Expanding the Use of Birth Friendly Facilities

A Situation Analysis in Fatuberliu, Maubara, and Remexio

An assessment for Health Alliance International
and the Ministry of Health in Timor-Leste

NORAH HERZOG MEYERSON

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CONTENTS

ACRONYMS AND TETUM WORDS:

MOH – Ministry of Health
HAI – Health Alliance International
CHC – Community Health Center
BFF – Birth Friendly Facility
MWH – Maternity Waiting House
HP – Health Post
Suco - Village
Aldeia – Neighborhood
PSF – Family Health Promoter
Chefe CHC – CHC Director
Chefe Suco – Chief of Village
Chefe Aldeia – Chief of Neighborhood
Trust Woman – Traditional Birth Attendant (TBA)

EXECUTIVE SUMMARY

"When the women go and tour the BFF, they always say, 'Wow!!! Actually this is a nice place, this is a comfortable place - so when I feel labor pain, maybe I should come and give deliver here or maybe if I still have two or three days, I should come to stay here before delivery time.'"
–CHC Midwife

Since 2002, midwives have been the principal figures in providing government sponsored maternal care in Timor-Leste. Yet there remains a strong custom in some regions of using traditional birth attendants and/or family members for assistance in home deliveries. Health Alliance International (HAI) has been working with Timor-Leste's Ministry of Health (MOH) to support and strengthen maternal and newborn care, and child spacing services, with a focus on providing midwifery support. After considering community attitudes towards delivery that were highlighted by a 2004 assessment, HAI developed Birth Friendly Facilities (BFFs) - birthing homes that combine the benefits of giving birth in a facility with a skilled birth attendant with traditional aspects of the birthing process valued by families and deemed safe for both mother and infant.

Since the establishment of HAI's BFFs, Timor-Leste has instituted a national policy to establish 32 new maternal delivery homes to be completed by the end of 2011. Efforts to both increase the use of and improve the quality of services at these facilities will be critical in strengthening maternal health care and in effect, helping to reduce maternal and infant mortality rates throughout the country.

The following report provides Health Alliance International and the Ministry of Health in Timor-Leste, along with donor and associated agencies, with the specific information needed to begin the process of increasing the use of and expanding services provided by the Birth Friendly Facilities and maternal birthing homes. The report includes information on how the facilities are currently used, what barriers exist in using them and views on future use possibilities. Appendices are included on material resources, scheduling, usage data, traveling distance and an analysis of a comparison birth facility. The report concludes with recommendations for next steps which may help to inform national policy and practice regarding birthing facilities.

RESULTS

While recent usage figures of the BFFs are encouraging, there continue to be extensive barriers to use. As one mother explained, **"***I had planned to go to the BFF on Thursday, but the baby was born on Monday."* Another had asked, "*So once you go and give deliver at the BFF, will you pay money or no?"* Yet another mother commented that because she has delivered at home in the past, she "*feels it is normal"* for future deliveries. Finally, a young woman, insecure with her lack of previous education explained that she will not participate in future activities *because* she is uneducated, believing that she would be incapable of understanding new information. At first glance, these are wide-ranging barriers to using the birth facilities for delivery and expansion activities. With a closer look, we realize that these barriers share a common theme, that is, gaps in communication and lack of information.

Usage rates of the three facilities have followed different patterns over time. In some cases, facility use has increased while total skilled birth attendance in the region has remained steady, implying that women who would have received assistance by a midwife previously at home are now choosing the facility for their delivery. Other facilities, have shown slower growth in BFF use, but have noted overall use of skilled birth attendants increasing in the area, suggesting that more women are choosing to deliver with a skilled assistance.

Main activities at the three BFFs vary. While all involve delivery and post delivery care (which includes family planning counseling), only one of three facilities currently performs antenatal care in the BFF and no facility regularly houses alternate activities in the facilities, such as trainings, discussion groups or educational film showings.

As noted above, pregnant women face numerous barriers to using the BFF for their delivery. Many informants indicated that the labor coming on "*suddenly"* acted as a primary barrier to use. This was oftentimes linked with lack of transportation to the facility, sometimes associated with poor cell phone reception and/or access to cell phones. Other primary barriers include women's concern with neglecting childcare, cooking and farm responsibilities by leaving home to travel to the BFF. Some were embarrassed by their unmarried status, or level of poverty (revealed by not being able to bring baby clothes to the facility or food for themselves and their family during the waiting period). Other women were simply more comfortable with traditional birth attendants as they prefer not to be touched by midwives or are unfamiliar with the idea of delivering in a setting outside the home. Of the women that did wish to use the BFF, family may be the primary obstacle - noting that the decision of where to deliver is not just the mother's to make, but that the husband, parents and in-laws must also support BFF use as well.

Generally, family members appreciate the knowledge midwives have, their ability to handle complications and the material resources available at the BFFs. While midwives and Chefe CHCs play the primary role in educating the public on the value of BFF delivery, the sharing of stories between women and families is also vital, often strengthening the reputation, correcting misconceptions and further encouraging use.

While there is strong interest on the part of the community in participating in expansion activities, especially in viewing films at the BFFs, health staff seem less committal. Many were vague about what exact steps they would take to expand services at the facilities and when they would actually take them. Instead, they were clearer on what may be barriers to program expansion. Those included space limitations, cost of programming and availability of staff among others. Many of the concerns were linked to a grand vision by health staff of what "activities" should look like. Staff generally envisioned large-scale (over 30 people), multi-hour events with invitations sent out and food and materials provided. This vision resulted in natural concerns by the staff over their ability to provide for such activities in terms of space, financial resources and staff availability.

RECOMMENDATIONS

With goals to both increase delivery care and expand services provided by the Birth Friendly Facilities, increased communication between women and families, their health staff and local leadership will be essential. The following are key recommendations:

1. **Further encourage midwives to work with women and their families to develop a comprehensive Birth Plan:** Many women who wanted to use the BFF for their delivery were not prepared when labor began. This was due to inaccurate due date calculations, poor recognition of labor stages and lack of access to transportation, among others. The plan should address not only how to recognize early stages of labor, but how to call for transportation and what responsibilities each member of the family has in implementing the Birth Plan. A refresher training on calculation of pregnancy due dates should be provided to all midwives in these sub-districts.

2. **Include husbands, parents and in-laws in at least one antenatal care visit. Standardize the practice of providing tours of the BFFs at this time:** Husbands, parents and in-laws are significant decision-makers in the family. Participation in the antenatal care visit can increase awareness of the benefits of facility delivery, the incentives provided, and can increase their comfort with the facility through touring beforehand.

3. **Where feasible, transfer all maternal services over to the BFF, including family planning counseling, education and antenatal care to build comfort with the facilities:**

By building a positive association with the BFFs for all types of maternal care, delivery in the facility as well as participation in BFF housed activities may be more achievable.

4. **Encourage counseling by midwives to pregnant women to alleviate hesitation and shame associated with shyness, marital status and poverty and further train staff on patient-centered care:** Many barriers to use are associated with women's concerns over exposing their bodies, economic status and personal lives. Building trust between midwives and mothers is essential to increasing use. This model has proved successful at the comparison birth facility.

5. **Examine facility rules to assure that they are inclusive of family and friends:** The BFFs' mission is to provide inclusive and culturally competent birthing environments. At some sites, rules limiting who may enter the facility, join the woman in the birthing room or stay overnight were expressed. Ensuring that the BFFs act as an extension of the home may relieve some obstacles to use.

6. **Consider allowing for and encouraging pregnant women to wait at the BFF as long as needed prior to delivery:** While some health staff and community members remark that women do not wish to wait early, at the comparison birth facility, women wait regularly despite its small size. Allowing and encouraging women to arrive early may reduce some barriers to use.

7. **Encourage women and families who have used the BFF to share their experience with family and friends, i.e. inviting them to speak at community events:** The reputation of the BFFs is increasing in each sub-district. Word-of-mouth advertising will be an important component in continuing to raise awareness of the BFFs and the benefits associated with them. Users should be encouraged to speak on their experiences at the BFF in both formal and informal settings.

8. **Expand the health staff's vision of what activities are possible:** Many of the presumed barriers to expansion such as facility size and expense are based on a grand vision of what an activity should look like. Staff should be encouraged to envision smaller, informal, inexpensive, and possibly community-led events that can be realistically accomplished with the constraints faced.

9. **Provide clear direction to health staff in how to plan for, schedule, advertise and implement new activities:** Explanation of required steps and/or full assistance with the planning and execution of early activities is recommended before staff should be expected to initiate on their own.

10. **Ensure that new health promotion activities continue to take place not only at the BFF, but during SISCA events or other gatherings in nearby communities as well:** Numerous community members noted that while some residents would participate, many would not walk to the BFF for new activities. It was also clear that past film showings in the communities were regarded highly. For the greatest impact on the community, activities must continue to take place on the local level to assure maximum participation.

11. **Consider implementing programs that provide pregnant women with temporary access to cell-phones during their pregnancy to call for midwife assistance and/or transportation:** Lack of transportation, often linked with the challenge of informing health staff and drivers of a need for a vehicle, stems from poor cell-reception and lack of access to cell-phones when reception is available. Increasing pathways for cellular communication will be an essential step in increasing BFF usage for delivery and ensuring emergency obstetric care is provided in a timely fashion.

12. **Identify best practices throughout the BFF sites – standardize these practices at all sites when appropriate in order to spread good practices:** Valuable practices occur at each BFF facility, such as the provision of health promotion materials, in-kind incentives or the open inclusion of families. Properly identifying and standardizing them at other sites when applicable may help to increase maternal and child health in the region.

BACKGROUND

In 2004, Health Alliance International (HAI) began a USAID-funded project to work with Timor-Leste's Ministry of Health (MOH) to support and strengthen maternal and newborn care, and later, child spacing services. Later, both the governments of Japan and Australian provided funding for birth friendly services. The project began with extensive qualitative baseline data collection aiming to understand the status of maternal and newborn health care in specified districts in the country, as well as factors contributing to the poor maternal and infant health indicators seen throughout the nation.

The assessment found very low use of MOH facilities for deliveries in the specified districts studied, corresponding with the national coverage rate of 22% for facility births (TLDHS 2009/10). Reasons for the low use learned from the assessment included the preference for traditional approaches to childbirth that are difficult to follow in standard health facilities. Also apparent from the data was a lack of general knowledge amongst the community regarding the benefits of delivering in a health facility and with a skilled birth attendant. The identification of these gaps resulted in a pilot effort to provide a culturally comfortable environment where rural Timorese women could deliver their infants safely. These "birth-friendly facilities" (BFFs) were constructed through the rehabilitation of buildings situated adjacent to MOH sub-district community health centers (CHC) and then staffed by CHC midwives. Designed to be medical facilities welcoming to women and families while honoring many elements of traditional birth, they include amenities that are traditionally used: a private setting, a rope hanging from the ceiling for women to hold when delivering, a traditional wooden birthing bed, hot water and space for the family to participate. With a stated goal to "*reduce the mortality of women and newborns through the creation of birth-friendly health facilities in conjunction with the community,*" four facilities were rehabilitated in the sub-districts of Fatuberliu, Maubara, Remexio and HatuUdo.

The BFFs were received favorably by the communities, and increases in facility births occurred across all four sites after they opened. Use had not been maximized by mid-2010, however, and since the buildings themselves often provide lobby space (large enough to seat between 10 and 20 people), the offering of additional activities and services were considered. HAI recently began an investigation into the possible approaches to both increase the use of and expand services provided by the BFFs. Programs at the BFFs such as health education trainings, films showings and both midwife-led and community-led discussion groups have been considered as possible future activities. The gathering of more information on how the facilities are currently used, what obstacles to use the community faces and what resources are available to help with expansion, including health staff interest and participation became an obvious next step. A Public Health student from the

University of Washington was tasked to assess these matters at three of the four birth facility sites: Fatuberliu, Maubara and Remexio.

ABOUT THE REPORT

The report is designed to highlight common themes and differences noted between the communities surrounding Fatuberliu, Maubara and Remexio in order to improve and potentially expand usage of the BFF facilities. The information in this report is qualitative in nature and based on non-random sampling, thus broad generalizations to other regions cannot be made. The report encompasses a wide array of questions posed by the staff at HAI; common themes are discussed. General observations of Maumeta's MOH and HAI supported Maternity Waiting House, as a successful comparison birth facility, are also included. Appendices on specific BFF findings, future scheduling considerations, facility resources, and general usage rates by suco (village) or aldeia (neighborhood) are included, along with estimated walking distances to the BFF/CHC sites.

The report is designed to provide information about:

- How the BFFs and other resources are currently used
- The strengths and reputation of the BFFs
- Common barriers to using the facilities
- Community and health staff interest in future expansion opportunities (such as health promotion activities, group meetings, etc.) and expected barriers to participation
- Strengths and areas for growth in the district communication networks between health staff and communities
- Recommendations for increasing the use of and expanding services provided by the Birth Friendly Facilities

This information, with the identification of needs and possible approaches to expanding use, will help guide HAI and MOH staff in working to address barriers and identify opportunities for expansion that exist at the BFFs and possibly other maternal delivery sites. It provides baseline information for the decision making process and can be understood not as an evaluation, but as a 'situation analysis', or a report that describes what is happening, identifies factors that can facilitate or prevent progress and highlight problems or needs to be addressed in the future. This analysis acts as the first component of a process that begins with establishing the status quo, and is followed by priority and objective setting, option appraisal, task setting, implementation, and lastly monitoring and evaluation.

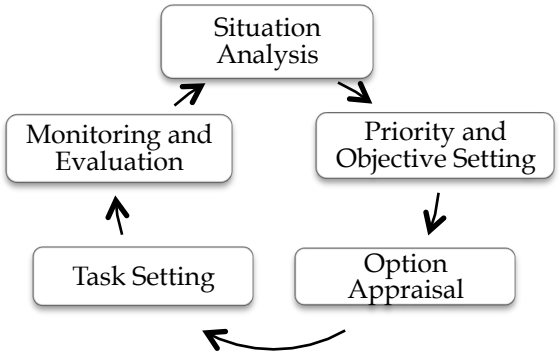


Figure 1: The Planning Cycle

McCoy & Bamford How to Conduct a Rapid Situation Analysis. 1998

METHODS

The project was carried out over eight weeks from June-August 2010 in Timor-Leste. The interview questions were developed in consultation with HAI headquarters and field staff. The study was executed with the help of an interpreter who performed all data collection and assisted with the transcription of audio files. Data collection occurred at three Birth Friendly Facility sites, namely, Fatuberliu, Remexio and Maubara. Less extensive inquiry was performed at a Maternity Waiting House (MWH) in Maumeta.

The assessment was qualitative in nature based on 42 semi-structured, tape-recorded interviews of various community members with interview times ranging between 30 and 90 minutes each. The project was supplemented by observations onsite and basic analysis of usage data from Community Health Center records. Walking distances were estimated by CHC staff with some figures compared to community estimates when possible.

BFF utilization data from 2008-2010 was used to identify high-use and low-use sucos from each site and to help frame the qualitative analysis. Utilization records are routinely collected from each of the three HAI-supported BFFs. The information collected includes women's names, their suco/aldeia, transportation methods to the facility, reproductive history, birth outcomes and presence of complications, who assisted the birth, and from whom they had received information about the BFF.

Using Microsoft Excel to organize interview data for each informant, a cross-case analysis was used to analyze responses from different informant groups and for each site. From there, common themes and disparate experiences were identified from both the informant and sub-district perspectives.

The informants included:

TABLE 1: KEY INFORMANTS FOR SEMI-STRUCTURED INTERIVEWS

KEY INFORMANTS	FATUBERLIU	MAUBARA	REMEXIO	MAUMETA	TOTAL
CHEFE CHCs	1	1	1	n/a	3
MIDWIVES	2	2	2	1	7
PSF	1	1	1	-	3
CHEFE SUCO / CHEFE ALDEIA	2	2	1	-	5
FAMILIES THAT USED	2	2	2	2	8
FAMILIES THAT DID NOT USE	2	2	3	-	7
MISC. (SECURITY GUARDS, DRIVERS, NURSES)	2	2	2	3	9
TOTAL	12	12	12	6	42

Sources

Chefe CHCs / Midwives were informants on issues ranging from what resources were available at the BFFs, to information on usage, barriers to use for the community and staff interest regarding program expansion. PSFs (Family Health Promoters) discussed how messages can be delivered, the reputation of BFFs in the community and provided a gauge on the communities' interest in future health programming. Chefe Sucos / Chefe Aldeias spoke on behalf of their community and informed us of their own role as leaders in the community. Women and their families who did and did not use the BFF spoke on issues ranging from their experiences with the midwives and BFFs, obstacles they face in using the facilities, current interest in health education and their participation likelihood in the future. Miscellaneous informants (security guards, drivers, nurses, etc) provided helpful information on issues relating to geography, material resources and general clinic usage.

Sampling method / recruitment

Non-random purposive sampling techniques were used to collect information for this analysis. After stratifying the community into the above subgroups, a mixture of convenience sampling and snowball sampling was used to target interviewees.

Recruitment of health staff occurred via three methods: If cell-reception was available, we phoned first; if other HAI staff had planned visits to the CHC prior to our scheduled visit, we sent messages with them; and if no warning was possible, we simply arrived onsite and scheduled an interview at a time of their choosing over the course of our stay.
Using a snowball sampling technique, health staff offered names and recommendations of PSFs that we could speak with. We received basic directions to their homes.

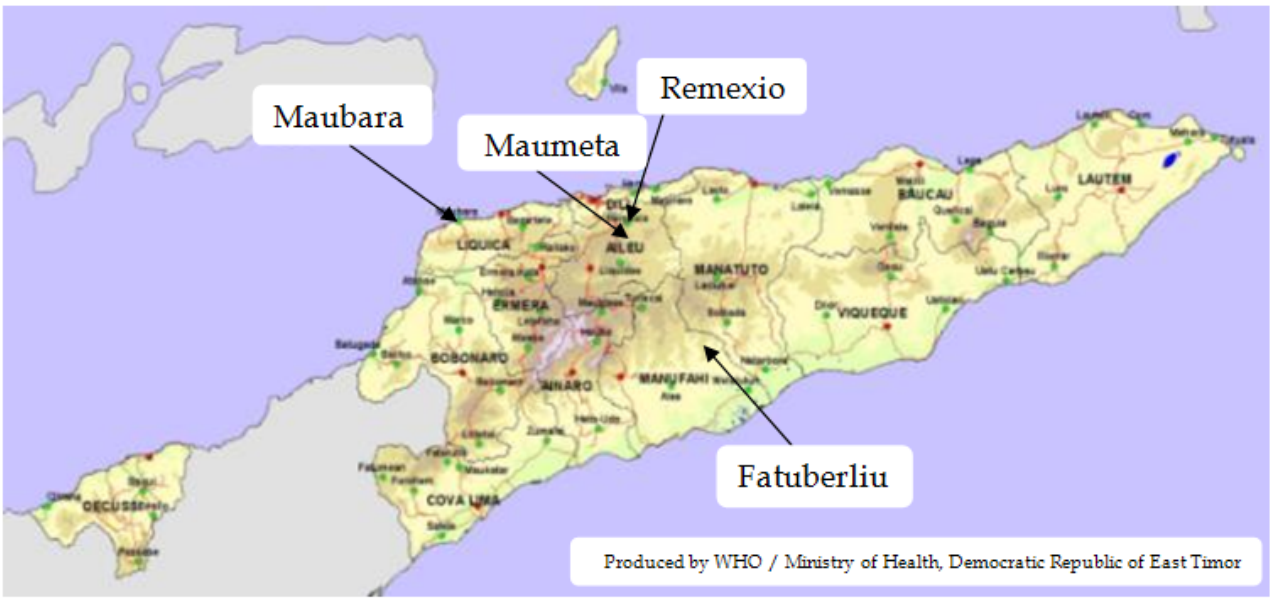
Sucos were stratified according to their level of use of the health facility to help identify factors that may influence usage for a given community. We identified high-use and low-use sucos within the 2-hour walking radius for each birth facility using the birth records mentioned above. Subjects from each type of suco and at each facility were interviewed, totaling six sucos for the three sub-districts.

Continuing to use birth data from facility records, health staff identified names of women who both used and did not use the BFFs for their recent delivery in both high-use and low-use sucos. Once in the sucos, we looked for those individuals and if unavailable, we used a snowball technique and asked nearby neighbors to recommend other new mothers (and families) for us to speak with. Using convenience sampling, we chose either a Chefe Suco or a Chefe Aldeia to interview from each type of suco (high- and low-use) around each facility. Convenience sampling was also used to choose additional interviewees such as guards, drivers, and facility nurses. Anyone available who we thought could provide insight into the project were interviewed both formally in a sit-down environment and informally through casual conversation.

Eligibility

There was no ineligibility for Chefe CHCs, midwives or PSFS, although we did seek out the older and more experienced midwives when possible. Among Chefe Aldeas, we chose to include a recently retired Chefe from Maubara who currently worked as a teacher, but had spent five years as the chefe previously and continued to advise the community. A mother was excluded from the analysis after realizing midway through an interview that she had not actually delivered at the BFF, but instead at the CHC prior to the BFFs construction.

FIGURE 2: MAP OF TIMOR-LESTE AND BFF/MWH SITES



RESULTS

HOW THE FACILITIES AND RESOURCES ARE CURRENTLY USED

Usage

In Fatuberliu, while total usage figures of Skilled Birth Attendants (SBAs) have not risen dramatically over the last two years, facility birth has increased substantially. In 2010, one third of the expected births within the Community Health Center's coverage area were delivered in the BFF with less than five home births attended per quarter for the last three quarters of 2010. This may indicate that the current BFF users represent the same cadre of women who would have previously requested midwife assistance at home - prior to the BFF's opening. While the increase noted in facility delivery in an important step forward, reaching those women who still prefer delivering at home without skilled birthing assistance will need to be addressed.

In Maubara, opposite trends are noted. The number of births delivered at the BFF has remained steady - hosting approximately 35 births each quarter throughout 2010. Yet SBA usage has increased overall – implying that more women have been assisted at home by skilled birth attendants.

In Remexio, BFF deliveries have increased substantially over the last two years from an average of just 9 per quarter in the first half of 2009 to 23 per quarter in the last half of

2010. While the Remexio BFF hosted 65% of all the births expected for its coverage area, home births declined significantly in 2010 – which may require further investigation.

General delivery figures and trends are provided in the tables and charts below. *Of note: The charts show the rates of home versus facility births for the entire sub-district. The "facilities" in Fatuberliu and Maubara are only the BFFs for those sub-districts, however the numbers in Remexio represent both the HAI-supported BFF in Remexio and the Maternal Waiting House in Maumeta.*

TABLE 2: GENERAL BIRTH AND DELIVERY STATICS BY SUB-DISTRICT

DELIVERIES AND ESTIMATES	**FATUBERLIU** (Coverage area for Fatuberliu CHC and BFF)	**MAUBARA** (Coverage area includes entire subdistrict)	**REMEXIO** (Coverage area for Remexio CHC and BFF)
NUMBER OF BIRTHS DELIVERED AT THE BFF IN 2010	82	137	88
ESTIMATED ANNUAL NUMBER OF LIVE BIRTHS EXPECTED FOR SERVICE COVERAGE AREA	233	1129	136
ESTIMATED MONTHLY LIVE BIRTHS	19	94	11
ESTIMATED WOMEN OF REPRODUCTIVE AGE	1153	5049	528
BFF DELIVERY RATES USING ESTIMATED BIRTH FIGURES	35%	12%	65%

FIGURE 3: SKILLED BIRTH ATTENDANCE IN FATUBERLIU

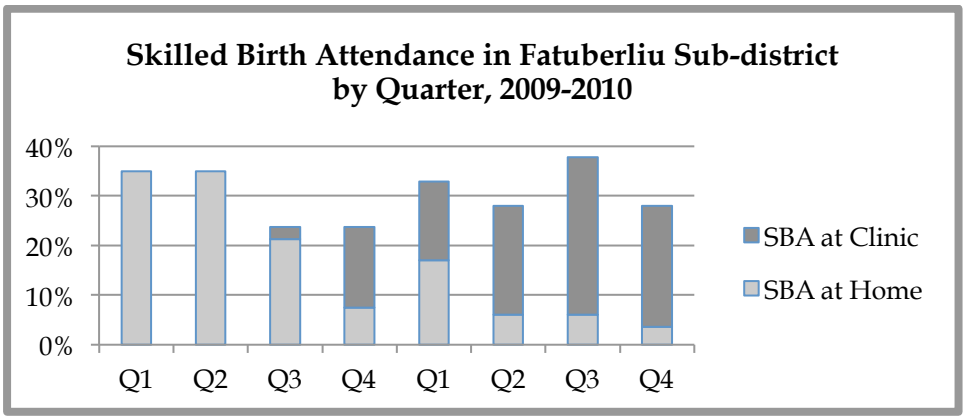


FIGURE 4: SKILLED BIRTH ATTENDANCE IN MAUBARA

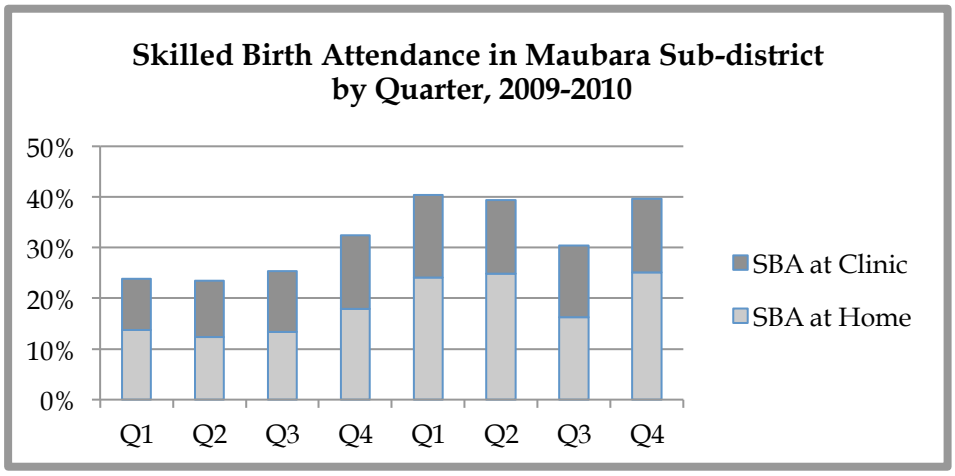
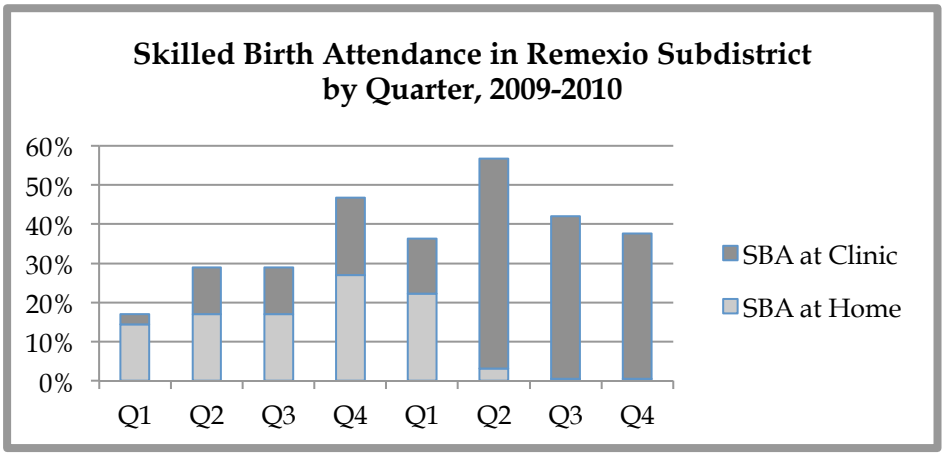


FIGURE 5: SKILLED BIRTH ATTENDANCE IN REMEXIO



Main Activities

The three BFFs are used slightly differently at each location. In Fatuberliu, family planning counseling is conducted following the birth, but ANC and other reproductive health care or health education take place in the CHC. In Remexio the BFF is exclusively used for delivery and post delivery discussion with new mothers about family planning. If a mother is interested in receiving a family planning method, she will go to the CHC to have it administered. This is in contrast to Maubara, where many maternal services including ANC and family planning have been shifted from the CHC to the BFF. Whereas the majority of births delivered by midwives take place at the BFF, home births are also attended to by the midwife staff.

Communities Served

In general, the BFFs serve only those sucos within a two hour walking radius of the facility, with the vast majority of users coming from sucos no more than one hour away. In Fatuberliu, the majority of mothers come from Clacuc, yet Fatukahi has the highest rate of use. In Maubara, most users come from Vaviquinia and Vatuvou, while in Remexio, Acumao is the only suco with consistent facility use.

Length of Stay

Most women arrive at the BFF on the same day that they deliver and depart within a few hours after giving birth unless complications arise. While midwives generally report "allowing" women to wait at the facility up to three days early, waiting is extremely uncommon at all BFFs surveyed. Instead, many women that live far from the facility decide to stay with extended family members who live nearby and this practice seems to be encouraged by the midwives. On the occasions that women do arrive more than one week prior to their expected delivery date, some midwives may ask them to go back to their home and come back once labor pains begin. In contrast, at the Maumeta Maternal Waiting House, many women stay for up to a week.

Rules

While the BFFs are more flexible about guests than most CHCs, some rules have been put in place to restrict the number of guests allowed due to space limitations and previous rowdy behavior. At some BFFs, family members (including the couple's children) and friends may be restricted from entering either the delivery room, resting room or lobby. Some facilities have restrictions on who may sleep at the BFF, as well as the social interactions allowed on site. One BFF has posted some of these restrictions on the wall in the lobby of their BFF.

Secondary Use

In Fatuberliu, a site with two buildings designated as BFFs, one of facilities was being used to house a visiting pharmacist from another sub-district. Secondary uses for the BFFs do not appear to be generally common however.

Incentives

The MOH provides a maternity package to women delivering in facilities which is sponsored by UNFPA and in some cases Alola, a local NGO. This package includes free clothing for the mother and baby, soap, sanitary towels, flip-flops, and combs among food and other materials. Where resources are limited, the incentive may be limited to only clothes and food.

Availability of Staff

Health staff are generally available at all times for laboring women. At many sites, midwives take turns sleeping at either the BFF or CHC in preparation for a nighttime labor. Drivers are equally available during the night or on weekends. Midwives from Fatuberliu and Maubara often travel to women's homes to check on pregnant women, most notably, unmarried women who may be too shy to travel to the clinic for a checkup. At one site, the midwives are known to refuse to travel to a home if they are notified that she has begun labor, but believe she has several hours left before delivery. This appears to be only a tactic however - used to convince women to travel to the BFF for their delivery. Midwives will attend to them in their home if they desire or are unable to travel.

Community Access

Community access to the BFFs is often based on the availability of transportation. Many women arrive on foot to the BFF. Due to the lack of cell phone reception in many villages, health staff are often notified of an impending delivery by family members walking to the BFF or traveling via motorbike to inform them in person. Once notified, if a vehicle is available, it will be sent to the home. Yet consistent availability of transportation is not always possible. During those times, a midwife may travel to the laboring woman's home.

TV/DVD equipment and use

HAI has provided TVs and DVDs at Maubara, Fatuberliu, and Maumeta for use in health promotion activities. For security purposes, the TV and DVD equipment stay locked away when not in use. In Fatuberliu, the equipment is stored in the Chefe CHC's office - roughly two blocks from the two BFFs. In Maubara, the TV is set up in the lobby area of the BFF while the DVD player is kept in the midwives' bedroom when not in use. At times in Maubara, the equipment is bypassed completely and films are shown during ANC visits on a laptop. At both sites, only the Chefe CHCs, midwives and security guards are allowed to

care for the equipment; no other staff or volunteers are delegated that responsibility. Remexio does not have a TV or DVD player at this time.

Vehicles

Vehicles from each site are used similarly: to transport pregnant women to the facility and to pick up injured residents and transport them to the CHC or hospitals in Same or Dili. The vehicles are also used to transport health staff to SISCAs or other meetings. In Remexio, the only site with two vehicles, staff attempt to keep at least one vehicle at the facility at all times for cases of emergency.

In Fatuberliu, essentially all pregnant women depend on vehicular transportation to travel to and from the BFF for their delivery. Available data shows that roughly 87% of women delivering at the BFF used the CHC's multi-functional vehicle to travel to and from home with the remainder depending on cars or anggunas, (larger utility trucks) for transport.

Data from Maubara was less complete, but showed that vehicular transportation to and from the BFF is common, but somewhat less so than in Fatuberliu. Approximately 45% of those traveling to the BFF use the CHC's multi-functional vehicle, with approximately 21% riding home in that same vehicle. Generally, approximately 76% of women in Maubara depend on some form of vehicular transportation to get to and from the BFF.

In late June of 2010, the Remexio CHC was gifted an ambulance by the Rotary for the purpose of assisting pregnant women. Remexio now has access to two vehicles. Prior to this new arrival, most women walked to the CHC and returned home on foot. Now, half of all women are picked up by the CHC vehicles prior to their delivery with 88% returning home via the ambulance. *Of note: Maumeta, a health post and MWH in the Remexio sub-district has no vehicle and it is currently unclear how the two vehicles housed at the CHC in Remexio will be used to support Maumeta in the future.*

PERCEIVED ROLE OF BFFS

Generally, the reputation of the BFFs in the surrounding communities is positive and knowledge of the importance of midwives during delivery is widespread. Women generally believe that the midwives are trustworthy and knowledgeable and assure safety of the woman and infant during delivery. Also important and brought up numerous times by families in every sub-district was the concept that the facilities were *"complete"* or that they had the materials they needed to make sure that the delivery preceded normally. However, while many see the BFF as a reliable place to deliver, they appeared to place more value on the midwives themselves than on the actual facilities. Some of the families

and community leaders interviewed did not note a difference between delivering with a midwife at their home versus with a midwife at the BFF. One woman explained it simply, *"Give deliver at the BFF with the midwife and give deliver at home with the midwife – the same…"* yet she went on to mention that if there are complications, it is easier to travel to the hospital in Dili if you are already at the BFF.

Health Staff's Role

Midwives play a central role in educating the public on the importance of facility use. One Chefe CHC said that his staff explains to the community that *"for pregnant woman, you have two options, one is normal and one is big problem…If you have a big problem, we can refer you to other places like Dili. But if you have big problem with the trust woman (TBA), where will you go? You will just wait to die."* Midwives from the other BFFs seem to also educate women during ANC visits on the importance of delivering in the facility, possibly without such threatening language. Regardless of tone, the information seems to be permeating the surrounding communities. While some community members may continue to undervalue the safety associated with delivery at the BFF, most all women and families interviewed, from both high use and low use sucos, seemed aware of the BFFs existence and clear that they are encouraged by health staff to deliver at the facility or at minimum, with a midwife at home.

Chefe Sucos and Chefe Aldeias

For the most part, Chefe Sucos and Chefe Aldeias are clear on the benefits of delivering at the BFFs. Most say they encourage usage of the facilities among pregnant women in their respective communities, although some, notably a Chefe Aldeia in Fatuberliu, admits that even though he encourages use, he doesn't see a difference between using midwives at the BFF and using traditional birth attendants at home. He explains, *"BFF or at home - the same. No different….Because we always trust the trust woman (TBA), because they always use tradition."*

Community Discourse

Sharing stories and information about the BFFs between friends and neighbors is also common, and midwives in Remexio are beginning to advocate for this. One woman in a low-use suco near Maubara explained that she was the first one in the aldeia to use the BFF for her delivery and when she arrived home after giving birth, many community members asked her about her experience. She explained that some asked, *"so once you go and give deliver at the BFF, will you pay money or no?"* and she explained, *"no, we will not pay money, once we go there, we will get some free things, like clothes…we will not pay."* Similarly, women from high use sucos also remark hearing about the facility from their friends. One mother from a high-use suco in Maubara noted that she first heard about the BFF from her peers and this is why she was interested in delivering there herself. The midwives in

Remexio recognize this natural messaging system and note that when new patients come for antenatal care, they tell them, "*so if you want to know clear information, you should ask from your friends…ask friends who have used the BFF to deliver…and maybe they will tell you how the BFF is...*"

Incentives as a Motivator

Incentives play an important role in increasing utilization of the facilities. Even a mother of eight children from Remexio who had delivered all previous children at home was planning on using the BFF for her most recent pregnancy because the midwives told her to and because she heard from her friends that she would receive "*free food and clothes for the baby…and that is why the BFF is a good place for me to deliver.*"

Unconvinced

While facility delivery (thought to be modern) is gaining in popularity and is becoming common in sucos located very close to the BFFs, some families that have easy access to the BFF still prefer delivering at home. Those women tend to be unconvinced of the increased safety associated with facility birth, have general discomfort with the idea of being helped by a midwife or have a family member who is a traditional birth attendant. There was, however, no mention of associating BFFs with danger or pregnancy complications: many women and families I spoke with tended to believe that if a problem was going to happen, it would happen anywhere and that BFFs were likely more capable of handling the problem than TBAs would be supporting women at home.

COMMON BARRIERS TO USING THE BFFs

Information on barriers to use arose from interviews with all main informant groups. Among women who delivered at home, the most common barrier noted was regarding the speed in which their labor progressed. Health staff emphasized other barriers, such as shyness among women, interest in following tradition and the physical barriers such as living far away or having to cross rivers. These and other barriers are discussed in more detail below.

Sudden Labor and Delivery

Among mothers interviewed who did not use the facility, explanation that the labor progressed too quickly to access the facility were brought up regularly. One woman who lived a three minute walk from the Remexio BFF told us that she went into labor and delivered in less than 12 minutes. Most women however, reported labor times generally spanning between one and three hours – times that were considered too short to call for the ambulance or walk to the facility. Labor beginning in the night time or when the family was away at the farm during the day also proved to be significant barriers to use.

Neglecting Responsibilities

Women and their families as well as health staff identified concerns of neglecting responsibilities, such as caring for the children and animals, and farm and cooking obligations. Implied was that women uphold their responsibilities until labor begins and that leaving these tasks early to travel to a facility would be detrimental to the family. In Maubara, a midwife asked one woman to stay at the BFF after a prenatal check up, explaining that she would give birth very shortly. Yet, according to the midwife, the woman explained, "*No, if I stay here, then who will take care of my three children? If I stay here then who will take care of my animals? If I stay here, then who will give food to my husband?*"

Tradition / Lack of Concern

Aside from preferences for traditional birth attendants (discussed below), many women deliver at home because that is simply what is considered 'normal' in their community. Women who delivered previous children at home without complication did not always see a reason to go to a birth facility for subsequent births. It was explained by one woman in Remexio that she is "*used to giving delivery at home, so I feel it is normal.*" Similarly, women who didn't know many others who had used the facility for their delivery also expressed indifference to using it themselves.

Preference for Traditional Birth Attendants (TBAs)

Delivering with help from a TBA is still widespread in some areas and desired by many families. Some families interviewed did not note a difference in safety between midwives and TBAs and believe TBAs are equally capable of handling complications during birth. At least two of the mothers interviewed were related to TBAs, with one woman explaining that her grandmother could help her sufficiently and that she wouldn't "*need to walk (to the BFF).*"

Reservations with Being Exposed

Linked with preference for TBAs, many women are uncomfortable with the idea of exposing their bodies and being touched by the midwives. One woman in Remexio explained that while *she* was okay with the midwives, the TBAs are better for her friends, explaining, "*at home is good, because here they can be helped by the trust woman (TBA), but the midwives will hold their body, and they don't want, they don't like…they don't want their body to be held by the midwife.*" Instead she explains that the trust woman does not rush the women, "*just brings oil and puts the oil to their body - with no holding.*" Another woman mentioned concern with privacy noting that there would be too many people at the BFF and that everyone would know she was in labor. Health staff from each facility generally recognized these concerns, further explaining that some women are worried that a male

nurse might come into the room during their delivery and that some women are embarrassed to be touched.

Shame and Embarrassment

Similar to shyness, women who are pregnant and unmarried are often too embarrassed of their condition to seek out assistance from the midwives in the form of ANC visits or birth assistance. Two and possibly three of the seven women we interviewed who did not use the facility were unmarried. One woman, confirmed to have no husband by the midwives as well as a neighbor, told us in the interview that her husband was *"at the farm."* Other women, midwives explained, are ashamed to come to the BFF if they are unable to bring baby clothes and food in preparation for their delivery. Lastly, one woman mentioned being concerned that if she brought her children to the BFF, that they would make too much noise and embarrass her.

Distance / Transportation

As expected, distance is a significant factor in influencing pregnant women in use of the BFFs. Among each facility, the aldeias and sucos with the highest usage rates are those located closest to the BFF. Inabilities to walk during labor or obtain proper transportation act as primary barriers to use. Some women remark that they've called for an ambulance in the past, but it hasn't come. Others acknowledge that due to rainfall, the roads to their aldeias are too ruined for a vehicle to drive on anyways. Health staff in Fatuberliu explain that having only one vehicle is a barrier for women accessing the BFF. In Remexio, the site with access to two vehicles, staff remark that they frequently run out of petrol and are consequently unable to transport women. Motorbikes are also infrequently used; many women are fearful to ride them when pregnant; others cannot afford to pay for petrol when borrowing one from a neighbor. Women also face barriers on foot. Aside from the challenge of simply walking during labor, the rainy season makes river crossings sometime impossible.

Along with these physical and material barriers to use, we also found conflicting perceptions on the availability of transport for women in labor. One family, speaking on behalf of their aldea explained that they believed that not only did you have to pay to use the BFF, but that the vehicle is only for health staff to use.

Cell phone access and reception

Access to vehicles, cell phones and signal reception are important components to helping women transfer to the facilities. While residents in an aldeia often share their cell-phone with neighbors, it is imperative that not only the aldeia have cell phone reception, but that the drivers and facility do as well. For instance, access to cell reception at the BFF in Maubara does not help those living in Dair (an aldeia without reception) to call for an ambulance. Conversely, those in the mountaintop village of Rileu, may have reception, but

are not always successful at calling the drivers in Remexio because of unreliable coverage at the health facility.

Misjudging Due Date

We often heard of women and health staff miscalculating due dates. A Chefe Aldeia in Remexio remarked that sometimes women believe they are only eight months pregnant, when they are actually nine. A mother who had hoped to deliver at the BFF, but instead delivered at home mentioned that she planned to travel to the BFF on Thursday, but she went into labor on Monday, three days prior than her expectation. A refresher training on how to calculate due dates is therefore recommended for midwives in these sub-districts.

Decision-making

Clear from conversations with all informant groups, husbands, parents and in-laws have a strong influence on where a woman will give birth. The delivery location is a family decision, and many young mothers follow their husbands, fathers or in-laws orders when labor begins. This is consistent with the findings of the 2009 Health Care Seeking Behavior Study.

INCREASING USE OF THE FACILITY AND TOURS

Health staff had a number of ideas for how to increase BFF delivery rates in the community. Some believe that by simply showing films on various health topics, more women will want to use the facility; others believe that by making transportation more available, rates will naturally increase. Some of the other themes that arose with health staff are listed below.

Addressing Concerns

Realizing that many women are shy, health staff emphasize the importance of explaining to women how the BFF delivery process works. Health staff would like to specifically mention that no other staff members will be in the room other than the midwife while they are in labor and remind them that they don't need to bring anything with them to the BFF because food and clothing will be provided. They also stress making sure that women understand that the BFF have both modern and traditional options for delivery (e.g., a standard medical delivery table and a lower traditional bed, as well as a traditional birthing rope to pull on during labor.)

Increasing Communication

Health staff from all sub-districts note the value of having strong communication networks between themselves and the Chefe Sucos, Chefe Aldeias, PSFs and TBAs in the

area to both assure that these leaders encourage use of the BFFs when speaking with pregnant women and their families and to learn from them about newly pregnant women in the community. In Fatuberliu, TBAs have come to the midwives to ask how they can help. Although the midwives have refused TBA assistance, as they fear the women's delivery knowledge is insufficient, they do welcome them as a communication line to pregnant women in rural areas. Other health staff remark that teachers and pastors may be good community leaders to reach out to as well, noting that while teachers may not discuss pregnancy and delivery with their students, they still act as role models in the community and can advise friends and neighbors.

Tours

Six of the thirteen women interviewed (from the three BFF sites) had received a tour of the BFF prior to their delivery date. It is clear that consistent touring for all women receiving antenatal care is not occurring, despite the fact that health staff consistently reported *"always"* providing them during ANC visits. Of the six women who toured the BFFs, four delivered in the facility. Of the seven who did not receive a tour, two delivered at the BFF. While no statistical conclusions can be made concretely on the value of tours to promote usage, it is suggestive that tours might increase utilization of the BFF. While one Chefe Aldeia was less focused on the importance of touring, noting that there is no other place to go for delivery, a midwife in Remexio explained that, "*when the women go and tour the BFF, they always say: Wow!!! Actually this is a nice place, this is a comfortable place so when I feel labor pain maybe I should come and give deliver here or maybe still have two or three days, I should come to stay here before delivery time.*" As told by another midwife, women remark upon visiting the facility at just one or two months pregnant, "*Oh, I could just come and stay here (for the whole rest of the pregnancy).*"

Unfortunately, pregnant women usually come to ANC visits alone and health staff have brought up concerns that because the husbands and in-laws are not present for the tours or conversations about using the BFFs, women do not have the encouragement or permission from their families to go once labor pains begin.

FUTURE EXPANSION POSSIBILITIES AND EXPECTED BARRIERS

Significant Interest from the Community

Community members including Chefe Sucos and Aldeias, women and their families and PSFs generally expressed interest in participating in health education activities. Many women asked whether they could bring their husbands or friends with them to the BFF and

routinely specified interest in malaria, diarrhea and family planning education. Also emphasized routinely was great interest in viewing films. Film showings, and the related discussions following, were regarded highly by individuals in Fatuberliu and Maubara, the two sites with access to the TV/DVD equipment. These residents mentioned past showings that had occurred in their aldeias and they expressed great interest in viewing more films. Most informants interviewed also appreciated the value of education. One Chefe Aldeia in Fatuberliu explained, "*once they (community members) get sickness, they always go to the facility to get medicine, but the best ways to overcome these problems is education.*" Generally, community informants were in agreement with this and were excited for the opportunities to be involved. One couple in Remexio explained, "*once there are health activities, these are occasions for us to learn and we would really like to participate.*"

There was also immense staff interest in showing the films. A midwife in Maubara explained, "*through movies they can understand clearly, they can see with their own eyes and they can understand.*" Similarly, a midwife in Fatuberliu explained that films make it "*easy to understand how to give delivery and how to use this or how to use that.*" Another further explained, "*Here, the best activities for the community to go to the BFF are movies…once we show the movie - of course everyone will come to the BFF….then everyone will understand clear, what sickness is, especially for the woman and children… Once we show the movie, of course they will go with their husbands… of course they will discuss and then they will have family planning. So this is a benefit for them.*"

Challenges

Staff members from each facility were unclear about what steps they would specifically take to expand programming and when they would actually take them. Many were clearer on the barriers to expansion than on what opportunities they could pursue. Health staff from each BFF had a tendency to envision large-scale activities that due to size and formality, presented obstacles in implementation. Some of those obstacles are discussed below:

Difference in Vision

Whereas HAI staff have envisioned small scale expansion activities, such as 10-person gatherings where discussions, trainings and film showings could occur in a casual environment, health staff from each site generally envisioned larger-scale and more formal activities - such as those with 30 or more participants, all-day trainings, offerings of meals or snacks and expensive materials. Envisioning implementing these large-scale activities at the small BFFs has led many staff to be concerned with potential obstacles ranging from cost to space limitations. Some midwives have also had trouble understanding the reason for doing a group educational activity when they already meet one-on-one with women and discuss similar topics. These midwives explained that they "*already do…(health education) everyday.*"

Size of Facility

Health Staff from all three sites were concerned that the BFFs may be too small to house expansion activities. Staff from both Maubara and Remexio seemed especially concerned with the size of their facilities and each mentioned waiting for building renovations to take place - proposed by the MOH for the year 2020. This was in some contrast to other statements made that new activities would be implemented immediately or as soon as the following month.

Conflicts in Facility Use

Because of the relative small size of the facilities and the unplanned nature of labor, many health staff were concerned that a woman may arrive at the facility for delivery while a group activity was currently in operation and that this conflict would be difficult to manage. Health staff seemed uncomfortable with the idea of moving the group to a nearby site when those scheduling conditions arose. Willingness to partner with other NGOs and allow use of the building also varied – often for similar reasons.

Cost of Activities

Due to staff visions of large and formal activities, there was concern over related costs and resource requirements. In Remexio, health staff assumed that hosting activities would require sending out formal invitations to the community and that the associated costs of printing and delivering invitations and costs related to buying materials and offering food for the participants would be too expensive to implement. Similarly, staff in Fatuberliu envisioned all day courses that would require extensive financial support – rather than more casual gatherings and conversations aimed at small groups of women for shorter periods of the day.

Availability of Staff and their Responsibilities

The midwives are generally occupied during the morning clinic and are flexible in the afternoons. Some midwives interviewed were enthusiastic about planning for and leading new activities. One midwife was particularly interested in teaching about breastfeeding and family planning, and some staff said they were open to working up to three or four extra hours per week to expand activities. Others were more protective of their time and resistant to adding to their workloads.

Generally, Chefe CHCs will dictate what roles midwives play in the expansion process. Chefes will be responsible for tasking activities to them as well as providing necessary materials - although there is some confusion over who would be responsible for scheduling the activities and whether they would operate independently or with help from HAI staff.

Reproductive Health at the BFF

There has been some discussion on the possibility of shifting all reproductive health related appointments to the BFFs. In Maubara, this transition has already begun and they are working to shift all reproductive health services to the BFF soon, which would include family planning counseling, contraceptive methods, antenatal care and delivery. Remexio staff are less keen on the idea, noting that the CHC is so close to the BFF and has specific rooms set up for reproductive care already – making transitioning of care unnecessary from their perspective. Fatuberliu also faces unique challenges in transitioning care, as the BFFs are located over one block from the CHC making efficient transition of care to the BFFs more difficult.

For the community, expected barriers to participation in activities mirrored some of the barriers faced for women attempting to use the BFFs for delivery. They included:

Neglecting Responsibilities

Numerous women were concerned with who would take care of their children while they were participating in an activity. While some women have parents and in-laws to help out with childcare, for women with especially young infants, who cry frequently or are sick, leaving them at home would be a challenge and feel "*not so good*" as one woman in Maubara explained.

Distance / Rainy Season

Long distances and lack of transportation may pose barriers to women participating in activities at the BFF. The rainy season poses significant obstacles to women who live in the mountains or who must cross rivers to make it to the BFFs. It is also clear that while families may sometimes be willing to walk longer distances for an impending delivery, community members may be less enthusiastic about walking close to one hour or more to receive education or participate in an activity. Many believed it was far better for the activities to take place in the individual aldeias.

Shyness and Insecurity

Lack of interest in expansion activities sometimes stemmed from shyness or insecurity. In Remexio, a mother was concerned that *because* she was uneducated, she would be incapable of understanding new information and would therefore not participate in activities. Over the course of this project, young women were consistently shy and quiet during the interviews. The mothers, in-laws and older sisters of those interviewed were regularly more apt to talk. Health staff members acknowledge that young women can be uncomfortable discussing their health and health topics in public settings. When developing new activities, it may be important to assure a mixed age group of women.

Lack of Interest and Devaluing of Education

Some informants were less eager to participate in future activities. A mother in Maubara who did not deliver with a midwife for any of her four births was unsure that education could help solve health problems. In Fatuberliu, a PSF was quick to point out that while young married couples may want to participate, elders *"don't like (education) at all because they don't understand…and because this place (the BFF) is too far to walk."*

COMMUNICATION NETWORKS

There is a strong communication network between health staff and community leaders such as Chefe Sucos, Chefe Aldeias and PSFs. Health staff reported that they rely on the PSFs to inform them of newly pregnant women in the community. They also use the PSFs to pass on messages to the Chefe Sucos and Chefe Aldeias – which often include requests to promote usage of the BFFs in the communities and to disseminate information about new activities offered at the BFF or CHC. Chefe Sucos and Aldeias communicate these messages during official meetings held with their communities. PSFs also work closely with one another, some taking on strong leadership roles in the sucos to plan for how best to disperse information and cover all regions. Other PSFs appear to take on a more passive role and have less of a health impact in their aldeia.

While strong, there are possibilities for even greater communication systems in the sub-districts. Community figures such as teachers and pastors are not utilized as much as they could be and settings such as marketplaces and churches may be valuable venues to disperse new information.

DISCUSSION

This report has highlighted how the three existing Birth Friendly Facilities are currently used, what barriers the community faces in using them, and suggests some opportunities for and constraints to expansion. Most notably, this report provides insight into the hesitations and concerns faced by CHC staff working at the facility level in implementing new activities. This in particular may provides HAI And MOH staff with a strong starting place in thinking about how to initiate effective dialogue regarding usage rates and expansion opportunities.

This assessment had a number of limitations that are common to studies of this kind. They include, but are not limited to:

- The inability to generalize – as this was a qualitative, non random sample of birthing facilities, staff and aldeias.
- Imprecise translations – exact meaning of both questions and answers may have been altered and/or limited by language barriers.
- Limited depth – the study was a rapid assessment taking place during a short time frame and aimed to cover a wide range of topics. It is likely that full, comprehension and depth may have been hindered.

CONCLUSIONS AND RECOMMENDATIONS

Considering the limitations of the study and conclusions from the data collected, the following are key recommendations to both increase use of and expand services provided by the Birth Friendly Facilities:

1. **Encourage midwives to work with women and their families to develop a comprehensive Birth Plan:** Many women who wanted to use the BFF for their delivery were not prepared when labor began. This was due to inaccurate due date calculations, poor recognition of labor stages and lack of access to transportation, among others. The plan should address not only these items, but include the importance of saving money to pay for transportation if necessary and the specific responsibilities each family member has in implementing the plan. The DVD, "Hakat Ba Naroman" could be used as a tool to reinforce some of these messages.

2. **Include husbands, parents and in-laws in at least one antenatal care visit. Standardize the practice of providing tours at that time**: Husbands, parents and in-

laws are significant decision-makers in the family. Participation in the antenatal care visit can increase awareness of the benefits of a facility delivery, the incentives provided, and can increase their comfort with the facility through touring. While it is hard to assure that extended family will come with pregnant women to their appointments, women should be encouraged to request attendance by their families. Further encouragement of family participation at ANC visits must also be promoted by PSFs, Chefe Sucos, Chefe Aldeias and other community leaders.

3. **When feasible, transfer all maternal care services over to the BFF, including family planning counseling, education and antenatal care to build comfort with the facilities:** By building a positive association with the BFFs for all types of maternal care, delivering in the facility as well as participation in BFF housed activities may be more achievable. Providing these services may act as an intermediate step before expanding to community health education, film showings or other programming.

4. **Encourage targeted counseling by midwives to pregnant women to alleviate hesitation and shame associated with shyness, marital status and poverty and further train staff on patient-centered care:** Many barriers to use are associated with women's concerns over exposing their bodies, economic status and personal lives. Building trust between midwives and mothers is essential to increasing use. This model is noted at the comparison birth facility (see Appendix 1).

5. **Examine facility rules to assure that they are appropriate to the vision of these patient-centered facilities:** The BFFs' mission is to provide inclusive and culturally competent birthing environments. At some sites, rules regarding who may enter the facility, join the woman in the birthing room or stay overnight were expressed. Ensuring that the BFFs act as an extension of the home may relieve some of the obstacles associated with neglecting childcare and other home responsibilities. Realizing that rules limiting family involvement in the birthing process fundamentally contradict the experience of birth the BFFs were originally designed to provide, re-training of health staff on the original mission of the BFFs may be necessary in order to change this practice.

6. **Consider allowing for and encouraging pregnant women to wait at the BFF as long as needed prior to delivery:** While some health staff and community members remark that women do not wish to arrive early and wait for delivery, at the comparison birth facility, women wait regularly despite its small size. Allowing and encouraging women to arrive early will likely reduce some of the barriers to use associated with lack of transportation during late stages of labor.

7. **Encourage women who have used the BFF to share their experience with family and friends, i.e. inviting them to speak at community events:** The reputation of the BFFs is increasing in each sub-district. Word-of-mouth advertising will be an important component in continuing to raise awareness of the BFFs and the benefits associated with them. Users should be encouraged to speak on their experiences at the BFF in both formal and informal settings.

8. **Expand the health staff's vision of what activities are possible:** Many of the presumed barriers to expansion such as facility size and expense are based on a grand vision of what an activity should look like. Staff should be encouraged to envision smaller, less formal, inexpensive, and sometimes community led events that can be realistically accomplished with the constraints faced. It is essential that health staff are enlightened to the range of activities possible at the BFFs. It will be important to help staff think broadly about what activities could occur, how they may encourage leadership from within the community and what has been successful in other regions of the country or internationally.

9. **Provide clear directions to health staff in how to plan for, schedule, advertise and implement new activities:** Explanation of required steps and/or full assistance with the planning and execution of early activities is recommended before health staff should be expected to assume responsibilities of planning on their own. Piloting a few activities may be the most reasonable way to help CHC staff learn of the possibilities.

10. **Ensure that new activities continue to take place not only at the BFFs, but also during SISCa events or other gatherings in nearby sucos or aldeias:** Numerous community members noted that while some residents would participate, many would not walk to the BFF for new activities. It was also clear that film showings in the aldeias were regarded highly. For the greatest positive impact on the community, activities must continue to take place on the local level to assure maximum participation.

11. **Consider implementing programs that can provide pregnant women with temporary access to cell-phones during their pregnancy to call for midwife assistance and/or transportation:** Lack of transportation, often linked with the challenge of informing health staff and drivers of a need for a vehicle stems from poor cell-reception and lack of access to cell-phones when reception is available. Increasing pathways for cellular communication will be an essential step in increasing BFF usage for delivery and ensuring emergency obstetric care is providing in a timely fashion.

12. **Identify best practices throughout the BFF sites – standardize and spread best practices to other sites when appropriate:** Valuable practices occur at each BFF facility, such as the provision of health promotion materials, in-kind incentives or the open inclusion of families. Properly identifying and standardizing these at other sites when applicable may help to increase maternal and child health in the region.

APPENDICES

APPENDIX 1: LEARNING FROM MAUMETA

When visiting the Maumeta Maternity Waiting House, a successful delivery center, and meeting with the midwife and sole practitioner there, I picked up on some unique practices that may contribute to their high usage rates.

The midwife believes strongly in eliminating feelings of hierarchy at her health post. She explains that it is important to talk to the community like equals and assure that all women, regardless of income or education level, feel comfortable with her. Noting that many women are ashamed of their poverty or inability bring materials with them in preparation for delivery, she not only highlights the free incentives they'll receive after delivering in the facility, but makes home visits in which she teaches women how to construct baby clothes out of old blankets. Noting that many women are also ashamed for being unclean, she tries to explain that there is no shame in this and tells them, *"please don't try to be far from me, even though I have clean clothes and am an educated person. I have to respect you even if you are dirty as you are as my mother, so don't try to be far from me."*

The midwife also spends immense amount of time getting to know her community, not only during clinic and SISCa hours, but off hours as well. She spends after hours traveling by foot or motorbike to family homes and sitting with the families, getting to know them and hearing about their challenges. In response, the community is attached to her. Community members declare, *"You can't go to another village. You must stay here."* And while the immense closeness stands out, a more significant difference is also noted; pregnant women regularly wait at the facility for several days and up to between two and four weeks early. An amount of time that is unheard of at other delivery sites. One reason for this is that the midwife rarely sends women back home because she thinks that if she does, they may not return. Instead, she cooks for the entire family (not just the woman) and feeds them for as long as they are there – even if that means using some of her own food supply.

It is interesting to consider that somehow, the barriers noted by women from sucos closer to the other BFFs, such as neglecting home responsibilities are somehow negated in Maumeta. It may be because the entire family is allowed to move to the facility early - along with the pregnant woman.

Noting that this particular midwife goes above the call of duty and that the facility formally allows for "waiting," it is not reasonable to expect the same of the other midwives and BFFs. Still, noting the effectiveness of being so emotionally close to the community and the greater generosity in providing food and care, it is sensible to wonder if health staff at the other facilities can work towards connecting even more with the families in their communities with the goal of increasing use.

APPENDIX 2: HOW BFFS ARE USED IN EACH DISTRICT

FATUBERLIU

Above: This is one of the two BFFs located in Fatuberliu. The other is located directly across the street. **Below:** The lobbies from each of the two BFFs.

Main Activities

The main activity occurring at the two BFFs in Fatuberliu is delivery. Family planning occurs directly after the birth, but ANC visits and any other reproductive health care or health education take place in the CHC.

Communities Served

The facilities serve only three of the five sucos in Fatuberliu, namely Caicasa, Clacuc and Fatukahi. Women from Bubususo and Fahenahain receive antenatal care from the nurses and at the health posts in their respective sucos and will not deliver at the BFF unless they are staying with extended family nearby. While the midwives believe that women from the three primary sucos use the facility at equal rates, it appears from the data that Fatukahi has the highest rate of use considering the size of its population, Caicasa with the lowest use and that the majority of women come from Clacuc.

Length of Stay

Women mostly arrive to the BFF on the day that they deliver. Waiting one to two days prior to delivery is allowed, although if women come more than one week early, the midwives will tell them that it is *"not yet time"* and to go back to their home and wait. If women are thought to be ready to deliver, but labor for two or three days without delivery, the woman will be referred to either Same or Dili. Remaining at the facility for more than a few hours after a delivery occurs only if the mother or infant are experiencing complications – wait times in these cases do not exceed two days. *The midwives emphasize that housing women for more than a few days at the BFF is problematic as the delivery rooms need to be available to other women. Also emphasized, was that while health staff discourage women from staying at the BFF for more than a few days, pregnant women similarly do not wish to stay for any more time than necessary.*

Rules

Husbands may enter the delivery room, but all other family members are required to stay outside or in the lobby. The family may not sleep at the BFF. They will instead sit and wait during the night or stay with extended family nearby.

Incentives

Incentive for using the facility include free infant clothing and both food and clothing for the pregnant woman.

Secondary Use

One of the BFFs was housing a visiting pharmacist from Same. At the time of my visit, she had been staying there for numerous weeks and while her length of stay was indefinite at the time we left, we were told that a new house in the area was being built to accommodate future visiting MOH staff.

Availability of Staff

Midwives help women deliver both at home and at the BFF. Each of the three midwives has a suco that they focus on – often walking or motor-biking to various women's houses in their respective sucos to check on their progress. They also rotate

staying at the BFF overnight, assuring 24 hour coverage for the community with a commitment to assist any women in labor regardless of the suco they originate from. (Drivers are also available at any hour of the day or night.)

Community Access

The communities' access to the BFF is very much based on availability of transportation. In sucos nearby, family members generally walk to the BFF to notify a midwife or driver of an impending delivery. At that point, a multi-functional vehicle can be sent to the home. Because there is only one vehicle however, consistent availability of transportation is not possible. During those times, families may pick up a midwife on their motorbike and drive her to the home to assist with delivery there.

TV/DVD equipment and use

The TV and DVD player were in the Chefe CHC's office at the time of my visit. At that time, health staff did not have any films to play in the DVD player thus negating any reason to house the equipment elsewhere. Still, the Chefe CHC, was concerned about the lack of security at the BFFs and for this reason, does not think the equipment should be housed at the BFFs permanently. (The security guard only serves the CHC that is located over one block away.) Instead, the Chefe CHC stated that he will be in charge of the equipment at all times with the exception of when midwives are conducting the showings. PSF staff will not be granted responsibility for the equipment nor will they be given a key to the BFFs as it is believed they may abuse those privileges. Noting that there is only nighttime solar power at the BFFs, future film showings will have to rely on generator power. The security guard will help set up the equipment on those schedule dates.

Vehicles

The one multi-functional vehicle is used to pick up pregnant women and bring them to the BFF as well as transport midwives to women's homes. The vehicle is also used to transport health staff to SISCA sites, transport the Chefe CHC to Same for meetings and/or pick up medicine from other health centers. The vehicle is used to deliver injured residents such as motorbike accident victims to the CHC and to transport MOH staff.

MAUBARA

Above: The outside of the BFF in Maubara. **Below:** The Lobby is L-shaped, containing two sections. One area with work table and second area with the television

Main Activities

The BFF in Maubara is used for a variety of purposes. Delivery is the primary activity with family planning counseling provided for the entire family (which may include husbands, in-laws and parents) directly after the birth. Injections (kind unknown) are provided at the BFF. The facility also acts as a meeting room for pregnant woman and the midwife to discuss delivery or perform antenatal care. Due to lack of privacy at the CHC, the BFF is also used when women require physical exams.

Communities Served

The BFFs see the majority of women from Vaviquinia, Vatuvou, Maubaralisa and Gugleur. The other sucos (Guico, Lisadila and Vatuboro) are too far to establish regular use.

Length of Stay

For women that do travel long distances, the midwives ask them to come to the region approximately four days early and stay with extended family if possible. Women arrive at the facility generally no more than one day early and only come once they feel labor pain. The longest a woman has ever waited at the BFF is 2 or 3 days. If medical complications arise, the midwives will refer the women to Dili.

Rules: (Not aware of any rules associated with using the BFF)

Incentives

Incentives for using the facility include free meals such as chicken and eggs for the mother and free clothes for the mother and infant. Family members that wait with the pregnant woman must bring their own food.

Availability of Staff

Similar to the midwives in Fatuberliu, the midwives take turns sleeping at either the BFF or CHC seven days a week. The security guard lives directly next door to the BFF and is also available at all hours every day.

Community Access

The midwives will come to the laboring woman's house by either motorbike or multi-functional vehicle. If the midwife comes via motorbike, she will help deliver the baby in the woman's house and if she comes with the vehicle, they will take the woman to the BFF. While cell phone reception is present at the BFF, finding reception in the sucos is challenging. Notifying midwives of an impending delivery usually takes place by a family member walking to the BFF to notify the midwife and driver in person. Otherwise, women simply walk the distance to the BFF near the beginning of their labor pain. For women who deliver at home without assistance – the midwives will visit as soon as they are notified to check on the health of the mother and newborn.

TV/DVD Equipment and Use

The television is set up in the lobby of the BFF with the DVD player stored in the midwives' bedroom for security purposes. However some film showings occur without the equipment, using the laptop during antenatal care visits instead. Noting that many family members, such as parents and in-laws are absent during ANC visits, the midwives are also interested in showing the films off-site in individual aldeias. According to the Chefe CHC, PSFs will not be allowed to hold a key to the BFF or be in charge of the equipment, due to their *"lack of training."* The security guard will instead be in charge of the equipment after CHC hours.

Vehicles

The one multi-functional vehicle is used to pick up pregnant women and bring them to the BFF, pick up other residents who have been involved in accidents or are ill and transport staff to Siscas. The vehicle is also used for business in Dili – on July 27th staff and the vehicle was spotted in town having identification cards made.

REMEXIO

Above: Outside of the BFF in Remexio. **Below:** Main room is square with tables, chairs and benches around perimeter.

Main Activities

The BFF in Remexio is exclusively used for delivery and post delivery discussion with the new mothers about family planning. If women who delivered choose to receive birth control, they will change locations to the CHC and administer it there. Similarly, antenatal care and family planning for all other women occur at the CHC.

Communities Served

The vast majority of women come from Acumao, the nearby Suco. They also see some women from Rileu (an aldeia in Fadabloco) and Tulatakeu which has a midwife, but no facility. The Maternity Waiting House in Maumeta is thought to serve: Maumeta, Hautoho, Fadabloco and Fahisoi. Faturasa and Liurai are located too far away to establish regular use at any facility.

Length of Stay

While health staff confirm that women are allowed to wait at the BFF early, only two (according to the Chefe) or four (according to the midwives) have ever stayed for more than one week and they were all from Liurai - a suco approximately 6 hours away. Women generally arrive at the facility on the same day that they deliver. The few that have waited at the facility have not had extended family that live nearby and those that do stay in Acumao and wait until labor begins before traveling to the facility. The midwives explain that while they ask women to come to the facility early, most want to wait until labor pain has begun.

Rules

According to the midwives, only two family members are allowed in the facility with the mother. The husband and mother in-law are often the designated two. If children come to the facility, only the very youngest can stay with the mother and that child can sleep in the resting room, but not enter the delivery room. If the husband stays overnight, he may not sleep in the resting room and must sleep on the benches in the lobby. Noting that often, 10-20 people will want to come to the delivery, midwives make a point to say that this is not acceptable because of the small size of the facility and concern about drinking wine. Health staff inform friends and family that if they wish to visit the mother, they have to wait until she goes back home.

Posted on the wall in the lobby is a sign noting six points. They differ some from what was verbalized by the midwives above. Transcribed, they are:

1. *Only two people can wait with the laboring woman in the BFF (which includes resting room and lobby)*
2. *Children cannot come into the BFF*
3. *No sleeping or sitting on the beds*
4. *This is not a market – it is a delivery house*
5. *This is not a place to visit with many people - you can go and visit with the family back at their home*
6. *No drinking*

Incentives

The UNFPA sponsored (co-sponsored by Alola) incentives for use include rice, noodles and fish, and accessories such as sarongs, flip flops, combs, shampoo, towels and baby clothes to the new mothers. Food is only available to the pregnant woman and other family members must bring their own food for themselves. The family that accompanies the woman to the BFF is responsible for cooking for her.

Availability of Staff

For unmarried pregnant women, the midwife will go to the house for checkup – nothing that many are too shy or embarrassed to come in to the clinic. However the midwives will only visit women who live in close sucos such as Acumao – as they expect the midwives from the other health posts to take care of women in further away sucos. When the midwives are notified that a woman has begun labor and the midwife believes the labor has two or three hours left, she will not go to the woman's house and try to force the woman to come to the BFF instead. If the midwives believe that the delivery will come more quickly, they will travel to their home. *Of Note: Certain health staff inform women that they will not travel to their homes to help them deliver (even though this is untrue) - as a way of pressuring them into using the BFF.*

Community Access

Due to poor cell-reception in the area, midwives are almost always notified of impending deliveries by family members of the pregnant woman arriving to the facility via walking or motorbike and informing them in person. For women that go into labor at night, usually the family will wait until the morning to notify the midwife. If the baby comes without complications, they will often wait until the next day before informing the midwife of the birth.

For the community in Rileu which has cell phone reception, they will at times call the midwife in Maumeta (who also has reception) and that midwife will use her motorbike to come to the house for delivery. Those in Rileu do not always trust that the ambulance in Remexio is able to handle the road conditions, so if they choose to deliver in a facility, they will usually try to walk to Remexio which is closer than the waiting house in Maumeta.

Vehicles

The two vehicles (an ambulance and multi-functional vehicle) stay at the CHC when not in use. The clinic attempts to keep one vehicle at the facility at all times for cases of emergency. While used similarly, the multi-functional vehicle is not allowed to go to Dili. Otherwise, both vehicles are used to drive women to the BFF for delivery. The vehicles are not used by health staff to make home visits to pregnant women. Instead, the vehicles are only used when called for. The vehicles are used to transport community members to the CHC or other health clinics after accidents, to transport staff to SISCA sites and to pick of

petrol from Aileu. The vehicle is known to pick up women who have delivered in Maumeta and to drive them home after their delivery.

APPENDIX 3: SCHEDULING / AVAILABILITY FOR FUTURE ACTIVITES

Fatuberliu

Chefe CHC: The Chefe CHC believes the midwives have plenty of free time as they normally see only four or five women per month. While the midwives primary job is delivery, they do sometimes help at the CHC during the morning clinic if the doctor is not present. They also travel to women's homes during the day to check on pregnant women. According to the Chefe, the best times to offer health activities are:

- Mornings (because the community is there using the CHC)
- Mondays and Wednesdays for film showings (Thursday is market day in Dotic, Fridays are for general cleanup around the CHC/BFF, Saturday is market day in Fatuberliu and Sunday is for Church – there is also a market on Wednesdays, but it occurs very early in the morning and would not get in the way of daytime activities)
    - Midwives want to show films on Mondays because many families come to the CHC for checkup on those days
- The Chefe believes the midwives will decide what the schedule should be for the activities (the midwives believe the Chefe will decide)

Midwives: The midwives explain that they *"have no free time"* because women come to deliver or they are busy helping at the CHC. However since there are three midwives, doing new activities shouldn't take away from their ability to care for pregnant women. Availability depends on the number of women that are nine months pregnant that month. The best times to offer health activities are:

- Mornings (10:00 am - families are busy in the afternoons)
- Previously, Asala showed the movie in both the morning and afternoon. One midwife recommends HAI showing at both times, but is unsure which time is better
- Tuesdays and Friday afternoons (Wednesday and Thursday are market days, Saturday is for rest, Sunday is for church)
- Once a month is ideal
- The midwives believe the Chefe CHC will decide what the schedule should be for the activities (The Chefe CHC believes the midwives will decide)

Community (PSFs, Chefe Sucos/Aldeias and women and families): There were a variety of responses regarding optimal times to participate in health activities at the BFF. Generally, the best times for participation are:

- Mornings
- Mondays and Saturdays (every time but Sunday afternoons are okay)
- Once a week is ideal

Maubara

Chefe CHC (and midwife): The Chefe CHC explains that previously, people didn't participate in activities in the morning, so she thinks it is best to schedule activities in the afternoons.

- Afternoons
- Tuesdays and Thursdays are reserved for antenatal care visits – she could show the movie for those women and their families on those days
    - Some Thursdays, 15-16 people come in for ANC. If there are only one or two people, she will not show the movie, but if there are five or more, she will plan to screen it.

Midwife: The midwife explains that they are sometimes very busy, sometimes more free. The time of day to schedule activities depends on the community. Once they show the movie, they need a lot of people to come, so they should schedule when the women are free.

- Once a month is ideal

Community (PSFs, Chefe Sucos/Aldeiass and women and families): There was again variety in the responses regarding optimal times to participate in health activities at the BFF. Generally, the best times for participation are:

- Mornings
    - Mornings best for health education on topics like malaria and diarrhea, because the community comes to the CHC at that time for care for those illnesses. Movies are best in the afternoon because many people are gone at the farm or market in the mornings.
- Mondays and Tuesdays. (Saturday is market day, Sunday is for church)
- Once a month

Remexio

Chefe CHC: The Chefe CHC explains that the midwives are sometimes busy. It depends on the number of accidents, Sisca schedule and number of pregnant women. Tuesdays are busy because it is market day and oftentimes women will come to the CHC to talk to the midwives directly afterwards.

Midwives: The midwives in Remexio take a two hour lunch and do not return to the CHC until 2pm. They prefer:

- Afternoons
- Weekdays (They will not work on Saturday or Sundays)
- Once a week is ideal

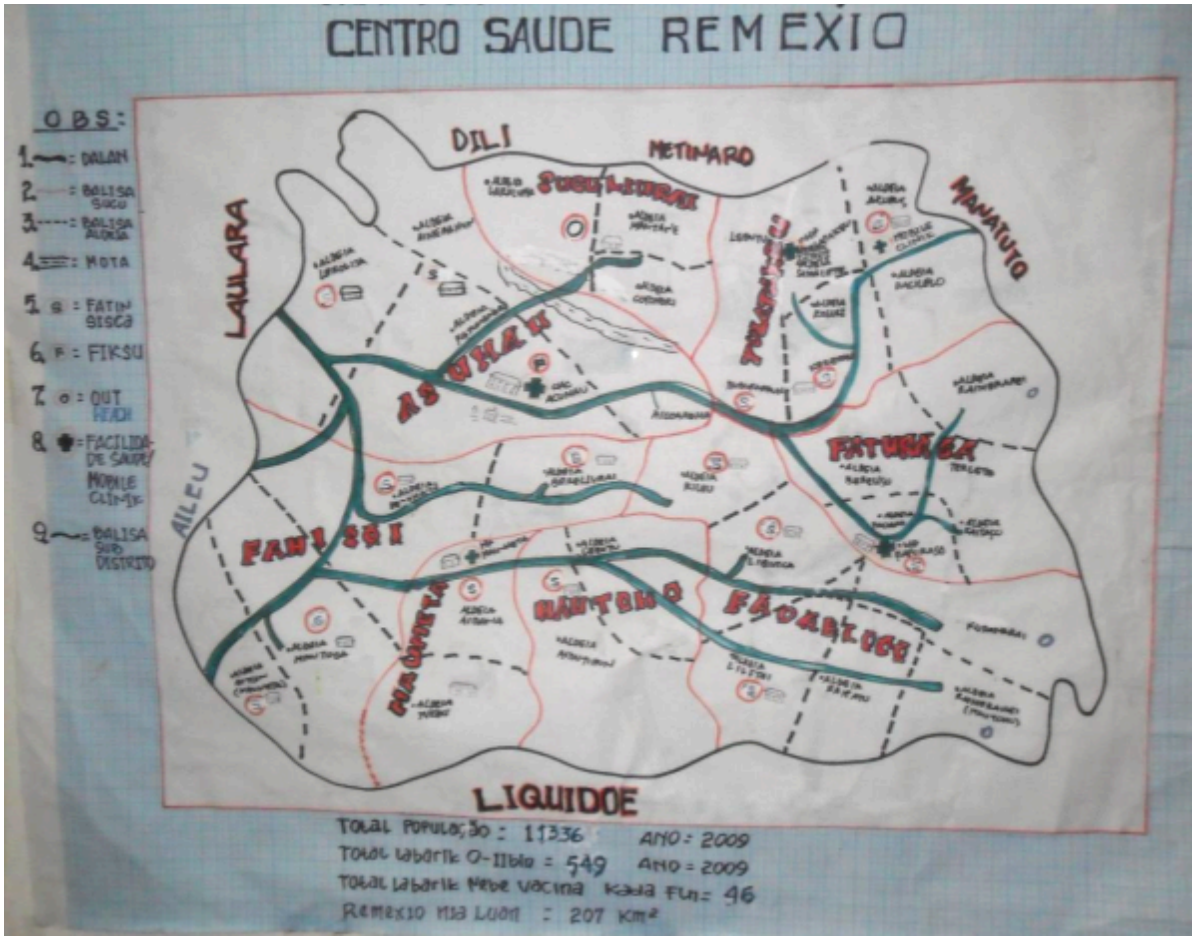
Community (PSFs, Chefe Sucos/Aldeias and women and families): There were again a variety of responses regarding optimal time to participate in activities. Generally, the best times for participation are:

- Mornings
- Saturdays (Sundays are reserved for church)
- Twice a month is ideal
- Early notice (three or more days) of scheduled activities are desired

APPENDIX 4: RESOURCES

	FATUBERLIU	MAUBARA	REMEXIO
ELECTRICITY	**NO** (cable is broken)	**YES**	**YES** (6 pm to 12am)
SOLOR POWER	**YES**	**YES**	**YES**
GENERATOR	**YES**	**UNKNOWN**	**UNKNOWN**
TV/DVD	**YES** (TV and DVD player located in boxes in the Chefe CHC's office)	**YES** (TV in lobby, DVD player locked in midwives' bedroom)	**NO**
WATER	**NO** (carried in buckets from neighbor's house)	**YES** (from faucet during rainy season, otherwise out of tanks)	**YES**
CELL RECEPTION	**NO**	**YES** (many sucos without)	**NO** (drivers have at home)
VEHICLE	**1 AMBULANCE**	**1 MULTI-FUNCTIONAL VEHICLE**	**1 AMBULANCE** **1 MULTI-FUNCTIONAL VEHICLE**
FACILITY	**2 BFFs** L shaped lobbies – long side can hold up to **20 people** comfortably *First BFF:* 1 delivery room with delivery and rest beds 1 midwife room *Second BFF:* 1 delivery room 1 rest room 1 midwife room 1 kitchen that both BFFs share	L shaped. Area with television could contain **10 people** / Hallway area situated between bedrooms and back door can contain **15 people** 2 bedrooms for delivery 1 bedroom for midwives to stay 1 kitchen Outside courtyard would be available for activities	1 square lobby which could hold up to **14 people** 1 delivery room 1 resting room with 2 beds 1 Kitchen
NEEDS	Seating, broom, mop, buckets and canvas	Seating, tables cupboard	Seating, tables,

APPENDIX 5: FATUBERLIU: POPULATION, BFF USAGE AND DISTANCE



~~FATUBERLIU~~						
Sucos (5)	2010 Est. Pop.	2010 Est. Births	Target Midwife Attended Births 48%	January 2010 – June 2010		
				BFF Deliveries	Home Deliveries with Midwives	Total Midwife Attended Births
Caicasa	1,457	60	**28.8**	6	4	**10**
Clacuc	3,261	135	**64.8**	21	6	**27**
Fatukahi	912	38	**18.24**	9	3	**12**
Bubususo	771	32	**15.36**	-	-	**-**
Fahinehan	1,531	63	**30.24**	-	-	**-**
Missing				-	-	**-**
Name N/A				4	-	**4**
TOTAL	**7,932**	**328**	**157.44**	**40**	**13**	**53**

~~FATUBERLIU BY SUCOS AND ALDEIAS~~		
	BFF Deliveries January 2010 – June 2010	Walking time to BFF
Caicasa	6	
Caicasa		1 hour
Sulcaer Oan		1 hour
Ailalek		1 hour
Weleti		1 hour
Caicasa Lama		12 hours away
Clacuc	11	
Tiro	1	1 hour
Nalolo	1	1 hour
Webicas (Bitirai)	6	1 hour
Manehat	2	15 minutes
Saluquin	-	15 minutes
Fatukahi	4	
Fatubesi	1	15 minutes
Fatuboe	-	15 minutes
Fatumutin	-	15 minutes
Fuquiran	1	15 minutes
Cledic / Kledik	3	15 minutes
Bubususo		12 hours
Fahinehan		12 hours
Other		
***Names N/A	4	
TOTAL		

***Names: Haedulas (2) and Veluar (1) and Wekiar (1)

APPENDIX 6: MAUBARA: POPULATION, BFF USAGE AND DISTANCE

~~MAUBARA~~						
Sucos (7)	2010 Est. Pop	2010 Est. Births	Target Midwife Attended Births 48%	January 2010 - June 2010		
				BFF Deliveries	Est. Home Deliveries by Midwives	Total midwife Attended Births
Gugleur	4,538	225	108	10-12	2-3 home deliveries per month Equivalent to: 12-18 additional	**12-15**
Guico	1,957	97	46.56	3		**5-6**
Lisadila	3,550	176	84.48	2-5		**4-8**
Maubaralisa	1,658	82	39.36	8-10		**10-13**
Vatuboro	2,716	135	64.8	3		**5-6**
Vatuvou	4,558	226	108.48	15-18		**17-21**
Vaviquinia	3,783	188	90.24	18		**20-21**
Missing				2		**4-5**
Name N/A				2		**4-5**

TOTAL	**22,760**	**1129**	**541.92**	**63 -73**	midwife assisted births for Jan-Jun, 2010	**75-91**

~~MAUBARA BY SUCOS AND ALDEIAS~~		
	BFF Deliveries January 2010 – June 2010	Walking time to BFF
Gugleur	2	
Dair	1	2 hours
Erito		3 hours
Caicasa /Kaikasa	2? (There is another Caicasa in Lisadilia)	2 hours
Lautekas		3 hours
Lauvou		2 hours
Legulugor		4 hours
Lisalara		4 hours
Palistela	1	3 hours
Pukelete	1	3 hours
Raenaba	4	2 hours
Vatumori	1	4 hours
Guico	2	
Irlelo		5 hours
Kaikasavou		6 hours
Mau-Uno		6 hours
Pandevou	1	6 hours
Vatuvei		5 hours
Lisadila	1	
Bautalo		3 hours
Darulema		3 hours
Glai	1	5 hours
Kaikasa / Caicasa	2? (There is another Caicasa in Gugleur)	2.5 hours
Lebuhae		3 hours
Manukibia / Manucabai	1? (There is another Manukibia in Vatuvou)	3 hours
Nunulisa		3 hours
Maubaralisa	4	
Baikinlau (B. Lau)		1 hour
Darulema		1 hour
Lisalara	2? (There is another Lisalara in Vatuvou)	2 hours

Nunulete		2 hours
Vatugili (Watugili)	4	2 hours
Vatuboro	1	
Kaibair / Caibair	1	4 hours
Raeglelo		3 hours
Sabulau		3 hours
Tatamlobo		5 hours
Vaupu / Vampu	1	3 hours
Vatuvou		
Bouraevei (Boranei)		2 hours
Gariana		5 hours
Lebicailiti Lebkailiti		5 hours
Lisaico / Lisaiko		4 hours
Lisalara	2? (There is another Lisalara in Maubaralisa)	1 hour
Manucabia	1? (There is another Manucabia in Lisadilia)	2 hours
MauUbu	3	4 hours
Raeme	2	2 hours
Semanaro	3	1 hour
Vatunau / Vatumau	7	3 hours
Vaviquinia	1	
DaruLara	3	20 min – 1 hour
Delesuwati / Delesuvati	3	1 hour
Lebumeta / Lebu	2	1 hour
Morae		30 minutes
Nunuana		1 hour
Pametapu		1 hour
Vila	9	20 minutes
Other		
Missing	2	
***Names N/A	2	
TOTAL	**68**	

***Mauquela (1) and Goa (1) – don't appear to be sucos or aldeas, but on spreadsheet
1 aldea (Gariana) they give to Liquicia, and 1 aldea (Faulara) Liquicia gives to Maubara

APPENDIX 7: REMEXIO: POPULATION, BFF USAGE AND DISTANCE

~~REMEXIO~~						
Sucos (8)	2010 Est. Pop	2010 Est. Births	Target Midwife Attended Births 48%	January 2010 – June 2010		
				BFF Deliveries	Home Deliveries with Midwives	Total Midwife Attended Births
Acumau	2183	117	56.2	26	1	**27**
Fadabloco	1140	61	29.3	7	2	**9**
Fahisoi	1556	84	40.3	1	2	**3**
Faturasa	1891	102	49.0	2	3 & 1 w/nurse	**5 & 1 w/nurse**
Hautoho	1912	103	49.4	-	-	**-**
Liurai	362	19	9.1	1	-	**1**
Maumeta	445	24	11.5	-	-	**-**
Tulatakeu /	2185	118	56.6	5	5	**10**

Tulataqueo						
Other				4	1 w/nurse	**4 & 1 w/nurse**
TOTAL	**11673**	**356 (without Maumeta Sucos)**	**170.9 (without Maumeta Sucos)**	**46**	**13 & 2 w/nurse**	**59 & 2 w/nurse**

~~REMEXIO BY SUCOS AND ALDEIAS~~		
	BFF Deliveries January 2010 – June 2010	Walking time to BFF
Acumau	14	
Lerolisa	3	1 hour
Ainerahun	2	30 minutes
Fatumenaro	5	15 minutes
Aicoarema (neighborhood, not aldea)	2	30 minutes
Fadabloco		
Lilitei		3 hours
Raifatu		3 hours
Liquica		3 hours
Rileu	7	90 minutes
Fahisoi		
Mautoba		3 hours
Diruhati sp?	1	2 hours
Bereliurai		2 hours
Faturasa		
Bereliso	1	3 hours
Faculau	1	4 hours
Kaitaco		5 hours
Raimerahei		6 hours
Hautoho		
Lebutu		3 hours
Aibutihun		3 hours
Raimerahei		3 hours
Liurai	1	
Cotomori		6 hours
Laraluna		6 hours

Mantane		6 hours
Maumeta		
Aibana		3 hours
Aitoi		3 hours
Tukeu		3 hours
Tulatakeu /Tulataqueo		
Aicurus	5	6 hours
Dacilelo		6 hours
Roluli		5 hours
Samalete		4 hours
Other		
Laomeileta	1	
Meiono		
Remexio Lama	2	
Sabumeruak	1	

APPENDIX 8: MAUMETA: POPULATION, BFF USAGE AND DISTANCE

~~**MAUMETA**~~ (January was no yet operational)						
Sucos (7)	2010 Est. Pop	2010 Est. Births	Target Midwife Attended Births 48%	February 2010 – June 2010		
				MWH Deliveries	Home Deliveries with Midwives	Total Midwife Attended Births
Fadabloco	1140	61	29.28	14	4	**18**
Fahisoi	1556	84	40.32	9	5	**14**
Hautoho	1912	103	49.44	13	3	**16**
Maumeta	445	24	11.52	8	-	**8**
Other				1	-	**1**
TOTAL	**5053**	**272**	**130.56**	**45**	**12**	**57**

~~**MAUMETA BY SUCOS AND ALDEIAS**~~		
	BFF Deliveries January 2010 – June 2010	Walking time to BFF
Fadabloco	14	**2 hours**
Lilitei		2 hours
Liquica		3-5 hours
Raifatu		3 hours

Rileu		4 hours
Fahisoi	9	**30 minutes**
Bereliurai		30 minutes
Diruhati		3 hours
Mautoba		4 hours
Hautoho	13	
Aibutihun		2.5 hours
Kemerhei		2.5 hours
Lebutu		4 hours
Maumeta	8	
Aibana		0-20 minutes
Aitoin		20 minutes
Tukeu		2 hours
Other	1	(Bermenleo)