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Maternal and Child Survival Program

COWI

Narratives of Referral Experiences for Maternal, Newborn, and Child Health Complications in Mozambique, Nampula Province

Findings from a Qualitative Study

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The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the United States Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries,* as well as other countries. MCSP is focused on ensuring that all women, newborns, and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

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* USAID's 25 high-priority countries are Afghanistan, Bangladesh, Burma, Democratic Republic of Congo, Ethiopia, Ghana, Haiti, India, Indonesia, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Yemen, and Zambia.

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Abbreviations

ANC	antenatal care
APE	*agente polivalente elementar* (community health worker)
BPCR	Birth Preparedness and Complication Readiness
CDA	community development agent
CHC	community health committee
DPS	Provincial Health Directorate
FGD	focus group discussion
FP	family planning
IRB	Institutional Review Board
L&D	labor and delivery
MCSP	Maternal and Child Survival Program
MNCH	maternal, newborn, and child health
MOH	Ministry of Health
RIAR	Integrated care and referral/counterreferral network
RMNCH	reproductive, maternal, newborn, and child health
TBA	traditional birth attendant
VICOBA	village community bank
WASH	water, sanitation, and hygiene
WHO	World Health Organization

Executive Summary

The Maternal and Child Survival Program (MCSP) is a global United States Agency for International Development (USAID) cooperative agreement to introduce and support high-impact health interventions in USAID's 25 maternal and child health priority countries, and other countries, to ensure that women, newborns, and children most in need have equitable access to quality health care services to save lives.

Starting in May 2016, MCSP Mozambique worked to increase access to and strengthen the delivery of high-quality reproductive, maternal, newborn, and child health (RMNCH) programs in Nampula and Sofala provinces. One of MCSP's main interventions in Nampula Province was the establishment of an effective integrated referral system to guarantee a close connection between all levels of the health system to ensure that women, newborns, and children receive the best possible care. This intervention also aimed to shorten the length of time to receive appropriate care in emergency situations, and consequently reduce avoidable maternal, newborn, and child deaths. Although the establishment of referral networks was highlighted in 1983 in official government documents as one of the Ministry of Health's (MOH's) main responsibilities, and was mentioned as a priority intervention in the more recently approved National Strategy for the Improvement of Quality and Humanization of Health Care (2017–2023), clear guidelines and operational procedures were missing, leading to an array of implementation approaches throughout the country, without any kind of system for monitoring and evaluating their effectiveness. As such, in 2018, MCSP, as part of its family-centered systems approach, supported the Nampula Provincial Health Directorate (DPS) to develop operational guidelines, including registers and reporting tools, to enable the establishment of eight functional referral networks covering all facilities in Nampula to improve provision of integrated care with effective referral/counterreferrals for RMNCH, including emergency (obstetric, newborn, and child complications) and ambulatory referrals.

At the end of 2018, near the project's closure, MCSP Mozambique collected qualitative information from women in Nampula who had experienced a referral. The objective of this study of referral narratives was to explore the experiences of women in Nampula Province who were referred to a health facility for themselves or their children for obstetric, newborn, or child health complications, and examine the factors contributing to whether and how those referrals were completed.

Data were collected over a period of 2 weeks between November and December 2018, from a total of 25 respondents. Individual interviews were conducted in the local Emakhuwa language, as well as the official language of the country, Portuguese. Transcriptions and notes were completed in January 2019. The study took place in four communities in two districts supported by MCSP in Nampula.

Key Findings

Factors Contributing to Delays in the Decision to Seek Care

- Women with little awareness of the severity of a health issue tended to rely first on guidance from a *curandeiro* (traditional medicine practitioner). Only when local remedies did not work did they take steps to seek care from a traditional birth attendant (TBA), *agente polivalente elementar* ([APE] community health worker), or sometimes directly from a health facility.
- Most women reported that they only went to a health facility when referred by a TBA or APE. They cited the financial and logistic implications of going to the health facility as a major factor for seeking help at the community level first. Anticipated costs were always related to transport, but sometimes also included fees that some women perceived would be incurred at the health facility itself, based on previous experiences of having to pay providers for services or drugs.
- In a few cases, the woman's lack of decision-making authority caused delays in seeking care from an APE or health facility, with another family member, usually the husband, choosing to wait rather than immediately go to a facility or community health provider for treatment.

Factors Related to Delays in Reaching Care

- All of the women who decided to go to a health facility described having to travel long distances by foot, rent a motorbike, or take a *chapa* (minivan used by an informal transportation network). Travel to the facility always meant taking on a cost in either financial resources or time.
- Despite the financial costs for travel, the majority of women who participated in this study ended up going to the health facility for care. Although all of the women in this study live in communities where a village community bank (VICOBA) had been established by the community health committee (CHC), none of the women mentioned the availability of social funds in their community to help pay for emergency transport.
- Ambulances were available for use by women who needed immediate treatment. However, in two of the obstetric emergency narratives, the women had to either pay the high cost of fuel for the ambulance, or wait several hours for the ambulance to arrive.

Factors Related to Delays in Receiving Adequate Care

- Most of the narratives tell a story of how health problems were resolved with the support of health personnel, at either the community or facility level. In a few instances, study participants noted that the APE lacked medicines, or health facility providers did not provide treatment that had an effect on the problem. In at least two instances, women had to pay their attending nurse to receive the service.
- Wait times at the health facility ranged from 1 to 6 hours, whereas wait times with APEs did not seem to be an issue except in a couple of cases when the women noted waiting 1 or 2 hours.
- Several women in both Erati and Moma districts reported that after a referral was given, their local APE followed up with them to check on the status of their health or their child's health.

Recommendations Based on the Study Findings

- **Continue MOH commitment and investment to implement the integrated care, referral, and counterreferral system in Nampula and throughout Mozambique.** An effective referral system guarantees strong linkages between all levels of the health care system so that women, newborns, and children receive the best possible care. MCSP recommends that the MOH continue to commit its resources and partnerships to strengthen and expand the referral network strategy in Mozambique to ensure that referrals are available, effective, functioning, and lifesaving.
- **Leverage the influence of traditional medicine practitioners and TBAs to amplify key messages targeting families, not just women.** Recognizing that these local actors often serve as key trusted advisors for families in determining when to access facility-based care, MCSP recommends that the MOH and its implementing partners use these relationships to provide critical information that helps families recognize key danger signs and promotes immediate care-seeking practices with a trained health provider.
- **Implement a family-centered approach to health promotion that encourages women's empowerment and joint decision-making.** Husbands and mothers-in-law play influential if not lead roles in a family's decision on whether to seek health care services. Rather than focusing key messages on mothers alone, MCSP recommends targeting messages and involving the family to recognize danger signs and work together to act quickly when needed, whether to find an APE, access community funds, arrange emergency transport, or go directly to the health facility for care.
- **Establish or improve communication systems between community members and the CHC, as well as between the CHC and the nearest primary care facility.** Just as a clear communication system is vital between a referral and satellite health facility to ensure that clients receive optimal care at each level of the system, communication systems and protocols need to exist at the community level and link to the health facility. This communication should be bidirectional, allowing information to be shared and actions taken as quickly as possible.
- **Evaluate the functioning of VICOBAs and other community funds.** It is important to ensure that VICOBAs not only exist, but that they are functional. MCSP recommends that an evaluation be completed to determine how VICOBAs could function better and how to increase community awareness of these funds, including through clear communication systems

1. Background

Mozambique's maternal mortality ratio stands at 408 of every 100,000 live births, one of the 20 highest in the world.[1] With one in 37 Mozambican women at a lifetime risk of maternal death, and 30 newborn deaths and 97 deaths among children under age 5 for every 1,000 live births, the Ministry of Health (MOH) has been advocating for increased health facility deliveries, so women can receive lifesaving care to reduce maternal and neonatal mortality. The MOH also advocates for increased use of child health services at the facility and community levels to treat the major causes of childhood morbidity and mortality, which include malaria, measles, diarrhea, and acute respiratory infections.

Despite these recommendations, access to health care in Mozambique is limited, with only three physicians for every 100,000 people,[2] and only one-third (36%) of the population having access to health services within 30 minutes of their home.[3] In this context, health issues must be addressed at the appropriate and indicated level of care. Despite having guidelines on the services that should be provided at the primary, secondary, tertiary, and quaternary levels of care, challenges exist in the referral of patients between the various levels.

Communities play an integral role in a functional referral network. Community-based health cadres as frontline responders often bear the bulk of the responsibility for referral and counterreferral to health facilities. In Mozambique, community-based health cadres include *agentes polivalentes elementars* ([APEs] community health workers), traditional birth attendants (TBAs), *curandeiros* (traditional medicine practitioners), activists (community outreach workers), and volunteers. How well these cadres communicate as a team and their clarity about their individual and collective roles within a community can affect timely referrals and counterreferrals. Several additional community variables can affect a functional referral system, including capacity of formal and informal leaders and community groups, such as community health committees (CHCs), ability to support and link community-based cadres, strength of individuals' social networks, robust communication pathways, and family and community cohesion.

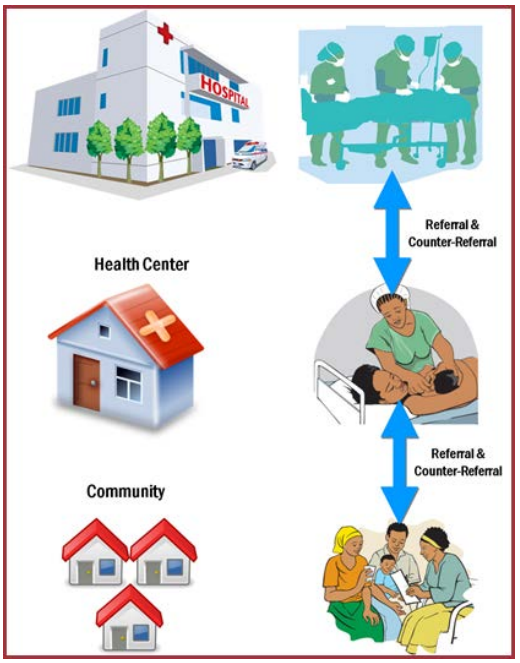
In addition, for a health referral system to function, much initially depends on prompt recognition of illness by families, caregivers, friends, or neighbors, and timely demand for services, including early disclosure of pregnancy for appropriate antenatal care (ANC), which most often is in the form of outreach to community-based health cadres. As such, improvements in the coordination, efficiency, and functionality of the current referral system are needed to ensure that health care is accessed and delivered at the appropriate level of care in a timely manner.

USAID's flagship Maternal and Child Survival Program (MCSP) started working in Mozambique in May 2016 to increase access to and strengthen the delivery of high-quality reproductive, maternal, newborn, and child health (RMNCH) programs in Nampula and Sofala provinces. One of the main interventions supported by MCSP was the establishment of effective integrated care and referral/counterreferral networks (RIARes) to guarantee a close connection between all levels of the health system to ensure that women, newborns, and children receive the best possible care (see Figure 1). This intervention also aimed to shorten the length of time to receive appropriate care in emergency situations, and consequently reduce avoidable maternal, newborn, and child deaths. However, although 1983 official government documents highlighted the establishment of referral networks as one of the MOH's main responsibilities, and the more recently approved National Strategy for the Improvement of Quality and Humanization of Health Care (2017–2023) mentioned these referral networks as a priority intervention, clear guidelines and operational procedures were missing, leading to an array of implementation approaches throughout the country, without any system for monitoring and evaluating their effectiveness.

[1] ICF Macro, Manhica Health Research Center (CISM), Ministry of Health (Mozambique), National Statistics Institute (Mozambique). 2013. *Mozambique Demographic and Health Survey 2011*. Calverton, MD: ICF Macro.
[2] World Health Organization. Global Health Observatory Country Views: Mozambique statistics summary (2002–present). Retrieved from http://apps.who.int/gho/data/node.country.country-MOZ?lang=en.
[3] World Health Organization. *Mozambique's health system*. Retrieved from http://www.who.int/countries/moz/areas/health_system/en/index1.html.

In response, in 2018, MCSP, as part of its family-centered systems approach, supported the Nampula Provincial Health Directorate (DPS) to develop operational guidelines, including registers and reporting tools, to enable the establishment of eight functional RIARes covering all facilities in Nampula, aiming to improve the provision of integrated care with effective referral and counterreferrals for RMNCH, including emergency (obstetric, newborn, and child complications) and ambulatory referrals. Specifically, MCSP supported the Nampula DPS to:

Figure 1. Integrated RMNCH care and interreferral across health system levels



- Develop clear operational guidelines, including registers and reporting tools
- Undertake RIARes meetings to create network maps (including the establishment of clear referral paths for each health facility), management subgroups, and clear communication channels between peripheral and referral health facilities
- Undertake regular network learning exchanges
- Train providers to more effectively diagnose and manage complications and to implement a standards-based quality improvement process for maternal, newborn, and child health services at these facilities to be able to better respond to emergencies
- Establish strong partnerships with government sectors, civil society, communities, opinion leaders, and the private sector
- Assist the MOH and DPS in the implementation of the motorcycle ambulance strategy to strengthen transportation linkages between communities and health facilities
- Train CHCs to establish, use, and manage village community banks (VICOBAs), with the objective of creating social funds that are accessible to community members in the event of an RMNCH-related emergency

2. Methodology

Study Objective

As part of the endline study in 2018, MCSP conducted a qualitative study that consisted of 25 in-depth interviews with female participants living in four communities supported by MCSP in Nampula Province. The purpose of the study was to examine their experiences of being referred to a health facility for obstetric or newborn complications or for their child's illness, and identify the factors contributing to whether and how those referrals were completed. The communities selected for inclusion in this study are detailed in Figure 2 and Table 1.

Figure 2. Study sites and nearest health facilities in Nampula Province

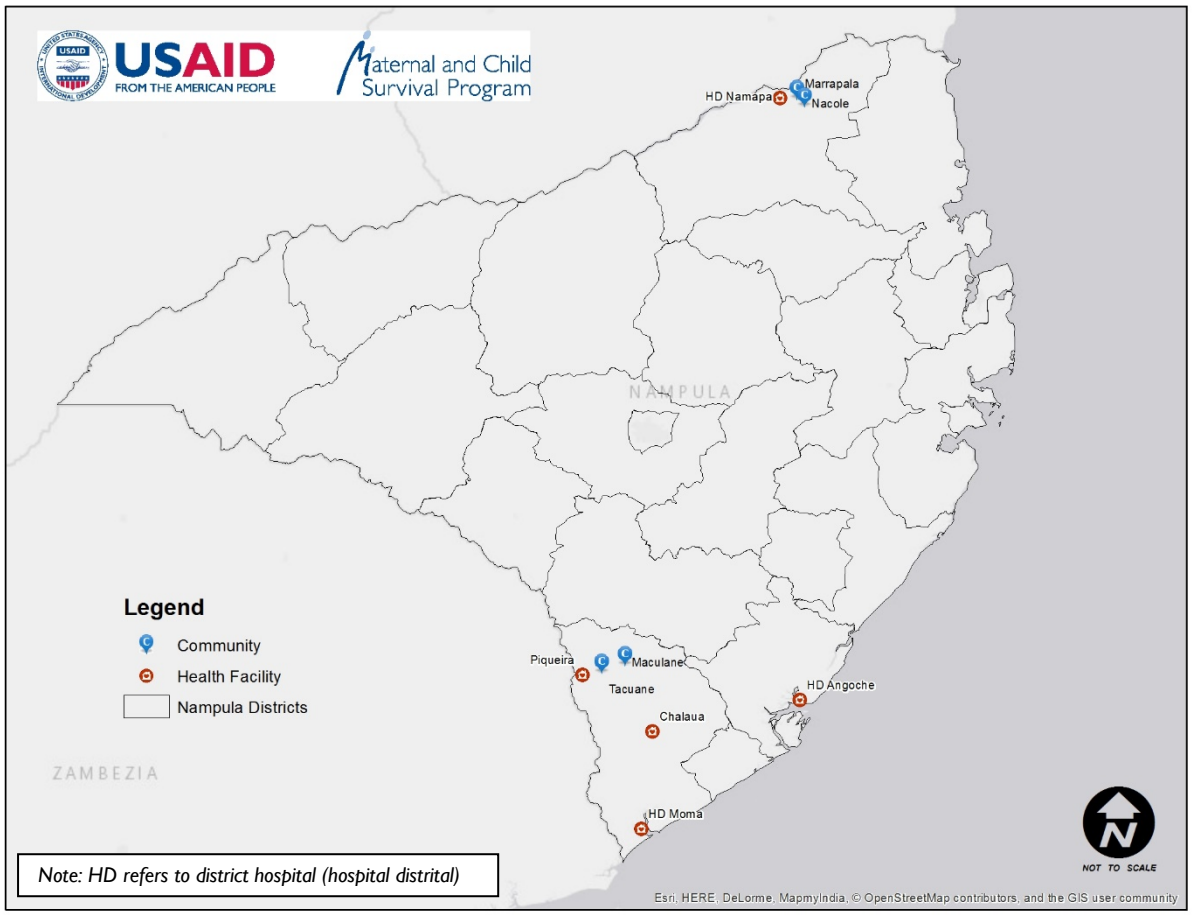


Table 1. Selected study site information

Implementation strength	Referral network	District	Community	Nearest health facility	Approximate distance to health facility
Low	Erati	Erati	Marapala	Namapa Rural (District) Hospital	7.5 km
		Erati	Nacole		12 km
High	Moma	Moma	Tacuane	Piqueira Health Center[4]	9 km
		Moma	Maculane		20 km

This study was part of a larger, mixed-methods evaluation of the MCSP project in Mozambique, and was approved by the National Health Bioethics Committee in Mozambique and the Johns Hopkins University Bloomberg School of Public Health's Institutional Review Board (IRB).

[4] Although Piqueira is the closest health facility to the selected communities, most of the interviewed women reported going to Chalaua Health Center instead, which is approximately 30 km from both Tacuane and Maculane.

Sample Design

The study team listed the five referral networks (RN) (of eight total) where the referral network strategy had been implemented with MCSP support for at least six months and that were included in MCSP's Knowledge, Practices, and Coverage survey. One RN was randomly selected that had high implementation strength,[5] and one with low implementation strength. The study team then randomly selected one community in the main district of each selected RN that had greater acces to a health facility (i.e., located 8–15 km from a health facility), and another community that lower access (i.e., located 16–25 km from a health facility). Finally, with the support of community leaders and CHCs, the team attempted to identify six women in each chosen community who were at least 18 years of age and had given birth in the previous 12 months, including: two women who had experienced an obstetric complication; two whose newborn (0–28 days) experienced a serious illness (i.e., fever, diarrhea, vomiting, or convulsions); and two with a child 1-11 months who experienced a serious illness (i.e., difficulty breathing, fever, or diarrhea).

Description of Tools

The interview guide was developed by MCSP, based on the Three Delays model.[6] It was adapted to the Mozambican context jointly by MCSP and the local research firm, COWI. The interview guide was structured to elicit a narrative about participants' personal experiences with the referral process associated with a specific health issue, ranging from the initial recognition of the problem or illness, to the actions that were taken at the household or community level to respond to the problem, and finally the experience of care at the health facility. See Appendix A for the English version of the interview guide.

Data Collector Training

A total of five candidates (two note takers, two translators, and one moderator, who also served as the Nampula provincial coordinator for the overall endline study) were identified and selected to train as data collectors for the qualitative study. The criteria for selecting the data collectors included the following:

- Completed secondary education or has more than 3 years of experience in similar assignments
- Prior performance in previous similar studies
- Proficiency in the most commonly spoken languages in the selected areas of study
- Strong individual performance during the training and refreshment sessions

The Nampula provincial coordinator received initial training on the interview guide from MCSP representatives with support of the overall study manager/survey coordinator. The study team was then trained in Nampula on October 15–19, 2018, by the Nampula provincial coordinator with support from MCSP staff. Once research ethics approval was obtained, the study team received a follow-up refresher training on November 20–21, 2018, when they further practiced application of the interview guide.

Data Collection

Data collection took place November 23 - December 4, 2018. Notes, transcriptions, and translations were completed in January 2019. Study team members included an interviewer, a notetaker, and a translator. The CHCs recruited a total of 27 women, of which 25 were confirmed to meet all inclusion criteria, and all agreed to participate. One of the 25 women lived in a selected community only part of the year to tend to her farm. The team opted to interview her but also include an additional participant. Interviews were conducted in a private setting in each community and lasted approximately 30 minutes.

[5] Criteria for implementation strength were that there wee a) regular RIARes meetings, b) regular communication using WhatsApp platform, and c) routine submission of referrals data.

[6] Thaddeus S, Maine D. 1994. Too far to walk: Maternal mortality in context. *Soc Sci Med* 38(8):1091–1110.

Data Quality Assurance

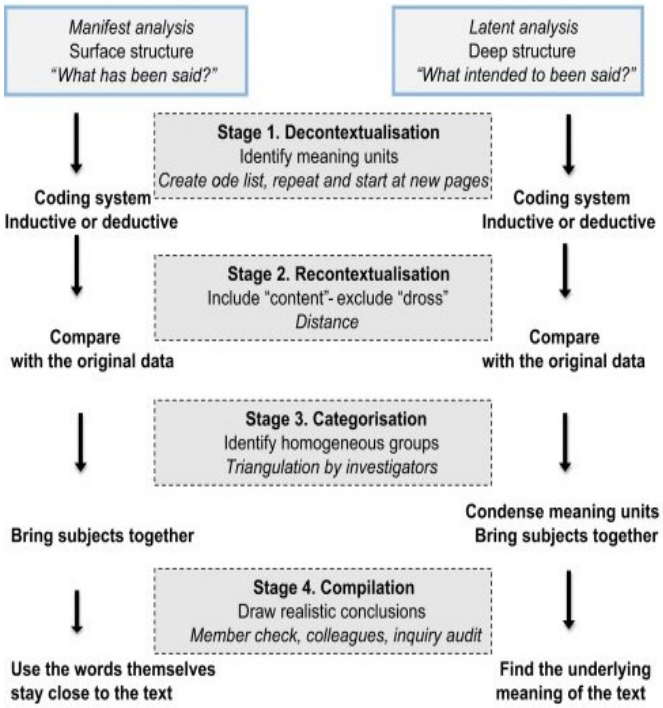
Quality assurance procedures were carried out during both data collection and data processing. Quality assurance during data collection included:

- Uploading the audio recordings of the interviews on a daily basis to verify the consistency and quality of data collected
- Uploading the notes, transcriptions, and translations after reviewing them against audio recordings
- Holding regular feedback meetings with the study team

Data Analysis

COWI consultants and MCSP developed a codebook for qualitative data analysis based on the interview guides by identifying focused code categories that exemplify specific themes around program implementation, community engagement, and household care-seeking practices and behaviors. Content analysis was performed using codes and categories were identified in participants' words and aligned with the themes that MCSP aimed to examine. Data analysis was conducted as shown in Figure 3. The key findings described in the following section are organized using the Three Delays[7] framework to examine the key barriers and facilitators in women and children receiving appropriate health care.

Figure 3. Qualitative content analysis



Source: Bengtsson M. 2016. How to plan and perform a qualitative study using content analysis. *NursingPlus Open* 2:8–14. doi: https://doi.org/10.1016/j.npls.2016.01.001, p. 9. Extracted from Fig. 1. Used under Creative Commons license CC BY-NC-ND 4.0.

Study Challenges and Limitations

At first the CHCs had difficulty understanding the inclusion criteria so some of the initially selected candidates were not eligible for the study. This error led to more time being spent in the community to identify and select eligible participants, but did not affect the final group of respondents.

[7] Thaddeus S, Maine D. 1994. Too far to walk: Maternal mortality in context. *Soc Sci Med* 38(8):1091–1110.

3. Key Findings

Participant Characteristics

Information was collected on participants' age, level of education, civil status, and number of children, as well as the reason for their referral event (i.e., complication or illness experienced). Table 2 summarizes participant characteristics. For details of participant characteristics, please see Appendix B.

Table 2. Summary of participant characteristics

	Erati district		Moma district	
	Marapala	Nacole	Maculane	Tacuane
Total # of interviews	6	6	6	7
Age range (years)	20–40	28–34	18–43	19–37
Education				
No schooling	5	4	3	2
Primary school	1	2	3	5
Civil status				
Married	4	6	4	6
Single	1	0	0	0
Divorced	1	0	0	0
Widowed	0	0	2	1
Number of births, mean (range)	6.0 (1–9)	5.3 (3–10)	4.5 (1–10)	3.1 (1–7)
We attempted to purposively sample 2 women each who had experienced an obstetric, newborn, or child health complication. The final sample included those with the following complications or illnesses				
Obstetric complication	2	2	2	2
Newborn illness (0–28 days)	2	2	1	3
Child illness (1–59 months)	2	2	3	2

Key Findings by Delay

Delays in the Decision to Seek Care

Awareness and Perceived Severity of Complications

A common thread in many of the narratives is a low level of knowledge about health problems and whether they warrant attention beyond the local traditional medicine practitioner, thus leading to a delayed decision to seek care. One mother in Erati district with a child experiencing high fevers and convulsions noted that she waited 3 days before going to the health facility because she "thought it was something that could easily pass with traditional medicine." Similarly, another mother in Moma district whose newborn had been coughing and having trouble breathing said that she waited "two weeks before going to the health facility because I thought it was a normal cough that would pass."

Besides delaying care, the lack of awareness of health complications also proved to be a source of fear for some participants who were confronted with them. One woman in Erati described being frightened by bleeding in the seventh month of her pregnancy. She explained that she had not been informed during her ANC visits about the possibility of bleeding in pregnancy and the need to go to the hospital or inform the APE. She said:

> *By the time the bleeding started, I was at home, had previous weaknesses and vertigo and couldn't see anything … I don't know really what could cause that pain, because it was something new that I never saw, and [it] left me so shaken that I cannot explain.* —33-year-old woman, Erati district

Once they recognized the health problem, many women noted that they would usually go to a traditional medicine practitioner first. If the local remedies did not seem to work, most of the interviewed women (nine of the 12 in Erati, 11 of 13 in Moma) then sought care from a TBA or APE. These support

structures served as the initial point of service for treatment at the community level, and when unable to resolve the problem, they provided referrals to a health facility. The woman who was bleeding in her seventh month reported that "before taking me to the health facility, [my family] called the APE who referred me to [the] hospital ambulance which came promptly to help me."

Cost of Accessing Services

In both districts, participants described how financial concerns contribute to a delayed decision to go to the health facility for services. Most of the interviewees noted that they would go to a health facility only when referred by a TBA or APE, due to financial costs. A woman in Erati said that she only went to the health facility after 3 weeks because she did not have money and was "only bleeding and not feeling pain." Another woman in Erati who delivered at home reported that she did not go to the health facility when she experienced complications postpartum because she did not have the money. One mother in Erati reported that the lack of money prevents women from taking their newborns to the health facility as often as they would like. In her description about her newborn having high fevers on the fourth day after delivery, they were already at home when she realized that the baby was not well:

> *Took too long to take him to the health facility due to lack of money to buy a [health] card … before taking him, I gave him a traditional medication … I never looked for the APE [help] and the decision to go to the hospital was mine.* —25-year-old woman, Erati district

In addition, one woman in Erati noted the cost of having to leave her children behind when accessing services at a health facility, saying that she had "to leave [her] children alone, there is no one to cook for them."

The higher cost of accessing care at the health facility, coupled with local community practices, usually leads women to first seek advice from a traditional medicine practitioner. One participant described,

> *I waited three days before going to the hospital, because I thought that was something that could go away with traditional medication. The lack of money contributed for the delay. It was because of my son, who gave me a hand to pay the ticket to go to the health facility.* —40-year-old woman, Erati district

Although APE services should be free of charge, one woman lamented that she did not seek out an APE "because he does a very expensive appointment, 10 *meticais*, and people prefer to go to the hospital."

Perceived Quality of Care

Another common issue described by participants as contributing to a delayed decision to seek care is a general distrust about the quality or humanization of services. This distrust is often based on prior experiences at the health facility. One HIV-positive woman in Erati described how she must go to the health facility to receive her antiretroviral medications but that she must pay:

> *We came from far away and when we arrive [at the health facility] at dawn expecting to receive the pills so we can take them home … Now we must 'ask off record' [to receive the pills], we don't have money for that.* —31-year-old woman, Erati district).

Similarly in Moma, a woman described that :

> *And I have to say that there is a lot of corruption there at the health facility. When it is childbirth time, if you don't have money, you are not taken care of and you suffer. I speak because it happened when I was there.* —19-year-old woman, Moma district

Decision-Making Power to Access Services

In some interviews, it was clear that the women made their own decisions about whether to access services. Most of these instances focused on deciding to seek care from a community-based provider like a TBA or APE, which generally does not involve a financial cost. However, one woman in Erati district decided on her own to take her newborn, who was suffering from a high fever, to the health facility directly, rather than first going to an APE. More typical was the woman who did not have decision-making authority, but instead relied on the input of her husband, another family member (usually her

mother or mother-in-law), or the TBA and APE before seeking care at the health facility. As a woman in Moma district described,

> *[It was my husband] with the help of my mother-in-law that took the decision of seeking help at the health facility, and there was no other opinion … Three days went by before looking for help, because my husband told me to wait, that [the child complication] maybe was not serious.* —26-year-old woman, Moma district

A 40-year-old widow in Moma, whose former husband had decided to first take their child to the traditional medicine practitioner, described her lack of decision-making power that "four months went by before looking for APE help, because I was sick and was not able to take my child to the health facility." In this case, the mother's own illness caused her to rely on others to make decisions about the care of her child.

Delays in Reaching Care

Availability and Cost of Transport

The interviewed women from Erati who sought care at the facility typically walked or took a *chapa* (minivan used by an informal transportation network), which makes a number of stops and thus extends travel time. One woman in Erati district who delivered at home stated that she did not go to the health facility because she did not have money to rent a motorcycle.

Lack of transportation is also cited as contributing to a delay in reaching care at the health facility. A woman in Moma district reported that to get to the Chalaua facility, "we go always by foot," taking 5 hours to get there, as they do not have a bicycle or motorcycle. The interviewed women did not mention any shared community transportation resources or funds available for them to access in case of health emergencies, even though such social funds (VICOBAs) were established by the CHCs in each of the four communities with support from MCSP.

For women who were referred to higher-level facilities in Moma district (i.e., Moma and Angoche hospitals), access to transportation or an ambulance was a challenge. One woman experiencing prolonged labor waited 5 hours until a rented motorcycle taxi was able to take her to the Chalaua facility. Then, she was referred to Moma Hospital and waited again for an ambulance to arrive from Nampula City to Chalaua to take her to Moma Hospital. Another woman described having to pay 3,000 *meticais* (approximately 48 USD, which is more than the average month's wages for an individual) for fuel to use an ambulance to take her to Angoche Hospital for a cesarean section. She was fortunate that her family was able to pay for the fuel and she could reach the health facility for the surgical procedure.

Distance to the Health Facility

In Erati district, the communities of Marapala and Nacole are approximately 12 km and 7 km away, respectively, from the nearest health facility, which is Namapa Rural (District) Hospital. Even so, it takes between 1 and 4 hours to get there, depending on the availability and mode of transportation. One of the interviewed participants who was able to rent a motorbike noted that:

> *When I noticed the complications, it took about four hours to reach the facility due to lack of transportation and long distance, but I managed to get to the facility and gave birth [there] with a nurse* —34-year-old woman, Erati district

Another woman described how she left her house in Erati district at 7 a.m. to consult the local APE about her newborn's illness, but was referred to the health facility. She lamented that she "waited for a long time to take a *chapa* and also [because of] the distance, arrived at the facility at 11:30 a.m."

In Moma, Taculane and Maculane communities are an estimated 9 km and 20 km from Piquieira Health Center, respectively, and 30 km from the Chalaua Health Center. The secondary referral sites—Moma District Hospital and Angoche Rural Hospital—are even further. One woman reported going to Piquieira, whereas the rest reported going to Chalaua (the reasons for this were not further examined in the narratives). When women have transportation, the average time to get to the Chalaua health facility

from these communities is about an hour. Even so, one participant in Moma underscored the need for a health center closer to her community:

> *I ask the government to build a hospital in our community because Chalaua is very far away and it is difficult to go to give birth and there have already been several accidents, deaths along the way.* —43-year-old woman, Moma district

Delays in Receiving Adequate Care

Availability of a Trained APE Equipped with Skills and Supplies at the Community Level

Before seeking care at the health facility, most of the women narrated that they first went to the local traditional medicine practitioner or TBA. If they were unable to address the health problem, most women in both districts described accessing and using community and health facility services with the APE's help and guidance. According to the narratives, the APE generally serves as the first point of referral at the community level.

When the problem was beyond the APE's ability to resolve, or if the APE did not have the needed drug on hand, women were then referred to the health facility. For example, in Moma district, one mother described how after waiting an hour for the APE, her child, who had fever and diarrhea, was referred to the health facility because the APE did not have the oral rehydration salt solution her child needed. When the APE was able to provide treatment, most of the participants noted that the problem was resolved or they were satisfied with the care received. In one instance, the APE "did not refer to any health facility but explained to me the dosage for the cream [to apply on the newborn's blisters] and said I should return if the case did not improve" (20-year-old woman, Moma district). Also in Moma, a mother noted that:

> *When I arrived at the APE, I was attended to quickly and it was good to have gone because he gave me medication and referred me to the Chalaua Health Center, where I did not go, but my son got better. Sometimes the APE comes to visit and inquires about my child's health.* —26-year-old woman, Moma district

There were a few instances that described delays or barriers in receiving care from an APE. Three of the interviewees noted that they had to wait for 1 to 2 hours to be seen by an APE due to a long line of patients or because the APE was not available.

At least five women in each district noted that their APE followed up with them on the status of their health or their child's health after referring them to a facility. One APE in Erati frequently visited a mother and her newborn in the health facility during their 2-week stay. Similarly in Moma, a mother described how after she "spent two months using the medicine provided by the APE and in the third month [she] went to the health facility," the APE followed up to check on her baby's severe weight loss and fevers.

Availability of Competent Health Personnel at the Facility to Manage Complications

When women in both districts arrived at the health facility, most reported waiting between 1 and 4 hours before receiving care, with one participant in Erati describing a wait time of 6 hours for her baby with fevers/convulsions to be seen. Wait times generally reflect a lack of available health providers to attend to the volume of patients at the facility. In addition, one woman in Moma district reported that she was referred from Moma Hospital to Angoche Hospital because the surgeon was not present that day to perform a necessary cesarean section.

Study participants described the health facility as a place where patients can get drugs, blood transfusions, and health advice; where women are helped during childbirth; and where women can stay after delivery for further observation if needed. Most of the referral narratives (22 of 26) noted that the identified problem or complication was resolved by health care personnel.

Although the health facility was generally recognized as providing some vital services for women and children, at least four study participants reported not receiving adequate treatment. One woman in Erati whose newborn had epilepsy said that neither the APE nor providers at the health facility treated her child. The health facility provider only prescribed a "bath with warm water," which the mother noted as

not having any effect as her newborn was still sick (20-year-old woman, Erati district). Another woman in Moma district described that she waited 3 hours for her newborn to be seen by a provider at the health facility, but then the nurse did not provide any treatment or explanation of why her newborn had severe blisters or what to do about it. Again in Moma, a mother described her experience of receiving inadequate treatment for her child:

> *My baby started with a very serious cough and I took my baby to the hospital and received medication that didn't work out, for three times that I went there … the hospital told me it was a flu and gave me medication and explained how to give it … I am not happy and didn't have any follow up [from] my health providers … they told me it was malaria because of the fevers my baby had sometimes but they didn't do any test … my son didn't improve.* —25-year-old woman, Moma district

In addition to stories about health providers not adequately addressing the problems presented, there were also descriptions of facility staff who asked for money to provide services. One woman who had a cesarean section in Erati said,

> *I was not satisfied with the treatment received, because until now I am sick, one year up until now I am sick! … [T]he stiches don't fall and when I go to the hospital* [they] *ask for money.* —28-year-old woman, Erati district

Another woman in Moma also described how she needed to pay for services:

> *I arrived at the hospital at 4 pm and at 5 pm had the first baby, and at 6 pm the other one. And I didn't feel well. And because of that I asked my mother to call the female nurse to help clean inside … the female nurse didn't want to, and her mother understood that something was not right. And she realizes she had to give 200 meticais, and she accepted to help. And after that, after going home, I was not well, always with stomach pains and diarrheas until today.* —18-year-old woman, Moma district

4. Discussion and Recommendations

The narratives described by the participants in this study point to several factors that contributed to the three delays,[8] as summarized in the following section.

Contributing Factors

Factors Contributing to Delays in the Decision to Seek Care

- Women's lack of awareness of the severity of a health issue led them to rely first on guidance from a traditional medicine practitioner. Only when the local remedies did not work would they take steps to seek care from a TBA or APE, or sometimes directly from a health facility.
- The majority of women reported that they only went to a health facility when referred by a TBA or APE. They cited the financial and logistical implications of going to the health facility as major factors in seeking help at the community level first. Anticipated costs were always related to transport, and at times they were related to the cost of purchasing a health card. They also included fees that some women perceived would be incurred at the health facility itself, based on previous experiences of having to pay providers for services or drugs even when they should not have had to.
- In a few cases, the women's lack of decision-making authority caused delays in seeking care from an APE or health facility, as these narratives described how another family member, usually the husband, chose to wait rather than immediately go to a facility or community health provider for treatment.

Factors Contributing to Delays in Reaching Care

- All of the women who decided to go to a health facility described having to either travel long distances by foot, rent a motorbike, or use the informal transportation network. Travel to the facility always meant taking on a cost in either financial resources or time.
- Despite the financial costs for travel, most of the women who participated in this study did end up going to the health facility for care. All of them live in communities where a VICOBA had been established by the CHC, yet none mentioned the availability of social funds in their community to help pay for transport.
- Ambulances were available for use by women who needed immediate treatment. However, in two of the obstetric emergency narratives, the women had to either pay the high cost of fuel for the ambulance, or wait several hours for the ambulance to arrive.

Factors Contributing to Delays in Receiving Adequate Care

- Most of the narratives tell a story of how health problems were resolved with the support of health personnel at the community or facility level. In a few instances, however, study participants noted a lack of drugs available from the APE, or health facility providers who did not provide treatment that alleviated the problem. In at least two instances, the women had to pay their attending nurse to receive the service.
- Wait times at the health facility ranged between 1 and 6 hours, whereas wait times with APEs did not seem to be an issue except in a couple of cases when the women noted waiting 1 or 2 hours.
- Several women in both Erati and Moma districts reported that after a referral was given, their local APE followed up with them to check on the status of their health or their child's health.

Most of these factors were common across both districts. Despite experiencing one or more of the three delays, all of the women who were referred to the health facility by a TBA (for obstetric emergencies) or APE did arrive at the facility and received services. The method of picking the cases studied, however,

[8] Thaddeus S, Maine D. 1994. Too far to walk: Maternal mortality in context. *Soc Sci Med* 38(8):1091–1110.

may have biased the selection toward women who successfully negotiated the system. However, the extent to which the care provided at the facility was adequate and timely also varied among participants.

The involvement of the CHC, which includes TBAs and APEs, in the referral process is described as a key facilitator to ensure that women are referred successfully when complications arise. However, even in communities with VICOBAs established with the support of MCSP, women did not utilize them to pay for emergency transport or other identified needs. Further exploration is needed to understand why the women in the communities did not seem to know about the availability of VICOBA funds.

In addition to CHC involvement, the narratives also highlight the important role that family members play in supporting women and children to get the care they need, whether in the community with a TBA or APE or at the health facility. Husbands, mothers, and mothers-in-law often have greater decision-making authority over whether to seek care from a health provider other than a traditional medicine practitioner, which may be due to the cost implications of these care-seeking decisions, for example, if husbands control the household's finances, or power dynamics within the family. In addition, as mentioned briefly by one study participant, seeking care at a health facility implies having to leave behind any work or children during the trip. In these situations, MCSP staff have observed that families in Nampula are relied upon to take on the additional burden of household chores or childcare when women have to travel to a facility.

Study participants were not specifically asked about counterreferral processes between health facilities or between health facility and APE or CHC. However, several of the women in both districts did report that their local APE followed up after a referral to a health facility to check their health status or that of their children. This practice is a key service that all APEs are expected to do for members of their community.

Recommendations for Ongoing Strengthening of the Referral System

- **Continue MOH commitment and investment to implement the integrated care, referral and counterreferral system in Nampula and throughout Mozambique.** An effective referral system guarantees strong linkages between all levels of the health care system so that women, newborns, and children receive the best possible care. MCSP recommends that the MOH continues to commit its resources and partnerships to strengthen and expand the referral network strategy in Mozambique to ensure that referrals are effective, functioning, and lifesaving.
- **Leverage the influence of traditional medicine practitioners and TBAs to amplify key messages targeting families, not just women.** Recognizing that these local actors often serve as key trusted advisors for families in determining when to access facility-based care, MCSP recommends that the MOH and its implementing partners use these relationships to provide critical information that helps families recognize key danger signs and promotes immediate care-seeking practices with a trained health provider.
- **Implement a family-centered approach to health promotion that encourages women's empowerment and joint decision-making.** Husbands and mothers-in-law play influential if not lead roles in a family's decision on whether to seek health care services. Rather than focusing key messages on mothers alone, MCSP recommends targeting messages and involving the family to recognize danger signs and work together to act quickly when needed, whether this means finding an APE, accessing community funds, arranging emergency transport, or going directly to the health facility for care.
- **Establish or improve communication systems between community members and the CHC, as well as between the CHC and the nearest primary care facility.** Just as a clear communication system is vital between a referral and satellite health facility to ensure that clients receive optimal care at each level of the system, communication systems and protocols need to exist at the community level and link to the health facility. This communication should be bidirectional, allowing information to be shared and actions taken as quickly as possible. Greater numbers of community members in rural Mozambique have access to mobile phones, so when feasible, WhatsApp groups can be used to facilitate communication between a CHC or APE and the nearest health facility. When mobile phones are not a feasible solution, particularly for communication between community members,

other basic methods can still be used more effectively when clear protocols and lines of communication are established and made known to all members of the community.

- **Evaluate the functioning of VICOBAs and other community funds.** It is important to ensure that VICOBAs not only exist, but that they are functional. MCSP recommends that an evaluation be completed to determine how VICOBAs could function better and how to increase community awareness of these funds. As mentioned in the previous recommendation, clear communication systems can help ensure that messages about the availability of VICOBA funds are spread widely throughout the community, so every family knows exactly who they should contact to access these funds.

Appendix A. Interview Guide

Client In-depth Interview Guide – Referral Narratives (Females)

Introduction:

- Introduce yourself (name, affiliation).
- Ensure the respondent is comfortable, has time, and is able to participate in the interview.
- Provide consent document by reading it and giving the respondent a copy.
- Describe why the respondent was selected for the interview.
- Explain that the respondent's answers will be put together with the answers of other people to help get a wide understanding of what people think about this topic. Their names/communities will not be included with their responses.
- Ask if the respondent has any questions.

Before beginning the interview, read the **consent form** and obtain the participant's consent to proceed with the interview. **DO NOT proceed without informed consent.** Inform the participant that you would like to start recording the interview & taking notes, and start the audio recorder.

PART A. Socio-demographic and interview information

Interview ID:	Interviewer code:
Interview date:	Note taker code:
Interview start time:	Tape recording number:
Interview end time:	District:
	Nearest Health Facility:
	Community:
	Distance (km) from nearest HF:

BEGIN INTERVIEW

2.1 Age of respondent? _____

2.2 Highest level of school attended? □ Primary □ Secondary □ Higher

2.3 Civil status? □ Single □ Married or living together □ Divorced/separated □ Widow

2.4 Number of live children? _____

PART B: Recognition

*Ask the interviewee to take a moment to think back to when their **referral event**.*

*First, ask the interviewee to begin by telling the story of what happened. Remind her that you are interested in everything that she can remember from the time the problem/illness first started appearing to the point at which she, her newborn or child was feeling better/well or the illness was resolved. Allow the interviewee to tell the whole story as she remembers it **before asking the questions below**.*

Did you experience any health problem or complication during your last pregnancy or birth or did your child experience a problem or illness?

1. If the woman states that neither she nor her child had no problem, then say the following to her:

   Thank you so much for accepting to answer some of our questions. As we have stated, our purpose is to talk to women who have had some complications during pregnancy and childbirth and how their path was until the problem was solved. That being the case, and as you fortunately had no complications, we want to finish our conversation here. Thank you so much again.

If the woman or her child did experience a problem please continue with the interview and note the nature of the problem:

□ Prolonged Labor □ Maternal bleeding □ Maternal Convulsions □ Other

□ Newborn Fever □ Newborn not feeding □ Convulsions □ Newborn Lethargy □ Other

□ Child Fever □ Child Cough □ Child cough /difficulty breathing □ Other

2. Can you please describe the type of problems that you experienced with your pregnancy or birth or that your child experienced.
3. Where were you at that time (e.g., at home, at a health facility, elsewhere)?
4. What was it that made you think something was wrong?
    - Probe for descriptions of what was seen or symptoms. Example: What did you notice?
    - Also probe if anyone else was noticed/thought something was wrong.
    - Probe whether they had received information on such symptoms before and source.
5. What do you think caused the problem/symptom?
    - Probe beyond mere medical/physical causes, including spiritual causes (spirit possession, punishment from God), social causes (stress, anger, and jealousy), emotional/mental causes.
6. How serious did you think the problem was when it was first noticed?
    - Probe on reasons on why they thought (or didn't think) the problem was serious.

[IF THE INTERVIEWEE WAS **NOT ALREADY AT A HEALTH FACILITY** WHEN COMPLICATIONS OCCURRED → **GO TO PART C**]

[IF THE INTERVIEWEE WAS **ALREADY AT A HEALTH FACILITY** WHEN COMPLICATIONS OCCURRED → **GO TO PART D**]

PART C: Care seeking

1. Did you go to a community health worker for the problems/issues? Did you go to a health facility for the problems/issues? What convinced you to go there?

[IF THE INTERVIEWEE SOUGHT CARE FROM A **COMMUNITY HEALTH WORKER** → ASK THE QUESTIONS IMMEDIATELY BELOW.]

[IF THE INTERVIEWEE SOUGHT CARE DIRECTLY AT **HEALTH FACILITY** → **SKIP TO #13**.]

2. What treatment/care did you seek for your problem/issue BEFORE going to a community health worker, if any?
    - At home?
    - Outside home?
3. I'd like to learn more about your experience with the illness and seeking care at the health facility.
    - Tell me about the symptoms that you had at the time the decision was made to seek care.
    - Did you previously receive information to go to a community health worker for such symptoms? From whom?
    - Which community health worker did you go to for the problems? Why did you decide to go to this provider or place?
    - Who was involved in decision-making around what to do, and who made the final decision to seek care (or not seek care)?

- Probe on getting information about the inputs/opinions of all present at the time the decision was made.
- Probe on whether there were conflicting opinions, and whether they agreed with the final decision about where and from whom to seek care.

4. How long did it take after the problem was noticed to receive treatment/care?
   - Probe on time from recognition of the problem to deciding to seek care, and reasons for any delay in deciding to seek care – perceptions of symptoms, cultural, financial, infrastructural, environmental, etc.
   - Probe on how long it took to reach care after the decision was made, and reasons for any delay in reaching care – cultural, financial, infrastructural, environmental, etc.
   - Probe for how long it took to receive care once they arrived at to see the CHW. Who was the first person that they met and how long did it take to see the CHW?
5. Tell me about the outcomes of the visit/care/treatment.
   - Did the CHW make a referral to a health facility? Ultimately, what did you do?
   - If applicable, probe on any changes in the health status after care/treatment.
   - Probe on whether there were any follow-up visits by the CHW.
6. How did you and/or your family feel about the care/treatment received from the CHW?
   - Probe on reasons for satisfaction or dissatisfaction.
   - Probe on whether the CHW followed up after initial care/treatment was received from the CHW. What did s/he do? Ask how interviewee/family feel about community health worker follow-up.
7. What treatment/care did you seek for your problem/issue AFTER going to the community health worker, if any?
   - At home?
   - Outside home?

[IF THE INTERVIEWEE DID **NOT GO** TO THE HEALTH FACILITY → **STOP HERE**.]

[IF THE INTERVIEWEE **DID GO** TO THE HEALTH FACILITY → **PROCEED WITH #15**]

8. What treatment/care did you seek for your problem/issue BEFORE going to a health facility, if any?
   - At home?
   - Outside home?
9. I'd like to learn more about your experience with the illness and seeking care at the health facility.
   - Tell me about the symptoms that you had at the time the decision was made to seek care.
   - Did you previously receive information to go to a health facility for such symptoms? From whom?
   - Which health facility did you go to for the problems? Why did you decide to go to this provider or place?
   - Who was involved in decision-making around what to do, and who made the final decision to seek care (or not seek care)?

- Probe on getting information about the inputs/opinions of all present at the time the decision was made.
- Probe on whether there were conflicting opinions, and whether they agreed with the final decision about where and from whom to seek care.

10. How long did it take after the problem was noticed to receive treatment/care?
    - Probe on time from recognition of the problem to deciding to seek care, and reasons for any delay in deciding to seek care – perceptions of symptoms, cultural, financial, infrastructural, environmental, etc. Probe on how long it took to reach care after the decision was made, and reasons for any delay in reaching care – cultural, financial, infrastructural, environmental, etc.
    - Probe for how long it took to receive care once they arrived at the facility. Who was the first person that they met and how long did it take to see a trained professional (doctor, nurse, midwife)?
11. Tell me about the outcomes of the visit/care/treatment.
    - Probe on any changes in the health status after treatment.
    - Were these outcomes shared with a community health worker? Probe on whether a community health worker followed up after health facility visit(s). What did s/he do? Ask how interviewee/family feel about community health worker follow-up.
12. How did you and/or your family feel about the care/treatment received?
    - Probe on reasons for satisfaction or dissatisfaction.

Thank the respondent for sharing her ideas and experiences. Remind her how the information will be used.

[END HERE FOR *SECTION C* RESPONDENTS**]**

PART D. Problem/complication arose while at health facility

1. I'd like to learn more about your experience with the health complications you had at the health facility …
    - Tell me about the symptoms that you had at the time, in the health facility.
    - Which health facility were you at? Why did you decide to go to this provider or place?
2. How long did it take after the problem was noticed to receive treatment/care?
    - Probe on time from recognition of the problem to receiving treatment/care, and reasons for any delay – cultural, financial, infrastructural, environmental, etc.
    - Probe for was the first person that they met and how long did it take to see a trained professional (doctor, nurse, midwife)?
3. Tell me about the outcomes of the visit/care/treatment.
    - Probe on whether treatment was provided. If so, what were the outcomes of that treatment?
    - Probe on whether the interviewee was referred to another health facility.
        - If referred to another health facility, what did the interviewee ultimately do? Who made that decision? What were the outcomes of the visit/care/treatment received at the next health facility?
4. Overall, how did you and/or your family feel about the care/treatment received?
    - Probe on reasons for satisfaction or dissatisfaction.

- Probe on whether a community health worker followed up after health facility visit(s). What did s/he do? Ask how interviewee/family feel about community health worker follow-up.

Thank the respondent for sharing her ideas and experiences. Remind her how the information will be used.

[END HERE FOR *SECTION D* RESPONDENTS**]**

Appendix B. Participant Characteristics

#	District/ community	Age	Educ.	Civil status	No. of children	Problem/complication
1	Erati/Marapala	33	Primary	Married	4	Bleeding in seventh month of pregnancy
2	Erati/Marapala	34	None	Married	6	Vaginal blisters/swelling after home delivery
3	Erati/Marapala	20	None	Married	2	Newborn epilepsy/convulsions
4	Erati/Marapala	25	None	Single	1	Newborn high fevers on fourth day after birth
5	Erati/Marapala	40	None	Divorced	9	Fevers/convulsions after 1 month
6	Erati/Marapala	24	None	Married	2	High fevers, blisters, cough, vomiting in 2 month old
1	Erati/Nacole	34	None	Partner	4	Newborn rash all over body after 2 weeks
2	Erati/Nacole	34	None	Married	10	Bleeding after delivery
3	Erati/Nacole	31	Grade 4	Married	3	Newborn HIV, blisters
4	Erati/Nacole	31	Grade 2	Married	5	Malnourished after first month
5	Erati/Nacole	38	None	Married	7	Stomach pains, baby stopped walking
6	Erati/Nacole	28	None	Married	3	Bleeding before delivery
1	Moma/Maculane	43	Grade 1	Married	7	Fever/diarrhea after first month
2	Moma/Maculane	20	None	Married	1	Blisters with fever after first month
3	Moma/Maculane	18	Grade 5	Married	2	Problems/pain immediately after birth
4	Moma/Maculane	19	Grade 2	Married	2	Delivery issues/cesarean section
5	Moma/Maculane	40	None	Widow	10	High fevers, low weight, weight loss after first month
6	Moma/Maculane	26	None	Widow	5	Newborn premature birth, swelling, skin spots
1	Moma/Tacuane	26	None	Married	2	Vomiting, diarrhea after the first month
2	Moma/Tacuane	23	Grade 7	Widow	1	Prolonged labor
3	Moma/Tacuane	32	Primary	Married	3	Fevers, diarrhea after the first month
4	Moma/Tacuane	37	None	Married	7	Prolonged labor, "Losing water without stopping"
5	Moma/Tacuane	19	Grade 7	Married	2	Newborn with blisters that swell and burst
6	Moma/Tacuane	25	Grade 7	Married	2	Newborn with cough, trouble breathing, asthma
7	Moma/Tacuane	25	Grade 7	Married	5	Newborn with weight loss, continuous crying