Matern Child Health J
DOI 10.1007/s10995-013-1240-y

"It's up to the Woman's People": How Social Factors Influence Facility-Based Delivery in Rural Northern Ghana

Cheryl A. Moyer · Philip B. Adongo · Raymond A. Aborigo · Abraham Hodgson · Cyril M. Engmann · Raymond DeVries

Abstract To explore the impact of social factors on place of delivery in northern Ghana. We conducted 72 in-depth interviews and 18 focus group discussions in the Upper East Region of northern Ghana among women with newborns, grandmothers, household heads, compound heads, community leaders, traditional birth attendants, traditional healers, and formally trained healthcare providers. We audiotaped, transcribed, and analyzed interactions using NVivo 9.0. Social norms appear to be shifting in favor of facility delivery, and several respondents indicated that facility delivery confers prestige. Community members disagreed about whether women needed permission from their husbands, mother-in-laws, or compound heads to deliver in a facility, but all agreed that women rely upon their social networks for the economic and logistical support to get to a facility. Socioeconomic status also plays an important role alone and as a mediator of other social factors. Several "meta themes" permeate the data: (1) This region of Ghana is undergoing a pronounced transition from traditional to contemporary birth-related practices; (2) Power hierarchies within the community are extremely important factors in women's delivery experiences ("someone must give the order"); and (3) This community shares a widespread sense of responsibility for healthy birth outcomes for both mothers and their babies. Social factors influence women's delivery experiences in rural northern Ghana, and future research and programmatic efforts need to include community members such as husbands, mother-in-laws, compound heads, soothsayers, and traditional healers if they are to be maximally effective in improving women's birth outcomes.

Keywords Facility delivery · Ghana · Pregnancy · Global health · Social factors

C. A. Moyer (✉) · R. DeVries
Global REACH, University of Michigan Medical School, 5115 Med Sci 1, 1301 Catherine St., Ann Arbor, MI 48109, USA
e-mail: camoyer@umich.edu

R. DeVries
e-mail: rdevries@umich.edu

P. B. Adongo
University of Ghana, Legon, Ghana
e-mail: philipadongo@yahoo.com

R. A. Aborigo · A. Hodgson
Navrongo Health Research Centre, Navrongo, Ghana
e-mail: RAborigo@navrongo.mimcom.org

A. Hodgson
e-mail: Abraham.hodgson@ghsmail.org

R. A. Aborigo
MONASH University, Melbourne, Australia

C. M. Engmann
University of North Carolina at Chapel Hill, Chapel Hill, NC, USA
e-mail: cengmann@med.unc.edu

Introduction

According to a recent report by the World Health Organization (WHO), a woman's lifetime risk of dying from pregnancy-related causes in high-income countries is 1 in 3800, however, in sub-Saharan Africa, that risk is 1 in 39 [1]. Universal skilled birth attendance is one of the most effective interventions available to reduce that risk, and in sub-Saharan Africa, skilled birth attendance is often equated with facility-based delivery [2, 3].

Despite WHO recommendations encouraging all women to seek facility-based delivery, numerous barriers have

Published online: 20 February 2013

been documented that prevent women in Africa from delivering in facilities. Distance to the facility [4–8], rural residence [9–14], lack of health insurance and other economic factors [7, 10–13, 15–18] are some of the many logistical barriers repeatedly linked to lower rates of facility delivery. Less well-studied, however, are the social factors that may serve as barriers for women.

Social factors—drawing upon the medical sociological tradition that sees social structure, social interaction, and culture as critical to understanding health, illness, and care seeking [19–23]—may include such things as community and family hierarchies that require women to seek permission before they can go to a facility, social norms that influence prevailing attitudes toward facility delivery, and the role of social networks in helping women implement decisions made regarding care seeking. The community or family hierarchy is the structure in which cultural ideas relating to autonomy, authority, and power (and the need for some to seek permission from others) are created, sustained, and changed. In one recent study in Africa, for example, only 12 of 111 women who delivered at a facility said they made the decision to go to a facility on their own [24], suggesting an important role for significant others in a woman's life. Throughout this manuscript, we use the term "social factors" broadly to encompass all of the above.

In rural northern Ghana, where much of the population is extremely poor and where most families rely on subsistence agriculture for survival, logistical challenges impede facility deliveries. These challenges have been documented for this region and the rest of Ghana in no less than 14 studies, citing cost, lack of health insurance, socioeconomic factors, lack of transport, and being taken by surprise in the middle of the night as key factors in preventing facility delivery [2, 9, 25–37]. Evidence suggests that social factors also play a role in whether women deliver at home or in a facility. For example, researchers found that women who practice traditional religions in Ghana have lower rates of facility delivery, even when controlling for rural residence and socioeconomic factors [25, 32]. Such findings raise questions about the importance of social structures, social interactions, and cultural practices in influencing where women in northern Ghana deliver their infants.

In this study we use qualitative methodology to explore the impact of social factors on place of delivery in northern Ghana, with specific focus on the impact of community and familial social structures and the role of traditional cultural practices surrounding childbirth.

Methods

This study was nested within the Stillbirth and Neonatal Death Study (SANDS) conducted from July–October, 2010, in the Kassena-Nankana district of the Upper East Region of northern Ghana [38–40].

Setting

In rural northern Ghana where this research was conducted, subsistence farming is predominant, and poverty is widespread. Families are patrilineal, and the eldest male, usually referred to as the compound head, typically has the final say in all decisions.

Christianity and Islam are the dominant religions in Ghana, with a small percentage of people reporting practicing traditional religion. The 2008 Ghana Demographic and Health Survey—the most recent year available—indicates that 68 % of the country considers themselves Christian, 18 % Muslim, and 9 % traditionalists. However, in the Upper East Region where this study was conducted, nearly 25 % reported practicing traditional religion [41]. (Note that practicing traditional religion does not preclude individuals from also practicing Christianity or Islam.) Traditional religion in Ghana involves periodic communication with the spirits of the ancestors, including providing offerings and pouring libations, and utilizing soothsayers to communicate with the ancestors. In this setting, the compound head is the sole mediator between the compound members and the ancestors, often via the soothsayer [40, 42]. Thus any major decision should first be discussed with the compound head. According to a study published in 2003, "The idea of seeking health treatment without asking for authorization from the compound head is foreign to most interviewees. Doing so will lead to a host of severe sanctions from the gods, the compound members, and the society at large" [42] (p. 21). The same authors found that husbands and compound heads were the 'gate-keepers' who decide whether or not the sickness of the woman or her child is serious enough to mobilize resources to treat it.

In this setting, women have traditionally preferred to deliver at home for a variety of reasons. First, it is simpler: delivering at home does not require any special permission. Second, women who deliver at home receive social support from their extended families. Another motivation for women to deliver at home is to demonstrate their faithfulness to spouses. Women who are promiscuous are believed to be more likely to face the wrath of the ancestors, which can manifest itself through protracted labor. This can only be rectified by the woman confessing her infidelity to the whole extended family in order to have a safe delivery. Thus delivering at home can not only demonstrate faithfulness if a woman's labor is short and uncomplicated, it also allows the woman the opportunity to confess her infidelity if that becomes necessary.

In this region of northern Ghana, as in much of sub-Saharan Africa, births are typically considered the domain

of women. Compounds or villages may have elderly women or senior aunts who are considered the "traditional birth attendant" (TBA) by virtue of having attended many of the local births over her lifetime. She is likely to have little formal training, and she is likely to rely upon the strategies she has learned in the field to successfully deliver an infant. Thus she may use herbal remedies or other traditional practices to stimulate labor or facilitate delivery. Her services are often offered in exchange for non-cash payments (including such things as crop yields or a fowl), or the cost of her services can be spread out over time. Usually, delivery sessions at home are attended by TBAs and other female relatives within the laboring woman's social network, including her own mother, her mother-in-law, her aunties, or sisters. Births occur in the home, with women laboring in a squatting position and often delivering on the floor. The baby is typically cleaned and bathed by the TBA or the grandmother before being given to the mother.

In an effort to make healthcare more accessible to the poorest residents of Ghana, the Ghanaian government introduced its National Health Insurance Scheme (NHIS) in 2004. According to the 2008 Demographic Health Survey, only about half of childbearing women were covered by the NHIS in the four years after its adoption [41]. Nonetheless, the NHIS and the Ghanaian government are working to improve women's access to and use of services. The government eliminated user fees for all maternity care starting in the mid-2000s—even for uninsured women–and pregnant women who sign up for NHIS have their premium waived to ensure maximum access to prenatal and delivery care. Nonetheless, women who deliver in facilities need to secure and pay for transportation to get to the facility, in addition to bringing a list of delivery supplies that are not provided by the clinic. This list, which includes everything from sheets and towels to gauze and rubber gloves, can prove expensive and may deter some women from using facilities [29].

Identifying Participants

This study took place within the catchment area of the Navrongo Health and Demographic Surveillance System (NHDSS), an ongoing surveillance system in which Community Key Informants (CKIs) living in the communities routinely collect information on vital events including births, deaths, pregnancies and marriages. The NHDSS is run by the Navrongo Health Research Centre, who recruit and train CKIs to collect data three times per year from everyone in the community. As part of the NDSS data collection, the two Kassena-Nankana districts were divided into five zones (East, West, North, South and Central) and zones were further divided into clusters. We randomly selected two zones for inclusion in this research, and within each selected zone, we randomly selected 12 clusters.

Table 1 illustrates the type of participants included in this study, how they were identified, and how data were collected. In summary, CKIs in each cluster generated a list of mothers whose infants had reached 1 month of age, and the list was stratified based on literacy, place of delivery, and number of previous deliveries to maximize the variability of our sample. Mothers within each group who could be contacted immediately after the child was four weeks old were purposively selected for interview. Traditional Birth Attendants (TBAs), herbalists, and other local healers outside the formal health care system were purposely selected by CKIs who identified potential respondents based on the individual's knowledge and/or involvement with maternal and child health at the community level. All available health care providers working in the region were also interviewed, including in-depth interviews with nurses, midwives, medical assistants, medical doctors.

For the purpose of focus group recruitment for grandmothers, household heads, and compound heads, five clusters were randomly selected within each zone. CKIs who live in those communities were consulted in identifying grandmothers with relevant experience in neonatal health residing within the selected clusters. CKIs also assisted in identifying household heads and compound heads who had recent experience with pregnancy and childbirth within their household or compound.

Interviews and focus group discussions were conducted until thematic saturation was reached.

Data Collection

We collected data using a study-specific semi-structured interview tool based on published guidelines for assessing newborn care practices [43]. Newborn care practices were the initial focus of the SANDS study, but the interview tool was expanded to include questions about prenatal care, delivery, post-natal care, and traditional birth practices within the community. The tool was also modified to be appropriate for different categories of respondents and different settings. While some core elements of the instrument remained constant, mothers with newborn infants, for example, were asked different sets of questions than male compound heads or healthcare providers. In addition, the tool for in-depth interviews was modified for focus group use.

Interviewers worked in pairs to conduct hour-long in-depth interviews (IDIs) in respondents' homes and in local healthcare facilities. Interviewers audio recorded all IDIs, and a second field team member took field notes. For non-English speakers, interviewers conducted IDIs in the respondent's native language (either Kasem or Nankana).

Table 1 Participants and operational definitions

Type of interaction	Type of respondent (number of participants)	How identified	Operational definition of respondent
In-depth-interview	Women with newborn infant (35)	Community key informant	Women who had delivered an infant more than 4 weeks prior but not longer than 12 weeks prior. This timeframe was chosen to minimize stress on respondents but maximize accuracy of recall
In-depth-interview	Healthcare providers (13)	Employment roster at health facility	Medical assistants, midwives, nurse/midwives, nurses, physicians who were employed by one of the local health facilities
In-depth-interview	Traditional birth attendants (4)	Community key informant	Women in the local community who attend to births outside the health facility and are not considered to be formally trained
In-depth-interview	Herbalists (4)	Community key informant	Traditional healers in the community who provide herbal and traditional remedies for health problems
In-depth-interview	Community leaders (16)	Community key informant	Women's group leaders, assemblymen and assembly women, local tribal chiefs
Focus group discussions	Grandmothers (81)	Community key informant	Any woman who had at least one grandchild within the past year
Focus group discussions	Compound heads (22)	Navrongo demographic surveillance system	Leaders of the 'compounds' where clusters of families live, usually an elder male who oversees multiple related households of extended family
Focus group discussions	Household heads (78)	Navrongo demographic surveillance system	Leaders of a single household, usually the father or elder male in charge of one house within a compound

The interview team then transcribed all IDIs into English, retaining local words and phrases that were difficult to translate. Interviewers conducted IDIs with health care providers in English and transcribed interviews verbatim.

Eight to ten community members participated in each focus group, which typically lasted 60–90 min. All focus groups were audio recorded, conducted in the local language, and transcribed into English.

Permission and Invitation to Participate

Compound or community leaders in each community granted permission to conduct focus group discussions. The most senior administrative personnel overseeing each health facility granted permission for the conduct of in-depth interviews with providers. These senior administrative personnel included such individuals as the district director of health services or the senior medical officer in charge of the district hospital.

Information about the objectives of the discussion and the purpose of the overall study were provided to each potential participant. Confidentiality with regard to their participation and anonymity with regard to their stored data were assured, and each participant was asked for his or her verbal consent to participate in the interview or focus group discussion. Permission to audio-record the discussions was also sought and obtained.

Participants did not receive any monetary incentive for participating in the discussions. However, two cakes of soap were provided as a token of appreciation for participation. This study was reviewed and approved by the institutional ethics review committees of the Navrongo Health Research Center, and the Universities of Michigan and North Carolina at Chapel Hill.

Data Analysis

At least three of the investigators (CM, RA, CE) read each interview and performed "in vivo" coding to identify main codes. This involved making written notes on hard copies of the transcripts and reviewing the notes together. From the in vivo coding, we agreed upon a preliminary coding structure and created a codebook. We entered transcripts into NVivo 9.0 qualitative software. Four separate coders used the codebook to conduct focused coding. Coders included one of the investigators (CM) and three master's level public health researchers.

The coding team met regularly to discuss the meaning and application of codes. We also discussed new themes that had arisen and updated the project codebook accordingly.

During the coding process, facility delivery, home delivery, attitudes toward skilled birth attendance, role of a TBA or midwife, and decision-making in the community were all identified as macro-level codes (or 'parent nodes' in NVivo). Each of these codes and any associated sub-codes (or 'child nodes' in NVivo) were examined with an eye toward identifying social factors that play a role in choice of delivery location. We developed a new set of codes to reflect the social factors present in the data. Socioeconomic status (SES) (e.g., material assets, income,

or occupation) was not formally assessed in our interviews, but sufficient mention was made of SES-related factors that we used illiteracy as a proxy for low SES in our analysis. This is a community in which poverty is widespread, thus illiteracy is a critical stratifier.

Results

Shifting Social Norms Regarding Place of Delivery

Across all types of respondents, attitudes are changing regarding the importance of facility-based delivery. Whereas it used to be normative for women to deliver at home and avoid the clinic, "… (it) is no more because the world has changed." (IDI, Woman with Newborn Infant) As one women's group leader in the district said, "Oh these days every woman or man knows how clinic delivery is very relevant and safe so that cannot prevent them from delivering at clinic." (IDI, Women's Group Leader).

Respondents cited safety and prevention of death as the most important reasons for women to deliver in a facility.

> But for us in the olden days we will stay in the house and will be commanding the woman to push and all of a sudden you will see the woman is lying dead and we will carry her to go and bury. So this is the reason why we have accepted the hospital for women to go and deliver there. (FGD, Grandmother).

Women reported learning about the importance of facility delivery from community health workers and during antenatal care visits. One healthcare provider described how they have been working to dissuade local traditional birth attendants from allowing women to deliver at home:

> These days we have been motivating them… We told them that it is not sterilized to … deliver in the house, and then the diseases (like) HIV, hepatitis B, it is carried through blood. And they have no gloves, no preventive tools with them to use to deliver. … So it is better they accompany the woman to the health facility. (IDI, Healthcare Provider).

One local traditional birth attendant reported that women knew the benefits of delivering in a facility to the point that her role in the community was becoming somewhat obsolete:

> Most of them know to such an extent that they don't even (say) good bye (to) me anymore. One was here she just went without (saying) good bye (to) me. We have spoken to them and they understood us that the hospital has benefits for them. For that matter, they don't call me before they go to the hospital and give birth. I always just hear she has gone to give birth in the hospital. (IDI, Traditional Birth Attendant).

One respondent, a local traditional healer, said that facility delivery can enhance a woman's standing in the community. "It gives them some level of social prestige among their peers and the baby will also come out safe and strong." (IDI, Traditional Healer) This is in contrast to years past, when delivering at home indicated women were self-sufficient and strong enough to deliver without assistance.

Regardless of the general tenor of responses in favor of facility-based delivery, some households still consider it "taboo" to deliver in a facility. As one woman described:

> In some families it is a taboo for a woman to deliver in a hospital so any woman in the house if she is in labor will have to deliver in the house. (IDI, Woman with Newborn Infant).

Typically these households were ones practicing traditional religion, in which soothsayers were consulted before women could be allowed to go to the facility. If the local soothsayer was adamant about avoiding the hospital, families feared repercussions from the ancestors if they disobeyed the advice of the soothsayer. Thus the term "taboo" was used to mean something that was frowned upon and could bring negative consequences. Consequences might be mild (such as bad luck for the compound as a result of angering the ancestors) or severe (such as a maternal or infant death, or death to extended family members).

Perceptions about Permission and Assistance to Deliver in a Facility

Respondents disagreed about the need for women to seek permission to deliver at a facility. Several respondents indicated that husbands, mother-in-laws, compound heads, and soothsayers may need to be consulted before a woman can go to a facility.

> Some (husbands) prevent their wives from visiting the clinic because they have the perception that women were delivering when there were no clinics. (FGD, Compound Heads).
>
> Formally, when a traditional religious compound head goes to consult the gods about a pregnant woman in the compound and the gods indicate that the baby shouldn't be delivered at any facility but at home, they stick to that and that is where the complications come and we all know that now. (FGD, Household Heads).
>
> A lot of the time the decisions are not made by her (the mother). And if she makes them, she needs the

> blessing of somebody else. And I think that's a very, very big challenge for her. (IDI, Healthcare provider).

Yet for every respondent in a given community who suggested needing permission was a problem, another indicated it was not. According to one woman with a newborn infant, "Everyone knows the importance of delivery in clinic so they wouldn't refuse." Other typical responses to questions regarding the need for permission included the following:

> Interviewer: What about your husband, can your husband prevent you from going to hospital/clinic?
> Respondent: No, will your husband allow you to die? (Laughter) (IDI with woman with a newborn infant).

Many respondents indicated that women in labor must rely upon the people around them to help them get to a facility for delivery, and often those people are either not prepared or are not particularly helpful.

> For some of them it is the men that delay them. When you are in pains and want the man to go and look for a means to take you to the hospital, he will be running around looking for the old women to come and assist you to deliver. When they come to realize that it is critical on you, they will then take you to the hospital, not for you to deliver but to see whether they can save your life… They will be delaying until when they see that the old women cannot help you to deliver, that is when they will be running around looking for a car to take you to the hospital. May be by the time they will come with the car the woman might have given birth. (IDI, Woman with Newborn Infant).
>
> When the woman is in labor and is struggling to give birth she cannot ensure there is a nurse, it is the husband or the family member who will do, ensure that there is nurse to assist in delivering the baby and if there is no nurse it means those people did not do their work. (IDI, Chief).
>
> The woman's people have to do whatever they can to get the woman to the hospital for her to deliver safely. (FGD, Household Head).

The Role of Socioeconomic Status (SES)

We found that illiterate women in our sample (which we used as a proxy for SES) did not appear less knowledgeable about facility delivery or any less inclined to seek FBD than literate women. Yet logistical barriers to seeking care, such as obtaining transportation, the cost of transportation, and the cost of care-seeking were frequently mentioned among illiterate women. As one village chief explained in an in-depth interview, "Most of the women here deliver at home because of the poverty situation here. … If you don't have money, you can't go and hire a car to carry the woman to the clinic."

We found that in addition to being a social factor that impacts delivery decisions on its own, SES may play an important role as a mediator of other social factors that can influence delivery decisions. For example, we found that women who reported the need to seek permission before traveling to a health facility and women in families that practice traditional religion were likely to be illiterate. Consulting the gods before deciding a course of action features prominently in traditional religions:

> Interviewer: When you said sometimes the family has to consult the gods before the woman will give birth, what are they always looking (for)?
> Respondent: They always do it to find out whether the baby is coming from God or somewhere else… Because the landlord (compound head) is an old person he will like to follow what tradition says, thereby preventing the woman from going to the hospital to deliver. (IDI, Women's group leader).

Lower SES also appeared to be linked to more traditional healthcare practices: "If there is no money to buy drugs when you go to the hospital, you have to stay home and see whether you can get local herbs to treat yourself." (IDI, Woman with Newborn Infant) Traditional delivery practices, including the use of a TBA, have typically been less expensive than hospital-based delivery care. As such, illiterate women with presumably fewer economic resources reported sometimes opting for traditional care. Even now that maternity care is covered for all women in Ghana, the barriers erected by differences in SES are not entirely alleviated: "Maybe some (women) are ashamed because they don't have nice clothes to cover the baby after delivery and end up not going (to the facility)." (IDI, Chief).

Meta Themes

In addition to these social factors, we found several "meta themes" worthy of further exploration.

Transition

The Kasena Nankana society is in the process of transition, with traditional maternal and child health practices giving way to more contemporary ones. Respondents regularly used phrases like "in the olden days" or "before the hospitals" or "before modernity." These phrases appeared to reflect a past that was not particularly distant—for the grandmothers, they often referred to the time when they

delivered their own children. This timing fits with the implementation of the Community-based Health Planning and Services Initiative (CHPS) in Northern Ghana in the 1990s [44–46], in which community health centers and trained healthcare providers were placed throughout the Kassena-Nankana District. While the majority of respondents spoke in terms that were favorable to contemporary practices, many provided very detailed accounts of what is done traditionally. The extent to which those traditional practices are being maintained throughout the community is not clear. It is also unclear whether contemporary practices are providing an alternative or an adjunct to traditional practices. For example, some respondents described a preference for traditional treatment: "The father will tell the wife that in their days they were using traditional herbs … so you should go for them rather than the clinic or hospital." (FGD, Grandmother) Others described use of traditional treatment only when Western medicine fails. "We know that the Western medicine is always better than the local herbs, but if it also fails we have no option than to go for the local treatment." (FGD, Compound Head).

Other community members describe a pronounced shift from the "olden days", when women were expected to deliver at home with a traditional birth attendant, to more contemporary hospital deliveries. "We had that in olden days. (Men) were not allowing (women) to go (to the hospital) at all but … everybody now understands the need for a woman to deliver in the hospital. And even if someone hears you are preventing your wife from going to hospital to deliver, the community will not agree with you." (IDI, Chief).

Power Hierarchies in the Community

Our data suggest that when it comes to important delivery decisions, some women may consult with their mothers-in-law and their husbands, who may in turn consult with compound heads: "The power is in the hands of the compound head, who is the grandfather. He owns the family members and takes decisions over them." (FGD, Grandmothers) Compound heads, in turn, may consult with spiritual leaders to reach a decision. Each step requires time, and each step impacts the likelihood of physical and financial resources being made available. As one healthcare provider described, "Someone must give the order that, 'Go to the hospital.' You see, there is that chain of command. You see?" (IDI, Healthcare Provider) As one grandmother described, "The woman has the power, but she is living in someone's house. So she must inform the husband." (FGD, grandmothers).

Yet these hierarchies are not universal—some women report making their own decisions, and some compound heads denounce the role of spiritual leaders, for example. "If it is too serious you don't even have to wait for the husband…. We the women always decide and now inform our husbands (that we are going to the hospital.)" (FGD, Grandmothers) This suggests that the soothsayer, the husband, and the compound head are no longer considered the final authorities. This marks a substantial transition from years past when women would never have considered seeking healthcare without explicit involvement of the soothsayer, her husband, or the head of her compound.

Yet for the vast majority of women, we found that individual decision-making is not the norm. For those women who do make their own decisions, they still must rely upon others for the resources to operationalize their decisions. We were not able to determine from our data what lay at the root of these differences in decision-making autonomy.

Community Responsibility for Pregnancy and Delivery

One final theme we found is the widespread sense of responsibility that community members feel for women to deliver their babies safely. Not only mothers themselves, but also grandmothers, household heads, compound heads, community leaders, traditional birth attendants, herbalists, traditional healers, and healthcare providers in this community all spoke about their shared role in ensuring that women have safe deliveries. Quotes indicate that responsibility for a healthy delivery rests not just with the individual woman, but also with her entire extended family, including all of "the woman's people".

As one compound head described, poor birth outcomes affect the entire community. "If you also get angry and leave her alone and on the day of delivery she loses the baby or she loses her own life, it will spoil the community—that takes us backward." (FGD, Compound Head).

Discussion

Social factors play an important role in whether women in rural northern Ghana seek and obtain delivery in a health facility. Social norms appear to be shifting in favor of facility delivery, with many respondents using phrases like, "Now we are enlightened" to explain the shift from home deliveries to facility deliveries. While the phrase "enlightened" may reflect community members' acceptance of public health and education campaigns, it may also be a window into the way community members perceive the move from traditional to more contemporary birth practices. Not unlike the adoption of Western religions brought by missionaries, the adoption of Western medical practices may be imbued with a degree of status as it reflects a shift away from the ways of the past.

Traditional religion—at least as it pertains to traditional beliefs surrounding delivery—appears to be decreasing in prominence. Our data did not reflect any references to women proving their faithfulness or having difficult labor as punishment by the ancestors. Our data also included numerous quotes that reflected a degree of disapproval of traditional religious practices: "We don't do that, we are Christians."

Similarly, our data suggest that traditional birth practices and traditional decision-making structures in rural Ghana are tightly linked. And as traditional decision-making structures shift, so too does the emphasis on traditional birth practices. Soothsayers, husbands, and compound heads once held complete authority over women's healthcare seeking behavior, and in generations past, these community members believed strongly that women ought to deliver at home as had occurred for thousands of years prior. Yet the power of the soothsayer, the husband, and the compound head appears to be waning slightly in this region of Ghana [47, 48]. Not only does this allow more latitude for women (and grandmothers) to make decisions about where women may deliver their infants, it also loosens the ties between the leadership groups. For example, whereas a compound head used to be bound to follow the instructions of the soothsayer, the reduction in the soothsayer's power brings increased latitude for the compound head to make his own decisions. Increasing education and emphasis on the value of facility-based delivery means more and more compound heads are approving facility deliveries for the women in their compounds. But in the telling words of one healthcare provider, "Someone must give the order (to go to the hospital)." Rarely is that the woman herself.

While reports conflict on whether women need to seek permission from their husbands, mother-in-laws, or compound heads to deliver in a facility, it is clear that women must rely upon the people in their social networks for the economic or logistical support to help them get to a facility. Such reliance does not always translate to a safe and timely arrival. Socioeconomic status also plays a critical role in impacting delivery decisions directly, in addition to serving as a mediating factor through its relationship to other social factors such as traditional religion and traditional healthcare practices.

Our data both conflict with and reinforce previously published research. For example, contrary to our findings, both Jansen [33] and Bazzano et al. [27] published studies in Ghana that found that delivering at home was seen to raise a woman's status within her family and community. Other studies report on a general preference for home delivery [18, 49, 50], while our study and another by the lead author in a separate region in Ghana [28, 29] find that most women report preferring to deliver in a facility. These discrepant findings may reflect changes in norms over time, given that data collected several years ago may reflect a different reality than data collected more recently. These differences may also reflect significant regional variability throughout Africa. Yet given independent samples collected in the same year (2010) in two separate regions in Ghana, social norms in Ghana may indeed be shifting to favor facility delivery.

Our results dovetail well with the few studies that have addressed the importance of social and community factors in influencing facility delivery rates. For example, no fewer than nine studies in sub-Saharan Africa have addressed the role of spouses and other key decision-makers in influencing facility-delivery [27, 33, 35, 50–55]. As Lori and Boyle describe, "Men are excluded from the actual process of childbirth due to cultural norms, yet because of their status as 'decision makers' in the family they have the power to decide if the woman is brought to the hospital for care" [53] (pp. 465–466). This can lead to the process of delays described in our study, whereby women must rely upon men to help them get to a facility, yet those men may not be prepared to provide such assistance.

Our findings also reinforce similar results found when authors explored general health seeking behavior, as opposed to focusing on delivery behaviors. For example, Janzen described a concept known as "collective kinship therapy" in the Congo whereby a group of friends and family is obliged to seek a cure for an individual who falls ill [56]. In this setting, illness is treated based on its perceived origin, and western medicine may provide only one piece of the perceived cure. Janzen illustrates not only the plurality of medical options available in low-income settings, but also the collective nature of care seeking—similar to what we see in parts of rural Ghana.

These findings have several implications for research, practice, and policy. First, future research is needed that disentangles the role of social factors and their mechanism of action. For example, much of the published literature cites the importance of SES-related variables in influencing facility delivery rates, yet none explores the clusters of social factors that are likely linked to SES. Without a clear understanding of those factors, their individual influences and their relationship to SES, interventions are unlikely to be maximally effective.

We believe that community-based outreach is one critical step in improving facility-based delivery rates. We found that the broader community is an important player during the childbirth process in both giving women formal permission to seek a facility delivery and in providing the instrumental support necessary to get them from their homes to the facility. This finding is especially provocative given the tendency for maternal and child health interventions to focus upon individual women rather than their broader social network and the social structure in which

they live. Typical intervention strategies include providing targeted education for pregnant women and attempting to boost women's autonomy. In a culture in which the entire community feels a degree of responsibility over a woman's delivery, such strategies may fall short. Future research is needed that addresses community-based solutions to the challenges in maternal and child health.

We also found a need for programmatic efforts that assist providers in embracing the transition from traditional to contemporary practices that is occurring in this community, rather than seeing traditional practices as unilaterally negative. This may involve proactively integrating aspects of traditional practices into formal settings, or working with local community leaders to develop culturally-appropriate alternatives to unsafe traditional practices. Gabrysch et al. [57] demonstrated the success of such an effort in Peru, where community members and health care providers worked together to develop a culturally-appropriate delivery care model .

With regard to policy implications, we found that socioeconomic status does not have a straightforward relationship to facility-delivery. Simply providing health insurance may not be sufficient to offset the impact of differences in socioeconomic status on facility delivery rates. Fortunately, Ghana provides an excellent 'test case' for such a statement, as nationalized health insurance was made available in the mid 2000s and is only now being widely adopted. As a greater percentage of women avail themselves of health insurance in Ghana (that includes free birth care), researchers and policy makers need to observe the relationship that increasing uptake has to facility delivery rates. Women with the lowest SES, living in the most traditional homes, subject to the most hierarchical decision making processes, may also be the women who do not sign up for national health insurance. Thus policies designed to address socioeconomic variables need to pay attention to the cluster of factors that accompany low SES.

This study has several notable strengths. First, it includes a diverse sample of individuals representing a variety of interests with regard to childbearing. Second, we believe this study is the first to disaggregate two very important functions of a woman's spouse or immediate family: giving permission to deliver in a facility and providing sufficient assistance for that permission to be meaningful. Previous studies have described the need for women to seek permission, but none has linked that permission to the next, arguably equally important step: operationalizing the permission into action that results in the woman getting to the facility.

Methodological limitations to this study include potential bias associated with having graduate student interviewers, rather than community members themselves. However, four of the interviewers were local Ghanaian graduate students. And given the volume of information readily volunteered and the 20-year history of the Navrongo Health Research Center's conduct of research in this area, we do not believe the characteristics of the interviewers unduly biased responses. Perhaps the most significant limitation is that we collected data in one language and translated it into English for analysis. Nuances in meaning may have been lost in that process, despite our efforts to maintain data integrity by retaining local words when the English translation seemed inadequate. Future studies would benefit from analysis conducted in the local languages. In addition, this study was not designed to assess differences across socioeconomic status. Thus the observations made must be tempered with the knowledge that our sample varies by literacy level, but we did not consciously build in wealth-related stratifiers in selecting our sample. Our findings suggest differences in the impact of social factors by SES, but further research that is designed to test the relationship between SES and social factors is warranted.

In summary, we found that social factors have a profound impact on women's delivery experiences in rural northern Ghana. Future research and programmatic efforts need to include a focus beyond the individual woman if they are to be maximally effective. Potential targets include community and family members who are involved in healthcare decision-making and provide the logistical and financial assistance to operationalize those decisions.

Acknowledgments The authors would like to acknowledge Global REACH and the African Social Research Initiative at the University of Michigan, the Department of Pediatrics at the University of North Carolina, the University of Ghana School of Public Health, the Navrongo Health Research Centre, and the numerous individuals involved in the collection and coding of data. These include: Sarah Rominski, John Richardson, Elizabeth Hill, Rebekka Hess, Mira Gupta, Gideon Logonia, and Gideon Affah. Most importantly, the authors would like to thank the people of the Kassena-Nankana District of northern Ghana.

References

1. WHO, UNICEF, UNFPA, World Bank. (2012). *Trends in maternal mortality, 1990–2010.* Geneva: World Health Organization.
2. Penfold, S., Harrison, E., Bell, J., & Fitzmaurice, A. (2007). Evaluation of the delivery fee exemption policy in Ghana: Population estimates of changes in delivery service utilization in two regions. *Ghana Medical Journal, 41*, 100–109.
3. Wang, W., Alva, S., Wang, S., Fort, A. (2011). *Levels and trends in the use of maternal health services in developing countries. DHS comparative reports no. 26.* Calverton, Maryland: ICF Macro.
4. Faye, A., Niane, M., & Ba, I. (2011). Home birth in women who have given birth at least once in a health facility: Contributory factors in a developing country. *Acta Obstetricia et Gynecologica Scandinavica, 90*, 1239–1243.

5. De Allegri, M., Ridde, V., Louis, V. R., Sarker, M., Tiendrebeogo, J., Ye, M., et al. (2011). Determinants of utilisation of maternal care services after the reduction of user fees: A case study from rural Burkina Faso. *Health Policy, 99*, 210–218.
6. Gabrysch, S., Cousens, S., Cox, J., & Campbell, O. M. (2011). The influence of distance and level of care on delivery place in rural Zambia: A study of linked national data in a geographic information system. *PLoS Medicine/Public Library of Science, 8*, e1000394.
7. Spangler, S. A., & Bloom, S. S. (2010). Use of biomedical obstetric care in rural Tanzania: The role of social and material inequalities. *Social Science and Medicine, 71*, 760–768.
8. Tann, C. J., Kizza, M., Morison, L., Mabey, D., Muwanga, M., Grosskurth, H., et al. (2007). Use of antenatal services and delivery care in Entebbe, Uganda: A community survey. *BMC Pregnancy & Childbirth, 7*, 23.
9. Adanu, R. M. (2010). Utilization of obstetric services in Ghana between 1999 and 2003. *African Journal of Reproductive Health, 14*, 153–158.
10. Babalola, S., & Fatusi, A. (2009). Determinants of use of maternal health services in Nigeria—looking beyond individual and household factors. *BMC Pregnancy & Childbirth, 9*, 43.
11. Hong, R., Ayad, M., & Ngabo, F. (2011). Being insured improves safe delivery practices in Rwanda. *Journal of Community Health, 36*, 779–784.
12. Ochako, R., Fotso, J. C., Ikamari, L., & Khasakhala, A. (2011). Utilization of maternal health services among young women in Kenya: Insights from the Kenya Demographic and Health Survey, 2003. *BMC Pregnancy & Childbirth, 11*, 1.
13. Zere, E., Oluwole, D., Kirigia, J. M., Mwikisa, C. N., & Mbeeli, T. (2011). Inequities in skilled attendance at birth in Namibia: A decomposition analysis. *BMC Pregnancy Childbirth, 11*, 34.
14. Woldemicael, G. (2010). Do women with higher autonomy seek more maternal health care? Evidence from Eritrea and Ethiopia. *Health Care for Women International, 31*, 599–620.
15. Ahmed, S., Creanga, A. A., Gillespie, D. G., & Tsui, A. O. (2010). Economic status, education and empowerment: Implications for maternal health service utilization in developing countries. *PLoS ONE [Electronic Resource], 5*, e11190.
16. Hounton, S., Chapman, G., Menten, J., De Brouwere, V., Ensor, T., Sombie, I., et al. (2008). Accessibility and utilisation of delivery care within a skilled care initiative in rural Burkina Faso. *Tropical Medicine & International Health, 13*(Suppl 1), 44–52.
17. Kruk, M. E., Mbaruku, G., Rockers, P. C., & Galea, S. (2008). User fee exemptions are not enough: Out-of-pocket payments for 'free' delivery services in rural Tanzania. *Tropical Medicine & International Health, 13*, 1442–1451.
18. Olusanya, B. O., Alakija, O. P., & Inem, V. A. (2010). Non-uptake of facility-based maternity services in an inner-city community in Lagos, Nigeria: An observational study. *Journal of Biosocial Science, 42*, 341–358.
19. Conrad, P., & Barker, K. K. (2010). The social construction of illness: Key insights and policy implications. *Journal of Health and Social Behavior, 51*(Suppl), S67–S79.
20. Brown, P., Lyson, M., & Jenkins, T. (2011). From diagnosis to social diagnosis. *Social Science and Medicine, 73*, 939–943.
21. Cohen, D. A., Finch, B. K., Bower, A., & Sastry, N. (2006). Collective efficacy and obesity: The potential influence of social factors on health. *Social Science and Medicine, 62*, 769–778.
22. Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine, 7*, e1000316.
23. Schouten, B. C., & Meeuwesen, L. (2006). Cultural differences in medical communication: A review of the literature. *Patient Education and Counseling, 64*, 21–34.
24. Telfer, M. L., Rowley, J. T., & Walraven, G. E. (2002). Experiences of mothers with antenatal, delivery and postpartum care in rural Gambia. *African Journal of Reproductive Health, 6*, 74–83.
25. Addai, I. (2000). Determinants of use of maternal-child health services in rural Ghana. *Journal of Biosocial Science, 32*, 1–15.
26. Akazili, J., Doctor, H. V., Aboky, L., Hodgson, A., & Phillips, J. F. (2011). Is there any relationship between antenatal care and place of delivery? Findings from rural northern Ghana. *African Journal of Health Sciences, 18*, 62–73.
27. Bazzano, A. N., Kirkwood, B., Tawiah-Agyemang, C., Owusu-Agyei, S., & Adongo, P. (2008). Social costs of skilled attendance at birth in rural Ghana. *International Journal of Gynaecology and Obstetrics, 102*, 91–94.
28. Crissman, H. P., Crespo, K., Nimako, D., Domena, J., Engmann, C. M., Adanu, R. M., et al. (2011). Intention to deliver in a healthcare facility and healthcare facility-based delivery rates among women in Akwatia, Ghana. *International Journal of Gynaecology Obstetrics, 113*, 161–162.
29. Crissman, H., Engmann, C. M., Adanu, R. M., Nimako, D., Crespo, K., & Moyer, C. A. (2013). Shifting norms: Pregnant women's perspectives on skilled birth attendance and facility-based delivery in rural Ghana. *African Journal of Reproductive Health* (in press).
30. D'Ambruoso, L., Abbey, M., & Hussein, J. (2005). Please understand when I cry out in pain: Women's accounts of maternity services during labour and delivery in Ghana. *BMC Public Health, 5*, 140.
31. Galaa, S. Z., & Daare, K. (2008). Understanding barriers to maternal child health services utilization in northern Ghana. *Journal of Social Development in Africa, 23*, 127–155.
32. Gyimah, S. O., Takyi, B. K., & Addai, I. (2006). Challenges to the reproductive-health needs of African women: On religion and maternal health utilization in Ghana. *Social Science and Medicine, 62*, 2930–2944.
33. Jansen, I. (2006). Decision making in childbirth: The influence of traditional structures in a Ghanaian village. *International Nursing Review, 53*, 41–46.
34. Martey, J. O. (1995). Utilization of maternal health services in Ejisu District. *West African Journal of Medicine, 14*, 24–28.
35. Mills, S., & Bertrand, J. T. (2005). Use of health professionals for obstetric care in northern Ghana. *Studies in Family Planning, 36*, 45–56.
36. Mills, S., Williams, J. E., Adjuik, M., & Hodgson, A. (2008). Use of health professionals for delivery following the availability of free obstetric care in northern Ghana. *Maternal and Child Health Journal, 12*, 509–518.
37. Smith, K. V., & Sulzbach, S. (2008). Community-based health insurance and access to maternal health services: Evidence from three West African countries. *Social Science and Medicine, 66*, 2460–2473.
38. Engmann, C., Walega, P., Aborigo, R. A., Adongo, P., Moyer, C. A., Lavasani, L., et al. (2011). Stillbirths and early neonatal mortality in rural northern Ghana. *Tropical Medicine & International Health, 17*, 272–282.
39. Moyer, C. A., Aborigo, R. A., Logonia, G., et al. (2012). Clean delivery practices in rural northern Ghana: A qualitative study of community and provider knowledge, attitudes, and beliefs systems. *BMC Pregnancy Childbirth, 12*, 50.
40. Aborigo, R., Moyer, C. A., Rominski, S., Adongo, P., Williams, J., Logonia, G., et al. (2012). Infant nutrition in the first seven days of life in rural northern Ghana. *BMC Pregnancy Childbirth, 12*, 76.
41. Ghana Statistical Service. (2009). *Ghana demographic and health survey, 2008.* Accra: Ghana: Ghana Health Services (GHS) and ICF Macro.

42. Ngom, P., Debpuur, C., Akweongo, P., Adongo, P., & Binka, F. N. (2003). Gate-keeping and women's health seeking behaviour in Navrongo, northern Ghana. *African Journal of Reproductive Health, 7*, 17–26.
43. Parlato, R. P., Darmstadt, G. L., & Tinker, A. (2004). *Saving Newborn Lives tools for newborn health: Qualitative research to improve newborn care practices*. Washington, DC: Save the Children.
44. Binka, F. N., Nazzar, A., & Phillips, J. F. (1995). The Navrongo community health and family planning project. *Studies in Family Planning, 26*, 121–139.
45. Phillips, J. F., Bawah, A. A., & Binka, F. N. (2006). Accelerating reproductive and child health programme impact with community—based services: The Navrongo experiment in Ghana. *Bulletin of the World Health Organization, 84*, 949–955.
46. Nyonator, F. K., Awoonor-Williams, J. K., Phillips, J. F., Jones, T. C., & Miller, R. A. (2005). The Ghana community-based health planning and services initiative for scaling up service delivery innovation. *Health Policy and Planning, 20*, 25–34.
47. Adongo, P. B., Phillips, J. F., Kajihara, B., Fayorsey, C., Debpuur, C., & Binka, F. N. (1997). Cultural factors constraining the introduction of family planning among the Kassena-Nankana of northern Ghana. *Social Science and Medicine, 45*, 1789–1804.
48. Adongo, P. B., Phillips, J. F., & Binka, F. N. (1998). The influence of traditional religion on fertility regulation among the Kassena-Nankana of northern Ghana. *Studies in Family Planning, 29*, 23–40.
49. Aremu, O., Lawoko, S., & Dalal, K. (2011). Neighborhood socioeconomic disadvantage, individual wealth status and patterns of delivery care utilization in Nigeria: A multilevel discrete choice analysis. *International Journal of Womens Health, 3*, 167–174.
50. Magoma, M., Requejo, J., Campbell, O. M., Cousens, S., & Filippi, V. (2010). High ANC coverage and low skilled attendance in a rural tanzanian district: A case for implementing a birth plan intervention. *BMC Pregnancy Childbirth, 10*, 13.
51. Amooti-Kaguna, B., & Nuwaha, F. (2000). Factors influencing choice of delivery sites in Rakai district of Uganda. *Social Science and Medicine, 50*, 203–213.
52. Danforth, E. J., Kruk, M. E., Rockers, P. C., Mbaruku, G., & Galea, S. (2009). Household decision-making about delivery in health facilities: Evidence from Tanzania. *Journal of Health, Population and Nutrition, 27*, 696–703.
53. Lori, J. R., & Boyle, J. S. (2011). Cultural childbirth practices, beliefs, and traditions in postconflict Liberia. *Health Care for Women International, 32*, 454–473.
54. Mpembeni, R. N., Killewo, J. Z., Leshabari, M. T., Massawe, S. N., Jahn, A., Mushi, D., et al. (2007). Use pattern of maternal health services and determinants of skilled care during delivery in southern Tanzania: Implications for achievement of MDG-5 targets. *BMC Pregnancy Childbirth, 7*, 29.
55. Seljeskog, L., Sundby, J., & Chimango, J. (2006). Factors influencing women's choice of place of delivery in rural Malawi—An explorative study. *African Journal of Reproductive Health, 10*, 66–75.
56. Janzen, J. M. (1978). *The quest for therapy in lower Zaire*. Berkeley, CA, USA: University of California Press.
57. Gabrysch, S., Lema, C., Bedrinana, E., Bautista, M. A., Malca, R., Campbell, O. M., et al. (2009). Cultural adaptation of birthing services in rural Ayacucho, Peru. *Bull World Health Organ, 87*, 724–729.