

# *African Journal of Reproductive Health*

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# African Journal of Reproductive Health

Editor: Friday Okonofua

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## ABOUT AJRH

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*African Journal of Reproductive Health (AJRH)* is published by the Women's Health and Action Research Centre (WHARC). It is a multidisciplinary and international journal that publishes original research, comprehensive review articles, short reports and commentaries on reproductive health in Africa. The journal strives to provide a forum for African authors, as well as others working in Africa, to share findings on all aspects of reproductive health, and to disseminate innovative, relevant and useful information on reproductive health throughout the continent.

*AJRH* is indexed and included in Index Medicus/MEDLINE. The abstracts and tables of contents are published online by INASP at <http://www.ajol.info/ajol/> while full text is published at <http://www.ajrh.info> and by Bioline International at <http://www.bioline.org.br/>. It is also abstracted in *Ulrich's Periodical, Feminist Periodicals African Books Publishing Records*.

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The Women's Health and Action Research Centre (WHARC) is a registered non-profit organization, committed to the promotion of women's reproductive health in sub-Saharan Africa. Founded in 1995, the centre's primary mission is to conduct multidisciplinary and collaborative research, advocacy and training on issues relating to the reproductive health of women. The centre pursues its work principally through multidisciplinary groups of national and international medical and social science researchers and advocates in reproductive health.

WHARC receives core funding and support from the Ford Foundation and technical cooperation and mentorship from International Perspectives on Sexual and Reproductive Health and Studies in Family Planning. Principal funding for the journal comes from the Consortium on Unsafe Abortion in Africa. The goal of the centre is to improve the knowledge of women's reproductive health in Nigeria and other parts of Africa through collaborative research, advocacy, workshops and seminars and through its series of publications – the *African journal of Reproductive Health, the Women's Health Forum* and occasional working papers.

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# Revue Africaine de Santé de la Reproduction

Editor: Friday Okonofua

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## APROPOS AJRH

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La Revue Africaine de santé de la Reproduction (RASR) est publiée par le Women's Health and Action Research Centre (WHARC). C'est une revue à la fois pluridisciplinaire et internationale qui publie des articles de recherche originaux, des articles de revue détaillés, de brefs rapports et des commentaires sur la santé de la reproduction en Afrique. La Revue s'efforce de fournir un forum aussi bien à des auteurs africains qu'à des professionnels qui travaillent en Afrique, afin qu'ils puissent partager leurs découvertes dans tous les aspects de la santé de reproduction et diffuser à travers le continent, des informations innovatrices, pertinentes et utiles dans ce domaine de santé de la reproduction.

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Le WHARC est une organisation non gouvernementale à but non-lucratif s'engageé dans la promotion de santé de la reproduction chez la femme en Afrique sub-saharienne. Fondé en 1995, le Centre a pour objectif principal de mener des recherches pluridisciplinaires et en collaboration, de promouvoir et de former des cadres en matières relatives à la santé de la reproduction chez la femme. Le Centre travaille surtout à travers des groupes multidisciplinaires de chercheurs aussi bien nationaux qu'internationaux en sciences médicales et en sciences économiques dans le domaine de santé de la reproduction.

Le WHARC recoit une aide financière principale de la Fondation Ford et bénéficie de la coopération technique de l'*International Perspectives on Sexual and Reproductive Health* et de *Studies in Family Planning*. Le financencement principale pour la revue vient de la part du Consortium on Unsafe Abortion in Africa. L'objectif du Centre est d'améliorer la connaissance en matière de santé de la reproduction chez la femme au Nigeria et dans d'autres régions d'Afrique à travers la recherche en collaboration, le paidoyer, des ateliers et des séminaires à travers des séries de publication - *La Revue africaine de santé de la reproduction, Le Women's Health Forum* et des rapports des recherches de circonstance.

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## EDITORIAL

# Integrated Maternal, Newborn and Child Health (IMNCH) Strategy: How Has it Advanced in Africa?

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Although accelerated declines in rates of maternal and child mortality have recently been reported from several regions of the world, Africa is still cited as the continent with the slowest rate of progress<sup>1</sup>. Increasingly, apprehension is being expressed in many research and policy arenas regarding the likelihood that several African countries may not achieve the MDG targets in child and maternal health by 2015 unless an accelerated action plan is developed and implemented. While the MDG itself provided targets, goals and aspirations to guide countries, one major limitation has been that it fell short in making specific recommendations on implementation and plans of action for achieving the desired results. The introduction of the Integrated Maternal, New-born and Child Health (IMNCH) strategy<sup>2</sup> has provided a uniquely understandable approach for targeting interventions and leveraging resources for addressing the inter-related problems of maternal, newborn and child mortality, especially within the context of developing countries. This approach provides a simplified continuum of care framework for integrated service delivery, leveraging and coordinating the use of resources, involving a broad range of stakeholders and engaging families and communities in providing care for women and children. It was hoped that the integrated approach would improve the delivery of maternal, newborn and child health services better than previous approaches based on separate implementation of these programs. In September 2010, the UN MDG summit generated global and high level support for the coordinated improvement of maternal, newborn and child health culminating in pledges of US\$40 billion

over the next five years to address women's and children's health<sup>3</sup>.

About five years into the implementation of this framework and only two years away from 2015, it is important to reflect on how it has worked or is working for attaining optimal maternal, newborn and child health outcomes in Africa. To date, there is little documentation of the number of countries in Africa that have accepted or are using this framework to address maternal, newborn and child health. While membership of the global Partnership on Maternal, Newborn and Child Health currently hosted by the WHO, could be used as an indication of acceptance by countries of the strategy, it speaks little about official commitments especially because memberships are often facilitated by individuals rather than by official sources within those countries.

Among African countries accepting the IMNCH framework, several issues pertaining to implementation remain unknown. These include: the extent to which policies and action-plans have been domesticated for implementing the framework, the amount of resources allocated by countries on an on-going basis, multi-stakeholders' understanding and involvement (including at family and community levels), and the readiness of implementing countries to scale up and sustain the momentum even after 2015. Beyond these considerations, extensive debate regarding the impact and potential impact of the strategy on various indicators of maternal and child health is beginning to emerge. The most important of the issues currently generating discussion in different global forums is whether or not an integrated approach could diminish the focus on maternal health<sup>4</sup>, thereby benefiting child

health more than maternal health and therefore reducing the pace of reduction in rates of maternal mortality.

This concern is borne out by previous experiences whereby Maternal and Child Health approach that was implemented in the 1970s up to the early and mid-1980s focused more on child health delivery services with the results that maternal health services became almost invincible in local, regional and international implementation plans. It took the groundbreaking paper by Allan Rosenfield and Deborah Maine in the Lancet in 1985<sup>5</sup> titled: "Where is the M in MCH", for the global community to re-focus emphasis on maternal health. The documentation by Professor Kelsey Harrison of the high state of maternal mortality in northern Nigeria at the same time<sup>6</sup>, as well as the emphasis placed on women's overall social and economic empowerment by the International Conference on Population and Development in Cairo, Egypt in 1994 and the 4<sup>th</sup> World Conference on Women in Beijing, China in 1995 helped the process of consolidation of this paradigm shift. Now that the world is poised to adopt the integrated service delivery approach, the vital question is whether we would be going back to yester-years when maternal health was downplayed in comparison to child health.

There is yet no clear answer to this question at least within the context of sub-Saharan Africa, especially because many countries are yet to completely supplant the separate delivery of these services with integrated services. As an example, Nigeria launched its IMNCH strategy in 2007 with eight strategic objectives and a list of planned activities<sup>7</sup>. However, the approach is yet to completely replace the previous separate delivery of services due to poor funding, inadequate training and sensitization of health workers, as well as escalating poverty with citizens still unable to access evidence-based care while relying on traditional forms of health care. It was therefore not surprising when a recent study that investigated reasons for non-use of primary health care centres in six states of Nigeria<sup>8</sup> reported the perception by youth and adults alike that these centres are meant for delivery of child health care (immunization, treatment of childhood illnesses, childhood nutrition, etc.) rather than for adult care.

Thus, a complete re-organization of service delivery is needed for this approach to fully take root before its impact on maternal and child health indicators can be fully assessed in many African countries.

Clearly, integrated maternal, newborn and child health strategy is an important approach for accelerating the tempo of service delivery for the reduction in rates of maternal and child mortality in African countries. However, at the present time its true impact and relevance are not well known in the continent. It might not be possible to conduct a quasi-experimental study or even a randomized controlled trial to compare the effects of separate versus integrated implementation of maternal and child health services in the region. However, considerable formative, descriptive, implementation and interventional research is needed to enable countries and the international community understand what is working and what may not work, and to develop an evidence-based framework for deepening its implementation. No doubt, IMNCH strategy might eventually prove to be one of the greatest innovations in maternal, newborn and child health that addresses barriers to service delivery in African countries. But the successes, challenges, results and benefits experienced by countries in using the framework need to be better investigated and documented.

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## ÉDITORIAL

# Stratégie intégrée de santé maternelle, néonatale et infantile (SISMNI) : Comment a-t-elle avancé en Afrique?

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Bien que la baisse accélérée des taux de mortalité maternelle et infantile ait été récemment signalées dans plusieurs régions du monde, l'Afrique est toujours citée comme étant le continent qui possède le taux le plus faible de progrès<sup>1</sup>. De plus en plus, on exprime l'appréhension dans de nombreux domaines de recherches et de politiques concernant la possibilité que plusieurs pays africains ne puissent pas atteindre les cibles des OMD en santé maternelle et infantile d'ici à 2015 à moins qu'un plan d'action accéléré soit développé et mis en œuvre. Alors que l'OMD s'est doté d'objectifs, les buts et les aspirations pour guider les pays, une limitation majeure a été qu'il a manqué de formuler des recommandations sur la mise en œuvre des plans d'action spécifiques pour atteindre les résultats souhaités. L'introduction de la Stratégie Intégrée de Santé maternelle, néonatale et d'enfance (SISMNI)<sup>2</sup> a fourni une approche unique compréhensible pour cibler les interventions et la mobilisation de ressources pour faire face aux problèmes interdépendants de la mortalité maternelle, néonatale et infantile, surtout dans le contexte des pays en développement. Cette approche fournit un continuum de soins simplifiés du cadre de prestation de services intégrés, l'optimisation et la coordination de l'utilisation des ressources, impliquant un large éventail de parties prenantes et la participation des familles et des communautés à fournir des soins aux femmes et aux enfants. On avait espéré que l'approche intégrée aurait mieux permis d'améliorer la prestation de services de santé maternelle, néonatale et infantile que les approches antérieures basées sur la mise en œuvre séparée de ces programmes. En septembre 2010, le sommet de l'ONU sur les OMD a généré un appui de haut niveau et sur le plan mondial pour l'amélioration coordonnée de la santé maternelle,

néonatale et infantile qui a abouti à des promesses de 40 milliards de dollars au cours des cinq prochaines années pour s'occuper de la santé des femmes et des enfants<sup>3</sup>.

Environ cinq ans après la mise en œuvre de ce cadre et seulement deux ans de 2015, il est important de réfléchir sur la façon dont il a travaillé ou dont travaille pour atteindre des résultats optimaux de santé maternelle, néonatale et infantile en Afrique. À ce jour, il y a peu de documentation sur le nombre de pays d'Afrique qui ont accepté ou qui utilisent ce cadre pour s'occuper de la santé maternelle, néonatale et infantile. Si l'adhésion au Partenariat mondial sur la santé maternelle, néonatale et infantile, actuellement hébergé par l'OMS, pourrait être utilisée comme une indication de l'acceptation par les pays de la stratégie, cela ne dit pas grand-chose sur des engagements officiels en particulier parce que les adhésions sont souvent facilitées par des individus plutôt que par des sources officielles au sein de ces pays.

Parmi les pays africains qui acceptent le cadre des SISMNI, plusieurs questions relatives à la mise en œuvre restent inconnues. Il s'agit notamment de: la mesure dans laquelle les politiques et les plans d'action ont été domestiqués pour la mise en œuvre du cadre, le montant des ressources allouées par les pays de façon continue, la compréhension des multi-parties prenantes et la participation (y compris aux niveaux de la famille et de la communauté), et la volonté des pays qui mettent en œuvre à grande échelle et de maintenir l'élan même après 2015. Au-delà de ces considérations, beaucoup de débats sur l'impact et l'impact potentiel de la stratégie sur les différents indicateurs de santé maternelle et infantile est en train commencent à émerger. Le plus important des problèmes actuellement qui

provoquent des discussions dans de différents forums mondiaux est de savoir si ou non une approche intégrée pourrait réduire l'accent mis sur la santé maternelle<sup>4</sup>, ce qui profite la santé de l'enfance plus que la santé maternelle et donc de réduire le rythme de la réduction des taux de mortalité maternelle.

Cette préoccupation est confirmée par des expériences antérieures selon lesquelles l'approche de santé maternelle et de l'enfance qui a été mises en œuvre dans les années 1970 jusqu'au début et au milieu des années 1980 a concentré plus sur la prestation de services de santé de l'enfance dont la conséquence est que les services de santé maternelle sont devenus presque invincibles au niveaux locaux, régionaux et des plans d'exécution internationaux. Il a fallu la communication révolutionnaire par Allan Rosenfield et Deborah Maine, dans la revue *The Lancet* 1985<sup>5</sup> intitulé: "Où est M dans SMI ?", pour que la communauté mondiale de remettent l'accent sur la santé maternelle. La documentation le par Professeur Kelsey Harrison sur l'état élevé de mortalité maternelle dans le nord du Nigeria, en même temps<sup>6</sup>, ainsi que l'accent mis sur l'émancipation générale de la femme sur les plans sociaux et économique par la Conférence internationale sur la population et le développement qui a eu lieu au Caire, en Egypte en 1994 et la 4e Conférence mondiale sur les femmes à Beijing, en Chine, en 1995, a aidé le processus de consolidation de ce changement de paradigme. Maintenant que le monde est sur le point d'adopter la prestation de services intégrée, la question essentielle est de savoir si nous allons revenir aux années passées où la santé maternelle a été défavorisée par rapport à la santé d'enfance.

Il n'y a pas encore de réponse claire à cette question, au moins dans le contexte de l'Afrique subsaharienne, en particulier parce que de nombreux pays ne sont pas encore complètement supplanté la prestation séparée de ces services avec des services intégrés. A titre d'exemple, le Nigeria a lancé sa stratégie des SISMNI en 2007 avec huit objectifs stratégiques et une liste d'activités prévues<sup>7</sup>. Cependant, l'approche est encore à remplacer complètement la précédente prestation séparée des services à cause de l'insuffisance des fonds, une formation insuffisante

et la sensibilisation du personnel de santé, ainsi que la pauvreté croissante, les citoyens n'étant pas encore capables d'accéder à des soins fondés sur les évidences tout en s'appuyant sur les formes traditionnelles de soins de santé. Il n'est donc pas surprenant quand une étude récente qui a étudié les raisons pour la non-utilisation des centres de soins primaires dans six États du Nigeria<sup>8</sup> a rapporté la perception des jeunes et des adultes que ces centres sont destinés à la prestation des soins de santé de l'enfant (vaccination, traitement des maladies de l'enfance, etc.) plutôt que pour les soins aux adultes. Ainsi, une orientation complète du mécanisme de prestation de services est nécessaire pour que cette approche prenne pleinement racine avant qu'on puisse pleinement évaluer son impact sur les indicateurs de santé maternelle et infantile dans de nombreux pays africains.

De toute évidence, la stratégie intégrée de la santé maternelle, néonatale et infantile est une approche importante pour accélérer le rythme de prestation de services pour la réduction des taux de mortalité maternelle et infantile dans les pays africains. Cependant, à l'heure actuelle son impact réel et la pertinence ne sont pas bien connus sur le continent. Il ne serait pas possible de procéder à un essai contrôlé randomisé ou même une étude quasi-expérimentale pour comparer les effets de la mise en œuvre séparée ou intégrée des services de santé maternelle et infantile dans la région. Cependant, une mise en œuvre formative, descriptive considérable, descriptif et de la recherche interventionnelle sont nécessaires pour permettre aux pays et la communauté internationale de comprendre ce qui fonctionne et ce qui ne fonctionne pas, et d'élaborer un cadre fondé sur l'évidence pour l'approfondissement de sa mise en œuvre. Sans doute, la stratégie des SISMNI pourrait finalement se révéler être l'une des plus grandes innovations en matière de santé maternelle, du nouveau-né et de l'enfant qui aborde les obstacles à la prestation de services dans les pays africains. Mais les succès, les défis, les résultats et les avantages rencontrés par les pays qui utilisent le cadre doivent être mieux étudiés et documentés.

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## ORIGINAL RESEARCH ARTICLE

# Shifting Norms: Pregnant Women's Perspectives on Skilled Birth Attendance and Facility-based Delivery in Rural Ghana

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## Abstract

Skilled birth attendance (SBA) and healthcare facility (HCF) delivery are effective means of reducing maternal mortality. However, their uptake remains low in many low-income countries. The present study utilized semi-structured interviews with 85 pregnant women attending an antenatal clinic in Akwatia, Ghana (May-July 2010) to better understand the barriers to SBA and HCF delivery through the underrepresented perspective of pregnant women. Interview transcripts were analyzed using grounded theory methodology. Participants described community support for and uptake of HCF delivery as increasing and becoming normalized, but barriers remain: (1) maltreatment by midwives; (2) cost associated with HCF delivery despite waived facility fees; (3) the need for a support person for HCF delivery; (4) difficulties in transportation; and (5) precipitous labor. Given the importance of community in Ghanaian health care decision-making, increasing community support for HCF delivery suggests progress toward increasing uptake of SBA and HCF delivery, however important actionable barriers remain. (*Afr J Reprod Health* 2013; 17[1]: 15-26).

## Résumé

Les services des accoucheuses qualifiés (SAQ) et des établissements de santé (SES) sont des moyens efficaces de réduire la mortalité maternelle. Cependant, leur acceptation reste faible dans de nombreux pays à faible revenu. La présente étude s'est servie des entretiens semi-structurés recueillis auprès des 85 femmes enceintes qui fréquentaient un dispensaire prénatal à Akwatia, Ghana (entre les mois de mai et juillet 2010) afin de mieux comprendre les obstacles à la prestation des SAQ et SES à travers les perspectives sous-représentées chez les femmes enceintes. Les transcriptions des entrevues ont été analysées en utilisant une méthodologie basée sur le « grounded theory ». Les participants ont signalé que le soutien communautaire pour l'accouchement dans les SES et de l'adoption des SES augmentent et se normalisent, mais que des obstacles demeurent: (1) les mauvais traitements infligés par des sages-femmes, (2) le coût associé à la prestation des SES en dépit des frais d'établissement supprimés; (3) la nécessité d'une personne de soutien pour l'accouchement dans les SES, (4) des difficultés de transport, et (5) du travail précipité. Compte tenu de l'importance de la communauté concernant la prise de décision en matière de soins de santé au Ghana la hausse du soutien communautaire pour l'accouchement dans les SES est une indication du progrès vers l'utilisation croissante de la prestation des SAQ et des SES mais il reste toujours d'importants obstacles réalisables (*Afr J Reprod Health* 2013; 17[1]: 15-26).

**Keywords:** qualitative, grounded theory, childbirth, delivery location, sub-Saharan Africa

## Introduction

The United Nations Millennium Development Goal Five (MDG5) set a target to reduce maternal mortality by three-quarters between 1990 and 2015. However, as we approach 2015 data from sub-Saharan Africa suggests we are just a third of the way to achieving MDG5. Statistics from the 2011 Millennium Development Goals Report for

sub-Saharan Africa report 640 maternal deaths per 100,000 live births—a decline of 26% from 1990, and a death rate 50-fold higher than that reported by high-income countries<sup>1,2</sup>.

Skilled birth attendance (SBA) is widely accepted as the “single most important factor in preventing maternal death”<sup>3</sup>. SBA is characterized by two criteria: the attendant and environment<sup>4, 5</sup>. The attendant must be present during labor,

delivery and postpartum, and be trained to manage normal deliveries and refer complications. Additionally, the environment must be “enabling,” such that the laboring woman has the support necessary to access a sufficiently equipped health care facility (HCF) as needed<sup>4, 6</sup>. In low-income countries, the scarcity of resources often means HCF delivery is a necessary condition for SBA<sup>7, 8</sup>. Though many high-income countries have achieved rates of SBA well above 90%, in low-income countries median skilled birth attendance is 50%, contributing to the 52 million births that occur each year without a SBA<sup>9, 10</sup>.

Numerous barriers to SBA at deliveries have been reported. Chief among these are the shortage of SBA personnel and the inaccessibility of emergency obstetric care in rural areas<sup>11</sup>. Numerous studies have explored “determinants” of childbirth location quantitatively by retrospectively analyzing the association of demographic factors with the location of a woman's last birth. In sub-Saharan Africa, home birth has been associated with the following: increasing parity, lack of formal education, poor accessibility of facilities, rural residence, low socioeconomic status, traditional religions, and lack of female autonomy<sup>7, 12, 13, 14, 15, 16, 17, 18, 19, 20</sup>. In turn, delivering with SBA has been associated with being advised during antenatal care (ANC) clinics to deliver at a facility, increasing number of ANC visits, knowledge of pregnancy risk factors, discussing the place of delivery with one's male partner, positive perceptions of the quality of care at facilities, use of modern family planning, and complications during a previous pregnancy<sup>7, 21</sup>.

These data suggest potential causal pathways influencing delivery location, but fail to account for local perspectives. Understanding users' and providers' perspectives—and the nuances often missed in standardized questionnaires—is paramount in developing programs and policies that are both effective and appropriately designed for the target communities. Qualitative work from sub-Saharan Africa suggests that cultural beliefs about pregnancy, childbirth and women's status, spiritual beliefs, economic constraints, the physical accessibility of HCF, familial involvement in decision making, the relative weight of women's

social obligations, and the quality, social acceptability and perceived efficacy of care contribute to the determination of delivery location<sup>22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32</sup>. In addition, qualitative literature has suggested that—contrary to findings in much of the quantitative literature—attending ANC does not necessarily translate to increased HCF delivery. Instead, being told one's pregnancy is ‘normal’ during ANC may lead women to believe they will be able to deliver at home without incident<sup>22, 27, 33</sup>.

### Ghanaian Context

Ghana, in sub-Saharan Africa, has one of the most advanced health systems in Africa and a history of strong support for maternal health initiatives<sup>35</sup>. In the 1990s, fee exemptions for ANC were enacted<sup>34</sup>. Since 2008, pregnant women have been exempted from paying national health insurance enrollment premiums and are not charged facility fees for maternity care from the first ANC visit through three months postpartum<sup>35</sup>. Despite this, maternal mortality in Ghana exceeds 451 deaths per 100,000 live births<sup>1</sup>. Data from 2003 found that just 43.5% of women delivered in a HCF and less than half of all births were attended by a SBA<sup>36</sup>. The most recent estimates from 2008 suggest that although 95% of women in Ghana now receive ANC from a skilled provider, non-facility deliveries continue to occur at high rates; 41% of deliveries in Ghana occur without SBA and 43% of births occur outside a HCF<sup>37</sup>. 30.3% of Ghanaian births are reported to be attended by traditional birth attendants (TBAs), accounting for a large majority of non-HCF delivery<sup>37</sup>. Ghanaian TBAs have traditionally been well-respected older women in the community who are embraced for their years of experience, wisdom, service to the community and empathy for laboring women<sup>22</sup>. Previous work in Ghana has suggested that women achieve higher social position following delivery, particularly if they are stoic and received little skilled assistance<sup>22, 29</sup>.

In Ghana, the perspectives of mothers post-delivery, fathers, community leaders, health care providers and TBAs in relation to childbirth location have been explored (see Table 1).

**Table 1:** Qualitative studies regarding childbirth location determinants in Ghana

Author(s), Location	Methodology	Findings Related to Delivery Location Determinants
The Prevention of Maternal Mortality Network, 1992 Multi-country: Ghana (Accra, Kumasi), Nigeria, Sierra Leone	184 FGD with providers and community members.	Barriers impeding the utilization of HCF for complications: (1) Cultural and social factors: vary by country, pregnancy is natural, varying recognition of signs of complications, reaction to complication are tied to perceived cause, women's status, fear HCF will impede on societal expectations for women in labor, traditional treatment delays utilization of HCF (2) Accessibility factors: physical distance, transportation, road infrastructure, direct and indirect cost, social distance between client and HCF (3) Health-service factors: lack of supplies/equipment/medicine/staff, poor treatment by staff, bribery, insufficient communication with community.
Mills & Bertrand, 2005 Kassena-Nankana District, Ghana	18 FGD with women who delivered in the last five years, TBAs, and community leaders.	Participants were knowledgeable about signs of pregnancy complications and preferred HCF delivery if complications were detected. (1) Traditional Beliefs and Practices: many "traditional practices" associated with labor and deliveries were described as no longer in use. HCF is ultimate source of obstetric care. (2) Decision making: delivery location was decided after the onset of labor unless identified as a high risk pregnancy. Husband often makes delivery location decision—compound head has final say, some women decide on their own, sometimes a "soothsayer" is consulted. Cost associated with HCF delivery is a deterrent. (3) ANC: is only provided by HCFs, necessary for safe delivery, and is used to determine if pregnancy is normal. (4) Birth preparedness: preparation is essential—gather items and set aside money. (4) Professional obstetric care: women deterred by bad attitudes of midwives and felt embarrassed of their poverty. Cost of transport and items for delivery was prohibitive. Those with previous complications and prima graves should have HCF delivery.
D'Ambruso, Abbey, Hussein, 2005 Accra suburbs, Ghana	2 FGD & 21 SSI with women who had delivered with a health care professional in a HCF in the last 5 years.	Factors affecting choice of delivery location: staff attitudes, perceived ability to achieve successful outcome for mom and baby, cost, access, recommendations by peers, previous experiences, general environment of HCF, administrative arrangements, knowing a person who works at the HCF, proximity of HCF to family, and privacy.
Jansen, 2006 Kwame Danso, Ghana	Ethnographic interviews and participant observation of 5 non-medical trained TBAs.	Beliefs related to childbirth: (1) Childbirth is natural: "smaller" complications can be treated at home, whereas "deadly" complications should be treated at the HCF. Complications often explained as socially caused. (2) The economy: macro level poverty and poor transportation deter HCF care. Inability to afford ANC and HCF delivery—choosing just one results in criticism/abuse by HCF staff, but will go to HCF despite fears if perceived need. (3) Spirituality: curses can cause delivery problems. The placenta is sacred. (4) Social roles: the childbirth process involves the family and community; women gain status through delivery, women who disregard delivery advice face social stigma. There is a reverence for elders' advice. TBAs have high social status.
Bazzano et al., 2008 Kintampo District, Ghana	In-depth interviews with 14 elderly women, SSI with 45 mothers, 28 case histories of recent births, 13 mixed-sex FGD, and participant observation.	Pregnancy is kept secret for as long as possible; perceived as a dangerous and vulnerable time. Confusion regarding HCF costs and the expense of mandatory delivery supplies are a deterrent. Few women intended to deliver at HCF and majority delivered at home. Delivering alone increases social status. Dishonesty of women regarding father of the child cause delivery complications. Overall expression of fear of medical interventions. Felt need to manage early labor alone—women punished for arriving at HCF too early. Elderly women, TBAs, and husbands make care decisions. Poor treatment at HCF by staff.

FGD: focus group discussions, SSI: semi-structured interviews, HCF: health care facility, TBA: traditional birth attendant, ANC: antenatal care

However, there has been a notable lack of attention paid to the perspective of pregnant women—the very people whose lives are at the center of international efforts to increase SBA. Given the high maternal mortality rate, the large discrepancy between the nearly universal use of ANC by pregnant women and the drastically lower rate of HCF delivery, this study explores the beliefs and experiences of pregnant women seeking ANC, in an attempt to better understand how efforts to increase SBA and HCF delivery can be improved.

## Methods

All study protocols and instruments were reviewed and approved by the institutional review boards of the Universities of Michigan and Ghana. The consolidated criteria for reporting qualitative research (COREQ) were adopted to guide this study<sup>38</sup>.

Grounded theory, which is a qualitative approach for collecting and analyzing data without imposing previously constructed theoretical frameworks, was used to guide both the study design and analysis<sup>39, 40</sup>. A grounded theory approach was used to capture participants' rich lived experiences and perspectives, without presuming their input would accord with existing, often westernized theories. By providing women with a forum to share their experiences and perspectives we gain an understanding of the raw lived experience of pregnant women. Moreover, this inductive approach, and emphasis on real-world experiences gives pregnant women a voice in driving future interventions and policies.

## Study Setting

Data were collected from May through July of 2010 at the St. Dominic's Hospital Antenatal Clinic in Akwatia, Ghana. Akwatia is a rural town of nearly 20,000 people in the Eastern Region of the country, approximately 70 miles northwest of the capital city of Accra. Akwatia is best known as the diamond extraction center of Ghana. St. Dominic's Hospital is a Catholic mission hospital run by the German Dominican Sisters. The

hospital is a 356-bed facility accredited for the training of Ghanaian residents in obstetrics and gynecology. In 2009, St. Dominic's reported 10,456 ANC visits, 2,904 deliveries and a maternal mortality rate of 253 per 100,000 live births (Unpublished data: St. Dominic's Year End Report, 2010). St. Dominic's is a major regional hospital accessed by residents of Akwatia as well as surrounding communities; in the present sample participants' self-reported travel time to St. Dominic's ranged from 4-180 minutes (mean: 46 minutes).

The St. Dominic's Hospital ANC clinic typically runs between 7 AM to 2 PM. There is no appointment system. Women who present for ANC typically spend most of the clinic's open hours in various clinic-related activities. For all attendees the day starts off with a group prayer, then a lecture on a pregnancy-related topic, a review of the items women are expected to bring with them for delivery in a HCF, and individual assessments including: abdomen palpation, measurement and auscultation. Women also have their temperature, blood pressure, weight, conjunctiva, hemoglobin, and urine checked.

## Data Collection

Participants were a convenience sample of pregnant women presenting at St. Dominic's Hospital for ANC. Enrollment criteria included women who: (a) were at least 18 years of age; (b) were listed as 27 or more weeks pregnant on their antenatal card; and (c) did not need emergent medical attention. ANC staff explained to ANC attendees that researchers were present who were interested in learning about pregnancy women's thoughts on pregnancy. A local female midwife-nurse-translator (DN) subsequently invited ANC attendees to participate in the study following their ANC exam. Sampling continued until interviews failed to reveal new information<sup>36</sup>.

Interviews were conducted face-to-face in a private room adjacent to the ANC clinic. Potential participants were presented with a written consent form in Twi (a local Ghanaian language) or English. The local midwife-nurse-translator (DN) explained the consent form, and gave participants a summary sheet with researchers' contact

information. Signed consent forms were collected. Interviews were conducted in three languages: English, Twi and Ga, according to the interviewee's preference. Interviews in English were conducted by an English-speaking Caucasian-American female graduate student (HC), with an African-American female university student (KC) taking notes and the local female nurse-midwife-translator (DN) present. All three were trained in qualitative interviewing techniques. Some participants recognized DN as a midwife in the St. Dominic's labor ward; all participants were informed that DN was a midwife and that HC and KC were students from the United States working with the University of Ghana. DN translated questions verbatim from HC into Twi and Ga. Responses were immediately translated back into English verbally by DN.

When consent was sought, one refusal was recorded (time constraints cited) and two potential participants were excluded based on age (less than 18 years old). Of the 85 interviews, 83 were audio-recorded (one participant did not consent to audio-recording and one recording was lost due to equipment failure).

Interviews were conducted using a semi-structured interview guide with open-ended questions about participants' experiences with ANC, previous deliveries, their current pregnancy, and their pending delivery. The tenants of grounded theory were used to guide the construction of the semi-structured interview. As such, participants were asked about their thoughts on pregnancy care, SBA and delivery location, but were not prompted regarding any preconceived potential barriers or motivating factors influencing delivery location (for a sample of the interview guide questions see Table 2). HC, KC and CM developed the interview guide, which was refined by RA and DN, and pilot tested with three women seeking ANC at St. Dominic's. Basic demographic information was also collected.

Interviews averaged 19 minutes in length (range: 9-35 minutes). English translations were transcribed verbatim from the audio-recordings (HC, KC). The resulting transcripts were used for the present analysis.

**Table 2:** Sample interview guide questions

*“(if multigravida) Where have you delivered in the past? Tell me about your experience laboring and delivering there.”*  
*“Ideally where would you like to deliver your current pregnancy? Why would you like to deliver there? What worries you about delivering there? What do you think delivering there will be like? Are there any circumstances that would make you want to deliver elsewhere?”*  
*“Many Ghanaian women do not deliver in health care facilities. Why do you think that is?”*

## Data Analysis

Data were imported into NVivo 9 software (QSR International; Melbourne, Australia). Transcripts were initially read through and open coded (HC) as described by Charmaz (2000). The text was read again and categorized into focused, conceptual nodes based on the emergent categories identified through open coding. Memoing was used to record the thoughts and ideas of the research team throughout the coding process. Theoretical nodes were systematically compared, contrasted and iteratively refined (HC, CM, CE). Core concepts and linkages were explored and discussed by the team. The goal of the analysis was to identify core themes through the qualitative analytic technique of coding transcripts. Themes were contextualized with regard to their relation and implications to the central phenomenon of pregnancy care. Consensus was reached through team meetings (HC, CM). Disagreements were resolved by returning to the data for further examination and clarification.

## Results

Interviews were conducted with 85 women ranging in age from 18 to 41 years. We have reported other demographic details elsewhere<sup>41</sup>. In summary, over two thirds of women had one or more previous children and the average gestational age at the time of interview was 33 weeks. Approximately 61% of participants reported at least one previous HCF delivery and 11% reported at least one previous home delivery.

Pregnant women's stories contrasted increasing endorsement and embrace of HCF delivery with the previously more culturally acceptable practice of non-HCF delivery with TBA assistance. Despite participants' perception of shifting norms, their narratives revealed the persistence of important barriers to HCF delivery.

### Shifting Norms

Central to participants' narratives was the perception of a strong shift toward community endorsement of the biomedical model of pregnancy and delivery care. Although participants openly commented on the systems imperfections, they unanimously expressed a preference for HCF delivery over delivery at home or with a TBA. Moreover, participants described this preference as reflective of the nascent norm in their communities; women described a palpable shift in community support for, and uptake of, HCF delivery. *"Of late it's not like at first, they [women in the community] used to deliver in the house, of late they do come to the hospital to deliver (34 y.o., no previous deliveries)."*

Community leaders, husbands and mothers of pregnant women, were described as previously impeding women from accessing HCF delivery. However this scenario was reported to be changing among women presenting for pregnancy care in Akwatia. Women described knowledge of the benefits of HCF delivery as spreading: *"...women were dying of pregnancy. The mortality rate was high, but right now the education has gotten to so many, so they come to the hospital so that they will not lose their babies or themselves (29 y.o., no previous deliveries)."* While one participant described having had a previous home delivery as a result of her mother's wishes, participants currently depicted influential community members as promoting facility delivery: *"Before my mother was having home deliveries but she [has] seen that it is good to deliver at the hospital. So now she won't allow any of her children to deliver at home (25 y.o., 2 facility deliveries)."* Another participant recalled her mother telling her: *"Home delivery is not safe" (23 y.o., 1 facility delivery).* Community groups including churches were also cited as advising women seek a HCF delivery: *"The*

*church I am attending advised us not to deliver at home... that's why I want to deliver at the hospital (20 y.o., 1 previous home delivery)."*

Decreased subscription to traditional pregnancy and delivery practices was attributed to a heightened awareness of the dangers of pregnancy and delivery, and to a rising belief in the ability of SBAs in HCF to mitigate those dangers. Women referenced HCFs as the only place where "hidden illnesses" or complications could be detected: *"If something is going wrong and they [pregnant women] stay home they can't detect it, but if they come to the hospital the midwife will detect it and know what to do (30 y.o., no previous deliveries)."* A participant with four previous TBA-assisted home deliveries suggested there was no source of "help" outside of HCFs: *"At home if you deliver you can't get help from anywhere... so I have to come to the hospital (31 y.o., 4 home deliveries)."* Primigravidas expressed similar thoughts on non-HCF pregnancy care despite their lack of previous experience: *"You can't help yourself. You have to come to the hospital (19 y.o., no previous deliveries)."* Even women who experienced poor pregnancy outcomes after delivering at a HCF endorsed facility-based care as preferential over non-HCF delivery; one participant who had only one live child from four previous births at HCFs said: *"They [health care facilities] have all the facilities and if something is going wrong they can help me (32 y.o., 4 previous facility deliveries)."*

All participants stated that they intended to delivery in a HCF and many participants verbalized a strong determination to actualize their intentions: *"I will come by all means (33 y.o., 2 facility deliveries)"* and *"There is no way I will deliver at home (26 y.o., no previous deliveries)."* Citing the potential for complications, participants with a history of cesarean section or complications were particularly adamant about their intentions to deliver in a HCF. Participants delivering for the first time also felt strongly that given their lack of experience, they should deliver in a HCF.

### Barriers

Though the pregnant women interviewed were adamant about their desire to deliver at a HCF, their narratives revealed important barriers to

achieving higher rates of HCF delivery: (1) maltreatment by HCF midwives, (2) costs associated with HCF deliveries despite waived facility fees, (3) lack of a support person, (4) difficulty in obtaining transportation and (5) precipitous labor.

Even in the presence of a known HCF midwife (DN), participants described harsh treatment by HCF midwives as a major barrier to utilizing HCFs for delivery. Despite many participants speaking fondly regarding aspects of their care at St. Dominic's, participants commonly described witnessing or hearing stories of HCF midwives shouting at delivering women, being harsh, impatient, or unhelpful both at St. Dominic's and other HCFs. As one participant said: *"Some of them [facility midwives] are too harsh and their characters are not good. You won't do anything bad but how they receive you is not good and some too they will be feeling sleepy and you will call them and they won't come (36 y.o., 3 facility deliveries)"* and *"What I have heard is that some of the midwives, they will beat you, they will shout on you, they don't have patience for you (28 y.o., 1 facility delivery)." While participants were steadfast in their preference for HCF delivery—pledging "whatever they will do, I will come to the hospital (23 y.o., 1 facility delivery)"—participants consistently referenced ill-treatment as critical in explaining the persistence of non-HCF deliveries. Women's descriptions of midwives' behavior as a deterrent to HCF delivery are particularly notable given the stark contrast between women's description of HCF midwives and TBAs. As one woman with a previous home delivery described: "What I like most in the house, the women [TBA] will be with you and then she will not shout on you, she will pamper you and assure you or reassure you that things will be ok. I like it, it is good (38 y.o., 3 home deliveries)."*

Although the Ghanaian government has waived facility fees associated with ANC and HCF delivery, significant costs remain in obtaining a HCF delivery. In addition to the cost of transportation, one commonly mentioned expense was the items pregnant women are required to bring with them to HCFs for delivery: *"The nurses demand the items; they are too many that I can't afford (33 y.o., 2 previous facility deliveries)."*

The list of items women are asked to provide for facility delivery includes: sheets, a plastic bed covering, antiseptic, a bulb aspirator, and absorptive cotton padding (see Table 3).

**Table 3:** Items pregnant women are asked to bring to a HCF delivery\*

Clothing for baby	Baby soap
Sanitary napkins	Sponge
Dettol (liquid antiseptic)	Baby drink
Absorptive pad for cot	Rubber machintos (sheets of rubber)
4-6 bed sheets	Bulb aspirator
Parazone	Bucket

\*List provided by the midwives at SDH

Participants' noted that for some of their peers having to collect these items made HCF delivery cost prohibitive. The resulting decision to deliver outside a HCF was further fueled by fears of mistreatment as a repercussion for a failure to bring the listed items for a HCF delivery: *"I know somebody who delivered at home and I asked her why and she—there wasn't any means. The items they [the hospital] were requesting for the delivery, financially she no money to buy them and bring them to the hospital and if she doesn't bring it, the nurses will shout on her. That is why she delivered at home (35 y.o., 2 facility deliveries)."*

In contrast, TBAs were not described as requesting such items. The cost of home delivery was described as more flexible and therefore more feasible for strapped families: *"As for the TBA, if you don't have money they charge you some amount and if you can't get all, you can make part payments (38 y.o., 3 home deliveries)."* In contrast, some participants, particularly those with extensive formal education, rejected the idea that HCF delivery is too expensive and instead cited lack of education or "ignorance" as driving home delivery; as one participant with 15 years of formal education stated: *"You should be prepared... it is not too expensive (25 y.o., no previous facility deliveries)."*

Patients at HCFs in Ghana rely on a support person, most often a family member, to bring them

food, water, clothing, bedding and any other items they may need during their stay at the HCF. For remotely located families, small families, women without family support, or families who cannot afford time away from work, finding a support person to care for an expectant mother during her HCF stay can be extremely difficult. Participants described the lack of a support person as another important deterrent to HCF delivery: *“If I deliver at the hospital I won't get anybody to care for me that time, that is why I prefer[ed] to go at home... there wasn't anybody to care for me after delivery (34 y.o., 2 home deliveries).”* In contrast, laboring at home or with a nearby TBA often results in less displacement of the expectant mother from her family, reducing the need for a support person committed to both arranging care of the expectant mother at the HCF and subsuming the expectant mother's roles at home.

Participants also noted that it can be particularly difficult or costly to get transport to a HCF at night, in rural areas where vehicles pass infrequently, on non-market days, and during the rainy season when certain roads may be rough or impassable. In an attempt to circumvent such barriers, some participants made advance arrangements with taxi drivers, and a few women said they planned to stay nearby the hospital when delivery neared.

Issues of transportation were described as particularly pertinent at the onset of labor: *“When I go at home and I feel like labor starts I will come and stay nearby to this place so that I deliver here because our road is not good (31 y.o., 4 home deliveries).”* The recognition of, reaction to, and length of labor were mentioned as critical in determining delivery location. When participants were asked how they would know when to come to the HCF, most said they would report to a HCF at the first sign of labor, recognized as abdominal pains and contractions, while others said they would wait until their water broke. Precipitous labor, described by participants as labor that is short in duration, was commonly mentioned as a barrier to facility delivery: *“Some, the labor will be precipitated... quick, so they have to deliver at home (19 y.o., no previous deliveries).”*

## Discussion

This study provides a novel exploration of pregnancy and childbirth care from the perspective of pregnant women seeking ANC at a mission hospital in rural Ghana. In so-doing, it provides insight into enabling factors and barriers associated with utilizing SBAs in HCFs.

In Ghana views surrounding pregnancy care, SBAs and HCF delivery have traditionally been shaped by an understanding of pregnancy as a natural phenomenon<sup>22, 27, 28</sup>. Historically, homebirth has been conceptualized as indicative of a woman's strength and integrity, and has been regarded as an achievement that elevates a woman's status within her home and community. The value placed on homebirth as well as the physical barriers to non-HCF delivery have to date been reflected in high rates of non-HCF delivery. For the first time in 2008 Ghana Demographic Health Survey data showed more women utilizing HCF delivery than non-HCF delivery<sup>37</sup>. The present findings provide qualitative support and rationale for the shifting norm in delivery care suggested by quantitative reports. The current findings suggest that in rural Eastern Ghana, practices and beliefs surrounding pregnancy are moving away from traditional model which favored non-HCF delivery. This transformation is occurring as increased attention is placed on the complications associated with pregnancy and the ability of SBAs in HCFs to address pregnancy complications successfully. Although stakeholders in developing countries have previously expressed divided opinions over the use of SBAs in HCFs for pregnancy care, Mills and Bertrand (2005) found that focus group participants in rural Ghana identified SBAs in HCFs as the ultimate source of obstetric care and noted a community shift away from the traditional practices associated with labor and delivery<sup>22, 24, 31</sup>. This coincides with the findings from our study which suggests that influential family members increasingly are lobbyists for HCF deliveries<sup>22</sup>. Given the tight communal and familial nature of Ghanaian culture, a shift in community acceptance and support for women delivering at HCFs represents a significant advancement in reducing Ghanaian women's

barriers to HCF pregnancy care. Based on women's perceptions of community support and rising normalization of HCF delivery, we hypothesize that there will be a significant increase in HCF delivery rates in the 2013 Ghana Demographic Health Survey.

Participants' narratives in turn showcase the barriers that remain despite increased community support for HCF delivery. As has been identified in every known qualitative study of delivery care determinants in Ghana, and in numerous other low-income settings, pregnant women expressed fears of what could at best be described as social distance, and at worst physical and verbal abuse, by midwives at HCFs<sup>22,28,29,30,32</sup>. In contrast, TBAs, the most notable alternative to HCF delivery, were described as emotionally supportive and attentive. Similar observations have been made by other authors<sup>27,42</sup>. In the present study, the safety offered by SBA during HCF delivery was seen by pregnant women as a benefit that outweighed competing concerns about HCF delivery, including the potential for abusive staff. However, given the persistence and consistency of reports of mistreatment, a concerted effort is needed to understand and tackle this problem if interventions are to effectively increase and consciously endorse the benefits of HCF delivery. Given the broader context of women's health and rights, advocates for decreasing maternal mortality cannot accept interventions that compromise respect for women. Some of the language used by participants such as, "you can't help yourself," reminds us that as countries like Ghana move away from non-HCF deliveries work is needed to ensure that interventions foster rather than compromise women's autonomy.

Data presented here are consistent with other studies indicating the costs associated with HCF deliveries are a very real deterrent for women<sup>13,43,44,45,46,47</sup>. After the Ghanaian government waived facility delivery fees in 2008, Mills et al. (2008) found that Ghanaian women who knew that facility fees were waived were 4.6 times more likely to deliver in a HCF than women who did not<sup>13</sup>. Importantly, the present study is among the first to suggest that cost remains an important factor even after programs are implemented that remove or significantly limit user fees. While the

cost of transportation is fairly apparent, less attention has been paid to the up-front cost associated with obtaining the items women are expected to bring with them to deliver at a HCF in Ghana (see Table 3)<sup>29</sup>. For many women of limited means, obtaining such supplies necessitates difficult decisions regarding the relative benefit of HCF delivery, compared to non-HCF delivery, particularly when there is a seemingly healthy pregnancy.

Our study also illustrates the challenges women face with regard to support during HCF deliveries. Women described concerns about securing a support person to provide for their needs including bringing them food, water and clothing, during and after delivery at a HCF. This speaks to the challenges faced by many HCFs in low-income countries which are under-staffed, under-resourced, and have limited availability of transitional care. In the face of such resource constraints, women rely upon their friends and family to fill the gaps. Future research is needed to help better understand how the social support provided by friends and family can be harnessed to increase HCF delivery rates.

As our study also reiterates, transportation is a long-standing obstacle for women seeking HCF delivery in low-income countries. Both securing transportation and distance to HCFs are frequently cited as critical barriers for women seeking HCF delivery<sup>13,17,41,42,48,49,50,51,52,53</sup>. Many creative schemes to tackle issues of transportation have been explored in Ghana and other low-income countries. These include the use of tractor ambulances, donkey carts, bicycle ambulances and a "red card system" of signaling profession drivers from the roadside with a red card indicating a woman is in labor. Respondents in our study who lived far from a HCF were resourceful in working to secure transportation through utilizing advance contracts with drivers or staying close to a HCF when their due date neared.

Finally, our study suggests that clinical factors beyond women's control can be significant in preventing women from realizing their intentions to deliver in a HCF. When labor comes on rapidly women report not having enough time to get to a HCF. These findings are in keeping with the

existing literature on the role of precipitous labor in reducing HCF delivery<sup>49, 54</sup>.

Though this study provides a novel and critical perspective, it is not without limitations. Women seeking pregnancy care at a well-equipped HCF, and who agree to be interviewed, are likely biased toward a preference for HCF deliveries. However, research cautions against conflating seeking ANC and desire for a HCF delivery. Three separate studies have found that women who are told their pregnancies are “normal” during ANC are much less likely to seek and obtain a HCF delivery<sup>27, 33, 41</sup>. Nonetheless, conducting interviews at a HCF with a HCF midwife present may deter anti-facility sentiments. Frequent descriptions of mistreatment by midwives suggest that participants felt able to express at least some of their grievances. Another potential limitation is that during real-time translation from the local language into English for audiotaping and transcription, it is possible that some subtleties in language were lost. However, all data were reviewed and discussed among the interviewers (HC, DN, KC) to minimize this potential. Finally, this study was conducted at a single HCF. Thus the results cannot be said to be representative of Ghanaian women as a whole, though our sample of 85 women and the consistency of our results give us confidence that our findings provide a valid contribution to the understanding of delivery location.

## Conclusion

Through the use of semi-structured interviews designed using grounded theory methodology, the pregnant women interviewed in this study had the opportunity to communicate their views on the determinants of delivery location and SBA without the constraint of preconceived and often westernized delivery determinant frameworks. In doing so the gap between the high rate of ANC and the low rate of HCF delivery in rural Eastern Ghana was explored from the novel and critical perspective of pregnant women. The results suggest burgeoning support for HCF delivery by both pregnant women in rural Eastern Ghana and their communities. This support is particularly

important given the influential nature of community and family members in health seeking behavior in Ghana. While a palpable shift in support for HCF deliveries marks a critical step toward increasing rates of HCF delivery, the perspective provided here suggests major barriers persist. Unaddressed, these barriers may severely hinder achievement of MDG5. Programmers, researchers and stake-holders will do well to actively address these barriers, particularly the repeatedly reported maltreatment of laboring women by HCF midwives.

## Competing Interests

This study, including the design and conduct of the study, the collection, management, analysis and interpretation of the data, and the preparation, review, and approval of the paper, are solely the responsibility of the authors and do not necessarily represent the official views of the National Institutes of Health. No author has a financial conflict of interest in this research or in its publication.

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## Contribution of Authors

CM, CE, and RA conceived the study design. HC, RA, KC and CM developed the protocol. HC, DN and KC refined the interview tool and conducted all interviews. HC and KC transcribed the interviews. HC completed the open coding. HC, CE and CM refined the emergent framework. HC

drafted the manuscript. All authors assisted in the editing and refining of the manuscript. All authors read and approved the final manuscript.

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