi and Ejisu Juaben appear to have the most limited access to these services.

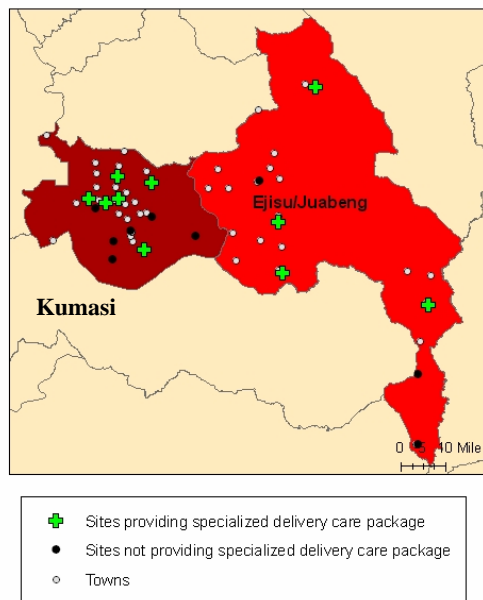
Map 18.

Western Region Ahanta West and Shama Ahanta East Districts Specialized Delivery Care Package Service Sites



Map 19.

Ashanti Region Kumasi and Ejisu Juabeng Districts Specialized Delivery Care Package Service Sites



Population Access to Service Sites

The previous two mapping sections analyzed the distribution of facilities and services and the effect of those factors on access. In this section, we can take the next step and look at service provision in the context of the populations that are within a reasonable distance of facilities. In this way, we can better gauge coverage and visually identify gaps in access. In addition, this information can be useful to the government in looking at midwife-to-population ratios. The following maps show 10-mile “buffers” around each site providing specific services. The buffers were chosen to reflect a feasible distance that might be traveled by a woman seeking care; however, in emergency situations, 10 miles may still be too far to travel for care.

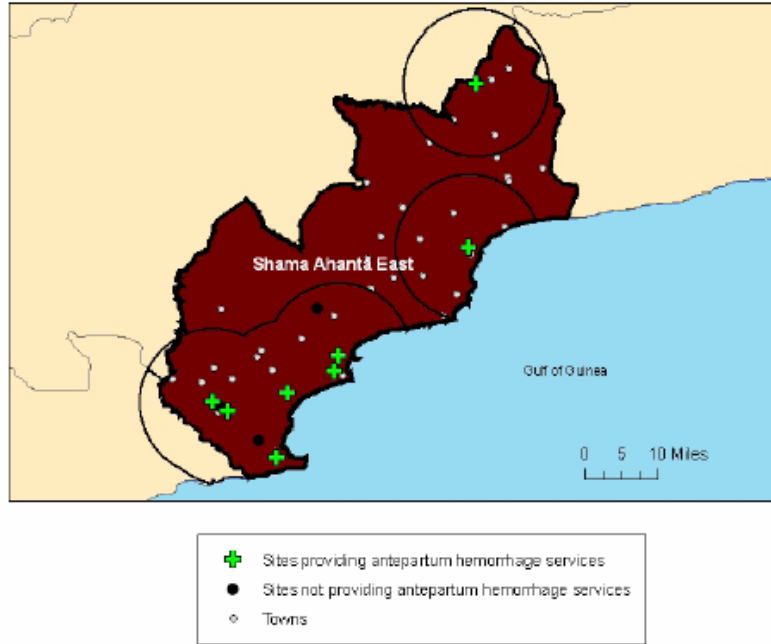
Population density information is available at the district level; however, it assumes the population is homogeneously distributed throughout the district. Information showing population distribution within the district is not available. Although this distribution is clearly not the case, it does provide a logical estimate of the number of women who live within the 10-mile buffer zones.

Antenatal services

As seen in Map 20 of the Western Region, the population of WRA that falls within the buffer zones is approximately 22,340—only 25 percent of the total population of WRA in the region. This distribution leaves the majority of women in a situation where they either have to travel more than 10 miles to receive care or travel to another district for services. Many towns are more than 10 miles away, which may pose life-threatening situations, especially if emergency transportation services are not established. Even if women are able to travel that distance, antenatal hemorrhage is a condition that may require closer and more urgent attention. Expanding the scope of practice to include EmOC skills of existing midwives would increase access to this service for women living in the central part of the Shama Ahanta East District, but complete coverage would require the introduction of new service sites.

Map 20.

**Western Region
Shama Ahanta East District
Antepartum Hemorrhage Service Sites**

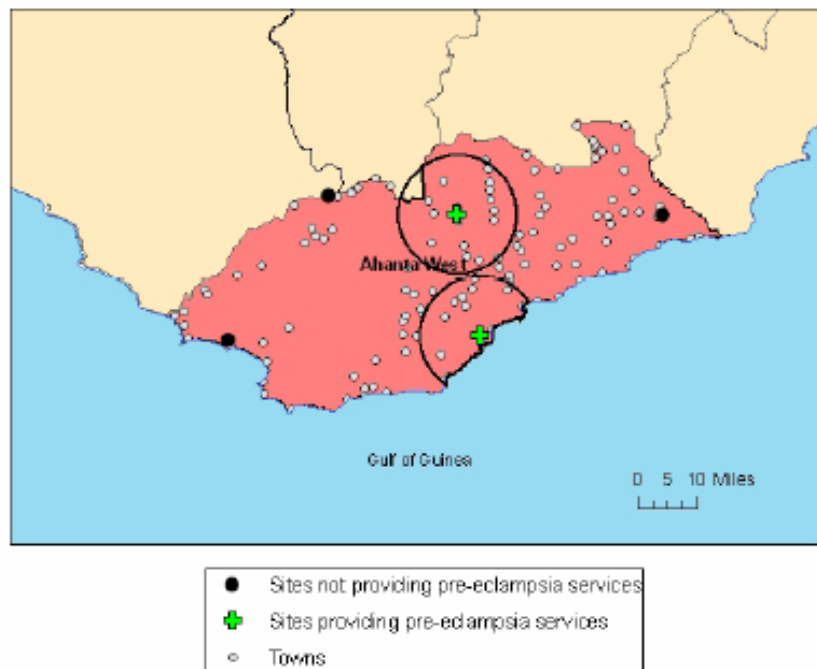


Pre-eclampsia services

The recognition and appropriate treatment of pre-eclampsia is crucial in avoiding the onset of eclampsia, a condition requiring a woman to have an immediate cesarean section and access to essential medications. It is a service that a midwife must refer to a higher level of care. Pre-eclampsia services in Ahanta West are available within 10 miles for only 25 percent of WRA in the district, or approximately 23,404 women. Moreover, Map 21 highlights the fact that both sites offering the services are in the central part of the district, which severely limits access for women living in the many towns in the western and eastern portions of the district.

Map 21.

Western Region Ahanta West District Pre- Eclampsia Service Sites



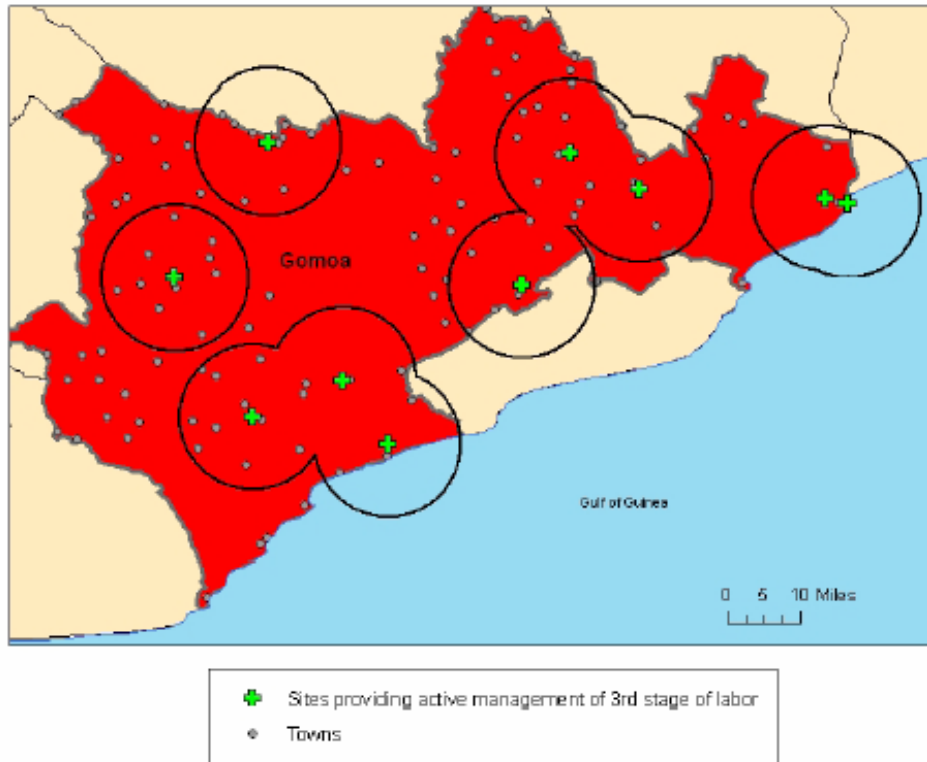
Active management of the third stage of labor

The active management of the third stage of labor (AMTSL) recently received international recognition as an important step in reducing maternal mortality as a result of hemorrhage. The following maps are encouraging because they illustrate that many practicing midwives are already offering these services.

In Gomoa, more than half of the midwives report having provided AMTSL in the previous three months, and these midwives appear to be well dispersed throughout facilities in the district (see Map 22). However, when population information is added to the map, this new information shows that although the midwives are well dispersed, they are only covering a small percentage of WRA in the district. Within the 10-mile buffer, approximately 4,467 WRAs reside. Based on the total WRA population in Gomoa, this means that more than 43,000 WRAs lack access to AMTSL services within a 10-mile distance.

Map 22.

**Central Region
Gomoa District
Active Management of 3rd Stage of Labor Service Sites**

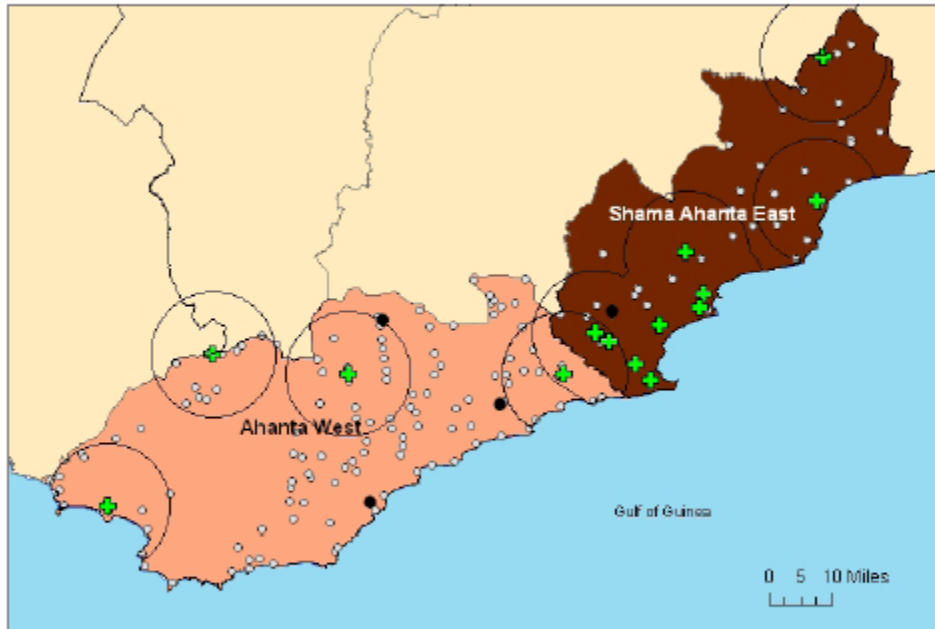


In the Western Region, shown in Map 23, there is a striking difference between the two districts in the provision of AMSTL services. The buffer for Ahanta West and Shama Ahanta East combined covers 56 percent of WRA in those areas; however, as we can see in the map, almost all of the coverage is in Shama Ahanta East, leaving the majority of women in Ahanta West without access.

All but one site in Shama Ahanta East contains midwives who provide this service, while only about half of the facilities in Ahanta West report offering the service. Women living on the southern coast in Ahanta West face the greatest barriers to accessing AMSTL services.

Map 23.

Western Region
Ahanta West and Shama Ahanta East Districts
Active Management of 3rd Stage of Labor Service Sites



- ✚ Sites providing active management of the 3rd stage of labor services
- Sites not providing active management of the 3rd stage of labor services
- Towns

VII. POLICY RECOMMENDATIONS

Ghana has taken active steps toward implementing programs that contribute to decreased maternal and infant mortality and morbidity and also to women's increased access to comprehensive and affordable reproductive healthcare services. However, to continue on this same track, operational policies need to be updated and new policies introduced. These policies will ensure that access to services is expanded to further reduce maternal and neonatal death and disability.

The data collected in this study suggest areas for policy change. Immediate areas for action include expansion of national health insurance benefits to include family planning, establishment of clear guidelines for the reimbursement system, improvement in the monitoring of recruitment and retention, and standardizing pre- and in-service training. Other areas of action for consideration in the longer term include increasing the sustainability of midwifery by supporting reappointment, obligatory service, or secondary education provision; and developing a contraceptive security plan.

Immediate

1) Include contraceptives in NHI scheme

As the NHI scheme is being finalized and the reimbursement system is poised for expansion to other geographical and clinical areas, this is an ideal time to influence policy and create programs that significantly affect maternal health. The maternal and neonatal services covered by NHI should be carefully reviewed. For example, NHI covers FP counseling but not FP commodities, which may be a barrier to women adopting and properly using family planning. The inclusion of full FP services may reduce future insurance payments for PAC, PMTCT, and labor and delivery.

2) Communicate with midwives regarding reimbursable services and reassess the reimbursement levels

The implementation of NHI eventually will eliminate the need for the reimbursement program and some user fees, because the services currently being reimbursed will be covered under the NHI. Until that time, however, the present reimbursement system will continue to function and facilitate access to these services. Advocacy efforts to expand the reimbursement system have the potential to improve access for women who otherwise would not seek costly skilled care and could possibly increase the number of midwives willing to provide services.

Better communication also is needed—facilities and midwives should have better information regarding the reimbursement system. Currently, there is a lack of understanding of regulations on receiving reimbursement, which results in barriers to timely and appropriate reimbursement to midwives for services rendered. Efficient reimbursement and effective communication must be addressed at a national level to continue the provision of services without charge to clients in need.

In addition, midwives in the FGDs spoke about the inequities of payment amounts—the amount midwives receive can differ by region and facility. Midwives objected to the low payment they receive for normal labor and delivery, noting that it does not cover basic costs. Many, especially private midwives, reported that to serve clients, they must provide out of their own pockets supplies, money for transportation, food, and other necessities to clients receiving no compensation for these necessities. Forfeiting personal materials and income is not a sustainable practice and likely will contribute to the attrition of Ghanaian midwives. The quantity reimbursed should be re-examined by national and local stakeholders in light of actual costs and renegotiated accordingly.

As the NHI is further developed, it should adopt lessons learned from the reimbursement system by ensuring that realistic figures are used when estimating costs and budgets for payments; that information is disseminated appropriately across the country; and that midwives are reimbursed equitably—all of which should be guaranteed to providers under the reimbursement and forthcoming insurance plans.

3) Improve monitoring of recruitment and retention of midwives

Develop a monitoring system

The retention of midwives who already are experienced and practicing is a key component in maintaining a strong midwifery corps. Yet, because midwives are not currently tracked through a central system, it is difficult to gather national data to support the anecdotal reports of attrition. One recommendation is to institute a centralized system that monitors the recruitment and attrition of midwives as they enter and leave the profession. By tracking midwifery training expenditures and comparing them to the output of services and longevity in the field, Ghana can explore whether increased investments in training, provision of educational stipends, and implementation of policy changes that ease midwives' ability to provide services actually increase service coverage by retaining midwives. With the CHPS direct-entry program on the verge of producing a new cohort of young midwives, Ghana has the opportunity to follow them as they enter the field and track their progress.

Rural area subsidies

Recruitment to and retention of midwives in rural postings in the country is particularly challenging in Ghana. To address this issue, the government introduced a “Deprived Area Scheme” that offers substantial financial assistance to midwives and other health workers willing to relocate outside of urban areas (High-Level Forum on the Health MDGs, 2004). In addition, the government could require GHS midwives to serve in rural areas for a specified length of time while receiving additional compensation. Maintaining specialized payment incentives such as these may be an effective short-term approach to retention in hardship areas, but it will require political will and financial policies that monitor and evaluate the effects of monetary distribution systems.

4) Upgrade pre-service and in-service training curricula to move toward standardizing the scope of practice for midwives

As shown previously, variations in scope of practice among midwives can lead to limited access to essential services for women. Standardizing the services midwives are trained and able to provide is an important step in improving access. In addition, standardizing the scope of service for midwives can potentially assist the MOH in its effort to increase utilization of maternal health services by enabling women to know exactly what services are available at all facilities that have midwives.

Longer Term

1) Reappoint retired health professionals

Ghana issued a call to re-appoint retired health professionals, and up to two-thirds of eligible doctors and nurses have applied (High-Level Forum on the Health MDGs, 2004). These formerly retired workers are given two-year renewable contracts until they reach the age of 65. Although this strategy has created a larger pool of health professionals, policymakers must be careful not to create policies that encourage staff to leave the civil service just to take up employment again under the new arrangements offered.

This is a deliberate policy to tap into the pool of aging health professionals who would have normally met the routine/normal civil/public service retirement age. Also included in this category are those returning Ghanaian health practitioners who may have retired from international assignments and have decided to come home. This is meant to attract them back into the service to provide high-level specialized care.

The more critical issue regarding re-appointment has to do with returning health service staff, especially doctors who are sent on training fellowships abroad. Upon their return from studies, these post-graduate fellows still do not have a clear cut guideline regarding how they are to be integrated into the health service.

For example, in a report prepared for the MOH/GHS, a Regional Director of Health indicated that information on training fellowships are forwarded to the regional health directorates from the central Human Resource Development Division (HRDD) in Accra (POLICY Project 2004). Based on this list, the regional health directorates select staff for training. However, upon the completion of such post-graduate training, the medical personnel will only report to central HRDD of the GHS in Accra, without due regard to the region or district that initially nominated him/her. This often leads to depletion of staff in certain critical areas of the service.

Clear guidelines would have to be developed by the HRDD to manage this aspect of the human resource needs of the health service. The Regional Health Directorate and the District Health Management must be seen to have a visible role in defining the scope of work of returning health workers and in determining the district health manpower needs.

2) Introduce requirement for a obligatory service

Another option for improving recruitment is through the introduction of an obligatory service period in exchange for a government-subsidized (i.e., free) medical education. Thus far, Latin

America and Asia have applied these strategies with high levels of success, but these strategies have not been applied widely in Africa. A number of measures can be taken to ensure compliance, such as withholding full registration until service obligations are completed and offering a buy-out option for flexibility.

3) Provide opportunity to obtain secondary education

An additional education approach that Ghana has implemented allows for a free post-secondary degree once a midwife has worked in the public sector for a specified number of years. Some midwives stated that this educational scheme works for both recruitment and retention (Mackintosh, 2003). Yet, providing post-basic training is a double-edged sword; the opportunity to upgrade skills without additional cost might make midwives remain in service, but additional training also might make midwives more likely to leave the public sector once their training is complete—further draining the health sector at the government’s expense (Mackintosh, 2003).

VIII. CONCLUSIONS

This study shows that, regardless of training or affiliation, midwives in Ghana share a common identity as critical healthcare providers in the community. The combination of an aging midwife population with inadequate salaries and few incentives to remain in rural areas must be addressed immediately to maintain Ghana's trend in reducing maternal and child mortality.

By analyzing the service maps in the context of population density, it becomes clear that the numbers of midwives are inadequate to meet the needs of the current population of WRA. These shortages are even more alarming in light of growing populations and reductions in the number of midwives. Recruitment of new midwives, strengthening of IST for practicing midwives, standardization of curricula, and increased resources for those entering the field are essential activities to improve the range and level of services available to women.

By examining the existing facilities and distribution of midwives according to geographical distribution of service sites, uniformity of scope of practice, and WRA population access to sites, the government can more effectively plan and allocate resources to fill gaps that result from both geographic gaps in facilities coverage, as well as gaps in healthcare services and clinical training mechanisms for midwives. By looking at the information collected through this project about midwifery practice in Ghana—in combination with information about other healthcare providers who may have the skills to provide these types of services—mapping activities can lend a more comprehensive overview of the healthcare system to policy and decisionmakers.

Ghana has the opportunity to act as a leader both regionally and internationally by championing the importance of providing comprehensive healthcare to combat maternal and infant mortality. The GHS and the Ghanaian government already have taken several key steps toward increasing access for women to essential services by introducing a direct training program for midwives, creating the NHI, and reimbursing normal deliveries in select regions. With the knowledge gained about the concerns of midwives, the challenges they face, and the geographic coverage of the existing midwifery system, the next step is to transform this information into effective advocacy messages and work with policymakers to develop and implement policies that reduce maternal mortality through increased access and ease of service provision.

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APPENDIX A

FOCUS GROUP DISCUSSION GUIDE MIDWIFE MAPPING ACTIVITY

Education and Training

Let's start with your education and training as a midwife.

- Tell me about your education and training.
- Where did you train as MW, how long did the training take? What would you say about the duration of the course and the skills to be acquired?
- What was the course content? What were the core skills acquired?
- Name any skills, which you use in your work as MW currently which can be added to the training of MW today.
- What about in-service training? How many have you had since qualifying? What was the content or training about?
- Talk about the relevance to your current practice. What other skills and knowledge will help you in your current work?
- What additional skills do you think will be useful for MW Services today, which should be added to future in-service training?

Service Provision

- How do you as midwives fit into the healthcare provider structure in Ghana?
- What are your roles? How about your workings with other providers.
- How would you describe the autonomy of MW and the interactions you have with the other professions and the clinical/hospital set-ups.
- What legislative instrument set the limits/ who set the limits?
- What is the range of services that allows you to provide? What services do you have to perform in addition to these, which should be added on? What are some of the limitations on the services range?
- How are the supervisory of MW services especially for you in the private set up?

- How about your work and interaction with your clients? Describe the services and amount of time you spend with clients. What are the challenges? How do you cope with the challenges and scope of services for which you need other health professionals from both the private and public sectors?
- What are your charges? For delivery for example (ask for the range.)
- How much can one realistically charge and how much should you charge costing all the services you provide?
- What do you do when you have cared for a client and the client cannot pay the full price of care? Who apart from government can help?
- How do you remunerate yourself?
- How do you compare your salary to your expenditure? How do you cater for any shortfall or deficit?

Retention and Attrition

- In your opinion, how many practicing midwives did we have years ago and today?
- Are the numbers increasing or decreasing? Why?
- What about in the urban and rural areas? What can we do to retain more midwives in the profession and especially in the rural areas?

Recommendations

- Specifically tell me how Midwife Training (pre, post and in-service training) can be enhanced to make it challenging and attractive to today's youth. (Probe for incentives, motivations, continuing education, etc.)
- What has motivated the midwife of yesterday to stay in the practice? What motivated you?
- Would you encourage your child to train and practice as a midwife? Why or Why not?

APPENDIX B

QUANTITATIVE SURVEY TOOL

Reference Number _____
Name of Interviewer _____
Date of Interview _____

Survey of Midwives

1) Name _____
2) Date of birth _____
3) Where do you normally live? Town/Village _____ District _____

- 4) Through which group do you provide midwifery services?
 GRMA Name of health facility _____
Number of midwives working at this facility _____
 Ghana Health Services Name of health facility _____
 CHAG Name of health facility _____

5) How long have you been providing midwifery services since completing your training?

- 6) What level of midwife training have you received?
 Nurse-midwife
 Auxiliary nurse-midwife
 Community midwife/Private midwife
 Enrolled Nurse
 Public Health Nurse
 Other (please describe) _____

7) Where did you receive your midwife training? _____
a) How long was your course? _____

b) How much practical/hands-on training did you receive? _____

8) Have you attended any other training courses after you completed your basic midwifery education?

Yes No **(if no, skip to question 11)**

9) I am going to read a list of topics. Please tell me in which topics have you received additional training? (tick all that apply)

- Family planning
- Post-partum family planning
- Antenatal care
- Partograph
- Normal labor and delivery
- Post-partum care
- Removal of retained placenta
- Ante-partum hemorrhage
- Post-partum hemorrhage
- Active management of the third stage of labor
- Cervical laceration repair
- Pre-eclampsia
- Newborn care
- Growth promotion
- Breast feeding
- Immunizations
- Miscarriage
- Post-abortion care (MVA, DNC)
- Infection prevention
- STIs/RTIs
- HIV/PMTCT (prevention of mother-to-child transmission of HIV)
- Malaria in pregnancy
- Menopause
- Adolescent reproductive health
- Health education
- Gender-based and domestic violence counseling

Other _____

10) Where did you receive this additional training? _____

11) Have you worked in a government health facility within the last 3 months?
Yes No (if no, skip to question 14)

12) At which health center/referral hospital? _____

13) I am now going to read a list of services. Please tell me which services have you provided at the government facility during the last 3 months? (tick all that apply)

Family planning

Post-partum family planning

Antenatal care

Partograph

Normal labor and delivery

Post-partum care

Do you see both mother and baby?

Yes No

Removal of retained placenta

Ante-partum hemorrhage

Post-partum hemorrhage

Active management of the third stage of labor

Cervical laceration repair

Pre-eclampsia

Newborn care

Growth promotion

Breast feeding

Immunizations

Miscarriage

Post-abortion care (MVA, DNC)

- Infection prevention
- STIs/RTIs
- HIV/PMTCT (prevention of mother-to-child transmission of HIV)
- Malaria in pregnancy
- Menopause
- Adolescent reproductive health
- Health education
- Gender-based and domestic violence counseling
- Other _____

14) During the last 3 months, how many facility-based deliveries have you attended?

15) During the last 3 months, have you provided services to women in the following locations?

Your personal house	Yes	No
Personal house of the client	Yes	No
Private clinic elsewhere	Yes	No

If you do not provide services to women at any of the above locations, please go to question 19.

16) I am now going to read a list services. Please tell me which services you have provided at the above locations during the last 3 months? (tick all that apply). Please list the location where these services were provided.

- Family planning Location_____
- Post-partum family planning Location_____
- Antenatal care Location_____
- Partograph Location_____
- Normal labor and delivery Location_____
- Post-partum care – mother Location_____
- Post-partum care – baby Location_____
- Removal of retained placenta Location_____
- Ante-partum hemorrhage Location_____
- Post-partum hemorrhage Location_____
- Active management of the third stage of labor Location_____

- | | | |
|--------------------------|---|---------------|
| <input type="checkbox"/> | Cervical laceration repair | Location_____ |
| <input type="checkbox"/> | Pre-eclampsia | Location_____ |
| <input type="checkbox"/> | Newborn care | Location_____ |
| <input type="checkbox"/> | Growth promotion | Location_____ |
| <input type="checkbox"/> | Breast feeding | Location_____ |
| <input type="checkbox"/> | Immunizations | Location_____ |
| <input type="checkbox"/> | Miscarriage | Location_____ |
| <input type="checkbox"/> | Post-abortion care (MVA, DNC) | Location_____ |
| <input type="checkbox"/> | Infection prevention | Location_____ |
| <input type="checkbox"/> | STIs/RTIs | Location_____ |
| <input type="checkbox"/> | HIV/PMTCT | Location_____ |
| <input type="checkbox"/> | Malaria in pregnancy | Location_____ |
| <input type="checkbox"/> | Menopause | Location_____ |
| <input type="checkbox"/> | Adolescent reproductive health | Location_____ |
| <input type="checkbox"/> | Health education | Location_____ |
| <input type="checkbox"/> | Gender-based and domestic violence counseling | Location_____ |
| <input type="checkbox"/> | Other _____ | Location_____ |

17) What is the normal distance you would travel to provide services at the private house of a client?

During the Day?

- None
- Less than 2 km
- Between 2-7 km
- More than 7 km

At night?

- None
- Less than 2 km
- Between 2-7 km
- More than 7 km

18) How many deliveries have you attended in the private house of a patient during the last 3 months?

- | | |
|---------------------------------------|----------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Under 5 |
| <input type="checkbox"/> Between 6-15 | <input type="checkbox"/> Over 15 |

19) How many postnatal complications for the mother have you dealt with in the last 3 months?

- | | | | |
|--------------------------|--------------|--------------------------|---------|
| <input type="checkbox"/> | None | <input type="checkbox"/> | Under 5 |
| <input type="checkbox"/> | Between 6-15 | <input type="checkbox"/> | Over 15 |

If, yes, please describe the type of complications: _____

20) How many postnatal complications for the baby have you dealt with in the last 3 months?

- | | | | |
|--------------------------|--------------|--------------------------|---------|
| <input type="checkbox"/> | None | <input type="checkbox"/> | Under 5 |
| <input type="checkbox"/> | Between 6-15 | <input type="checkbox"/> | Over 15 |

If, yes, please describe the type of complications: _____

21) Within the last 3 months, have you been called by a TBA to a delivery where a woman is experiencing complications?

- Yes No

If, yes, how many times? _____

22) Within the last 3 months, has a TBA referred to you a delivery where a woman is experiencing complications?

- Yes No

If, yes, how many times? _____

23) Within the last 3 months, have you referred a woman to any other health service for complications relating to pregnancy or labor?

- Yes No **(if no, skip to question 24)**

If, yes, how many times? _____

Please describe the complications. _____

To whom have you referred women?

- Other midwives
- VCT and PMTCT services
- Emergency Obstetrical Care services
- Family planning services
- Child welfare services
- Other _____

Please list the referral site(s) and the distance to the site _____

24) Within the last 3 months, have you referred a woman to any other health service for routine services?

Yes No **(if no, skip to question 25)**

If, yes, how many times? _____

Please explain why. _____

To whom have you referred women?

- Other midwives
- VCT and PMTCT services
- Emergency Obstetrical Care services
- Family planning services
- Child welfare services
- Other _____

Please list the referral site(s) and the distance to the site _____

25) Do you or your facility receive financial reimbursement from the Government for services?

Yes No **(if no, skip to question 27)**

26) For which services do you or your facility receive financial reimbursement from the Government?

- Antenatal care
- Delivery
- Postpartum care
- Family planning
- Post-abortion care (PAC)
- PMTCT (prevention of mother-to-child transmission of HIV)
- Other _____

27) Do you or your facility receive financial reimbursement from clients for services?

Yes No **(if no, skip to end)**

28) Do you receive financial reimbursement from clients for the following services? (tick all that apply)

- Antenatal care
- Delivery
- Postpartum care
- Family planning
- Post-abortion care (PAC)
- PMTCT (prevention of mother-to-child transmission of HIV)
- Other _____

THANK YOU!