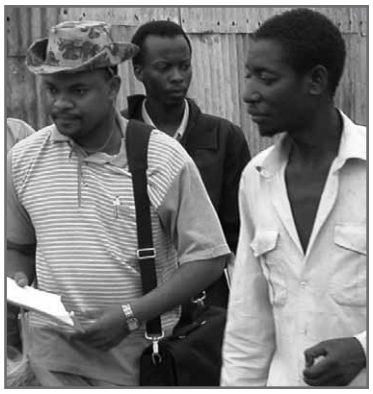
The Skilled Care Initiative

PATTERNS IN SEEKING SKILLED CARE AT DELIVERY: HOUSEHOLD SURVEY FINDINGS FROM BURKINA FASO, KENYA, AND TANZANIA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THE SKILLED CARE INITIATIVE

Family Care International's Skilled Care Initiative (SCI) is a multi-faceted, five-year project designed to increase by at least 10% the number of women who deliver with a skilled attendant. Begun in mid-2000, the project is being implemented in four rural, underserved districts in Burkina Faso, Kenya, and Tanzania, and focusses specifically on skilled care as a strategy for reducing high rates of maternal mortality and morbidity.

SCI promotes access to, and the use of, skilled care throughout pregnancy and in the postpartum period. The use of a skilled attendant at the time of delivery has been cited as the single most critical intervention for improving maternal health.[1] Skilled attendants can recognise the early signs of serious obstetric complications and take corrective action or refer the woman to the appropriate level of care, thus preventing maternal mortality and severe morbidity.

"Skilled care" refers not only to the presence of a skilled provider at the time of birth, but to a system-wide approach to improving maternal health care. In order for health professionals to provide skilled care, an enabling environment must be created that includes a supportive policy and regulatory framework; adequate supplies, equipment, and infrastructure; and an efficient system of communication, transportation, and referral. At the same time, community level interventions should be implemented to encourage behaviour change and promote community mobilisation to increase the utilisation of skilled care.

Household survey underway in Igunga District.

THE SCI HOUSEHOLD SURVEY

The household survey is the central component of the evaluation strategy for the Skilled Care Initiative, a quasi-experimental pre-test/post-test design involving facility- and population-based data collection in intervention and matched comparison districts. In Tanzania and Burkina Faso, one intervention district and one comparison district were selected. In the intervention districts, SCI is working both to improve maternal health services in facilities and to influence health-seeking behaviour through a "behaviour change" component that mobilises women, families, and the broader community. The comparison districts receive no intervention. In Kenya, the two selected districts are receiving different interventions; in one, the "full" intervention package is being implemented and the other is receiving only the interventions involving improvement of facilities. In all three countries, intervention and comparison districts are in the same or contiguous regions and were selected to be as similar as possible on a range of social and demographic characteristics.

At the end of the intervention period, outcome indicators will be measured through follow-up household surveys in each of the districts and compared. The main objective of the household surveys is to enable SCI to measure objectively the impact of a set of interventions on rates of delivery with a skilled attendant. In addition, the household survey provides the opportunity to assess in quantitative terms community members' knowledge and attitudes regarding important life-saving behaviours, such as problem recognition and the intention to use facility-based health services for delivery.

THE STUDY AREAS

In Tanzania, the study area is comprised of two districts (Igunga and Urambo) in the central-western region of Tabora. In Kenya, the study districts are Homabay and Migori in Nyanza Province, which is

[1] The World Health Organisation defines skilled attendants or providers as "people with midwifery skills (for example, doctors, midwives, nurses) who have been trained to proficiency in the skills necessary to [provide competent care during pregnancy and childbirth]. [Skilled attendants] must be able to manage normal labour and delivery, recognize the onset of complications, perform essential interventions, start treatment, and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in the particular setting." Based on *Reduction of maternal mortality*, A Joint WHO/UNFPA/Unicef/World Bank Statement. Geneva: WHO, 1999.

located in western Kenya. The study area in Burkina Faso encompasses two health districts, Ouargaye in the Centre-East Health Region and Diapaga in the East Health Region.

This report describes findings from baseline surveys in the three districts in which the full SCI intervention is being implemented—Igunga in Tanzania, Homabay in Kenya, and Ouargaye in Burkina Faso.

HOUSEHOLD SURVEY METHODOLOGY

The samples for the surveys are representative probability samples of the population of women of reproductive age (15-49) and their co-resident husbands residing in private households in the study districts. The target sample size was determined primarily by the need to estimate change over time in the key indicator for the survey: the proportion of births attended by skilled medical personnel.

The samples had a two-stage design. At the first stage, census enumeration areas (EAs), which are geographical areas comprised of roughly 100 households each, were selected with probability proportional to size. At the second stage, all households within each selected EA were listed. Once the lists were completed, 25 households were selected randomly within each EA. All women age 15-49 were eligible for interview as were their co-resident husbands, regardless of age.

Response rates ranged from 93-97% for women and 81-95% for husbands. Standard consent procedures were implemented for all interviews. All results are weighted to adjust for differences in the population between the census and the household listing as well as for differential completion rates between EAs.

Three types of questionnaires were used in the surveys: the Household Questionnaire, the Women's Questionnaire, and the Husbands' Questionnaire.

The Household Questionnaire was used to identify eligible respondents and to collect basic demographic information on all usual household residents and visitors. The Household Questionnaire also collected information on the characteristics of the household and the closest health facility that provided skilled care at delivery.

The Women's Questionnaire collected information on five topics: the respondent's background, awareness of safe motherhood, her births and stillbirths, and experiences with pregnancy, delivery, and postpartum care in the two years prior to the survey. Additional questions on antenatal care and birth preparedness were asked of currently pregnant women. The Husbands' Questionnaire covered the same general topics but excluded many of the detailed questions on pregnancy, delivery, and postpartum care.

The questionnaires were translated into Swahili for Igunga and Dholuo for Homabay. Given the mix of different local languages spoken in Ouargaye, the interviewers were trained to administer the French questionnaires in local languages and thoroughly briefed on how to translate key words and phrases to ensure consistency. Face-to-face interviews with respondents were carried out in early to mid-2003. The number of interviews conducted with women ranges from 2,306 to 2,653 and with husbands from 1,175 to 1,577 across the three districts (Table 1).

Table 1: Characteristics of the household surveys in full intervention districts

NUMBER OF COMPLETED INTERVIEWS					
COUNTRY	DISTRICT	HOUSEHOLDS	WOMEN (AGE 15-49)	HUSBANDS	DATES OF FIELDWORK
Burkina Faso	Ouargaye	2,070	2,554	1,577	June-August 2003
Kenya	Homabay	2,731	2,653	1,175	April-June 2003
Tanzania	Igunga	2,150	2,306	1,337	February-April 2003

CHARACTERISTICS OF THE SURVEY POPULATIONS

All three of the survey districts are predominantly rural and agricultural, and have young populations with almost two-thirds of women of reproductive age below age 30. Most of the population in the three

districts reside in poor households. The vast majority have no electricity or telephone. In Igunga and Ouargaye, most households have no toilet facilities, compared to about half of households in Homabay. A very small number of households own any form of motorised transport.

Educational levels differ between the three districts. In Ouargaye, more than 90% of women and 86% of husbands have no education. In contrast, 44% of women in Igunga have no education, 14% have incomplete primary education, and 42% have completed primary or higher education. In Homabay, 33% of women have completed primary or higher, 57% have some primary education, and only 10% have no education.

Ouargaye is composed predominantly of Muslims with a substantial minority of Catholics. In Homabay, the vast majority of the population belong to various Christian denominations. The religious composition of Igunga is more mixed. More than half of women in Igunga reported that they adhere to no religion, 10% reported that they were Muslims, and most of the remainder identified themselves as Christians.

The predominant ethnic group in Igunga is Sukuma followed by Nyamwezi and Nyiramba. In Homabay, almost all respondents are Luo. In Ouargaye, the most common ethnic group is Yanna with substantial proportions belonging to the Mossi, Bissa, and Moaba ethnic groups.

Women in all three districts are much less likely than husbands to be exposed to any form of media. Fewer women than husbands ever read a newspaper, listen to the radio regularly, or watch television more than once a month (Table 2).

Table 2: Percentage of women and husbands who are exposed to various forms of media

		Never reads a newspaper or cannot read		Listens to the radio 10+ times a month		Watches television more than once a month	
COUNTRY	DISTRICT	WOMEN	HUSBANDS	WOMEN	HUSBANDS	WOMEN	HUSBANDS
Burkina Faso	Ouargaye	82	72	9	31	5	10
Kenya	Homabay	62	17	63	90	17	34
Tanzania	Igunga	77	59	27	44	9	22

KNOWLEDGE AND ATTITUDES REGARDING SAFE MOTHERHOOD

Women's and husbands' basic awareness of some of the primary messages of safe motherhood is relatively high:

- More than three quarters of women and husbands in Igunga and Ouargaye, and more than 90% in Homabay, are aware that any woman can develop serious health problems related to pregnancy and childbirth. A majority in all three districts are also aware that some women are more at risk than others.
- Most women in all three districts believe that skilled care at delivery is safer than delivery with a traditional provider or relative. Similarly high proportions agree that if a woman has a serious health problem while giving birth, she should seek assistance from a health professional.

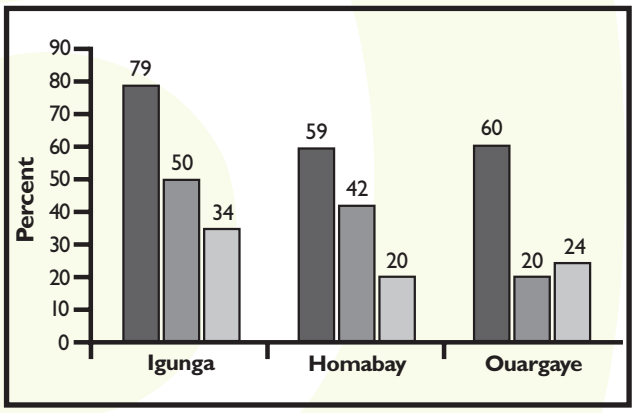
Levels of knowledge about some of the other aspects of safe motherhood are generally lower and are more varied across districts:

- In Homabay, 9 in 10 women were able to name at least one danger sign of serious health problems related to pregnancy and childbirth. In Ouargaye, however, only 6 in 10 women could name a danger sign, and in Igunga, only 5 in 10 could do so.
- Among women who named at least one danger sign, only 42% in Ouargaye and 48% in Igunga, compared to 88% in Homabay, believe that such problems can be fatal.

Many women and husbands believe that they and their families can take action to protect women's health during pregnancy and childbirth, but relatively few have implemented these actions during recent pregnancies or deliveries:

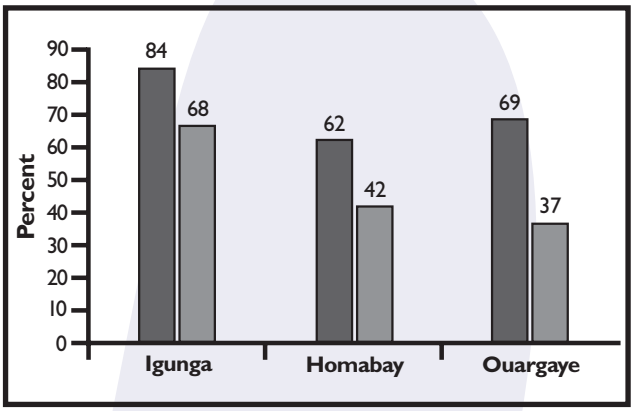
- More than 80% of women and husbands in Homabay and Ouargaye believe that a woman and her family can take steps to protect her health (even though they believe that God may determine whether she has a health problem). In Igunga, 80% of husbands but only 62% of women agreed with this statement.
- A majority of women and husbands in the three districts agree that a woman should plan where she will deliver her baby and how she will get there. Nevertheless, among those who recently gave birth, only about half in Igunga, and less than half in Homabay and Ouargaye, discussed the location of the delivery with their spouses or families (Figures 1 and 2).
- Between 85 and 89% of women in all three districts think a woman should have a check-up even after a normal delivery, but only 27% of recent births in Ouargaye, 15% in Igunga, and 5% in Homabay were followed by a postpartum check with a health professional.

Figure 1: Percentage of women who agree that women should plan where to deliver and who discussed plans for recent birth with husband or family



Agree that women should plan where to deliver
Discussed where to deliver recent birth with husband or family
Discussed where to deliver next birth with husband or family (women 7+ months pregnant)

Figure 2: Percentage of husbands who agree that women should plan where to deliver and who discussed plans for recent birth with wife



Agree that women should plan where to deliver
Discussed where to deliver recent birth with wife

USE OF A SKILLED ATTENDANT

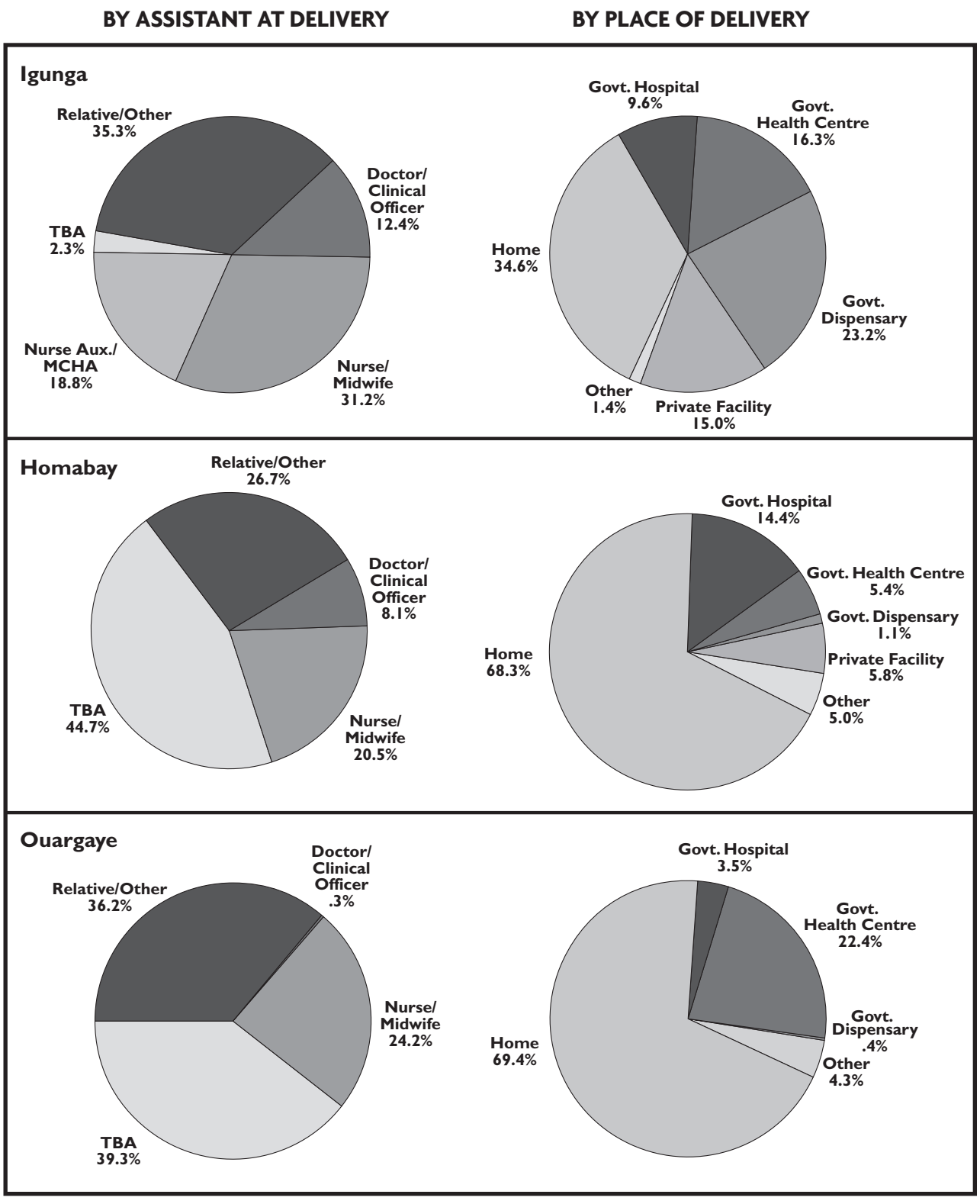
The use of a skilled attendant at delivery (a doctor/clinical officer or nurse/midwife) among recent births varies across the three districts from 44% in Igunga to 29% in Homabay and 25% in Ouargaye. In all three districts, most of these deliveries are attended by nurses or midwives. Doctors or clinical officers attend roughly a third of deliveries in Igunga and Homabay, but almost none in Ouargaye.

In Igunga, although the use of skilled attendants is 44%, nurse auxiliaries and maternal and child health aids (MCHA) (who are not considered skilled attendants according to the WHO competency-based definition of skilled attendants) provide assistance for an additional 19% of births, almost all of which take place in health facilities. Although strictly speaking these births are not delivered with a skilled attendant, from a behavioural perspective, the women and families involved sought professional medical assistance in a facility. In addition, even though the attendants assisting these births are not fully qualified skilled providers, they have some relevant training, and in some facilities more highly skilled personnel may be available in case of a problem.

Traditional birth attendants assist in the delivery of 40-45% of births in Homabay and Ouargaye, but only 2% in Igunga.

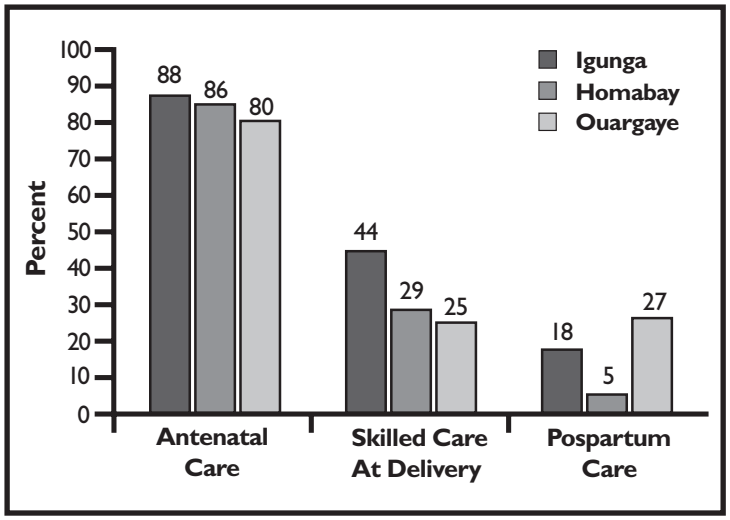
In both Homabay and Ouargaye, slightly more than two-thirds of recent births occurred at either the respondent's home or another home. The majority of facility-based births take place in government hospitals or health centres. In contrast, in Igunga, home-based deliveries comprise only 35% of births while the most common site for facility-based deliveries is a government dispensary or health centre. Only in Igunga do a substantial proportion of deliveries occur in private facilities.

Figure 3: Percent distribution of births/stillbirths in the two years prior to the survey



The proportion of pregnant women attending antenatal care at least once is 80% or higher in all three districts (Figure 4). Of those who go for antenatal care, more than 80% had 2 or more visits. Many fewer women deliver with a skilled attendant and fewer still have a postpartum check with a skilled attendant (doctor, nurse/midwife, or clinical officer). Clearly, women in these districts are not receiving the entire continuum of care necessary to ensure that their health is protected during pregnancy, delivery, and the postpartum period.

Figure 4: Percentage of births/stillbirths in the two years prior to the survey whose mothers had at least one antenatal care visit, delivery with a skilled attendant, and a postpartum check with a health professional



FACTORS ASSOCIATED WITH USE OF A SKILLED ATTENDANT AT DELIVERY

Although the level of use of skilled attendants at delivery differs across the three districts, the patterns of use are similar. In all three districts, those women who live closest to facilities, who live in wealthier households, and who have had some schooling are the most likely to have a skilled attendant at delivery. Knowledge about safe motherhood, as well as discussion and planning prior to the delivery are also positively related to the use of a skilled attendant at delivery.

Approximately half of women in Homabay and Igunga and 40% in Ouargaye live in households that are two hours or more walking distance from the nearest health facility with skilled care available (Table 3).

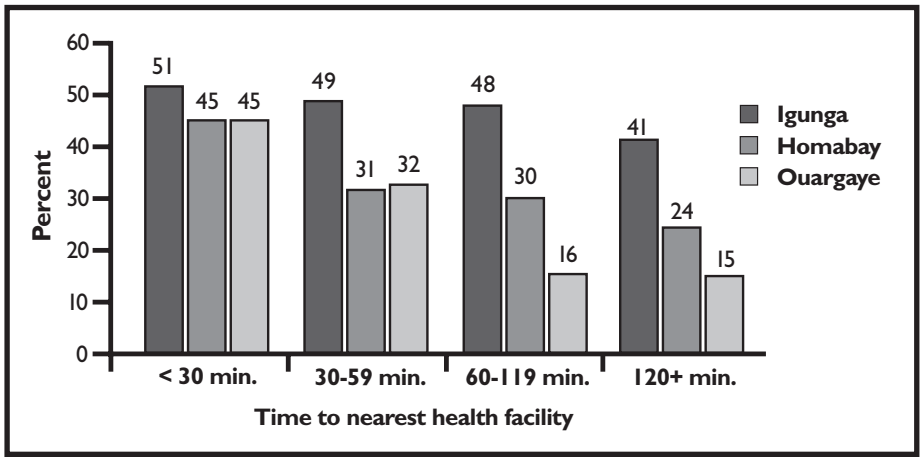
Table 3: Percent distribution of women by walking time to closest health facility with skilled care

		Time to walk to closest health facility*				
COUNTRY	DISTRICT	< 30 MIN.	31-60 MIN.	61-120 MIN.	120+ MIN.	TOTAL
Burkina Faso	Ouargaye	25.1	24.5	10.7	39.7	100.0
Kenya	Homabay	17.3	22.6	9.3	50.8	100.0
Tanzania	Igunga	23.0	17.9	10.7	48.5	100.0

* "Don't know" answers excluded.

The use of a skilled attendant at delivery is strongly related to the amount of time it takes to walk to the nearest facility at which skilled care is available (Figure 5). In Igunga, 51% of recent births and stillbirths among women who live less than 30 minutes from the nearest health facility were delivered with a skilled attendant compared to 41% of births among women who live two or more hours away. The comparable percentages for Homabay are 45% and 24%. For women in Ouargaye, the availability of health facilities appears to be a particularly powerful barrier. Those who live more than two hours away from a health facility are a third as likely to deliver with a skilled attendant as those who live less than 30 minutes away.

Figure 5: Percentage of births/stillbirths in the two years prior to the survey delivered with a skilled attendant, by walking distance to the nearest health facility



Aside from the barriers to skilled care related to distance, women's evaluation of the quality of care they are likely to receive at a facility may also deter them from seeking to deliver there. A substantial proportion of women in the three districts are not confident that the staff at the nearest health facility are able to treat a serious health problem during pregnancy or delivery, especially in Igunga (Figure 6). Women are even less likely to believe that the facility has sufficient equipment and supplies to treat such a problem. A much higher percentage of women in Igunga and Ouargaye, 70 and 82% respectively, believe that staff at the nearest facility treat women with respect, though this percentage is much lower in Homabay at 57%.

Figure 6: Women's opinion of nearest health facility where a woman can go to deliver a baby

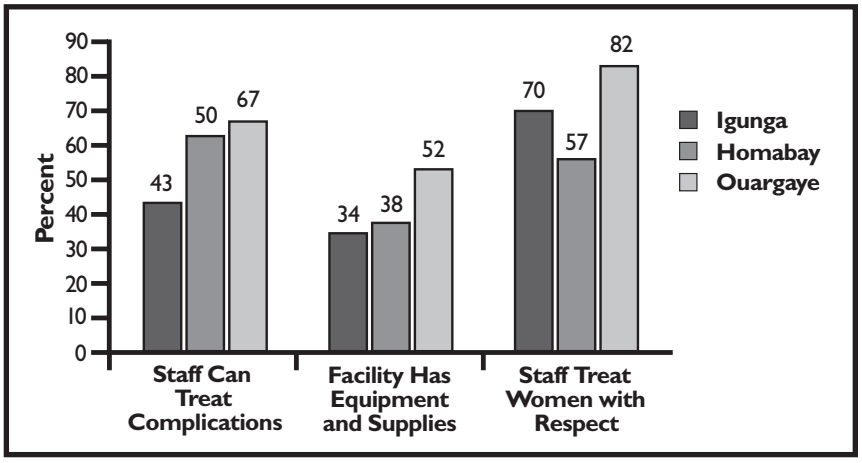


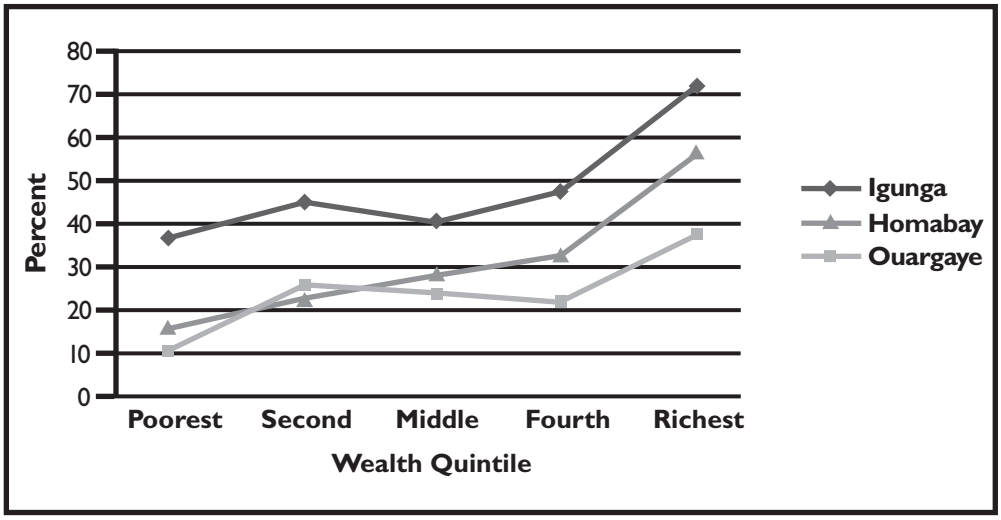
Figure 7 shows the percentage of births/stillbirths in the two years prior to the survey that were delivered with a skilled attendant, based on five categories of household wealth.[2] In Homabay, the use of skilled attendants at delivery increases consistently as household wealth rises. In Igunga and Ouargaye, women in the middle three wealth quintiles use a skilled attendant at roughly the same rate, while those in the poorest households are less likely, and those in the wealthiest group are much more likely to use a skilled attendant.

[2] Wealth is defined in terms of assets rather than in terms of income or consumption. The asset information was gathered through the SCI Household Questionnaire. This questionnaire includes questions, typically posed to the head of each surveyed household, concerning the household's ownership of a number of consumer items ranging from a radio to a television to a car; dwelling characteristics such as flooring material; type of drinking water source and toilet facilities used; and other characteristics that are related to wealth status.

Each household asset for which information was collected through the SCI survey was assigned a weight or factor score generated through principal components analysis. The resulting asset scores were standardised in relation to a standard normal distribution with a mean of zero and a standard deviation of one. These standardised scores were then used to create the break points that define wealth quintiles as follows. Each household was assigned a standardised score for each asset, where the score differed depending on whether or not the household owned that asset. Essentially, each asset score is the weight that that asset represents in determining the wealth of a household. The scores assigned to each asset vary across countries. These scores were summed for each household, and individuals were ranked according to the total score of the household in which they resided. The sample was then divided into population quintiles—five groups with the same number of individuals in each. The quintiles thus represent the poorest 20 percent of the population, second poorest 20 percent, middle 20 percent, fourth poorest 20 percent, and richest 20 percent of the population, respectively.

When asked about the costs of delivering in a facility, 25% of women in Igunga, 66% in Homabay, and 91% in Ouargaye reported that they were required to pay for supplies, such as gloves, syringes, or medicine. In addition, 55% of women in Igunga, 94% in Homabay, and 59% in Ouargaye reported that fees such as a "delivery fee" or "bed stay" were paid to staff.[3]

Figure 7: Percentage of births/stillbirths in the two years prior to the survey delivered with a skilled attendant, by wealth quintiles



The proportion of births delivered with a skilled attendant rises with increasing education of the mother in all three districts. In Igunga, 38% of births to mothers with no education were delivered with a skilled attendant, compared to 49% whose mothers had primary or higher education. In Homabay and Ouargaye, the differentials are even larger with rates of skilled attendant use two to three times higher among women with primary or higher education than among those with no education.

The SCI strategy includes a behaviour change component that seeks to influence the demand for skilled care through improving knowledge and awareness of safe motherhood. The strategy also promotes "birth preparedness"—e.g. household preparations to ensure delivery with a skilled provider and to be ready in the event that complications arise. Results from the household survey suggest that the more aware women are of safe motherhood and the more planning they do, the more likely they are to use a skilled attendant at delivery.

Figure 8 shows the percentage of births/stillbirths in the two years prior to the household surveys that were delivered with a skilled attendant, according to the score on a Safe Motherhood Awareness Index. Each birth/stillbirth was given a score ranging from 0 to 4, assigning a point in each of the following cases:

- If the woman agreed that a she should plan ahead of time where she will deliver her baby and how she will get there;
- If the woman agreed that she should plan ahead of time what she will do if she has a serious health problem related to pregnancy or childbirth;
- If the woman could name 3 or more danger signs during pregnancy, childbirth, or soon after delivery; and
- If the woman agreed that any of the danger signs can be fatal.

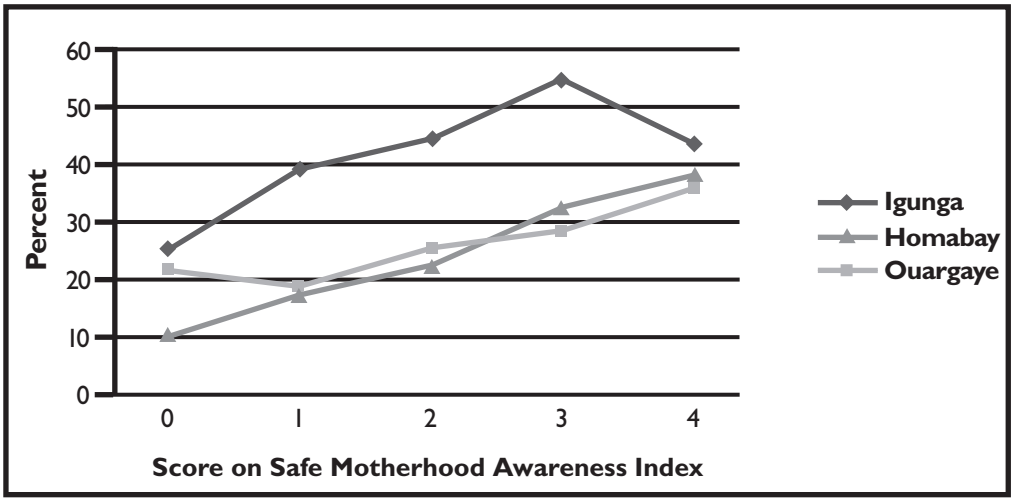
There is a strong positive association (with the slight exception of the highest category in Igunga) between the level of awareness of some of the main elements of safe motherhood and the likelihood of delivering with a skilled attendant.[4] In Igunga and Ouargaye, the use of a skilled attendant at delivery of the highest scoring group is approximately double that of the lowest scoring group. In Homabay, births in which the

[3] Twelve percent of women in Igunga and Ouargaye reported that they did not know whether these fees were paid.

[4] Note that the relationship is not necessarily causal and that a woman's score on the index may be associated with other characteristics linked to the use of skilled care, such as education level. Examination of the relationship within education levels suggests that the effect is largely independent of education but further multivariate analyses will be performed to confirm this.

mother is in the highest group are four times more likely to be delivered by a skilled attendant than those in which the mother is in the lowest group.

Figure 8: Percentage of births/stillbirths in the two years prior to the survey delivered with a skilled attendant, by score on Safe Motherhood Awareness Index

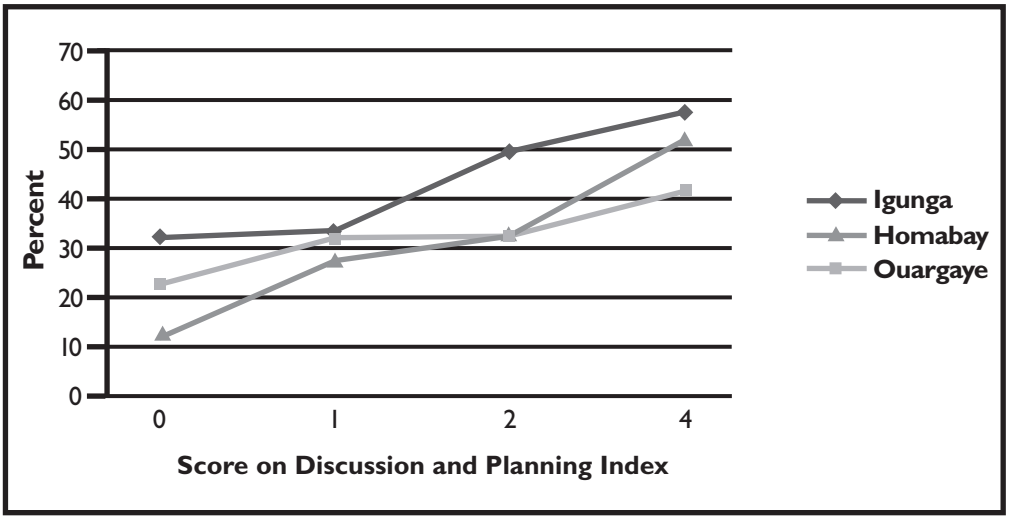


A Discussion and Planning Index was also calculated to measure the extent to which women and their families take steps to prepare for deliveries ahead of time. Each birth/stillbirth was assigned a score ranging from 0 to 3, assigning a point in each of the following cases:

- If the woman discussed with her husband or family where she would deliver the baby;
- If the woman discussed with her husband or family how to pay for the delivery; and
- If the woman or anyone in her family put aside money to pay for the delivery.

Figure 9 shows that the level of planning and discussion prior to the birth and the likelihood of delivering with a skilled attendant are positively related. The relationship is particularly strong and consistent in Homabay, where the proportion delivering with a skilled attendant is 14% among women who did not discuss where to deliver or how to pay and did not put money aside for the delivery, compared to 52% among those who did all three types of planning.

Figure 9: Percentage of births/stillbirths in the two years prior to the survey delivered by a skilled attendant, by score on Discussion and Planning Index



SUMMARY AND RECOMMENDATIONS

The vast majority of women in the three SCI intervention districts believe that it is safer to deliver with a skilled provider, and most know of a facility where skilled attendants are available. Nevertheless, most women do not actually deliver with a skilled attendant. The surveys confirmed that the primary barriers to delivery with a skilled attendant in the three SCI intervention districts are similar to those in other settings around the developing world. These include:

- Geographic barriers and long distances to health facilities staffed by skilled providers;
- Poor quality of care at existing health facilities;
- Women's lack of confidence in both the skills of providers at nearby facilities and the equipment and supplies available at these facilities;
- Financial constraints (especially for the poorest women); and
- Lack of transport.

However, the surveys also confirmed the importance of birth preparedness, and household discussion and planning related to delivery as motivating factors in favour of delivery with a skilled attendant. Awareness of maternal health risks and favourable attitudes towards planning for normal deliveries and obstetric complications were found to be positively associated with the use of a skilled attendant during childbirth. Similarly, engaging in household discussions and making advance plans for delivery were also found to be positively linked to the use of a skilled attendant at delivery.

Training household surveyors in Tanzania.

The three-country survey findings lend support to the rationale that efforts to improve quality, availability, and accessibility of skilled care at health facilities should be paired with behaviour change interventions to promote people's use of skilled care. Specifically, the findings suggest that behaviour change interventions should heighten awareness about safe motherhood and actively promote household discussion and planning related to delivery. Key issues that should be taken into account in planning such behaviour change initiatives include:

- **Antenatal care visits should be used strategically to promote the use of skilled care during delivery and to promote behaviours that are positively associated with skilled care at delivery.** The surveys revealed that antenatal care represents a critical "missed opportunity" to promote the use of skilled care. For example, although most women attended at least one antenatal session during a recent pregnancy, only 19-37% reported that they were told about the danger signs of pregnancy during a visit. Only 44-66% were given advice about where to deliver the baby. Further, a large proportion of women who received antenatal care did not subsequently deliver with a skilled attendant or have a postpartum check-up, suggesting that more needs to be done to remove barriers to delivery care even among women who have contact with the health system during their pregnancy.
- **Efforts to promote birth preparedness should focus on the full range of plans that women and families should make to ensure safe delivery.** For example, although relatively high proportions of women believe that a woman should make plans for what she will do if she has a serious pregnancy- or delivery-related health problem, the types of planning mentioned by survey respondents centred almost exclusively on financial considerations; very few mentioned transport plans or arranging blood donors, for example.

- **Behaviour change strategies should encourage the involvement of husbands and other family members in discussions and preparations for delivery.** Family members can provide crucial support to women during delivery and in the event of complications. Yet, only one-half or fewer of women reported that they discussed plans for delivery with their husband or other family members prior to the delivery. Among currently-pregnant women, an even smaller proportion reported that they had had such a discussion.
- **Behaviour change communication strategies should be designed to reach illiterate women with little access to radio or television.** The surveys revealed a decided disadvantage of women compared to husbands with respect to education and access to media. Where literacy and media access are low, behaviour change initiatives should capitalise on interpersonal means of communication and on local networks that reach both men and women.

These recommendations have been taken into consideration in the design of behaviour change intervention strategies employed by the Skilled Care Initiative. A repeat of the household survey at the end of the project will measure to what extent the Initiative has increased the knowledge and behaviours positively associated with the use of a skilled attendant at delivery, as well as rates of delivery with a skilled attendant itself.

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