



MaNHEP FORMATIVE RESEARCH REPORT

Indicators of knowledge, attitudes, and practices regarding maternal and newborn health
in Amhara and Oromiya Regions, Ethiopia

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**Maternal and Newborn Health
in Ethiopia Partnership
(MaNHEP)**

MaNHEP Formative Research Report

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in Amhara and Oromiya Regions, Ethiopia

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Executive Summary

In support of activities to strengthen the delivery of maternal and newborn health (MNH) services, the Maternal and Newborn Health in Ethiopia Partnership (MaNHEP) conducted a formative research study in Amhara and Oromia Regions to examine both supply-side and demand-side dimensions of MNH care. A key aim of the research was to understand the low rates of interaction between mothers and trained frontline health workers (FLWs) including Health Extension Workers (HEW), volunteer Community Health Workers (vCHW) and traditional birth attendants (TBA). Interviews with frontline health workers examined how these individuals perform their jobs and the extent to which they work together as teams. Only half of those FLWs interviewed noted MNH care as part of their roles. FLWs who provided such care cited previous MNH training and experience attending a delivery as important factors in building their confidence to fulfill this role. Among FLWs, perceptions of TBAs, and TBAs self-perceptions were different in Amhara and Oromia Regions. While TBAs were not thought of and did not think of themselves as part of the FLW team in Amhara Region, the opposite was observed in Oromia. On the demand-side of MNH care, mothers interviewed reported limited understanding of the Health Extension Worker (HEW) program, few interactions with HEWs and vCHWs, and virtually no demand for the services of HEWs. Instead, for assistance in managing deliveries, mothers said they

turned to relatives and traditional birth attendants. In addition to describing patterns of interactions between mothers and FLWs, the formative research distilled practices around maternal delivery preparations, infant feeding practices, postpartum rest, and problems during pregnancy and delivery that have implications for maternal and newborn wellbeing.

The formative research has clear implications for MNH training, collaborative quality improvement, and behavioral change communication strategies of the MaNHEP program. Specifically, MNH training should provide HEWs with more hands-on experiences delivering babies and community level training in improved MNH care and self care practices be offered to women, families and their birth attendants, particularly since their roles have primarily focused on birth care. While strengthening community-level systems of care, QI activities should also focus on promoting the role of the HEWs and the concept of the FLW team. Similarly, given poor community awareness about the roles of HEWs, BCC messages targeting families and FLWs, particularly TBAs, should highlight the importance of having an HEW present during labor, delivery and the early postnatal period. Broader messaging should also be considered to strengthen systems of MNH care. These messages should focus on spurring teamwork among communities and FLWs, and encourage health managers at district and regional levels to adopt improved maternal and newborn care practices.

About MaNHEP

Each year in Ethiopia, an estimated 22,000 women and 100,000 newborns die from complications related to childbirth. Most of these deaths occur at home, due to lack of basic health care. In the past five years, government efforts to improve maternal and newborn survival have focused on bringing health services closer to people, especially in rural communities. Under the leadership of the Ethiopia Ministry of Health, the Maternal and Newborn Health in Ethiopia Partnership is working to strengthen the delivery of maternal and newborn health services through a community-based project that combines training of frontline health workers with a collaborative quality improvement approach to address barriers to care. Funded by the Bill & Melinda Gates Foundation, MaNHEP is working in six rural districts in Amhara and Oromia Regions with the goal of demonstrating success of the model and its potential use throughout Ethiopia. The two-and-a-half year initiative is led by Emory University, in collaboration with John Snow Research and Training Inc., University Research Co. LLC, Addis Ababa University, and Bahir Dar University.

The MaNHEP approach consists of a package of proven home-based care practices that can prevent maternal and newborn death and disability, such as clean delivery and essential care in the immediate and early postnatal period. Health extension and other frontline health workers, such as community health volunteers and traditional birth attendants, implement the package with women and their families. The approach includes participation of group members in ways that respect and builds on local knowledge and skills through discussions, demonstrations, negotiations and practice. Together, frontline health workers work towards safe practices that are culturally acceptable and likely to be used when needed.

To ensure the package of care reaches *all women and newborns, in time, every time*, the initiative incorporates a quality improvement approach through which frontline workers and community

members identify barriers that may prevent women and newborns from obtaining care. Once identified, communities develop and assess possible solutions to these challenges. Examples of barriers to care include difficulties identifying women who are pregnant, learning when pregnant women begin labor and give birth, ensuring reliable supplies of life-saving medications, and securing transportation to reach health facilities in emergencies. Frontline workers and community members meet regularly to share lessons and successful solutions to overcoming barriers to reaching all pregnant women and their newborns in time every time.

MaNHEP also aims to improve abilities of district health system managers at each level—hospital, health center, health post—to advocate for, work with, and support frontline workers. A successful community-oriented model is *a district health system that is capable of and committed to addressing the needs of childbearing women and their families, and has abilities to find and share solutions, creating environments for frontline workers to meet these needs. More broadly, this district health system will be able to tackle other critical challenges in health service delivery.*

Maternal and Newborn Health Package of Care	
Mother	Newborn
<p>Care at Delivery</p> <ul style="list-style-type: none"> • Clean delivery • Uterotonics • Uterine massage 	<p>Postnatal health assessment</p> <ul style="list-style-type: none"> • Color check • Activity check • Feeding check
<p>Postpartum health assessment</p> <ul style="list-style-type: none"> • Breast check • Bleeding check • Trauma check (fistula) • Fever check 	<p>Counseling</p> <ul style="list-style-type: none"> • Breastfeeding • Thermal care • Hand washing & cord care • Illness care seeking • Pneumonia management

1.0 Study Objectives

Ethiopia has an extremely high levels of maternal and infant mortality. The leading causes of maternal mortality are infection, obstructed labor, eclampsia / preeclampsia, and postpartum hemorrhage. The most common causes of newborn death are infection; followed by intrapartum hypoxia, pre-term birth, and neonatal tetanus. It is clear that both women and their newborns are most vulnerable during birth and the early postnatal period. This period of vulnerability provides a window of opportunity (birth to 48 hours) to make a significant contribution to maternal and newborn survival and wellbeing. Bringing a package of evidence-based critical interventions into the homes of mothers at the time of birth and the following 48 hours are primary goals of the MaNHEP project. To do this, the MaNHEP project aims to work within the context of Ethiopia's existing Health Extension Program (HEP) and specifically with the Health

¹ The Government of Ethiopia's Ministry of Health has undertaken a number of important public health initiatives aimed at improving the health outcomes of women and newborns. The Health Sector Development Program (HSDP III), 8-10 which extends to 2010, focuses on factors that clearly affect maternal and infant survival: providing (and improving) a range of essential Maternal and Child Health (services, assuring access to needed services, assuring coordination among providers and decision-makers at all levels, focusing efforts to inform and empower families regarding MCH, and implementing informational campaigns designed to change attitudes about the healthcare needs of women during pregnancy, childbirth, and the postnatal periods. The Health Extension Programme (HEP) is viewed as the principal means of implementing HSDP III and of improving care. In the HEP, young women are recruited from their kebeles and given one year of health training as Health Extension Workers (HEW). They are then assigned, two per kebele, to engage in health outreach and teaching. The HEWs provide constitute the interface between local kebeles and the most peripheral service delivery point. Volunteer Community Health Workers (vCHWs) support the HEWs. By May of 2009, the numeric "hard" goals of the HEP had been attained. More than 30,000 HEWs had been deployed; more than 90% of kebeles had at least one HEW; and nearly 75% of the anticipated health posts had been built.



Pregnant women wait to be seen by a health extension worker at a health post in Amhara Region.

1.0 Study Objectives

Extension Workers (HEW) to provide them with a set of evidence-based tools to bring into the homes of pregnant and postpartum women.

Despite the sound logic behind the HEP, current rates of interactions between mothers and trained frontline health workers are very low. A variety of reasons have been proposed to account for these low rates of interaction. For example, Traditional Birth Attendants (TBAs) and others responsible for delivering infants in rural communities may not see the benefit of working with HEWs, despite the fact that TBAs may have more timely information about pregnant women in the communities. HEWs themselves may have limited confidence, competence, and experiencing in the delivery of Maternal and Newborn Health (MNH) services. Mothers themselves may have little demand for HEW services, and may, for a variety of reasons, prefer to give birth with the assistance of a TBA. It is also possible that structural factors such as geography, limited communications and poverty constrain or prevent interactions between mothers and Health Extension Workers. This formative research was carried out to explore these and other emergent issues.

Formative research involves exploring study topics in an open-ended, exploratory fashion. The rationale for such research is based in the idea that human behavior and the ways that people construct and make meaning of their worlds and their lives are highly variable and locally specific. Thus, understanding how people make decisions about the world necessarily entails observing and talking with people within a specific context. The aims of formative research are to identify what issues are important to community members, how community members think about and frame problems, how they discuss issues, and what aspects are particularly salient. Formative research can also help guide behavioral change communication strategies by identifying how and why people think in particular ways about specific issues.

Finally, formative research can also aid in the design of surveys for monitoring and evaluating the success of interventions by ensuring that key problem areas are identified, language is appropriate to the local context and questions are locally-appropriate. We carried out this research with each of these aims in mind.

The MaNHEP framework is based on a supply-demand model of health care, and the formative work sought to examine both supply-side and demand-side dimensions of MNH services.

On the supply side, frontline health workers provide services to the community. One aim of MaNHEP is to ensure that services related to MNH are high quality and delivered in a timely, effective fashion. Regarding HEWs, vCHWs, and TBAs, the formative research sought to answer two questions: First, what factors predispose, reinforce, and enable HEWs, vCHWs, and TBAs to perform their tasks confidently and competently? And second, to what extent do HEWs, vCHWs, and TBAs rely on one another to deal with technical and knowledge challenges? In other words, do these individuals see themselves as part of a team? Do they acknowledge and utilize the collective knowledge that is distributed amongst them or not? And where might MaNHEP intervene to promote teamwork?

On the demand side of the equation are community members, families, and mothers who choose whether or not to utilize elements of the formal health care system -- including HEWs and vCHWs -- during pregnancy, delivery, and the 48 hours following birth. The formative research was designed to examine community knowledge of HEWs, vCHWs, and TBAs, their attitudes and beliefs towards these individuals, and factors that might promote or hinder uptake of their services. We also sought to examine existing community patterns of care during pregnancy and the immediate postpartum.

2.0 Formative Research Methods

Researchers from the MaNHEP central and regional offices, the University of Bahir Dar, Addis Ababa University and Emory University worked together to design and execute a two-sited study of mothers and TBAs, HEWs, and vCHWs; collectively TBA, HEW, and vCHW are referred to herein as Frontline Health Workers (FLWs). Team members decided on a number of core topics to explore and developed preliminary semi-structured interview guides. These were then examined by local experts and MaNHEP team members and modified according to recommendations. The interview guides underwent further modification during round table discussions of the questions, although this phase was primarily aimed at altering wording and phrasing to ensure respondents would understand the intent of the questions. This round table format also served to provide intense exposure to the study questions by the interviewers, and to ensure that all interviewers understood the intent of the interview questions. Through this process interview tools were developed separately for mothers and Frontline Health Workers.

In the Amhara region study locales were identified outside of the city of Bahir Dar in rural West Gojam. The project team identified kebeles that were

located near to but outside of project intervention kebeles. This was done to ensure that the intervention would not be influenced by the extensive questioning carried out during the formative work, while ensuring that the formative context was similar to the intervention areas.

Interviewers were recruited from the partner universities and local medical research networks, and ranged in qualifications from diploma-level nurses to public health PhD candidates. All interviewers underwent a weeklong training that included overviews of the research goals, the study design, and descriptions of formative data collection. The training also included the ethical principles for human subjects research, building interviewing skills, and techniques for probing respondents to capture as much information as possible. Trainees also practiced using audio recorders and were instructed in interview etiquette. During this process there was extensive use of role-play, and the trainees were encouraged to criticize and commend each other's performance. In the course of these discussions the formative interview guides were further refined. Two days of pilot testing in urban and rural communities led to final refinements of the study instruments.



A Traditional Birth Attendant (right) waits with a group of pregnant women at a health post in Amhara Region.

2.0 Formative Research Methods

In the Amhara site, individual interviews were conducted with 30 mothers with varying levels of parity and education, and who lived at varying distances from health posts in Amhara sites. For the frontline health worker interviews, the sample was divided into 10 interviews with HEWs, 10 interviews with vCHWs, and 10 interviews with TBAs.

In order to locate respondents fitting these criteria, we called on the local kebele officials to serve as guides within each of the study communities; we did not, however, ask these officials to nominate specific households or individuals for interview. The sampling procedure therefore retained an element of probabilism, and field staff made efforts to ensure that there were no systematic biases in the selection of respondents.

Interviewers worked in teams of two in order to facilitate a conversational dynamic in the course of the interviews. To preserve discretion and to encourage candid responses, interviews were carried out in private whenever possible. In the case of mothers this usually meant the mothers' homes; in the case of FLWs this meant the health post office or the shade of a nearby tree.

The process in Oromia region was similar to that in Amhara. The tools developed for Amhara region were translated into Afaan Oromo, and a slightly smaller number of individuals were interviewed (mothers = 6, TBA = 4, HEW = 5, vCHW = 5, N=20). We elected to interview fewer individuals in Oromia because we assumed there would be overlap in responses between regions and because analysis of demographic and health surveys suggested somewhat similar patterns of childcare and health seeking. Mothers were purposively selected as we were less concerned about a random sample and more concerned about capturing a diverse range of attitudes and beliefs. All respondents gave their consent and all data were de-identified.

All interviews were audio recorded to ensure faithful representation of respondents' voices. Audio files were later translated from Amharic or Afaan Oromo into English. The resulting English texts were transferred to MAXQDA, a qualitative software management program, for analysis. Analyses centered on identifying key themes in FLWs and mothers' responses to the interview questions.

Adult females linked heavy workloads with poor pregnancy outcomes.



3.0 Maternal Interview Results

Descriptive Statistics

Maternal respondents' ages ranged from 18 to 45 years, with an average of 29 years. Levels of schooling were quite low reflecting the rural study locales. Nearly 85% of the sample had not attended any formal school; only 2 mothers reported more than 3 years of education. All respondents, by sampling design, had at least one child and the average number of children was 3.9 (SD 2.1; min: 1, max: 9). Nearly a quarter of mothers reported experiencing the death of at least one of their children, and this was slightly more likely to be true among older women.

KEY FINDINGS

Delivery Preparations

All respondents were asked what preparations they had made for their last pregnancy and in anticipation of delivery. Responses centered on shifts in time allocated to work, changes in activities schedules, preparations made for birthing, emergency funds, and preparation of food to celebrate the new child. It is particularly noteworthy that many discussions of birth preparation began with mothers stating something along the lines of: “What would be prepared in the countryside!?!... you simply give birth...nothing is prepared...!”

A common secondary response to questions about delivery preparations was that workloads were slightly reduced, often in response to extreme fatigue experienced by pregnant mothers. Many mothers mentioned, however, that they could not rest too much because household work needed to be done. For example one mother lists her chores as follows:

“Grinding, mixing flour and water (making dough), roasting sorghum for tella (local beverage), brewing tella [local beer] ...” and notes: “Our activities are the same. What do you think brings change? Whether I have conceived or not, I do the same.”



Maternal respondents' ages ranged from 18 to 45 years, with an average of 29 years.

Some respondents noted that they specifically stopped doing heavy work like hoeing the fields, while others mentioned that they received assistance from children or other adults with heavy tasks. A representative response to questions of workload was: “We’re always working. When we are pregnant, we rest, but we always work.” This was qualified by admissions that in the case of heavy farm work, for instance, “We rest from all that.” A few explicitly stated that they continued “cultivation and other farm work ... who else will do it for us?”

Some respondents specifically linked heavy workloads with poor pregnancy outcomes (see below). Many respondents also mentioned changes in dietary habits throughout pregnancy, such as avoiding certain foods because of nausea during the first trimester.

Nearly all respondents noted preparing porridge, coffee, and other food/drinks for their neighbors to share immediately after the birth of the infant. Mothers also reported that neighbors brought high quality foods, such as meat, eggs, and a grain-based drink (made from oats, butter, honey, and milk) to

3.0 Maternal Interview Results



A pregnant woman in Amhara Region

3.0 Maternal Interview Results

them after birth as well, to build the strength of the mother.

Most respondents mentioned purchasing a new razor blade for cutting the umbilical cord. A large number of respondents also mentioned purchasing soap for the delivery, while purchasing of clean cloth for washing and drying the infant was less common.

Emergency Preparations

All respondents were asked whether, during their last pregnancy, they had made any special preparations in the case of an emergency. Approximately one out of four respondents reported putting money for transportation aside in case of an emergency during delivery. For instance, one mother noted that she had saved 1000 Birr and talked with her family and neighbors about what should be done in case of an emergency. She responded to the interviewer:

“[I saved] a thousand birr... In case I had to go to a higher [health center], in case it didn’t work out here, I saved substantially. When it worked out, I stayed here. If suddenly I had problems, we shouldn’t be without money. We shouldn’t go to others for help.”

About one in five mothers reported that their families had not saved, but they also mentioned a plan for quickly acquiring funds if an emergency occurred; for example, selling grains or cattle, or taking a loan, as illustrated in this quote:

“A farmer doesn’t think that far. We think of the immediate event...if something unexpected happened, we sell some amount of grain in the market and use the money. Let God not allow that.”

But more than half of mothers neither saved nor mentioned making any plan in case of emergency. Respondents often highlighted their poverty and their rural farming-status: “I didn’t have [an emergency fund]. I had some money saved up, but when my energy level was going down, I was buying food with it and eating that” or “Uh, in the rural area we don’t save much. We are farmers.”

Delivery, Washing, and Cord Care

Nearly all respondents reported their last delivery was at home and that TBAs or relatives assisted nearly all deliveries (including one delivery by a woman’s father). Birth attendants were typically reported to have washed their hands prior to assisting with the delivery; in fact, nearly all mothers responded to this question by saying, “Of course they washed their hands!” In some cases washing was done with only water or with water and ash and in one case the attendant was said to have washed her hands only after the birth. Gloves were very rarely mentioned.

Respondents’ narratives of their birth experiences were broadly similar. For example, there was tremendous consensus with respect to umbilical cord care. The conventional procedure is as follows: the attendant cuts the umbilical cord with a razor blade and the cord is then “tied up.” Butter and/or oil is applied to the cord stump to “soften it” or to “help heal the wound, to protect it from wounding” and to keep it “moist”. Butter on the cord is also thought to prevent and protect from infection, as one mother explained: “The remaining part of the cord may be infected; and to prevent from infection, we put butter on that part. If it is already infected, it will get cured [by putting butter on it].” Other mothers reported, “wash[ing] the stump every morning with soap and to make it [soft] [we] put butter [on the cord stump].”

After delivery the attendant waits for the placenta to be delivered, occasionally with the mother holding the umbilical cord to “keep the placenta from rolling back in”; the infant’s cord is often not tied at all. One mother specifically noted that this practice is part of the local culture:

“In our culture, we are required to hold the umbilical cord [attached with the placenta]. This is because it is believed that the placenta gets back into the womb again. When we hold it, it comes down easily. If it is delayed we hold it until it is removed [either by traditional medicine or taking to clinic].”

3.0 Maternal Interview Results

Another mother notes that the attendant:

“tied the part [of the cord] that was left with me, but she didn’t tie the part that was left with the baby.... My part will be tied to protect the bleeding. But the baby part is not tied.”

A small hole is dug where the mother squats and births the placenta, while attendants will “hold [the mother] over the hole and when [the placenta] comes out it will be covered. Then it will be covered and it will become the floor.” During this time the birth attendant normally holds the infant. The attendant also washes the infant immediately after birth, often with water and occasionally with soap. Some mothers described TBAs as departing almost immediately after delivering, and having family take up the care of the mother and infant.



Mothers frequently mentioned that whether an infant breastfeeds successfully was a good sign of health.

Infant Feeding Practices (IFP)

All respondents discussed some aspect of infant feeding practices during the interviews. Breastfeeding was universally initiated and recognized as an important source of food. Mothers commonly mentioned that whether a child breastfeeds successfully was a good sign of the health of the child, and infants who did not begin breastfeeding quickly were generally regarded as being “unhealthy” or, alternatively, mothers would respond that they knew their infants were healthy “because s/he was breastfeeding.” Butter was routinely given to infants immediately after birth. Although the quantity of butter provided appears to be very small, this is an issue of possible concern, and may be related to the delayed initiation of breastfeeding mentioned by many mothers, as this association has been found in epidemiological studies.

Some mothers reported self-expressing the colostrum or massaging their breasts “with lukewarm water” to express the first milk. Some mothers did this “just to make sure that the milk can come out of the breast” while others did this because “we don’t let the child to feed [the milk] that stays longer in the breast” or “because colostrum is not good for the infant” or “the first milk might not be clean.” Mothers had mixed explanations for why colostrum was expressed and considered unhealthy for their infants. Some stated that they had “no idea” why they did this -- saying, for example, “This is something that came from our ancestors, and I have no idea about it” – or explained that they did it because other mothers told them to do so.

Explanations for why babies were given butter soon after birth were also varied. Some said, “I don’t know,” “it’s our culture,” or “I let the baby swallow butter as I saw others do it.” Others mentioned that butter soothed the infant, or said that “the butter is to build up his body, to strengthen him” and that butter would “make the baby’s body relaxed” or “protect his body from drying out.” In the Oromia sites tea was reported as a substitute for butter, specifically “because HEWs told us that to give butter is bad.” This

3.0 Maternal Interview Results

highlights the potential power of HEWs to modify behaviors but also that specific alternative practices must be provided to mothers.

The provision of butter was often noted in conjunction with concerns about the uvula. Several mothers reported concerns over the infant's uvula "falling down" in which case the infant "will not open his eyes, and when he tries to breastfeed, he doesn't want to drink, and he will push with his tongue. He will refuse the breast. And then he will close his eyes." The uvula is sometimes cut by a traditional doctor to prevent it from falling down or, if a child becomes sick because the uvula has fallen, one can "mix ginger with garlic and other things and then put it in his mouth."

Postpartum Rest

From respondent narratives we gain a picture of the typical post partum period. After delivery a mother remains in bed for around 10 days (although mothers in Oromia reported rest up to more than one month). The mother is not supposed to be left unattended, and often a small child (tebaki, literally carer), typically a female, will sit by her side and tend to her. The mother is considered weak during this time and she should not be left alone because this would expose her to evil spirits. If familial support is available the mother may stay in bed somewhat longer but if support is unavailable then she may take leave of bed before 10 days. Postpartum rest is, thus, context dependent as one mother explained:

"It [the amount of rest] depends. It depends on what we have at home [how many people and resources].... When someone is with me to give me support, I can rest for one month ... and I will be taken care of [in Amharic metares: lit. the mother simply stays at bed and will be given best food available at home]. Otherwise I will leave my bed and start working."

Some TBAs tell mothers specifically not to leave their infants unattended and advise that mothers them-



Maternal respondents began discussions of birth problems by denying that any exists, but, after probing, listed a variety of complications.

selves should not be left alone either. The transition out of the resting period can be marked by receipt of holy water while leaving the home too early can be problematic as one mother explained: "Before ten days, since they have a bad spirit, a bad spirit may come and attack them [if mothers go out of the house alone] - a devil spirit."

Problems During Pregnancy and Delivery

Respondents typically began discussions of birth problems by stating that they had no problems, or there were no such problems in their community. However, after probing, mothers began to list a variety of problems that occur during delivery that included excessive bleeding, retained placenta, breech baby, and spirit possession (seraqian), which occasionally had shared etiologies. Many respondents reported not knowing what caused these problems, or they reported that only God knows. Others linked negative pregnancy outcomes to hard work, lifting heavy things while pregnant, not eating enough foods or consuming low quality foods. For instance, one woman described a breech baby as an important pregnancy complication and said that this occurs because "of too much work." Another, in discussing excessive bleeding, explains that it is

3.0 Maternal Interview Results

“Due to [heavy] work load and when her body weakens due to much work. We carry heavy load and go long distance. For instance we take grains to be milled in the flourmill. We carry heavy pots to fetch water; we have many household chores that demand much energy. This causes excessive bleeding during birth.”

Another said, “If I had sufficient rest and kept myself healthy, and if I did not do too much work during pregnancy, I would not have the problem of excessive bleeding.”

Seraqian (alternative: Seraqiyan, Serqian/Serakian/Seraqn), a commonly reported problem associated with delivery reported in the Amhara region, occurs immediately after birth and is identified by the mother clenching her teeth, “becoming tight” and losing consciousness, and when this occurs “mothers simply sit still, they don’t respond when spoken to.” Many women survive this episode (“It [seraqian] afflicts them and it goes away.”). While all respondents agreed this was a very serious condition there was less agreement on why this condition afflicted women. Here a mother describes the condition:

“I don’t know. We don’t know the reason [it afflicts certain women]. The mother gives birth safely and the placenta is removed with no problem, but after a while, while the people are talking, chatting, then the mother will become [un]conscious. It grips her she becomes unconscious. When this happens, we bring mirror and ask her to look at her face in the mirror, and we start saying, “Hoi, hoi, hoi.” Then sometimes the mother becomes conscious again, but sometimes that doesn’t work. She opens sometimes her eyes then closes them again. She tightly closes her legs or thighs and we open the mouth and keep it open so that the mouth will not be stiffly closed. Sometimes there is a firing of bullet. We do everything, but sometimes the mother will die. If it gives us time [if the mother doesn’t die within a very short time], we will take her to Bahir Dar or Merawi for medical help. Some-



Women in Amhara Region reported Seraqian, or excessive bleeding, as a common problem associated with delivery.

times the mother dies on the way to Bahir Dar or Merawi and sometimes there is a possibility that the mother’s life is saved.”

When a woman is afflicted with seraqian those around her will try to bring her back to consciousness by having her “smell soap, and perfume,” “dousing her with water,” or “shooting a bullet into the air.” These actions are thought to wake the mother from her unconsciousness – or to scare away the afflicting spirit - but they are not always successful. “Some mothers die and some mothers survive by accident. If the condition continues, we take the mothers to hakim bet [health center or hospital] for medical help.”

There was no single explanation for why seraqian afflicted certain women although explanations often involved excessive bleeding, God’s will, or retained placenta. For example,

“It is the placenta. When they go to get the placenta out, or when they are there, it will make them faint. Then they will sprinkle water. They may die, or they may come back. It is delivery of the seng [placenta] that is the problem.”

Another mother reported that she did not know

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why serqiyān occurs or what caused it but only that “...it comes when people are giving birth, and the spirits try to create problems.” Another notes, “It is only God that can give back their life.”

Retained placenta (Amharic: *seng*) was also reported as a serious problem afflicting women during delivery. In general the response to retained placenta was to take the mother “to higher”, that is, to a health center or hospital. Others reported relying on traditional medicines as illustrated in this quote: “Sometimes, we use traditional medicine [when the placenta is retained]. And when they take this medicine, immediately, their shirt *waha* [lit: the amniotic fluids?] will come out” while another woman reports that when, “Someone came to me with medicine and did something to me... I didn’t see what she has in hand [I knew only] when she buries it [the medicine] in me.”

There were a variety of explanations for why these problems emerged among certain women during delivery. “This [retained placenta] is also caused by hard work. The placenta comes out at the end immediately after delivery; but if it doesn’t, there is a belief that it goes into the woman’s body and becomes fatal.” Others stated, “only God knows” why some women experience problems during delivery as this mother explains when asked why the placenta is sometimes retained:

*“This is what God does. This is my answer. I don’t know the reason. This might be the cause for their death, we don’t know. There are some people where the *seng* [placenta] will detach only by the help of people, not by God’s help. But there are some people where the *seng* [placenta] detaches immediately after the baby is born.”*

The same woman concluded fatalistically,

“The problem of [retained placenta] will not be stopped unless giving birth is stopped. If there is a baby to be born, there is a problem of [retained placenta].”

Excessive bleeding was commonly mentioned as a problem that women experienced during delivery, frequently as associated with or causally related to *seraqian*. Asked, “when and why does a woman bleed?”, many reported that excessive bleeding was due to heavy workloads during pregnancy, as illustrated in this quote: “[It is] due to work load and when her body weakens due to much work,” or “Heavy bleeding occurs due to much work during pregnancy. Her body becomes open. And she goes into labor, she will [bleed]” or “It was due to work overload that I faced excessive bleeding during delivery.”

There was less consensus among respondents about what actions to take when excessive bleeding occurred although many mentioned taking the mother to a health center or hospital. A few mothers mentioned a specific traditional medicine as curative, which “is tied around her neck and the bleeding stops.”

Respondents reported a variety of more general health complaints that occurred immediately before and after delivering. Many of these had to do with general levels of energy, as indicated in this quote:

“The only problems I had [during my pregnancy and delivery] were after birth where I felt so exhausted and faced excessive bleeding. I lost all my energy and became powerless. I had no other problems.”

“Until the 5th month,” another mother said, “I was feeling restless and listless but no more other problems.” These concerns were linked to food intake and heavy work. A mother who experienced a still-birth explains:

“At that time, I went for making flour then when I came back it was the rainy season and the river was flooding. I stayed long until the water passed away. I was standing and holding the flour, and at that time I knew that there was a pain, and I think the baby died because ... I carried the flour for many hours.”

3.0 Maternal Interview Results



Mothers reported limited understanding of the Health Extension Program or the roles of Health Extension Workers.

It is noteworthy that HEWs were never mentioned as sources of support or advice, although many mothers mentioned health centers and hospitals. It is also noteworthy that few if, any mothers, mentioned the possibility of having an HEW on hand or delivering in a clinical setting just in case of an emergency.

Interactions Between Mothers and Frontline Health Workers

A key domain of the MaNHEP program is to increase the frequency of interactions between mothers and FLWs in general and HEWs in particular. All mothers were asked about their knowledge of the HEW program and their interactions with HEWs and other FLWs. The mothers who were interviewed had limited understanding of the HEW program, limited interactions with HEWs and vCHWs and demand for the services of HEWs was minimal to nonexistent.

Mothers had limited understanding of the

HEWs role in the HEP, especially as it pertains to home visits and delivery and other MNH services (although this was somewhat less true in Oromia). When asked what services HEWs provide, respondents often reported that they did not know and when pressed said things such as, “I know when they give a house to house vaccination, tell people to prepare a pit latrine and to keep the household clean.” Another mother said the HEWs “come and register us, but I don’t know what they’re doing.” In some cases mothers were asked specifically whether “HEWs tell [clients about] things other than vaccination” to which one respondent replied, “No they don’t.” Several respondents specifically stated that HEWs did not help with deliveries at home, as in this interaction:

Interviewer: *Don't the Health Extension workers go on rounds to help deliver a baby?*

Respondent: *No.*

3.0 Maternal Interview Results

For many women, interaction with HEWs seems to be understood as implying visits to health posts and centers. Discussion of health workers and the HEWs almost invariably led to discussions of health centers. When asked whether HEWs visit the communities to help with deliveries, mothers responded with answers such as, “No, they [health workers] are in the health center.” vCHWs were generally considered to serve the role of community announcers or town criers who spread news about vaccination.

A major theme throughout the interviews was that women only engage with health workers when mothers become sick. Nearly every interview conducted evidenced this theme through testimony such as the following:

“It is because I was healthy [that I gave birth at home without an HEW]. If I were sick, I would have gone [to the health center].”

“If she [a mother] can give birth peacefully, then she [TBA] will help her at home. If she is not able to give birth peacefully, then she will go to hakim bet and give birth there.”

“In our culture we go to the health center when we get sick. If we are not sick then we give birth [at home]. I don’t know anything else.”

Still others, when asked if health workers are contacted only once a problem emerges, responded, “Yes,” or “That is how it is.”

Another related and very common theme throughout the interviews was that mothers who had had successful births in the past (without the presence of HEWs) took this as evidence that their future births would be similarly successful. This idea of “it worked fine in the past, and it will again in the future” is illustrated by this quotation:

“They [HEWs] are around, but we don’t go there [do not utilize HEWs]. ... I have given birth eight times. Since I have no problem, there is no need for me to go to health centers.”

Quotes such as this underscore the blurred distinction

between HEWs and other aspects of the formal health system.

For many mothers, HEWs were not part of their cultural model of pregnancy and delivery. When asked about why they did not deliver with the assistance of HEWs, these respondents replied, “I have no idea [why they weren’t there],” or, as in the following dialog, “It did not occur to me to call them in”

Interviewer: *Did you notify HEWs?*

Mother: *No.*

Interviewer: *Why not?*

Mother: *I don’t know. It did not occur to me to call them in.*

Using TBAs, on the other hand, was frequently presented as being part of the local culture:

“Since it is our culture we first call her [TBA]. It is only when it gets serious that we go to health center but as our culture, which lasts for a long time, we are using TBAs first.”

When asked whether people ever discuss the HEWs in their community, one mother responded, “There is no such discussion... I have never heard of such a discussion [about HEWs].” Other mothers made comments that might be read as suggesting that they would have called HEWs to attend their births but circumstances dictated otherwise. In these cases, mothers pointed out that the speed with which their labor began and progressed—and the distance from the health post to the home—prevented them from notifying an HEW as these mothers describe:

“It [baby] starts to push me and my husband was there, and there was no time to wait until they [HEWs] came from there [presumably from the health post].”

“It [our home] is far from town and sometime we give birth at night, and we give birth also early in the morning. So how could we call them when someone gets sick [i.e., goes into labor]?”

3.0 Maternal Interview Results

When asked by an interviewer why a family member did not notify a health worker that she was about to deliver, one mother explained, because “it [my labor] was quick.”

Throughout the interviews it was clear that mothers do not think about HEWs either when they think about delivering or during the early postpartum period. Midwives, relatives, and birth attendants, on the other hand, were almost unanimously mentioned as present at births. These individuals were often related to the mother (“My aunt”, “My mother”, “My father”, “my zemed [relative]”) and/or TBAs were “neighbors” and people who “lived near by” and who “meet regularly” and “attend coffee ceremonies” together. Mothers and midwives “live together” and mothers “sometimes ... invite [them] to drink [coffee] with us.” TBAs were held in high regard by many women - one respondent replied to the question, “Do you have positive attitudes towards TBAs?” by stating simply, “They are our saviors.” HEWs, by contrast, were never described in these terms. When asked to describe their relationship with HEWs mothers often replied with statements like, “I don’t know,” “they are fine,” or “I don’t have much [of] a relationship with them.” When asked specifically where a mother would go to for advice about pregnancy, sisters and neighbors and husbands were mentioned, but not HEWs.

A number of respondents did not seem to be active participants in their decision about who would help them deliver, simply stating that they went into labor, and called for the nearby midwife. For example:

Interviewer: *How did you decide that this person would be in charge [of your delivery]?*

Mother: *I had no choice. When I get sick [go into labor], I allowed her to help me.*

Other comments centered on other people making the decision, as evidenced in this quotation:

“Usually, the husband or the pregnant woman’s mother go and ask her [TBA] to help them and she comes home to help.”

Slightly less passive explanations for why a specific person attended a birth included because “it’s our culture” or because a mid-wife was “nearby”. Respondents were nearly unanimous in their description of TBAs’ tasks: they help deliver. And the extensive experience of TBAs in managing deliveries was a key criterion in the choice of many mothers to use their services (although see above for discussion of choice). Two mothers, for example, explained their decision to use TBAs as follows:

“As she [the TBA] helped women to deliver a babies for quite a long time...I preferred her service.”

“It is they [TBAs] who know about these things [birthing]. They have the training.... They learn the skill just by experience. Once they act as midwives, they will remain midwives.”

It is noteworthy too that TBAs, unlike HEWs, have fairly large numbers of children themselves—which implies first-hand experience of giving birth that HEWs may not have (see below for discussion of fertility of TBAs and HEWs).

The deep connections between TBAs and the communities they live in and serve was also an important feature that distinguished them from HEWs. “She,” one woman said of her local TBA, “is family.”

Interestingly, several women said that “these days” some midwives are reluctant to deliver babies of people they do not know because of a fear of HIV contaminated blood. But some mothers too viewed risk of HIV infection or other health risks as reasons not to use a TBA in delivering a child: One woman mentioned that some mothers no longer relied on midwives because

“There is something called fistula; these people fear fistula. Besides, they know that they may not be safe from HIV since the midwives may be uncaring.”

3.0 Maternal Interview Results

Others

In addition to collecting information on specific areas and interactions with health workers, during analysis we made note of other people who were mentioned by mothers as playing some role during pregnancy and delivery. In this section we report on those “others” as they may be potentially important people to target in behavioral change communication strategies aimed at increasing demand among mothers for HEW services. An analysis of instances of people offering support to mothers showed that the following individuals emerged with the greatest frequency: mother’s mother, neighbor (typically referred to as female; e.g., my neighbor ... she came to help.”), husband, child or children, sister, mother in-law, sister in-law, and aunt. Husbands were often mentioned in reference to advice, money, purchasing medicines or retrieving medicines, although occasionally they were also reported as being absent or busy attending to other tasks during delivery. Grandmothers and other women, on the other hand, were often mentioned as generally “helping” in all stages of delivery. Several mothers specifically mentioned returning to their parents’ homes to deliver, and some older mothers lamented the fact that their mothers were no longer alive and thus not available to help.

Older children were mentioned as helping with fetching water, cooking food, or tending to their mothers in the immediate postpartum period.

Negative Comments About Health Workers and the Health System

The following section reports on rare but potentially important comments made by mothers during the interviews. These typically refer to nega-

tive attitudes towards the health system or beliefs that engaging with the formal health system can be harmful. The following quotations give a sense of some of the complaints that women had about clinical health services. Some mentioned specific procedures carried out in health centers that they found disturbing:

“They [people in the community] ... complain that health workers press their stomach and disturb the fetus.”

“They [people in the community] claim that the doctors thrust their hands into their womb. So they prefer to give birth at home....They think that the health professionals will put a glove on and thrust their hands into their womb. The traditional midwives don’t do such things.”

In addition to these specific practices, other women mentioned a generalized fear of health professionals, either because of perceived associations with risk of death, or because of more general concerns:

“I usually do not go to health centers because I know that my relatives died because they went to get health services....”

“they don’t want to be [word unclear but implies being possibly mistreated], and they are afraid of the [hospital] bed [to lay in the bed and get a check up] there. ... I [too] am afraid of the bed so I don’t want to go there. I don’t want to go there even when I am not pregnant because I am afraid of the bed. “

“[They don’t go to clinic because] they are afraid. They don’t want to be seen by the medical people.... They are afraid for themselves.”

4.0 Frontline Health Worker Interviews



Health Extension Workers, Traditional Birth Attendants, and voluntary Community Health Workers were questioned about the roles and responsibilities of health workers.

Descriptive Statistics

Frontline health workers in the Amhara sites varied dramatically in the number of children they had and in their educational levels. Traditional birth attendants reported an average of 6.1 children, which is close to the completed family size in rural Ethiopia. VCHWs also reported fairly large family size (average 5.1 children). The HEW group, by contrast, had an average of <1 child, and tended to be much younger than either TBAs or vCHWs. Among TBAs the average years of schooling was <1 year, while vCHWs reported an average of 3.5 years of schooling. HEWs, who are required to have completed 10th grade, exhibited much less variation, and had on average eleven years of schooling. In sum, while the mothers in the Amhara study sites closely matched

the TBAs and vCHWs in education and reproductive experience, the HEWs had vastly different educational and reproductive experiences than the women they serve. Mothers, TBAs, and HEWs were all female, while 80% of the vCHWs interviewed were male.

Perceived Responsibilities among Frontline Workers

HEWs, TBAs, and vCHWs were asked questions regarding roles and responsibilities of community members and health workers in general, in health care. Following the open-ended questions, workers were specifically asked about the services they provided for mothers and newborns.

4.0 Frontline Health Worker Interviews

Providing Maternal Health Services as Part of HEW Role

Many HEWs have already been (or will soon be) trained in a Maternal and Newborn Health (MNH) package as part of their job. But since they have additional responsibilities in addition to MNH, it is important to determine how HEWs prioritize MNH work in relation to the other services they have been trained to provide. Many HEWs mentioned vaccination, family planning, malaria prevention (through bed net distribution), and hygiene promotion as services they provided to the community. In Oromia Region only, some HEWs also included the Prevention of Mother to Child Transmission of HIV during delivery as part of their role.

When asked about all responsibilities as a health worker, half of HEWs did not mention MNH service provision in their response. Among those respondents who mentioned MNH services without prompting the tasks mentioned most frequently included: mobilizing pregnant women to get check-ups and providing antenatal and postnatal counseling. Less commonly, HEWs discussed attending delivery and providing postnatal care to women.

A common response from an HEW was the following:

HEW Respondent: *They [HEWs] help pregnant women get check ups and follow ups. They tell them how they should eat during pregnancy, how they should sleep, what kind [of] work they should do. Both during pregnancy and after delivery, we advise women on how they should live.*

Less common responses included the following:

HEW Respondent: *We recruit pregnant mothers and by giving appointment to come to the service and we follow them and when the time for delivery approaches we tell them to call us during delivery and we tell them that we will come to their home and help the delivery. They tell us when they are in labor and we go to their place and help the delivery of the child.*

Among those who did not mention MNH services spontaneously, when specifically asked about services they offered for mothers and children, the most commonly mentioned responsibilities among HEWs included vaccination, family planning, and hygiene promotion to prevent infectious disease.

HEW Respondent: *The services we offered to the mothers and children include vaccination for both mothers and children, distribution of family planning tablets, teaching about their housekeeping, and about keeping their hygiene.*

It should be noted that attending delivery and providing postnatal care as part of the HEW position was mentioned more frequently in Oromia Region than Amhara Region. It should also be borne in mind that some HEWs may conceptualize vaccination, family planning, and hygiene promotion themselves as the most important components of the Maternal and Newborn Health package.

The Role of Traditional Birth Attendants during Labor, Delivery, and the Postpartum Period

A theme that recurred throughout the interviews with traditional birth attendants was that TBAs were frequently called to enter their home and assist with the labor process; this is entirely consistent with the maternal interviews. This community care-seeking practice means that aside from people within the household of the laboring woman, TBAs are the often first people notified of labor. Below TBAs describe the labor notification process.

TBA respondent: *When they call me, I go and I tie my belt and sit down to help.*

TBA respondent: *It is only when neighbors call me to help that I give help in delivery.*

TBAs described playing a passive role during labor and delivery, with most mentioning waiting to welcome or receive the baby with the help of God or the Virgin Mary. After birth TBAs mentioned

4.0 Frontline Health Worker Interviews



A Health Extension Worker examines a pregnant woman in her third trimester.

assuming an active role, typically cutting the umbilical cord and caring for the mother, with a few TBAs providing postpartum care for up to ten days. Some mothers described TBAs as departing almost immediately after delivering, and having family take up the care of the mother and infant.

Passive roles during labor and delivery were described as follows:

TBA respondent: *When the time for labor comes and with the help of Mary we receive the baby when he is born.*

TBA respondent: *There is nothing that I do. It is simply when she comes and God helps her. Otherwise, nothing.*

Regarding the active role of TBAs after birth, one TBA said,

When Mary Mother of God comes peacefully, then the mother will give birth, and then we cut the cord, and take the baby, and take care of the mother until ten days.

Because many TBAs described labor and delivery as a process determined by God or the Virgin Mary, they may feel limited agency to impact the course of labor and delivery.

Perceptions of When to Refer Women

Prompt and accurate referral of women during delivery and in the postnatal period is an important aspect of the MaNHEP program. FLWs were asked to list complications that are outside their skill level, and to describe the referral process when these problems arose. Frequently HEWs, vCHWs, and TBAs mentioned prolonged labor and retained placenta as problems that required help from a health professional, while a few TBAs and vCHWs cited excessive bleeding as a reason for referral.

vCHW Respondent: *In case the placenta fails to come out on time, we take the mothers to the professionals and there they are helped and when the job is over they pay for the service and go back home.*

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TBA Respondent: *When she is not able to give birth quickly, it is difficult for her, we will go [to the health facility]. But if Mary, Mother of God, comes peacefully, it doesn't take long...*

In addition to retained placenta, prolonged labor, and excessive bleeding, HEWs mentioned severe abdominal pain and when the baby is in an abnormal birth position as problems beyond their skill level. A few HEWs also discussed laboring women with malaria and hypertension as those who needed to be referred.

HEW Respondent: *For example, if a mother is delivering her first baby, she shouldn't push [probably means labor] for more than eight hours. When we touch her stomach, if she has serious pain, or if she is bleeding, and also when the baby's hand comes out first. These are the serious problems, and we refer them [to more qualified health professionals].*

Most FLWs identified prolonged labor and retained placenta as challenges that require referral, though HEWs and vCHWs may first suggest breastfeeding to help the placenta deliver. HEWs also talked about referring women for excessive bleeding, abdominal pain, breech birth, hypertension, and malaria.

Perceptions of Where to Refer Women

When they recognized complications, TBAs advised women to go “to higher,” (Amharic, kefetegna) meaning an unspecified higher-level health facility. This could mean the kebele health post, the woreda health center, or the city hospital. Occasionally, TBAs stated that the key person deciding to take the woman “to higher” is her husband, as in the following example.

TBA Respondent: *I will tell the husband to take the woman to higher [kefetegna]. The person who believes me and lets me help his wife will ask him to send her to higher. I will tell him to find money and then to take her to higher.*

HEWs and vCHWs also advised women to go “to higher,” though some vCHWs mentioned referring women directly to HEWs.

vCHW Respondent: *If there is a problem in my village, I'll go and tell the HEW that a woman is sick. If this is the time for this woman to give birth, [she says] please bring her here. Then she'll see her, and then she may say, 'this is not your day.' But she'll help if there's anything [that needs it].*

Because HEWs are located at the kebele health post, it can be safely assumed that when they refer “to higher,” they are sending women either to the woreda health center or the city hospital (in the Amhara study site, meaning Bahir Dar). Some HEWs specifically mentioned sending women to see Health Officers at the woreda health center. Implicit in these discussions was the idea that women come to the health center or health post, not that HEWs go to women.

In summary, there appears to be no consistent referral pattern among FLWs, though the evidence suggests that some vCHWs have referred women directly to HEWs, while HEWs have referred women to the health center or hospital.

Perceived Confidence and Competence of Frontline Health Workers

Frontline workers were asked questions about their confidence level regarding the services they are currently providing for mothers and newborns. Additionally, FLWs were asked what factors contribute to self-confidence in their ability to provide these services. Two main themes emerged from their discussions: (1) training or experience, and (2) community perceptions of FLWs.

FLWs expressed confidence and competence in activities in which they have had either training or experience. While vCHWs and HEWs highlighted the importance for formal training, TBAs described confidence as a result of informal training, with most TBAs

4.0 Frontline Health Worker Interviews

trained by their mothers. HEWs noted the importance of experience, particularly attending deliveries, in building confidence.

HEW Respondent: *It is in helping for delivery that I have less confidence... During our training time there was not a mother who gave birth and there was no real practical things that we have seen, and the number of students at this time was also high. So I do not feel full confidence to do delivery.*

FLWs consistently reported that any health services they are currently providing for mothers and newborns, they are doing with full confidence. A common response was the following:

HEW Respondent: *There are not many things that we say that we do with less confidence. Because all the works that we do are done with training, and also we know that on children and mothers, we do well. We have no problem. We do them.*

Community perceptions of FLWs also impact the self-confidence of health workers. Illustrated below is a TBA explaining the importance of mothers having confidence in her abilities:

TBA Respondent: *Since the mothers have confidence in me there is no problem. I simply go to them with my rags and my gloves and I take the baby with the gloves and after I wash it and wrap it in cloth, I hand it over to the mother.*

An HEW described the rural population's negative perception of HEWs as diminishing her confidence.

HEW Respondent: *When I say lack of confidence, the reason why the HEW workers lack competency is that their responsibilities are many but it is difficult to work with farmers, because they don't accept you easily and do not perform what they are told. There is resistance, even they do not come when you call them, then you feel worried.*



Voluntary Community Health Workers self-identified as being part of the health worker group.

4.0 Frontline Health Worker Interviews

Group Identification Among Frontline Health Workers

In Amhara region, group identity among TBAs differed considerably from other FLWs. While vCHWs and HEWs self-identified as being part of the health worker group, TBAs did not self-identify as health workers because of their lack of formal education. Often TBAs believed they were unwelcome to participate in discussions and training with HEWs and vCHWs because they were not part of the health worker system. A typical exchange about sharing work with HEWs is illustrated here:

Interviewer: *The health extension workers are also birth attendants and you are a traditional midwife. How do you share the work between you?*

TBA Respondent: *Since I am not part of that group they are not giving me my share of work. They may have discussions [among themselves] on them but I am not part of it. They have not given me any share of work. I simply do what they tell me to do. They tell me that pregnant women need not work too much or carry heavy burdens and such things.*

Interviewer: *Why don't you ask them to take part?*

TBA Respondent: *That is because we are not educated people. That's because of lack of education.*

One TBA explained that entering the health system alongside HEWs and vCHWs was made difficult by discriminatory interactions between herself and health workers.

TBA Respondent: *Instead of discriminating against us, it would be better if they taught us. And a lot of things would be improved. And I can also learn a lot. I think that they [have been] taught, they are educated. But they are not educated if they don't teach others. They should tell for me, and for others also, that this*

is the case, and this is what you are missing, and if you apply this, you can help the delivery... But they don't teach us. And that is the case. But they didn't provide us with this education. They don't allow us to get into the system. [Emphasis added.]

In the Amhara Region group identity among HEWs and vCHWs was considerably different than among TBAs. As illustrated, TBAs did not self-identify as part of the health worker group and occasionally perceived direct discrimination from health workers, resulting in an environment that promotes teamwork between vCHWs and HEWs, while maintaining TBAs as peripheral components of the MNH service delivery team.

In Oromia Region, however, vCHWs and HEWs often identified TBAs as part of their group and as an important component of the MNH service delivery system. Some vCHWs and HEWs in Oromia even described TBAs as community assets with knowledge and experience that they do not have, a view that was somewhat substantiated by Oromia mothers.

HEW Respondent: *We have one voluntary per 50-households and they mobilize the community to use Health Extension Program and report to us if there is any epidemic or challenges in their locality... TBAs also follow pregnant mothers in their locality and refer to health post. By doing this we share our work with each other.*

The differences between the status of TBAs in the Amhara and Oromia sites suggests that the degree of marginalization or inclusion of TBAs in the health system may vary by region.

Teamwork among Frontline Health Workers

A key component of the MaNHEP program is to increase teamwork among FLWs. All FLWs were asked questions about task sharing and teamwork with other FLWs. Typically FLWs talked of doing their work alone. In Amhara Region specifically, the TBAs

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stated that their work is based entirely on community demand, while HEWs often assigned specific tasks to vCHWs. HEWs discussed determining their own responsibilities and occasionally receiving assignments from nurses. One vCHW explained the process of task allocation:

vCHW Respondent: *She [the HEW] makes us meet and gives us training at the church. Then she divides us, and says, “Somebody will be here; somebody will be here.” Then we make a plan, and we set a punishment for somebody not working.*

In Oromia Region, HEWs often assigned tasks to TBAs in addition to vCHWs, revealing a structured interaction between the three groups of FLWs.

TBA Respondent: *We have monthly meeting with all health workers in our kebele. During that [meeting] the health extension workers orient TBAs and vCHWs as to their responsibilities and also evaluate what they have done in [the past] one month. TBAs and VCHWs refer pregnant mothers to health extension workers and health extension workers give us comment on our work.*

Typical responses to the question, “How do you share your responsibilities with other health workers,” varied by role and region. In Amhara region, TBAs were not mentioned when vCHWs and HEWs replied, which supports the conclusion that vCHWs and HEWs conceptualize each other, though not TBAs, as part of the same team.

A common response about responsibility sharing was the following:

HEW Respondent: *For instance we have 20 volunteers [vCHWs]. ... We have given them different localities to cover. We have allocated the number of people one household head should cover.*

More rarely FLWs spoke of frequent, positive, and smooth working relationships, as in the following testimony:

HEW Respondent: *We are working not alone but with vCHWs and TBAs, now we have them almost in all gotts [sub-kebele level of the administrative system].*

Interviewer: *There are the traditional birth attendants, voluntary health workers or health*



Health Extension Workers in Oromiya Region practice examining a pregnant woman.

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messengers and extension health workers. How do you help one another?

vCHW Respondent: *We work with TBAs and others smoothly and with understanding. For example, currently every Thursday we have maternity service. If we are absent from the center, another health worker will handle or treat them. They also administer vaccination for the children when some of us are not around. So we work in collaboration and coordination. So far there is no crack or gap among us.*

Note that in the last exchange above, though the question specifically asked about traditional birth attendants, the respondent did not mention TBAs in her answer. In Oromia Region, on the other hand, TBAs are more frequently mentioned in response to the question on sharing responsibilities.

Interaction among Frontline Health Workers

One reason HEWs and vCHWs in Amhara Region may not identify as part of the same group as TBAs is a reported lack of interaction with TBAs. HEWs and vCHWs described holding weekly to monthly meetings, but TBAs were rarely present at these meetings. Occasionally interaction between these health workers and TBAs did occur, though it was not systematic and usually happened only for one TBA per community who was identified because of good past performance. Below a vCHW expressed confusion when asked if she worked side by side with TBAs, showing that the very idea of interaction may have been seen as unexpected or strange.

Interviewer: *How often do you interact with TBAs?*

vCHW Respondent: *Is that with the HEWs?*

Interviewer: *These are the mothers who are helping delivery, starting from earlier times.*

vCHW Respondent: *Oh! Those farmers that are helping each other during delivery?*

Interviewer: *Don't you have interaction with these people because of your work?*

vCHW Respondent: *We don't have interaction with them. [There is] no interaction with TBAs.*

Although TBAs in Amhara Region often said that HEWs do not think of including them in meetings, a few HEWs and vCHWs did describe having regular (though not necessarily systematic) interaction with one TBA.

HEW Respondent: *With TBAs, we have interaction with only one. There is a TBA here and we mostly meet with her.*

More commonly we heard the following:

TBA Respondent: *They [HEW] don't have meetings with us. They don't call our name. They never say that, "There are TBAs here -- Oh, let us discuss with them." They never say those things.*

By contrast, FLWs in Oromia Region regularly interacted through meetings involving HEW, vCHWs, and TBAs.

TBA Respondent: *We have monthly meeting with all health workers in our kebele. During that [meeting] the health extension workers orient TBAs and vCHWs as to their responsibilities and also evaluate what they have done in [the past] one month. TBAs and VCHWs refer pregnant mothers to health extension workers and health extension workers give us comment on our work.*

Challenges in Providing Care

Frontline workers were asked open-ended questions about challenges they face in delivering health services to the community. Three themes emerged from the discussion including the mobility of HEWs, competing household and health responsibilities among vCHWs, and a lack of notification for labor, delivery, and birth.

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HEWs frequently described traveling house-to-house to provide counseling and services. This creates a challenge when former patients sought care from an HEW in the health facility because frequently the HEW was not there. HEWs elaborated on this challenge explaining that nurses want continuity of patient care and prefer that HEWs attend to patients seeking care in the facility if the HEW had previously attended to the patient in the community.

HEW Respondent: *The people may suffer after they come here and if they are not able to get the service on that day [from a HEW], their appointment time will be shifted.*

Negative experiences in the health facility, including not receiving services on the day of the visit and having appointment times changed, could negatively impact community care seeking. Some HEWs have dealt with this challenge by making patient appointments in the early morning and late evening when they are not going house-to-house.

The position of vCHW is an unpaid position with fewer responsibilities than the HEW position. Because the position is unpaid, vCHWs have other responsibilities like farming and caring for livestock. Additionally, many vCHWs have families and must care for their children. Despite these challenges, most vCHWs expressed a desire to assist mothers and children in their kebele, acknowledging that they may not be able to fulfill their role because of competing demands on their time. Typical responses are shown below.

vCHW Respondent: *It's because we want to take care of our children. And to keep our cattle. That's why we don't have time [to complete health tasks].*

vCHW Respondent: *There is nothing [no health task] that I didn't start... But my problem is that I am not able to complete. I'm not able to complete them ...because I don't have time.*

HEWs in Amhara Region described community

care seeking as a challenge to providing care during labor, delivery, and after birth. While TBAs consistently discussed women calling for their assistance during labor, HEWs described finding laboring women only by chance in their homes.

HEW Respondent: *But mostly the work of health extension is house to house and we have our kits like the gloves, delivery kits, dressing and other things, and when we face by chance a woman in labor, we go and help the delivery.*

In Oromia Region FLWs also mentioned the challenge of labor and delivery notification though birth notification was not discussed as a problem because TBAs frequently inform HEWs of recent births in the community.

HEW Respondent: *For example, we meet daily with the TBA, because they bring report if there was delivery.*

Most HEWs in Amhara Region described a lack of notification for labor and birth while TBAs were often notified soon after labor begun. If regular interaction occurred in Amhara Region as it does in Oromia Region, TBAs could facilitate postpartum visits by telling HEWs which households have had a recent birth.

Problems for Women during Pregnancy and Delivery

FLWs were asked questions regarding problems that mothers face during pregnancy and delivery as well as problems that babies face after birth. All three types of FLWs described the challenge of a heavy workload during pregnancy, as discussed by an HEW here: “When they are pregnant the health problems they face are related to work overload.” TBAs problematize a heavy workload during pregnancy less frequently than other FLWs, though most TBAs said that each woman should take rest during her pregnancy time, admitting that it may not be possible for all women. HEWs, vCHWs, and TBAs mentioned poor

4.0 Frontline Health Worker Interviews

nutrition and a weak appetite as problems that women can face during pregnancy. A few FLWs mentioned discharging fluid and one HEW mentioned miscarriage as additional problems. Only HEWs and vCHWs mentioned malaria and hypertension as challenges that need to be managed during pregnancy. There was one TBA who explicitly mentioned malaria during pregnancy as a health risk.

During delivery most FLWs discussed prolonged labor, retained placenta and excessive bleeding as problems that can occur. TBAs sometimes mentioned excessive bleeding in the context of spirit possession (seraqiyan), which is reported in Amhara Region as an event that happens immediately after birth and is characterized by a woman clenching her teeth and losing consciousness (see above, in the ‘Maternal care and health seeking’ section, under ‘Problems during pregnancy and delivery’). HEWs alone discussed the challenge of fistula resulting from prolonged labor and weakness during labor. Additionally, several HEWs and vCHWs described mothers working too hard after birth as problematic.

Problems for Babies Immediately After Birth

A theme that frequently emerged in interviews is the perception that “if a baby is born well, he will remain well”. The idea that the birth status of a baby is predictive of a baby’s future health status was common among all three FLW groups. HEWs and vCHWs in particular went further, expressing a rather extreme

sense of confidence in vaccination: some said that with early vaccination babies would not experience any health problems at all. As evidence, some HEWs and vCHWs specifically mentioned a decrease in neonatal tetanus in their community as a result of vaccination.

A few FLWs discussed newborn babies not taking the breast immediately after birth as a challenge. In Oromia Region only, FLWs mentioned the danger of babies catching cold (birdi beshita [lit. ‘cold disease’]) if not wrapped in a towel immediately after birth.

FLWs often described the uvula dropping as a health concern for newborns, though the technique to manage the uvula varies by health worker.

vCHW Respondent: *By tradition it [the uvula] will be cut off. Cut with a sharp blade. But we, as we’ve been trained, we tell them not to cut it, as there is medicine [that can be used to treat the problem], and you don’t know what’s on the blade. We tell them not to cut it off.*

Some TBAs followed the tradition described above and removed newborns’ uvulas, while other TBAs said that they would refer the baby to the health post to receive medical treatment. HEWs and vCHWs tended to recommend seeking medical treatment if the uvula dropped, rather than cutting off the uvula preemptively. vCHWs rarely mentioned the following problems for newborns: malaria, cold and disabled or deformed body. HEW respondents rarely mentioned vomiting and HIV/AIDS, and one TBA discussed the “double head” problem, translated as hydranencephaly.

5.0 Summary of Key Findings

In this concluding section we highlight what we regard as some key results from the formative work that might have important implications both for community health and for the MaNHEP intervention and behavioral change communication strategies.

Maternal Interviews

- Roughly half of maternal respondents reported setting aside funds for an emergency during delivery. The failure to do so was attributed to poverty, rural farmer status, and the perceived ease of obtaining funds at the time of a crisis (e.g. through the sale of grains or cattle). Implicitly, the failure to set aside emergency funds was linked to the perceived low risk of health problems during pregnancy.
- Mothers routinely mentioned covering the umbilical cord stump with butter to promote healing and prevent infection. However, this practice may in fact increase risk of infection.
- Mothers repeatedly mentioned washing the baby with soap and water immediately after birth. This practice has implications for infant hypothermia.
- The provision of butter and tea to infants under the age of six months is a common practice in the study areas that conflicts with current international infant feeding recommendations. The World Health Organization currently recommends exclusive breastfeeding; that is, infants receive no foods or liquids other than breastmilk before six months of age (allowing for medicines).
- The duration of postpartum “rest” is contingent upon the household availability of resources, including people who can assist with performing chores and providing money.
- Retained placenta and excessive bleeding are widely recognized as problems that occur during delivery. Many women recognized hard work and poor nutrition during pregnancy as

risk factors for these problems, and associated them with spirit possession.

- Female relatives and neighbors play an active role in pregnancy and delivery, while husbands play a more variable role.
- Mothers reported very limited knowledge of the HEW program and rarely reported maternal and newborn services as part of the HEWs’ expected responsibilities.
- Mothers described TBAs as friendly, closely related, and experienced in their vocation; they also spoke of having somewhat frequent social interactions with them. HEWs were rarely described in this way.
- Mothers do not differentiate clearly between health workers (HEWs and vCHWs) or between health posts, health centers, and hospitals. In Amharic, the term *hakim-bet* (literally, doctor-house) was used to refer to all of these facilities alike.
- Women were nearly unanimous in their belief that a mother should engage with the health system only after a problem had emerged.

Frontline Health Worker Interviews

- When asked about all responsibilities, approximately half of HEWs themselves did not mention maternal and newborn care as part of their roles.
- Among HEWs, commonly mentioned maternal and newborn services were vaccination, family planning, and hygiene promotion. Some HEWs mentioned providing antenatal and postnatal counseling, while few HEWs (though slightly more in Oromia Region) mentioned attending delivery and providing postnatal care.
- TBAs were the first non-family member notified when labor begins.
- FLWs expressed full confidence in their ability to provide all services that they currently

5.0 Summary of Key Findings

- offered. This may imply that FLWs do not offer services if they do not have full confidence in their ability.
- Training and experience, particularly experience with attending a delivery, built confidence among FLWs in their ability to provide MNH care.
 - Community demand for services and community members recommending a particular health worker increased FLW confidence.
 - Regular interaction among FLWs was strongly associated with a sense of team identity. In Amhara region the team included HEWs and vCHWs but not TBAs, while in Oromia it included TBAs as well as HEWs and vCHWs.
 - Regular interaction between HEWs and TBAs in Oromia Region allowed TBAs to notify HEWs of recent births.
 - The house-to-house visits performed by HEWs may discourage community care seeking because it means that HEWs are often not present in the health facility.
 - Since vCHWs received little financial compensation for their work, health tasks competed with responsibilities for household livelihood; vCHWs therefore often failed to complete their health work.
 - FLWs cited heavy workloads and poor nutrition as common problems women experience during pregnancy.
 - Prolonged labor and retaining the placenta were frequently mentioned as challenges during labor.
 - FLWs lacked a consistent referral route.

A Health Extension Worker in Oromiya Region listens to a fetal heartbeat. Approximately half of HEWs did not mention maternal and newborn care as part of their roles.



6.0 Conclusions

The results of this formative work have clear implications for MNH training, collaborative quality improvement and behavioral change communication (BCC) strategies that form the core of the MaNHEP program.

From the perspective of high-quality home-based delivery of MNH services from birth to 48 hours, there is clearly a need to dramatically increase (1) the competence and confidence of HEWs in providing MNH care, and (2) community recognition of HEWs' usefulness in this area, and 3) the HEWs understanding and practice of their MNH responsibilities. Discussions with mothers highlight that TBAs are considered the most appropriate birth attendants, in part because of the long tradition of practice in these communities, because they are seen as experienced, and because they are frequently relatives or community members. MNH training for HEWs should explicitly focus on increasing their experience delivering babies. MNH training might also benefit from inclusion of strategies that HEWs can use to increase the trust of rural households, along with refresher courses on the management of retained placenta, prolonged labor, early child feeding practices, and cord care. BCC messages for communities could then highlight the benefits of an HEWs' presence at the home during birth, which seem to be currently not well recognized by families. This could be done in reference to the specific problems that mothers mentioned in the interviews. There is also a broader need to work with communities and HEWs so each better understands the roles and responsibilities of HEWs.

Within the FLW community there are several potentially useful steps that could be undertaken to

increase teamwork among FLWs and reliance on the collective knowledge of the team. First, there is a need for BCC messages encouraging TBAs to call for HEWs during labor and delivery and for broader messaging to encourage communities and TBAs/FLW teams to develop a process for notifying HEWs during labor and delivery. There is a clear need to better link TBAs, HEWs, and vCHWs into a network that shares information on currently pregnant women and when births are occurring in the communities. One step towards greater communication among FLWs would be to promote regular meetings between HEWs, vCHWs, and TBAs, which would be facilitated by the construction of clear communication systems between HEWs, vCHWs, and TBAs. This venue could be used also to construct a common and agreed upon referral system.



A pregnant woman in Oromiya Region stands to benefit from more effective teamwork among front line health workers.

7.0 Recommendations

The MaNHEP team members made recommendations, after review and discussion of the formative research findings and conclusions. The team will execute these recommendations for the duration of the project. There are three principle vehicles for applying the findings of this formative research, corresponding to the major components of the project: (1) the community maternal and newborn health program supplemented with clinical training for HEWs in safe clean delivery, (2) collaborative quality improvement, and (3) reinforced through broader behavior change communications. These are briefly discussed, below, according to the findings from different target audiences, including women, families and frontline health workers (FLWs) which include health extension workers (HEWs), volunteer community health workers (vCHWs), and traditional birth attendants (TBAs).

Vehicle 1: Community Maternal and Newborn Health program (CMNH)

MaNHEP's Community Maternal and Newborn Health (CMNH) Training program provides a natural vehicle for building skills, confidence and getting key health messages across through discussion, role-play, negotiation and practice. It emphasizes not only safe practices such as antenatal care (ANC) and birth preparedness, illness recognition and referral, where possible, but also emphasizes elimination of certain potentially harmful practices identified in the formative research, such as pre-lacteal feeds, putting oil and butter on the cord stump, bathing the baby before 24 hours.

Despite sustained efforts to include maternal and newborn health in the Health Extension Program, the formative research findings indicate that there is very little community awareness about potential roles of HEWs to provide ANC, birth and postnatal care. As indicated by the data analysis, HEWs are not part of many women's 'cultural model' of pregnancy and delivery care.

The CMNH component of MaNHEP can serve as a conduit for building awareness of and potential trust relations among women, family caregivers and frontline workers through increased frequency and regularity of contact centering on maternal and perinatal care. The program implementation and support strategy involves a collaboration among HEW supervisors, HEWs, vCHWs and TBAs to reach women and caregivers through organized meetings (teaching and learning sessions). In the CMNH program, both the skills for safe care and the roles of different frontline worker team members in care provision should be discussed and emphasized. The CMNH program strategy, thus, should seek to optimize the roles of health workers working at various levels of health care to improve maternal and perinatal health, a key issue in this field both in Ethiopia and in other developing countries. This said, in Oromia region, the integration of TBAs into a broader sphere of health education and disease prevention activities appears to be more successful than in Amhara region, where the formative research findings indicate that TBAs are more isolated and their roles focus primarily on birthing care. MaNHEP should work with the Federal Ministry of Health and Regional Health Bureau partners to align and optimize the roles of frontline health workers, including TBAs, with national and regional policies and guidelines.

Vehicle 2: Collaborative Quality Improvement (QI)

The formative research revealed low awareness of the roles of HEWs in maternal and newborn health care, as well as limited understanding of the concept of frontline health worker teams. MaNHEP-supported quality improvement teams should address these challenges. They should ensure that all key people are actively involved in the QI teamwork, including district health officers, HEW supervisors, HEWs, vCHWs, TBAs, women and families to encourage understanding and cooperation between the groups. They should work on improving community-level

7.0 Recommendations

systems to support care around the time of birth. Importantly, the QI teams should be instrumental in improving community-level communications, clarifying potential roles of different actors; communication of important points in pregnancy, labor and birth; and developing community-wide processes for assistance during and after birth. For example, they should mobilize women's associations and other traditional community leaders and groups, in pregnancy identification and registration, ANC, ensuring pregnant women are attending CMNH meetings, labor and birth notification, illness recognition and referral.

The structure of the learning sessions, which brings QI team members together on a quarterly basis, coupled with monthly on-site coaching, should provide an ideal opportunity for cross-learning, frontline worker team strengthening, problem solving around work/task re-allocation, time management and organization, assurance of coverage, worker motivation, as well as reinforcement and continuing education, both in the content and processes of maternal and newborn health service delivery.

Vehicle 3: Behavior Change Communications (BCC) Strategy Development

Frontline workers, pregnant women and family caregivers, including husbands, should be targets for BCC efforts that emphasize improved maternal and newborn care practices, the importance of frontline worker teams and role optimization, and the potential roles of HEWs in safe care during pregnancy, labor and birth, and the early postnatal period. These key messages should be incorporated into and reinforced through the CMNH and QI components of MaN-HEP. However, there are other important channels and methods for getting the messages out to a broader audience. For example, MaNHEP should develop and implement a broader BCC strategy that targets not only these audiences but also health managers at district and regional levels. This work, which will draw upon the findings of this formative research and on the baseline survey, is currently being developed.