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MCSP Ethiopia Community Based Newborn Care (CBNC) Project

Barriers and Facilitators for Early Pregnancy Identification, Birth Notification, and Antenatal and Postnatal Visits in Amhara Region, Ethiopia

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Acknowledgments

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Contributors:

Abeba Bekele, MCSP CBNC/NEGA

Amy Mangieri, MCSP

Ayne Worku, MCSP

Joseph De Graft Johnson, MCSP

Margaret Dadian, MCSP

Mesfin Beyero, Consultant

Solomon Tesfaye, MCSP CBNC/NEGA

Yordanos Molla, MCSP

Abbreviations

ANC	antenatal care
CBNC	community-based newborn care
FGD	focus group discussion
HC	health center
HDA	Health Development Army
HDATL	Health Development Army team leader
HEW	health extension worker
HP	health post
HW	health worker
KII	key informant interview
MCSP	Maternal and Child Survival Program
MNCH	maternal, newborn, and child health
NEGA	Newborns in Ethiopia Gaining Attention
PNC	postnatal care
SBCC	social and behavior change communication
SNNPR	Southern Nations, and Nationalities, and Peoples' Region
TBA	traditional birth attendant

Executive Summary

Early pregnancy identification and notification, as well as birth notification, are key entry points for timely antenatal, postnatal, and community-based newborn care services. To understand the factors that affect pregnant women's timely uptake of maternal, newborn, and child health (MNCH) services in Ethiopia, the Maternal and Child Survival Program (MCSP) conducted a qualitative study that investigated the barriers and facilitators to service that women experience as they pass through the different cycles of pregnancy, delivery, and postnatal care (PNC). The study also investigated the availability of active pregnancy surveillance mechanisms, a key MCSP strategy for identifying pregnant women early so they and their babies can benefit from timely antenatal care (ANC).

Key study objectives were to identify and assess:

- Client-side barriers and enhancers for early pregnancy identification, early ANC visits, and early PNC visits
- The strengths and weaknesses of existing pregnancy and birth surveillance mechanisms, as well as opportunities for improvement
- Available communication channels in the community that can be used for social and behavior change communication interventions</bl>

In October and November 2016, MCSP conducted the research in four *woreda*s (districts) in North Wollo Zone (Meket and Raya Kobo) and Waghimera Zone (Sekota and Dahena) in Amhara Region. The study used purposive sampling techniques to select study sites and participants in the two zones. In 24 focus group discussions and 70 key informant interviews, the research team received adequate information from a variety of participants: government MNCH experts at different levels, religious and community leaders, women who delivered in the past 6 months, husbands of women who delivered in the past 6 months, grandmothers and mothers-in-law of women who delivered in the past 6 months, traditional birth attendants (TBAs), health extension workers (HEWs), and leaders of the Health Development Army (HDA) networks,[1] a community-based movement of women promoting healthy behaviors and practices.

A conceptual framework for this study was adapted from the revised Andersen's behavioral and access to care model (Andersen 1995), which posits that usage of health services is determined by four components: environment, population characteristics, health behavior, and health outcome. The model was adapted because it best describes factors affecting health service utilization that range from individual characteristics and behavior to the external environment. Based on this framework, the eight-member study team received training to explore population characteristics, such as predisposing factors related to sociocultural beliefs; enabling factors related to financial security, family, and community support; and need factors related to perceived and evaluated need for health services. Participants were asked to express their perspectives about barriers to and facilitators of early pregnancy identification and notification, ANC, birth notification, and postnatal visits.

The results revealed a wide array of population characteristics, behavior, health outcomes, and environmental factors that affect attitudes, beliefs, and behaviors about pregnancy, childbirth, newborn care, and postpartum care for mothers. Among the key results are the following:

- *Early pregnancy identification:* Recognizing pregnancy within the study population primarily involves a woman's symptoms and appearance. Symptoms such as cessation of the menstrual cycle, nausea,

[1] The HDA is a network composed of one lead woman (from a household identified as a "model" for implementing the majority of the packages in the Health Extension Program) with five women in her neighborhood, with the goal that these households learn from the lead woman. Every household in a rural *kebele* (the lowest administrative unit) is member of the one-to-five HDA network. HDAs work closely with the HEWs in health promotion and disease prevention activities.

emotional state, and fetal movement, as well as pregnancy test results, were most commonly used to identify pregnancy.

- *Early pregnancy notification:* There are many barriers to early notification of pregnancy, an important first step to accessing ANC services. Many women feel culturally inhibited from revealing a pregnancy early to the larger community, especially if the pregnancy occurs outside marriage or happens "too soon" after an earlier pregnancy. Women may reveal a pregnancy first to the father, but only if he wants the child or feels financially capable of caring for the child, or to other female friends or family members, such as their mother or mother-in-law. Some women believe that early notification might result in miscarriage or late delivery of the baby. Health workers (HWs) may learn of a pregnancy when a woman comes to a health facility for pregnancy testing but may not be told directly or approached for care until several weeks or even months have passed. However, community norms are now more supportive of early pregnancy notification for the health of both the woman and the fetus, thanks to the community education efforts of HEWs and some religious leaders.

    - *ANC:* Distance and the topography between the home and the health facility may keep women from seeking timely ANC, especially as the pregnancy advances. The absence of female maternity staff or the unfriendly behavior of some HWs may also discourage women from approaching health facilities for ANC. Both women and men have low levels of awareness of the benefits of ANC. Some families may feel that competing traditional practices, such as visiting traditional witchcraft practitioners, TBAs, and holy water sites, are sufficient to guarantee a successful pregnancy and birth. Other beliefs that may inhibit ANC uptake are that there are no real benefits to attending ANC and that past experiences of safe deliveries without ANC make the services unnecessary. ANC facilitators include pregnant women conferences, where women receive information and support from community health educators. Education and messaging to men about ANC may also be effective in increasing their support to wives for attending ANC. Husbands and communities help ANC uptake by sharing household chores during ANC follow-up visits. Supplementary food provided by health facilities also encourages uptake.

- *Childbirth:* Institutional delivery is on the rise in Ethiopia (Federal Democratic Republic of Ethiopia Ministry of Health 2017), but some women prefer home delivery so that their mothers or close friends can attend to them, or because they trust traditional practitioners. Many women distrust health facilities, which they may fear are not clean and may have incompetent staff. The lack of female midwives at facilities and past experience of safe delivery at home also discourage some women from facility delivery.
- Distance and lack of safe transportation may make it difficult to reach the facility in time for the delivery. However, women are becoming increasingly aware of the benefits of delivering in health facilities, including control of postpartum bleeding, pain management, treatment to prevent mother-to-child HIV transmission, free services, free supplementary foods, referrals when needed to hospitals, and better overall health for mothers and infants. Facilities that encourage traditional celebrations, such as the coffee ceremony, also encourage women to deliver at health facilities.

    - *Early PNC:* There are significant barriers to timely uptake of early postnatal services, including many based on traditional beliefs and social norms. These include support from religious leaders and the community for a longer postpartum stay in the house or confinement that keeps women and infants from leaving home for weeks and sometimes months. Some of the beliefs underlying the decision to remain at home include fear of Satan, the "evil eye," or other supernatural dangers, and women's vulnerability because their vaginas are "open" after the delivery. This is because of the belief that women will be protected from these adversaries if they stay at home. Some also fear that the baby's exposure to bright light could cause squinting.

    - *Surveillance mechanisms:* Current surveillance mechanisms rely mainly on HDAs for promoting early pregnancy identification and notification, birth notification, and PNC utilization. Involving husbands of HDAs and other men to encourage their pregnant wives to use maternity services could increase uptake at the different points in the pregnancy cycle.

Recommendations based on the study results include the following:

- Recruit and train religious leaders on the benefits of early pregnancy notification so they can support ANC in their communities.
- Encourage HDAs and HDA team leaders who live within the communities where they work to lead pregnant women past cultural barriers to initiate early ANC, facility delivery, and early PNC.
- Change social norms and attitudes about ANC by recruiting women who have accessed early ANC services to speak at pregnant women's conferences and elsewhere in the community.
- Bring ANC services closer to communities to overcome transportation and inaccessibility issues.
- Involve husbands and mothers-in-law in efforts to encourage women to decide to attend ANC, undergo institutional delivery, and take advantage of early PNC. Involving husbands in awareness-raising campaigns, including involvement in pregnant women's conferences, will facilitate ANC attendance, institutional delivery, and PNC.
- Train HWs at all levels in compassionate and respectful care and in client-provider relations so that their treatment of women helps raise the acceptability of services within the community.
- Assign female HWs to ANC, delivery, and PNC clinics to make services more culturally appropriate and attractive to women.

Introduction

Early pregnancy identification and notification, as well as birth notification, are key entry points for timely antenatal, postnatal, and community-based newborn care (CBNC) services in the maternal, newborn, and child health (MNCH) continuum of care (Federal Democratic Republic of Ethiopia Ministry of Health 2013). Antenatal care (ANC) is more beneficial in preventing adverse pregnancy outcomes when women receive it early in the pregnancy and continue it through delivery. Early detection of problems in pregnancy leads to more timely referrals for women in high-risk categories or with complications; this is particularly true in Ethiopia, where three-quarters of the population lives in rural areas where physical barriers pose a challenge to accessing health care (Central Statistical Agency/Ethiopia and ICF International 2012).

The new ANC model of the World Health Organization (WHO 2016) recommends that a woman without complications have at least eight ANC visits, the first of which should take place during the first trimester. This model doubles the number of contacts a pregnant woman has with health providers throughout her pregnancy, from four to eight. Recent evidence, based on a Cochrane review on "reduced-visit" ANC model (four visits) versus "standard" care models (with at least eight ANC visits planned) that included seven randomized controlled trials indicates that a higher frequency of antenatal contacts between women and adolescent girls and the health system is associated with a reduced likelihood of stillbirth because there are more opportunities to detect and manage potential problems (Dowswell et al. 2015). Eight or more contacts for ANC can reduce perinatal deaths by up to eight per 1,000 births when compared to four or more visits (WHO 2016).

Despite the Government of Ethiopia's efforts to improve maternal health and the increase in the number of health centers in the country, health service utilization is "unacceptably low" (Seifu 2011). Increasing the availability of services and equipment does not guarantee that women will use them. Some reports demonstrate that the quality of facility-based maternal health services is poor and that traditional belief systems may discourage safer birthing practices (Mavalankar 2003, Mekonnen and Mekonnen 2003, Koblinsky et al. 2006).

Two-thirds of postnatal maternal deaths and three-quarters of neonatal deaths occur in the first week of delivery, with a large proportion of these deaths happening in the first 48 hours of life (Lawn et al. 2014, Graham et al. 2016).Therefore, early postnatal contact and care are important for both the mother and the child to prevent and/or treat complications. Safe motherhood programs recommend that all women receive a health checkup within 2 days of delivery (CSA and ICF International 2012). However, in Ethiopia, current ANC and postnatal care (PNC) coverage is extremely low. The median duration of pregnancy at the time of the first antenatal visit was 5 months, which is late in the second trimester, and only 32% of women made four or more ANC visits during the course of their pregnancy (CSA and ICF 2016). The same survey reported that only 17% of women received PNC within the first 2 days of delivery. The majority of women (83%) with a live birth in the preceding 5 years did not receive any postnatal checkup at all (WHO 2016).

Rapid assessments conducted in 2015 in East Shewa, Gurage, and Sidama zones of Ethiopia by Save the Children's Saving Newborn Lives project identified multiple barriers to pregnancy identification, birth notification, and PNC (Save the Children 2015a, Save the Children 2015b). According to these assessments, most women wait to notify the health system of their pregnancy until after the third or fourth month because they feel embarrassed by the pregnancy, as it is "evidence" of having a sexual relationship with a man, especially when it happens for the first time; they are scared; or they are not sure whether the pregnancy will continue. The main barriers for delayed identification of pregnancy were women's limited understanding of menstruation patterns and the tendency to wait for signs of morning sickness as confirmation of pregnancy. The first people who women usually inform of their pregnancy are husbands. This is because many husbands want to have more children and because women need their husbands' support for transportation to the health facility, for delivery preparations, and for minimizing household chores that are expected of them (Save the Children 2015a, Save the Children 2015b).

In East Shewa Zone, the main barriers to utilization of focused ANC services include women's lack of knowledge about the benefit of ANC services, their feelings of embarrassment about coming to the health facility for follow-up, and their belief that they will be protected by supernatural beings during pregnancy and delivery. The high mobility of the population is also a barrier, especially in Fentale *woreda*. In many parts of Ethiopia, one of the barriers to utilization of PNC services is the deep-rooted tradition that mothers must not leave the home for 2 months after delivery. Newly delivered mothers are also perceived by the community to lack the strength to take their newborns to the health facility for health care services. Thus, PNC visits are often provided by health extension workers (HEWs) at the woman's residence. However, these services may not be consistent and comprehensive because of the limited number of health workers (HWs; Save the Children 2015a, Save the Children 2015b). (The two Save the Children assessments cited here did not cover Amhara Region, which is culturally and geographically different from Oromia and Southern Nations, Nationalities, and Peoples' Region [SNNPR] states.) The 2011 Ethiopian Demographic and Health Survey also identified distance to a health facility, transportation problems, lack of empowerment, and cost of treatment (whether real or perceived) as the most important barriers to utilizing maternal health services (CSA and ICF International 2012).

Anecdotal evidence suggests that, while the benefit of early enrollment in ANC to the mother and the baby is understood by HWs, active pregnancy surveillance mechanisms either do not exist or, where they do exist, are implemented in an ad hoc manner. Given the various barriers to MNCH care seeking in rural communities of Ethiopia, active pregnancy surveillance is among the key strategies of the Maternal and Child Survival Program (MCSP) CBNC project to facilitate identification of pregnant women as early in their pregnancy as possible so that they enroll in ANC early and are followed through the immediate postnatal period and beyond.

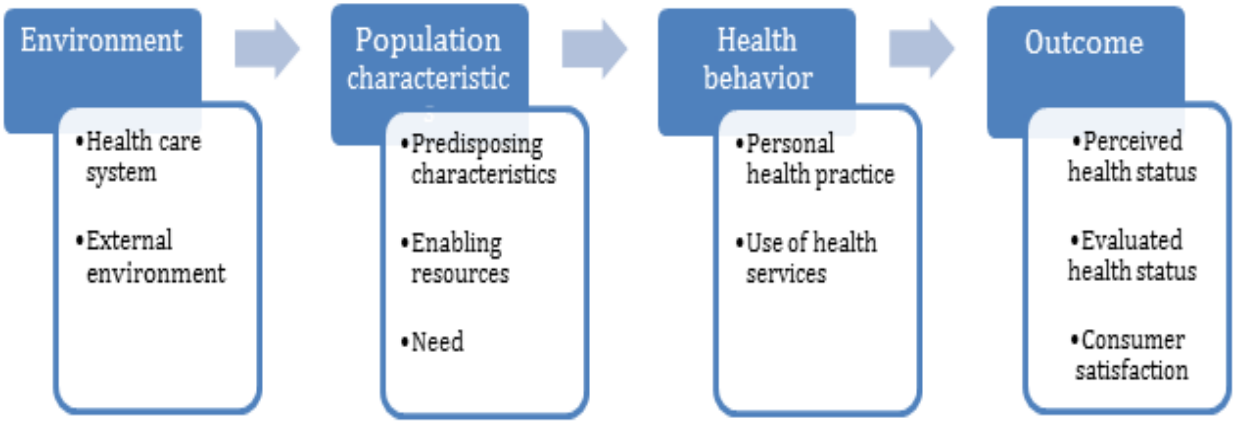
This study focuses on understanding the barriers and facilitators in the Waghimera and North Wollo zones of Amhara Region. It also explored available pregnancy and birth surveillance (identification and notification) mechanisms where they exist. Findings from the study could be used to strengthen the pregnancy and birth surveillance mechanisms and social and behavior change communication (SBCC) in the MCSP project areas.

Eureka Services PLC, a consultancy firm with experience performing qualitative and quantitative research in Ethiopia, was contracted to conduct the study using the approved study protocol together with a set of data collection guides and tools developed by MCSP Newborns in Ethiopia Gaining Attention (NEGA) technical staff. In addition to the field data collection, Eureka led the systematic data analysis, interpretation, and drafting of the study report.

Conceptual Framework

The conceptual framework for this study was adapted from the revised Andersen's behavioral and access to care model (Andersen 1995). According to this model, usage of health services is determined by four components: environment, population characteristics, health behavior, and health outcome (see Figure 1). The model was chosen because it best describes factors affecting utilization of health services that range from individual characteristics and behaviors to the external environment. The study team explored the qualitative study findings based on this framework, including such population characteristics as predisposing factors related to sociocultural beliefs; enabling factors related to financial security, family, and community support; and factors related to perceived and evaluated need for health services. Respondents' experience of health seeking and service use, as well as perceived health status and satisfaction based on previous experiences, were also assessed as potential facilitators or barriers to care. The existing health care system, including pregnancy and birth surveillance mechanisms and channels of communication, were explored as environmental factors that have the potential to affect respondents' health care utilization. The results of the study are presented such that the different building blocks of Andersen's model are presented as a summary under each level of care during pregnancy, childbirth, and the postnatal period.

Figure 1. Revised Andersen's behavioral and access to care model (Andersen 1995)



Objectives of the Study

This qualitative study was conducted in Amhara Region. Specific study objectives include the following:

- Identify key demand-side barriers and facilitators for early pregnancy identification, early ANC visits, and early PNC visits.
- Identify and assess the strengths and weaknesses of existing pregnancy and birth surveillance mechanisms, as well as opportunities for improvement.
- Identify available communication channels (sources of information) in the community and determine how best to use these channels for SBCC interventions.

Methodology

Study Areas and Target Populations

This study was conducted in four *woreda*s in North Wollo Zone (Meket and Raya Kobo) and Waghimera Zone (Sekota and Dahena) in Amhara Region (see Table 1 and 2 for general background information on each zone). The study sites were selected purposively; the CBNC intervention started in the two zones in February 2016, so rapport with the zonal and *woreda* leadership and health facilities was well established, and there was no restriction on movement within the *woredas* and *kebeles* (associated with civil unrest and following declaration of the national state of emergency in the second half of 2016). The study participants included government MNCH experts at different levels, religious and community leaders, women who delivered in the past 6 months, husbands of women who delivered in the past 6 months, grandmothers and mothers-in-law of women who delivered in the past 6 months, traditional birth attendants (TBAs), HEWs, and members of the Health Development Army (HDA), a community-based movement of HWs.

Table 1. North Wollo Zone background information

Population Characteristics	Statistics
Total population	1,500,303 (747,408 women)
Total number of households	355,974
Average household size	4
Ethnic groups	
Amhara	99.4%
Others	0.6%
Language	
Amharic	100.0%
Religion	
Orthodox Christian	83.0%
Muslim	17.0%
Primary Health Care Unit	
Number of health centers	63
Number of health posts	271
Number of health extension workers	542

Table 2. Waghimera Zone background information

Population Characteristics	Statistics
Total population	426,213 (212,368 women)
Total number of households	102,098
Average household size	4.17
Ethnic groups	
Kamyr Agaw	52.9%
Amhara	45.5%
Others	1.6%
Language	
Amharic	56.3%
Kamyr Agaw	41.8%
Others	1.9%
Religion	
Orthodox Christian	99.0%
Others	1.0%
Primary Health Care Unit	
Number of health centers	30
Number of health posts	125
Number of health extension workers	250

Study Design

This was a cross-sectional qualitative study that used focus group discussions (FGDs) and key informant interviews (KIIs) to explore barriers and facilitators to early pregnancy identification, birth notification, ANC, and PNC in the study communities. In addition to primary data collection, the team reviewed relevant documents, including studies on newborn care seeking in Ethiopia. Field data were collected in October and November of 2016.

Sample Size and Sampling Procedure

The study used purposive sampling techniques to select study sites and participants to best represent various ecological, social, and cultural characteristics in North Wollo and Waghimera zones of Amhara Region. Sampling criteria used to select sample woredas were population size and trends in ANC and delivery to represent both good and poor-performing areas. Because of national civil unrest that affected Amhara Region around the time of the study, security concerns also informed the criteria. The purposive sampling method was used to choose kebeles, administrative subsets of woredas with 3,000 to 5,000 inhabitants, selecting one that is close to and one that is far from the woreda's administrative town.

Sample Size

FGD participants: Based on information saturation, the research team conducted 24 FGDs; each FGD included eight to 12 participants. FGD participants were categorized into three groups based on the similarity of their characteristics, with four FGDs conducted in each of the two *woreda*s within each group (see Table 3). Participants were drawn from four *woreda*s in North Wollo and Waghimera zones. Spouses, grandmothers and mothers-in-law, and HDAs were identified as study participants due to their role in household/family care-seeking decision-making processes in many parts of Ethiopia. Their perspective is important to designing tailored communication strategies. In order to obtain detailed information on individual experiences, in-depth interviews were conducted with recently delivered women.

Table 3. Distribution of participants for focus group discussions (FGDs)

FGD Participants	Number of FGDs	
	North Wollo	Waghimera
Husbands of women who delivered within the 6 months preceding the survey	4	4
Grandmothers and mothers-in-law	4	4
Health Development Army team leaders[2] and health extension workers	4	4
Total	12	12
Grand total	24	

KII participants: Seventy KIIs were conducted in the two zones, with purposive selection of KIIs by participant type: MNCH experts working at *woreda* health offices, midwives working in health facilities, religious and community leaders, women who entered ANC late, women who entered ANC during the first trimester, and women who did not seek care during the last pregnancy. The KIIs also included TBAs, HEWs, and HDA members (see Table 4).

[2] Health Development Army team leaders (HDATLs) are 30 women selected from among leaders of five to six HDA networks. The DTLs are chosen based on their level of literacy, their level of activism in the community, and their higher uptake of Health Extension Program packages in their households.

Table 4. Distribution of participants for key informant interviews

Key informants	Number of Key Informant Interviews by Zone	
	North Wollo	Waghimera
Maternal, newborn, and child health experts	4	4
Midwives	4	4
Religions and community leaders	4	4
Women who entered antenatal care late	4	4
Women who entered antenatal care during the first trimester	4	4
Women who did not seek care during last pregnancy	23	4
Traditional birth attendants/traditional birth attendants	4	4
Health extension workers	4	4
Health Development Army	4	4
Total	34	36
Grand Total	70	

Gender of participants: There were no gender restrictions for enrolling participants. FGDs and KIIs both took into consideration respondents' characteristics based on profession, gender, and decision-making power at the household level. Given that mothers, mothers-in-law, and husbands may be involved in accessing services for a woman during her pregnancy, the research considered all as potential participants for the FGDs. For the KIIs, every effort was made to include both men and women. (Gender was not relevant for the HEW KII, since it is a "women-only" profession.)

Age of participants: All study participants were adults over 18 years old.

Racial and ethnic origin: Study participants were selected from Amhara Region, which is predominantly made up of the Amhara and Kamyr Agaw ethnic groups. There was no enrollment restriction based on ethnicity.

Inclusion and exclusion criteria: Criteria of inclusion or exclusion of study participants were established as part of the respondent categories. For the FGDs, the categories included in the study were husbands of women with a live birth in the last 6 months, grandmothers or mothers-in-law, HDA team leaders (HDATLs), and HEWs living or working in the study area. The selection of the study participants was conducted randomly with the support of Save the Children field staff and HEWs. Similarly, for the KIIs, enrollment included MNCH experts working at the regional, zonal, and *woreda* health offices; midwives; religious and community leaders; women who delivered in the previous 6 months and who entered ANC early (in the first trimester) or late after the first trimester; HEWs; HDAs; and TBAs. All others were excluded from the study.

[3] In North Wollo, the research team used HEWs to identify KII participants. Given the very high reported coverage of first ANC, HEWs informed the study team that there were no women who didn't seek care during pregnancy in the respective *kebeles*. This was communicated to the MCSP NEGA team, and guidance was provided to use a more informal approach (informal conversation with HDAs, TBAs, and community leaders) to identify non-users. Unfortunately, they were able to identify only two non-users within the timeframe they stayed in the *kebeles*. Based on this lesson, MCSP NEGA advised the study team to change its strategy for identifying study participants in Wag Himra.

Training, Data Collection, and Quality Assurance

Training

The research team received 2 days of standardization training. The training focused primarily on qualitative data collection methods, use of the study protocol, and use of the data collection instruments. The training agenda also included ethical requirements that the team needed to understand and comply with during the study.

Data Collection

Team

Team arrangement for the fieldwork: A team of eight members (five females and three males) was deployed; the assignments included a field supervisor, two FGD facilitators, two note takers, and three KII interviewers.

The field supervisor was responsible for organizing the FGD and KII sessions and for ensuring compliance with the study protocol. The FGDs were conducted by experienced facilitators assisted by a note taker, who taped the discussions and took notes. The note taker did not write down names or other information that could identify participants but instead used codes for individual participants. The KII interviewers recorded all interviews and were responsible for capturing the in-depth, qualitative information on key issues to be examined. Participants were encouraged not to give names or other identifying information during discussions.

Instruments

Four types of data collection instruments were developed: FGD guides, KII guides, desk review guides, and record review formats/checklists. These data collection instruments did not contain any participant identifiers; instead, codes were assigned to participants and institutions for analysis and reporting.

Qualitative data: Qualitative data were collected using FGDs, KIIs, and desk and record reviews. Specific barriers and facilitators assessed included knowledge, risk perception, perceived severity, locus of control, outcome expectation, culture, religion/beliefs, accessibility, perceived quality of care, and current practice. The FGD and KII guides were tailored to gather data pertinent to each specific data source.

Desk review: A desk review of documents (e.g., baseline and endline surveys, assessments, formative studies, studies conducted by similar projects, strategies) related to early pregnancy identification, birth notification, ANC, PNC, and birth surveillance mechanisms was conducted. The desk review also looked at barriers related to culture, religion, knowledge, distance from health facility, transportation to/from a health facility, cost, and gender. The findings of the desk review were integrated with the data and findings from the primary data collection and analysis. Results will inform SBCC strategies and the assessment of existing birth surveillance mechanisms.

Record review: Facility records found at health centers (HCs) and health posts (HPs), such as family folders, integrated MNCH cards, pregnancy registers, and ANC registration books, were reviewed to understand existing surveillance mechanisms and issues related to pregnancy identification, ANC, delivery, and PNC. The record reviews enabled the study team to identify study participants from the service delivery registration books. As above, the field team used no identifiers in the review sheets.

Process

Data collection was conducted in a phased manner, starting with the FGDs, followed by the KIIs. This helped the team identify emerging themes and information to further inform and enrich the field guides. Issues identified during the FGDs were explored in the KIIs as applicable.

Quality Assurance

The following data quality assurance measures were taken:

- Highly experienced data collectors with relevant educational background, language proficiency, and familiarity with the local context were employed.
- Data collectors and field supervisors received intensive training before the data collection.
- Field supervisors carried out onsite supervision.
- FGD and KII interviews were audiotaped.
- To ensure the accuracy of the translations, 10% of the detailed field notes were compared with the audio records per each respondent category.
- The lead researcher listened to the recorded interviews and gave feedback to the field team.

Data Management

Data Confidentiality and Storage

The first step in ensuring data confidentiality is to use codes as identifiers. FGD facilitators and KII interviewers kept all data they gathered in a secure and coded manner. This procedure was discussed by the lead researchers of Eureka and the study team during team standardization training. All hard copies (record review forms) were submitted to the MCSP/Save the Children office in sealed envelopes, while tape recordings and data sets were labeled and organized appropriately. Access to the data was limited to only the authorized research teams and responsible Save the Children International staff.

Ethical Clearance

Ethical clearance to undertake the study was secured from the Western and the Amhara Regional Health Bureau institutional review boards. Informed consent was obtained from all study participants before the commencement of the interviews.

Data Analysis

The qualitative data were analyzed manually, using a process of five interrelated steps: reading, coding, displaying, reducing, and interpreting (Save the Children 2015a). Extended notes were reviewed and organized by theme. Coded text was reviewed to identify further themes or patterns emerging from the data. At the end of the data collection, interviewers and researchers met to go through the notes and assign themes, identify key quotes, and interpret the findings. This meeting enabled the researchers to understand the circumstances and context of the conversations so that they could accurately interpret the information. Quotes were selected from the identified themes and other data display methods, such as conceptual models and tables.

Step 1: Reading: In this assessment, the first step of data analysis involved reading field notes complemented by tape-recorded information to see if all required information was captured, identify emergent themes, and develop tentative explanations. The team also worked to identify patterns among the themes and to detect possible relationships or contradictions in the responses. The data collected from various sources were triangulated to cross-validate important findings.

Step 2: Coding: The second step of the analysis was coding the themes manually to ensure in-depth analytical thinking. The use of similar words to flag ideas in the transcripts made analysis of data easier and more accurate, put themes of the same code together, and revealed subthemes. At the end of the field data collection, the lead researcher conducted a data review, analysis, and interpretation workshop with the field team to avoid incorrect interpretations for accurate results.

Step 3: Displaying Data: At this stage, the variations or similarities of the data within a theme had been captured, and the main themes and subthemes were identified. The variations within each thematic file and the key concepts were identified, and the perspectives of different subgroups were revealed.

Step 4: Data Reduction: At this stage, data reduction was conducted to clarify the most essential information about pregnancy identification and notification, birth notification, ANC, and PNC visits for these populations. Central and secondary themes were identified, and essential data were parsed from nonessential data.

Step 5: Interpretation: At this stage, the core meaning of the data and ways in which the themes, subthemes, connections, and contradictions in the data fit into the overall objective of the assessment were identified and explained. The information gathered through the desk review was analyzed, synthesized, and integrated with the findings of the primary data.

Strengths and Weaknesses of the Study

Strengths: The study is unique because it provides details about multifaceted factors influencing service use along the continuum of the pre- and post-pregnancy period. Moreover, the study adopted a theoretical model to comprehensively understand underlying barriers and facilitators for behavior and access to care for early pregnancy identification and notification, ANC, delivery, and PNC.

Weaknesses: The study had limited geographic coverage. As there are differences among the different zones within Amhara Region itself, it is difficult to make regional and national inferences to the results of the current study.

Results

The results of this study are presented based on the four pillars of Andersen's theoretical model for factors influencing health services utilization—population characteristics, health behavior, health outcome, and environmental factors—during early pregnancy identification, ANC, delivery, and the postnatal period.

Early Pregnancy Identification and Notification

Feelings about Pregnancy

Pregnancy within formal marriage is praised and appreciated both by women and men in the community. It is more so when there is consent from the husband and it is not too soon. The study revealed a general consensus among FGD participants who are fathers that men generally become happy when their wives get pregnant. However, they also noted that with a new pregnancy comes more responsibility, which may cause some men to worry. A father FGD participant from Sekota *woreda* said:

"I feel happy when my wife became pregnant but of course am worried about her well-being and the baby's until she safely delivers. Besides, I try to find food items she prefers to eat."

Many women also said they feel very happy when they know they are pregnant. This is generally true if the pregnancy is wanted and happens within a formal marriage. In these cases, husbands are usually the first ones to hear the news. A woman from Raya Kobo who started ANC early said:

"When I missed the menstruation, I went to a health center and tested for pregnancy. The health care provider told me that I'm pregnant. I notified my husband as soon as I came back from the health center because he was the one around me."

An HEW from Sekota *woreda* said:

"When a woman knows that she is pregnant, she notifies her husband first. This is because husband and wife are one flesh, and there is no one so close to the woman than him. Women who are reluctant to announce the pregnancy publicly also tell their husbands immediately."

The FGD participants also reported that there are times that husbands are not happy about a pregnancy, especially when women get pregnant "too soon" after their last pregnancy or without their consent. In the latter case, some male FGD participants from Dahena *woreda*, Waghimera Zone, said that husbands may force their wives to do intensive farm work and carry heavy loads in order to make them abort. Other FGD participants from Sekota *woreda* also said that husbands may beat their wives or punish them with hard physical work. Some also said that women may take traditional abortifacient herbs if the husband/father has not given consent for the pregnancy. Some male FGD participants reported that an unwanted pregnancy could be an issue for divorce by men who do not want to support the child. Participants cited examples of families that experience financial crisis when there are too many children.

Early Pregnancy Identification

Participants said that pregnancy identification is made mainly by noting various symptoms that women and the larger community recognize (see Table 5). In some instances, the contribution of the environment, such as the availability of pregnancy tests in health facilities, contributes to early diagnosis. Female FGD participants cited several of these symptoms, including missing a menstrual period; developing nausea, which leads to vomiting and spitting saliva; feeling weak, exhausted, and sleepy; developing a dislike for food normally eaten; or reporting feeling "heavy." In addition to these symptoms, the female FGD participants said they immediately suspect pregnancy when the woman looks pale and "beautiful" and the face becomes smooth. According to one FGD participant, "We then say '*emebete arfabishalech*,' which literally means 'St. Mary has come up on you.'" Other signs, such as quickening (fetal movement) and visible change in body shape, come at a later stage.

Similarly, the male FGD participants also mentioned these symptoms; they also said a husband may be notified by the HEWs about the pregnancy of his wife, even when the woman had not notified the HEWs. A woman from Raya Kobo who started early ANC said:

"The women in my community know about their pregnancy early because there is a pregnancy test in every health care facility. When they miss their menses, they go to the health center and get tested for pregnancy. However, they may not tell others about the pregnancy by the time they know they are pregnant. This might be because of lack of awareness about the importance of early ANC or because they feel ashamed of their pregnancy."

Mother-in-laws and grandmothers who participated in FGDs reported that being pregnant and having a boyfriend outside of marriage are "shameful" in their view.

Table 5. Summary of reported methods for early pregnancy identification

Identification by self	• Menstruation stops • Pregnancy becomes visible • Poor appetite (becomes selective) • Nausea and vomiting • Quickening (fetal movement) • Feelings of exhaustion • Areolas (tips of breast) get darker
Identification by others	• Menstruation stops (husbands) • Pregnancy becomes visible • Notified by the health extension workers • Changes her behavior (becomes irritable) • Poor appetite (becomes selective) • Spits and vomits continually • Looks "beautiful" • Looks pale • Complains of heartburn • Becomes sleepy and fatigue • Areolas (tips of breast) get darker • Face becomes oily, and the body becomes rounded

Barriers and Facilitators to Early Pregnancy Notification

Early pregnancy notification is influenced by many factors, including population characteristics, health outcomes, and the environment. Although availability of pregnancy tests in health facilities contributes to its early diagnosis, sociocultural norms dominate early pregnancy notification. In some instances, lack of knowledge on positive health outcomes related to early ANC delays the pregnancy notification. For this reason, generally, women who test positive for pregnancy do not immediately notify other family members, including their husbands, nor do they start ANC early.

Most of the father FGD participants said many women prefer notifying their friends and mothers first about their pregnancy, although some decide to notify their husbands first, especially when the pregnancy is wanted and has been discussed beforehand with the husband. *Woreda* MNCH experts also reported such preferences by women. The existence of the HDA structure is another environmental factor that positively affects early notification. The HDAs live within the same neighborhood as the mothers, are structurally connected within the health extension system, and can thus facilitate early notification.

An MNCH expert from Meket *woreda* said:

"Generally, women in the woreda disclose their pregnancy to their close neighbors or friends first, and that is the reason why we use the women HDA structures within the community for early identification of pregnancy."

Another sociocultural norm that deters early notification is the belief that being pregnant is shameful. Mothers-in-laws, in some cases, are mentioned as being among the first to learn about a pregnancy, although female FGD participants who are grandmothers and mothers-in-law said women are generally ashamed and afraid to tell mothers-in-law about their pregnancy. They also said that talking publicly about one's pregnancy is considered shameful in some communities. An HEW from Dahena *woreda* said:

"It is culturally prohibited that women should speak out about their pregnancy in public. Women who do so are criticized."

A mother of three from Raya Kobo *woreda* who never attended ANC for her pregnancies said:

"I am reluctant to talk about the pregnancy, and the majority of our community is the same because we are balager, which means rural or uncivilized. This has been a trend for many years, and my grandmother and mother did the same, and I will continue to do the same because it is our culture."

The positive role of religious leaders on early notification of pregnancy is another environmental factor that is worth noting. These leaders agree that early notification of pregnancy is beneficial. Their support for early pregnancy notification is important because of the high respect in which they are held by their communities.[4] An HEW from Sekota *woreda* said:

"The main facilitators for women to talk about their being pregnant early in our community are church leaders. They teach the community during the Sunday mass on early pregnancy identification and the benefits of ANC follow-up. We work with them and the community accepts them more than anyone else. They also tell the community to speak the truth."

Similarly, a religious leader from Raya Kobo *woreda* emphasized the importance of early pregnancy identification:

"From the religious point of view, it is advisable if a woman tells that she is pregnant as early as possible. This is because she is telling the truth, and God hates lies."

The period of notification varies depending on who the women decide to notify. Immediate family members, including the husband, may be notified as early as 40 days after missing her menstrual period, and HEWs were usually informed after 3 months (90 days) or more. Most women reported that they generally prefer to wait at least 3 months to be sure of the pregnancy before they notify anyone because they themselves may not be sure that the pregnancy will come to term. A woman from Meket *woreda* who started ANC early said:

"The reason why they don't tell earlier is only because they want to be sure before they make it public; they fear the pregnancy might end up in miscarriage and also the fact that they have another child recently born makes them worry about what people think of becoming pregnant too soon."

This indicates that, because family planning is now widely promoted in the region, women who are not using the services and get pregnant again too soon after their last pregnancy fear criticism from other community members. An HEW from Meket *woreda* also mentioned the belief that early notification might result in miscarriage or in late delivery of the baby. Another reason that was repeatedly mentioned by both FGD participants and women interviewees is the menstrual irregularity resulting from Depo-Provera and other injectable contraceptives—the most common method used by female study participants—which can make it hard to determine menstrual status. Another barrier to disclosure is the shame caused by becoming pregnant without formally getting married. An FGD participant from Dahena *woreda* stressed the fact that pregnancy outside formal marriage is completely unacceptable in the community:

"If a woman gets pregnant without a formal marriage, she will not get the support of the community and will be marginalized. This is totally unacceptable to the community as well as within her family circle, and she will become a focus of discussion by everybody. Because of this reason, many of these women are psychologically affected and usually are forced to flee the area and end up becoming prostitutes or commit suicide."

Some FGD participants from Dahena *woreda* said that if a woman's pregnancy is unwanted by her husband or if she is in a forced marriage against her will, the notification is delayed for fear of her husband or to search for ways to abort the pregnancy. On the other hand, women who would like to attend ANC said they would notify HEWs directly or through the HDAs at around the third month of pregnancy.

[4] Religious leaders are involved by local administration in many development activities at the grassroots level, owing to the high respect and level of influence they have in society.

All FGD and KII participants agreed that early notification of pregnancy is good in many cases for both the pregnant woman and the fetus to ensure support from her husband, HEWs, and other community members. If the pregnancy is wanted and the mother-to-be is formally married, her husband and other community members will prevent her from carrying heavy objects and undergoing labor-intensive activities. Most FGD participants point out that recent changes in attitude about early notification—the result of the work of the HEWs and, in some cases, religious leaders—make the practice more acceptable now than in the past.

Some HEWs indicated that the supplementary foods being provided to pregnant women in health facilities also encouraged them to attend ANC early.

Traditional Pregnancy Celebrations

Different pregnancy notification traditions were indicated by the FGD participants from Raya Kobo *woreda* of North Wollo Zone, such as *tufta* (where the husband celebrates with his friends), *urfo* (where the woman celebrates with other women in the community), and *fatima kore,* which is a mix of both men and women. The first two are practiced within the Christian community, while the latter is practiced within the Muslim community.

Table 6. Summary of barriers and facilitators to early pregnancy notification

Revised Andersen's behavioral and access to care model	Barriers	Facilitators
Population characteristics	• Pregnancy without marriage • Fear of husband in case of unwanted pregnancy • Fear of community criticism for multiple pregnancies or becoming pregnant too soon • Planning for abortion in case of forced marriage • Traditionally reluctant to talk publicly about the pregnancy	• Increased support from the husband, health extension workers, and other community members (avoid carrying heavy objects, labor-intensive activities, hot flour from hammer mills)
Health behavior	• Shame of pregnancy • Not sure of the pregnancy because of menstrual irregularity • Being pregnant for the first time • Low level of awareness of the benefits of early notification	• Increased awareness of the health benefits of antenatal care both for herself and the fetus
Health outcome	• Fear of miscarriage • Fear of late delivery of the baby	• Low level of awareness of the benefits of early notification
Environment		• Availability of pregnancy test in health facilities • Involvement of religious leaders • Presence of Health Development Army structure • Supplementary food rations

ANC

Most of the father FGD participants said that pregnant women start ANC in the third, fourth, or as late as the sixth month of pregnancy. Some said that visits during the third month occur only if the mother gets sick. For the majority of these fathers, knowledge varies about how many ANC visits should occur during a pregnancy.

Traditional Care during Pregnancy

A good proportion of father FGD participants mentioned preferences within the community to visit *kolle* (practitioners of witchcraft), TBAs, and locations where holy water is available to determine the health status of both the woman and fetus. The female FGD participants also share these views but reported that nowadays, fewer people visit these traditional healers. Although rarely reported, some female FGD participants mentioned a tradition called *mangore* in Raya Kobo *woreda* of North Wollo Zone, when a pregnant woman stays with her mother for support and caregiving.

Traditional forms of care during pregnancy includes visiting traditional male healers (*tenkuay*) and holy water locations, as well as drinking soup made from oily seeds, such as Niger seeds, which is said to "soften" the abdomen. Participants also mentioned food taboos during pregnancy as part of traditional care. A female participant from Raya Kobo reported:

"Pregnant women are restricted from eating porridge because it is believed to accumulate on the head of the fetus. Freshly harvested peas or beans are also prohibited because they are believed to cause abortion. So I didn't eat these foods during my pregnancy."

Christian religious leaders reported that Satan is a threat to pregnant women. A religious leader from Raya Kobo *woreda* said:

"We give holy water for pregnant woman to drink every morning before breakfast. We also give them spiritual books because this prevents the woman from being possessed by Satan, as it always follows pregnant woman and the fetus. When we do this, both the woman and fetus will be protected."

According to many participants, husbands will purchase different types of foods for their pregnant wives if they cannot or will not eat the foods they usually consume. Another traditional practice that is becoming less common for pregnant women is visiting the *tenkuay,* who will slaughter chickens and massage the pregnant woman's abdomen. People also pray to God for a safe pregnancy and delivery.

Barriers and Facilitators to ANC

The model for ANC recommended by the World Health Organization, which is also adapted by the Government of Ethiopia, separates pregnant women into two groups: those who are likely to need only routine ANC (constituting about 75% of pregnant women) and those with specific health conditions or risk factors who need special care (constituting about 25% of pregnant women). In both cases, however, the first visit has to take place during the first trimester (WHO 2003).

Barriers: The question of when to initiate early ANC is interpreted differently by HWs, HEWs, HDAs, husbands, and the pregnant women themselves.

HWs consistently talk about the third month of pregnancy as the period for initiating ANC early, but some HEWs and some women consider ANC visits as early as 1 month to be appropriate.

Population characteristics and behavior play significant roles in influencing early ANC attendance (within the first 3 months of pregnancy) across the study *woredas*. The early initiation appears to be practiced only sporadically among the study communities. Participants (HEWs, husbands, and women alike) reported that it

is generally not acceptable for a woman to talk about her pregnancy, especially early on, as it is perceived as putting a curse on it. Thus, women are unlikely to start ANC before the pregnancy starts to show.

However, changes are taking place in the environment that facilitate early attendance. HEWs reported that as a result of counseling and encouragement by religious leaders, they are beginning to see a few women starting ANC early in their pregnancy.

Among the general barriers to ANC described by FGD participants and health experts were the distance from home to the HP or HC and the topography through which the women must travel to get there. In addition to the discomfort caused by long-distance walking, some women fear being attacked on the road.

Women also appear to not understand the benefit of starting ANC early in the pregnancy.

"[Doing without ANC] has been our practice for many years, and my grandmother and mother did the same, and I will continue to do the same because it is our culture."

Low levels of awareness about the benefits of early ANC are another barrier frequently reported. An MNCH expert from Raya Kobo *woreda* said:

"One of the reasons for not attending ANC is a behavioral problem. The community thinks that there are no negative consequences for not attending ANC. There is a deep-rooted belief that nothing has happened to those who did not attend ANC in earlier times. The community argues that they have raised many children without it."

Competing traditional practices, such as visiting *kolle* or *zar,* [5] was another barrier that was repeatedly reflected because these practitioners believe that vaccinations or, in fact, any injections given during pregnancy might lead to miscarriage. A father FGD participant from Sekota *woreda* said:

"Some women don't want to go to HC due to traditional beliefs associated with kolle or zar. They believe the vaccination provided during pregnancy at HC is not liked by their kolle, and they might become sick."

Another environmental factor identified as a barrier to early ANC is male HWs. Women are afraid to expose their bodies to male HWs if female midwives are not available. A father FGD participant from Sekota woreda said:

"Pregnant women in our community are ashamed of exposing their body to male HWs at HC during ANC visit. Because of this reason, women don't want to visit HC for ANC follow- up."

Some FGD participants reported environmental factors, such as the absence of ANC service at HPs, and some women in an interview said they were treated badly by HWs. A woman from Raya Kobo *woreda* who did not attend ANC during her recent pregnancy described what happened to her during an earlier pregnancy. She was taken to an HC in the fifth month of pregnancy because she was sick, not to follow up on her pregnancy. She described her experience:

"I was seriously sick and visited an HC. The visit was not for a pregnancy checkup but because I was sick at the time. The HWs there were not caring and did not help me on time. Therefore, my family took me to a private clinic. I was treated nicely and got the medical care on arrival and was relieved from my pain. They also told me I was pregnant and went to the private clinic again on the seventh month but did not go after that. In private health facilities, I get medical care early, but in government health facilities, they don't give you attention, and therefore I don't want to go."

[5] *Kolle* and *zar* are individuals who are believed to be possessed with well-known spirits living within the community from whom community members seek solutions for problems.

Woreda MNCH experts noted that ANC attendance is increasing, particularly initial ANC visits. However, there has been little improvement over the years in achieving the goal of four ANC visits. An MNCH expert from Meket *woreda* said:

"The reasons for low fourth ANC uptake were [that] women at their fourth trimester become weak and unable to travel long distances. Moreover, some women, after visiting two or three times, think that it is enough and making the fourth visit does not make any difference. However, ANC 2 and 3 provided by HEWs were successful and have the highest uptake."

Facilitators: The health benefits of ANC for both mother and fetus and the subsequent better outcomes—such as knowing fetal position, treatment of illnesses (such as anemia), minimizing bleeding during delivery, and early referral to higher-level health facilities in case of complications—were said to be the driving force for ANC follow-up in health facilities. In addition, the presence of HDAs and HEWs and the counseling they provided, an environmental factor, was also of paramount importance in facilitating ANC attendance.

A woman from Raya Kobo *woreda* who started ANC early said:

"I want to have early ANC follow-up because I have seen some pregnant women facing pregnancy-related complications. The other thing that motivated me was the HEWs and HDAs who counseled me frequently to complete the ANC, and I have had seven visits. I didn't miss the monthly appointment starting from the second month of pregnancy, and I gave birth at the eighth appointment."

The women interviewees said that pregnant woman conferences—educational gatherings to inform and support pregnant women—were informative and helped them improve their nutrition and complete ANC visits.

All FGD participants described the role of men in health seeking during pregnancy as accompanying pregnant women to health facilities, sharing household responsibilities, and helping to minimize women's workloads.

Most of the FGD participants agreed that decisions about ANC service utilization were made mainly by the woman herself or by both the woman and her husband. Some participants, however, said that it is the husband who decides, and it mainly depends on his level of awareness. A father FGD participant from Sekota *woreda* said:

"The decision depends on the level of awareness of the husband. He may or may not allow his wife to visit [a] health facility for ANC. Mostly, those husbands who have better awareness of ANC make [their wives] seek health care services during pregnancy."

HEWs agree that husbands are very influential and convincing them to support ANC for their wives is said to be very crucial. An HEW from Sekota *woreda* said:

"If the husband is convinced, it does not matter whether she is convinced or not, for he can easily convince or even force her to come and attend the sessions."

Table 7. Summary of barriers and facilitators to antenatal care (ANC)

Revised Andersen's behavioral and access to care model	Barriers	Facilitators
Environment	• Distance from the health post (HP) and health center • Absence of the service at the HP (HP closed or perception that there was not adequate ANC service) • Topography of the kebele • Absence of female health workers in maternity clinics • Inappropriate behavior of health workers, especially in government institutions	• Counseling by health extension workers and Health Development Army members • Influence of religious leaders • Prompt care provision as provided at private facility
Health behavior	• Competing traditional practices, such as visiting kolle or zar	
Population characteristics	• Low level of awareness of ANC benefits by both women and their husbands • Increasing weakness as pregnancy advances, making it more difficult to travel for ANC • Fear of being attacked by someone on the way	• Awareness of husband of benefits of ANC • Husband and community support to share household chores on the day of ANC follow-up • Supplementary foods provided • Better level of awareness of husbands • Pregnant women conference
Health outcome	• Belief that there are no consequences to not attending ANC • Repeat visits are not necessary • Past experiences of safe deliveries without ANC	• Health benefits for both mother and fetus • Fear of pregnancy complication

Childbirth

Facilitators and Barriers to Institutional Delivery

A number of environmental factors, characteristics, and behaviors of the population play key roles in influencing delivery in health facilities. The activity of HEWs, resulting in an increase in the level of awareness of the advantages of institutional delivery, has been found to be a strong facilitator, while traditional practices is the main barrier to institutional delivery.

All FGD participants agreed that while institutional delivery is increasing as the result of increased level of awareness of the advantages of institutional delivery mainly attributed to the HEWs, who educate the community during mass gatherings and in house-to-house visits and ANC sessions, a good proportion of deliveries are attended by TBAs at home. Some women prefer home deliveries for different reasons, including preference of women to be attended by their mother or close friends; the respect they have for traditional practitioners, such as *kolle* or *zar*; and the absence of female midwives, according to FGD participants and interviewees. Past experiences of safe delivery at home and the belief that it is God who decides the outcome of delivery also encourage women to deliver at home.

Other reasons include the distance to the health facility, the absence of water and electricity at the health facility, health staff who are believed to be incompetent because they did not give the correct due date for the delivery, and delivery rooms that are not clean, especially the bed sheets and blankets. Short or precipitated labor, which is traditionally described as the "blessing of St. Mary," results in home delivery because there is no time to reach the health facility. One-way ambulance services that transport laboring mothers to health facilities but do not bring them back home is also as one of the barriers to institutional delivery. In addition, some ambulance drivers switch off their mobile phones at night and do not receive calls for pickups, making transportation difficult. MNCH experts indicated that some of the *kebele*s are not accessible due to rough topography, making it very difficult to transport laboring mothers to health facilities.

Women's preference for delivering in health facilities was also discussed. The health benefits were described by both the FGD participants and in the KIIs as a driving force that made women opt for facility delivery. The control of postpartum bleeding and management of placenta disposal, no-cost ambulance transportation and delivery, and PNC and treatment, including pain management, were reported as reasons for choosing institutional delivery. A woman from Raya Kobo *woreda* who delivered in an HC said:

"I decided to deliver at the HC because it makes the delivery smooth and prevents excessive bleeding, the HWs will correct if there is wrong presentation, and I will be referred to another health facility in case of any complication. When labor began, my neighbors brought a stretcher and took me to the HC."

Other benefits of institutional delivery were mentioned, such as services to prevent mother-to-child transmission of HIV and the willingness of health facility staff to have contact with blood, which many TBAs and other community members refuse. Another woman from Raya Kobo *woreda* who started ANC early similarly said:

"Nowadays, all people, including neighbors … are not willing to touch blood, and therefore the health facility is the best option. Honestly speaking, there is nothing like giving birth with the help of one's own mother, but at the same time, there is nothing to be done if lots of blood is lost. The negative side of delivering at health facility is that there is no one to hold you or care for you as a mother does, which is a big disadvantage."

The changes in the HCs' environment and their willingness to mimic and promote positive traditional practices, such as traditional porridge and coffee ceremony to celebrate safe delivery, also reportedly encourage women to consider institutional delivery. Other environmental factors, such as the mother and newborn will also be clean and healthy, and newborn vaccination and supplementary foods for the mother were also seen as positive features of institutional delivery. A female FGD participant from Meket *woreda* said:

"Delivering in health facilities is very beneficial, as there will be minimal or no damage to her body during childbirth. The changes observed when delivering my youngest child in hospital were very different from home deliveries of the older children. The care in health facilities is very important for the mother to be stronger."

Another incentive for institutional delivery, according to an FGD participant from Dahena *woreda*, is that women may be fined for home delivery. This is in accordance with the local customary law to encourage women to deliver in a facility.

All the women FGD participants agreed that their role now is to tell mothers to give birth in health facilities. However, some of the women interviewed said that HWs who are insensitive or incompetent will discourage women from seeking facility delivery.

Table 8. Summary of barriers and facilitators to institutional delivery

Revised Andersen's behavioral and access to care model	Barriers	Facilitators
Environment	• Absence of water and electricity in health facilities • Distance to health facility • Topography • Absence of female health workers in maternity clinics • Inappropriate behavior of health workers • Incompetent health workers • One-way ambulance service and ambulance drivers switching off their mobile phones at night • Unclean delivery rooms	• Referral service in case of complications • Availability of ambulance transportation • Presence of female health workers in maternity clinics • Delivery services given for free • Supplementary foods given to mothers • Management of pain in the immediate postpartum • Prevent mother-to-child transmission of HIV • Mother and baby clean and healthy • Vaccination given for the newborn • Women may be fined a significant sum for home delivery
Population characteristics	• Preference of women to be attended by their mother or close friends • Competing traditional practices • God decides fate of the delivery	• Porridge and coffee ceremony held at health centers • Fine attached to home delivery • Refusal of community members to have contact with blood
Health outcome	• Lack of awareness of the benefits of institutional delivery • Past experiences of safe delivery at home • No risk attached to home delivery because of past experiences	• Fear of more damage to the women's body • Fear of excessive blood loss • Health benefits both for mother and baby (minimal postpartum bleeding, placenta disposal, correction of malpresentations)

Decision-Making about Institutional Delivery

All father FGD participants reported their belief that women are not in a position to decide their place of delivery, as pain would leave them without enough energy to make the decision. Instead, the husband, the grandmother, and other close family members, in consultation with HDAs, will make the decision. However, female FGD participants who were interviewed put it differently. A women who started ANC early from Meket *woreda* said:

"I made the decision to go to the HC because I thought if I lose a lot of blood, they will take care of me. Then I was referred to Woldia Hospital, and the decision to go to the hospital was both [mine] and my husband's."

The father FGD participants were speaking from the physical pain and weakness point of view experienced during labor, which will leave the women to be dependent on other family members for support.

Barriers and Facilitators to Early Birth Notification

Birth notification is predominantly influenced by a low level of awareness of poor health outcomes to mother and baby in the immediate postpartum period if appropriate care is not provided. This lack of awareness discredits the visits made by HDAs and HEWs in the immediate postpartum period and consequently deters birth notification. The study findings indicated that notification of a birth at home is usually made to HDAs

and HEWs, who will visit the mother and baby within a week. However, they are usually not notified unless there is a health problem. A father FGD participant from Sekota *woreda* said:

"No one will notify HDAs or HEWs unless the mother and newborn baby are not okay."

However, female FGD participants—grandmothers, mothers-in- law, and HDAs—report that birth notification following home delivery should be made as soon as possible to HWs, with the most important reason is to get relief from abdominal pain. Female FGD participants also cited the importance of having a healthy baby and mother so that the new mother can support the grandmothers and mothers-in-laws when they need her help. A woman FGD participant from Raya Kobo *woreda* said:

"If the woman is healthy, she will support us because we are getting older."

The husband, grandmother, neighbors and even other community members were mentioned as those who notify the HEWs or HDAs of the birth of the baby. Some women, however, do not recognize the importance of being visited by HEWs. A woman from Raya Kobo *woreda* who never attended ANC said she did not know if it is necessary to inform HEWs or HDAs.

"I don't have any information about HEWs or HDAs coming to visit me. I have never heard of HEWs coming to our homes to visit postnatal woman in our community. If they visit, we are happy not because they are HWs but because we are happy to be visited by anyone.

Their visit is not important because it is God who decides on the survival of both mother and baby, and what can they do if it is God deciding?"

Table 9. Summary of barriers and facilitators to delivery notification

Revised Andersen's behavioral and access to care model	Barriers	Facilitators
Population characteristics	• God decides about the survival of both mother and baby	

Health outcome	• Poor knowledge of the benefits of early birth notification and subsequent visits by Health Development Army members/health extension workers
	• Lack of knowledge on postnatal care home visits
	  • No need of notification if no problem
	  • Nothing will happen to mother or newborn once safely delivered
		• Health benefits for both mother and baby
		• Relief from abdominal pain in the immediate postpartum period

PNC Visits

In light of Andersen's model, PNC visits are mainly influenced by health outcomes. This is to say that HDAs and HEWs visits in the postpartum are considered to have no health benefits (which is a barrier to home-based PNC). On the other hand, going out of the home is considered to have negative health outcomes to both mother and baby, consequently discouraging PNC facility visits. Environmental factors and population characteristics also play a role.

Traditional PNC and Barriers and Facilitators to PNC

The birth of a newborn baby is celebrated in the immediate postpartum period, which traditionally is known as *yemariam aras meshegna*, which literally means "seeing off St. Mary." Thick porridge and coffee are prepared. The baby will be bathed while the grandmother takes care of the mother. If the grandmother is not around, neighbors will assist. Religious leaders were also said to visit the mother and baby as soon as they heard of the childbirth. A religious leader from Raya Kobo *woreda* said:

"It is a custom of the [Orthodox Christian] religion for its leaders to come and visit the woman immediately after delivery and give them holy water in the morning to drink for 3 consecutive days. The leader will also sprinkle holy water on the mother at home for 3 consecutive days, starting from the day the baby is born. This is because it protects both mother and baby from Satan, locally known as zewari neger, until the date of the baby's baptism. Once the baby is baptized, there is no risk of being attacked by zewari neger."

Satan is believed to follow postnatal women, and they are as at high risk of being seen and attacked because of bloody vaginal discharge. If *zewari neger* sees and touches the woman and baby, the woman will be sick, confused, and mentally ill, and the newborn might die. This condition is believed not to be treatable medically, and therefore the role of the religious leaders is to prevent both mother and the newborn from being attacked by Satan.

Therefore, according to belief, to avoid being seen, the mother and baby will stay at home for 40 days if she delivers a boy (until the day of baptism) and 80 days if she delivers a girl. The mother is only allowed to visit the toilet early in the morning or late in the evening. A religious leader from Raya Kobo *woreda* said:

"In the first 40 to 80 days until the baby's baptism, it is a must that the mother should stay at home. This is because zewari neger might see her and catch her, and it is dangerous both for the mother and the newborn. Even when she goes to toilet, there should be someone with her to protect her, and she should never be left alone. However, after the baby is baptized, the zewari neger will run away from both, and there is no problem thereafter, [so] she can go out."

Women who were interviewed said it depends on the circumstances. A woman from Meket *woreda* who started ANC early said:

"We usually stay in the house for 40 days after delivery. That being the usual trend, I only stayed in for 10 days, for I have work to do."

The community also burns some special fragrant wood, such as *kerasuma* or *woyira*, so that smoke fills the room where the mother and baby are. These practices are said to prevent illness, commonly known as *mich*, and facilitate the woman's recovery from wounds and labor pain. The community also believes that smoking will facilitate closure of the vaginal opening faster so that sexual relations can begin earlier and prevent the husband from becoming interested in other women. The mother is described as *ereteb aras*, or "wet mother," who smells like blood and is vulnerable to anything, including evil spirits. She will, therefore, not be allowed to visit the HC even if she has an appointment with an HW in the first few days following delivery. The vagina is considered "open" and is believed to let in air, which is seen as potentially having serious health consequences. A woman from Raya Kobo who delivered in a health facility said:

"It is a tradition to stay at home. It is believed that the grave of the woman who just delivered is open and that she will be sick and dies if she goes out of home, and therefore I stayed for 40 days."

Woreda MNCH experts said that in some communities, the longer the woman stays confined in her room with someone assisting her, the more she and her husband will be respected for their wealth. However, these MNCH experts agreed that the tradition of staying at home for at least
40 days is one of the reasons for low PNC coverage.

Religious leaders reflected that after 40 days, the woman can stay at home as long as she wants (e.g., for 2 or 3 months) if the family can afford it. The mother will start exposing the baby to sunlight after the tenth day postdelivery, although there is a perceived risk of "evil eye," which could come from a malicious member of the community or an outsider.

Family members, relatives, and HEWs, however, are allowed to visit the mother and baby within the first 7 days. All FGD participants said that HEWs and HDAs are welcome at any time to protect the health of both mother and baby. However, the visits are not always linked to provision of care or counseling for the newly delivered mother. A female FGD participant from Raya Kobo *woreda* said:

"HEWs and HDAs don't come to visit her. They will come only if the mother is a close friend. IfHDAs come, they come only for greeting and nothing else."

Others are unsure about the benefits of a PNC visit, even if they do not have any objection to the visit by an HEW. A female interviewee who started ANC early from Raya Kobo *woreda* said:

"I wouldn't refuse if HEWs come and visit, but I don't know what they will do if they come."

However, other people cannot visit the mother and baby and if they come will only be allowed to communicate from outdoors. A father FGD participant from Sekota *woreda* said:

"A few days later, when her body and clothes get cleansed from the effects of delivery, the priest will come and sprinkle holy water on the house, and that is the day when anyone can come in and visit both mother and newborn. The reason for banning male visitors from coming soon after delivery is to prevent them from the foul smell of vaginal discharges."

Religious leaders, however, said anyone can visit to alleviate worry for both mother and baby, and have the opportunity to thank God, saying "*enkuan Mariam marechish*," or "St. Mary has been merciful to you."

Father FGD participants said that if the baby gets sick after delivery, it is their responsibility to take him or her to health facility, and the decision is said to be made by both the father and mother. They also said that the visit to the health facility has to be made early in the morning to prevent the baby from the illness known as *mich*.

Once the baby is delivered, the husband will often slaughter a goat for his wife to build up her body nutritionally. It was a common practice to give prelacteal foods, such as fresh butter or butter with dough, to the newborn to cleanse the stomach and facilitate nursing.

Women who delivered in health facilities described the immediate PNC in a different way. The baby is dried—but not washed—and wrapped in a clean cloth, in contrast to the care at home, where the baby is bathed immediately. The cord is cut with scissors and medicine is then applied to the umbilical stump, although most respondents did not know what the medicine is. A woman who started ANC early in the pregnancy appreciated the PNC as follows:

"The HEWs and HDAs visited and examined me on the fifth day. I agreed to the examination because they were close to me during my pregnancy by advising what to do. The assessment is important to early identification and prevention of disease."

Another factor is the belief that the eyes of postnatal women and newborns are vulnerable to bright light and can be easily damaged if exposed. An HEW from Sekota *woreda* said:

"A woman and her baby are not allowed to be exposed to bright light until the twelfth day postpartum. Toilet visits are made early in the morning or late in the evening. There is a belief in the community that the eyes of the postnatal women and their babies are immature until the twelfth day. They can't tolerate light, and they might develop squint if exposed."

Table 10. Summary of barriers and facilitators to early postnatal care

Revised Andersen's behavioral and access to care model	Barriers	Facilitators
Environment	• Distance from health facility • Topography • Health Development Army members/health extension workers not adding value	• Health benefits (i.e., early identification of any health problem)
Population characteristics	• Staying home is highly supported by religious leaders • A longer postpartum stay at home is respected by community • Late birth notification • God decides on the fate of both mother and baby	• Women leaving home • early because of work
Health outcome	• Serious consequences from illnesses that can occur when the mother and baby leave the home • "Evil eye" for the baby and *mich* for the mother if exposed to sunlight • Serious health consequences from an "open" vagina if moved out of home • Satan will try to attack the woman and baby in the immediate postpartum • Women and baby in the immediate postpartum period are very vulnerable, so they should not go out of the home • Fear that the baby will develop a squint if exposed to bright light • Nothing will happen to mother and baby after delivery	

Existing Pregnancy and Birth Surveillance Mechanisms

As a secondary objective, the study also looked into surveillance mechanisms that are available for HEWs and HDAs for early pregnancy identification and birth notification in the study areas, sources of information, and preferred communication channels for health-related messages.

The existence of the surveillance mechanism is meant to facilitate early pregnancy identification and notification, early ANC attendance, birth notification, and PNC. It is a cross-cutting environmental factor for positive results; however, its implementation beyond the textbook is in doubt.

Woreda MNCH experts describe the currently existing pregnancy surveillance as follows:

- HDAs identify pregnant woman within their networks and notify HEWs directly.
- Once HEWs are notified, they compile lists of pregnant women in the *kebele* and send them to the HC, or the HEWs send the women to the HC for the first ANC.
- The HWs in the HC then organize a conference to provide education and counseling to the pregnant women to initiate early ANC service at the HC.

Similarly, HEWs from both zones described the networks as the basis for all the pregnant women's surveillance because they are close to the HDAs and formally meet with them every week. An HEW from Meket *woreda* said:

"Nowadays, the networking plays a crucial role in identifying pregnant women because we can't cover the whole kebele. The HDAs have frequent contact with the women during the coffee ceremony, mahber,[6] idir,[7] while fetching water, and other similar social events."

The meetings they had with the HDATLs twice a month are used, among other things, to exchange information about pregnant women in their localities. HEWs also diagnose pregnancy whenever they come across women in the HP or during home-to-home visits apart from the information they get from HDATLs.

KIIs with MNCH experts and HEWs revealed that births are communicated in a number of ways. In the case of institutional delivery, the HEW who has been following the pregnant woman will refer her (with a referral paper) to the HC. She will then communicate with the HC, mostly by phone, about the delivery status and discharge. HEWs said they are the ones who usually call for the ambulance and therefore know where the mother is and can follow up from there. The supervising HC and ultimately the *woreda* will monitor the performance of the HEWs based on pregnant women referred to the HC. On the other hand, when a woman is discharged from the HC, the HEWs involved with her case will be informed by phone or through a referral paper about the delivery and discharge of the mother, and will be instructed to provide PNC. Sometimes, a pregnant woman goes to the HC by herself without the knowledge of the HEWs. In such circumstances, HDAs or HDATLs will inform HEWs about the woman, and the HC will send her back to HEWs with a referral.

HEWs also reported that they keep records of names of pregnant women with various additional indicators, including expected data of delivery, in sheets of papers or notebooks. They use their records to follow up on pregnant women, paying attention to the expected date of delivery of each woman once she is registered at the HP.

There are similar communication channels for home deliveries; for example, HDAs get the information through the networks and pass it on to the HEWs for possible PNC visits. The information usually reaches the HEWs within 3 or 4 days. Once they get the information, they will visit the woman and her newborn baby, taking a recording sheet, thermometer, weight scale, and a watch to monitor the breathing rate. The functionality and effectiveness of the system, however, are influenced by sociocultural practices and level of awareness of the community, topography of the locality, and distance, especially from the home to the HC.

The level of awareness on PNC was said to be low and is gradually improving. This is because many in the community believe that nothing will happen to the mother or baby once delivery is completed safely.

Communication Channels and Source of Information

Most FGD participants identified HEWs as the most important sources of information and the preferred communication channels for all health-related messaging, including MNCH, during meetings at health facilities or house visits. Some participants mentioned *kebele* administrators. Schools are also preferred communication channels for youth. No FGD participants mentioned drama or printed materials as preferred sources of information.

Men and youth reported that they listen to the radio, even though only a small fraction of the community reports owning one. Evening was said to be the best time for men to listen to the radio, while Saturdays and Sundays were more convenient for youth. Women and elderly were reported to not to listen to radios.

Women uniformly reported HEWs and HDAs to be their most important sources of information. A few of them also mentioned HWs in the HCs.

Most of the FGD participants were said to own a family health card, but only a few reported reading it. None of them reported that their children read it for them.

[6] Neighborhood social support groups established with the purpose of supporting each other.
[7] Neighborhood social support groups established to support each other specifically when a death happens in a family.

Discussion and Conclusion

This study examined barriers to and facilitators of maternal care as the woman passes through the different cycles of pregnancy, delivery, and PNC. The four components of Andersen's model—environment, population characterizes, health behavior, and outcome—were discussed as the study examined factors that influenced the aforementioned health services' utilization.

The study found communities have different ways of identifying pregnancy that primarily involve a woman's symptoms, such as the cessation of the menstrual cycle, nausea, changes in appetite, emotional state, and noticeable fetal movement. These findings are similar to studies conducted in Gurage and Sidama zones of SNNPR and in East Shewa Zone of Oromia Region (Save the Children 2015b).

Of all the factors, population characteristics predominantly influence pregnancy notification. Women were generally reluctant to talk about their pregnancy, especially when pregnant for the first time or if it happened outside a formal marriage. Social norms also discourage women from talking about pregnancy publicly. In the male-dominant culture, pregnancy that does not have the consent of the father will most likely end up in abortion and therefore will never be notified. Similarly, pregnancy in an unwanted marriage (i.e., without the consent of the mother) is also a barrier to early notification, for it will most probably be terminated in abortion.

The promotion of family planning in the study areas also caused women to be afraid of the community's criticism in case of repeat pregnancies too soon, which make them avoid early notification. Similar findings were noted in the Community-Based Intervention for Newborns in Ethiopia study, where stigma and shame around pregnancy, the influence of grandmothers who believe that early notification is not necessary, and traditional treatment seeking were reported to be barriers to early pregnancy notification (Save the Children 2011).

Individual health behavior is the second-most important factor that affects early pregnancy notification. Menstrual irregularity resulting from contraceptive use, which makes it hard for many women to know whether they are pregnant, and the inability to recognize pregnancy early, especially when pregnant for the first time or lack of knowledge of the benefits of early pregnancy notification, were some of the common individual factors that influenced pregnancy notification. Thirdly, lack of clear understanding of factors that determine health outcomes result in pregnancy notification delays. Similar to other communities, assumptions that early disclosure of pregnancy will result in miscarriage or delayed delivery were also reported to delay early notification (Stokes et al. 2008).

Incongruent with other studies, the external environment was noted to have both positive and negative influence in women's decision for early pregnancy notification. Factors such as lack of trust in health service providers and distance to health facilities were indicated as barriers. The availability of pregnancy tests in health facilities, the awareness-raising activities by HEWs and religious leaders on the benefits of early notification and ANC, the provision of supplementary food rations to pregnant women, and emotional support facilitated early notification (Save the Children 2011, Sibley et al. 2014, Downe et al. 2016).

The population characteristics and environmental factors that influenced birth notification had similar effects on ANC attendance. A systematic review that identified factors that affect ANC service use emphasized cultural beliefs and ideas about pregnancy influenced service use significantly (Simkhada et al. 2008). Low level of awareness on the benefits of ANC by both women and their husbands, distance to the HP and HC, topography of the area, absence of female health service providers in maternity clinics, and the inappropriate behavior of some health service providers negatively affected early ANC attendance. Health outcomes perceptions that discredit the benefits of early ANC, such as no consequence in not attending ANC, prevented pregnant women from visiting health facilities. Competing traditional practices and behaviors also affected ANC attendance. A study in SNNPR reported similar findings, including low levels of awareness

about the benefit of ANC services; deeply rooted misconceptions related to ANC, such as "God knows everything" or "I already gave birth at home without attending ANC"; and the belief that unexpected things will happen to a pregnant woman at the HC during ANC visits, were indicated (Save the Children 2015b). Similar to the early notification, support from husbands and other family and community members, commitment and engagement of HEWs and HDAs in promoting the health benefits of ANC, and the supplementary feeding rations provided to pregnant women were also seen to increase ANC service utilization.

Participants of this study indicated the existence and highly prevalent delivery at home is associated with traditions such as coffee and porridge ceremonies and family member attendance at birth. In addition to individual behaviors and health outcome, such as lack of knowledge about the benefits of institutional delivery and past history of uneventful home delivery, environmental factors, including absence of female HWs in maternity clinics, inappropriate behavior and incompetency of HWs, poor infrastructure, limited access to ambulance transportation service, distance to health facility, and topography, made institutional delivery very challenging.

The SNNPR study reported the misconception that women delivering at a facility must undergo an operation that is literally interpreted as "cutting one's body into pieces," another disincentive to delivering in health facilities. As with ANC, demand for institutional delivery is increasing as women and families begin to understand the positive health outcomes of facility delivery and the negative consequences of home delivery.

Changes in the environment, such as promotion of positive traditional practices and ceremonies in HCs, at least in the initial stage, attracts women to deliver there. These include the coffee ceremony and porridge preparation, as well as allowing access to religious leaders to bless the mother and baby and to sprinkle holy water. All care given to mother and baby, the presence of female HWs, and availability of ambulance services also play their share in facilitating institutional delivery.

The community generally believes that nothing will happen to both mother and baby after delivery. Therefore, birth notification and subsequent visits by HEWs and HDAs are not considered to be important. However, relief from pain (resulting from uterine contraction following birth) is a factor that necessitates the PNC visit in addition to few mothers who reported on its health benefits. Knowledge of the health benefits of PNC did not outweigh stronger traditional beliefs, so confinement (of both mother and baby) is preferred and consequently affects PNC.

Environmental factors, such as distance and topography, as in the other components of maternity services, negatively affect PNC. Despite these barriers, visits by HEWs are welcome at any time (although not considered for health benefits), including during the confinement period postpartum. This finding is similar to the findings of a formative study done in SNNPR, where mothers were found to be interested in visits from HEWs and HDAs during pregnancy and post-delivery (Save the Children 2015b).

The study also looked at the availability of pregnancy and birth surveillance mechanisms. The large HDA network in the communities provides a strong platform for early identification of pregnancy and birth notification, which serves as an entry point for early initiation of ANC and PNC home visits. The telephone and/or paper-based communication between health staff based in the HCs and HEWs also serves as a good entry point for early PNC home visits by HEWs. While these have the potential to serve as a strong surveillance system, the fact it is based on oral communication (HDAs informing HEWs of a pregnant woman if and when they meet, some providers in the HCs calling HEWs to inform them of a delivery). No written records to facilitate systematic tracking and follow-up, and no system for accountability make it a very weak system. Moreover, the lack of a formal and nationally recognized pregnant women recording/registration book at the HPs is a serious gap.

Overall, HEWs and HDAs are considered the main and important source of information for MNCH-related messages. While this is in keeping with the national communication strategy, the fact that the family health guide is not being used by families and communities to the level expected is a gap that needs to be addressed.

In summary, the study identified multiple barriers and facilitators that influenced pregnancy notification, ANC, delivery, and PNC service use, and highlighted how these factors are imbedded in the individual and population characteristics as well as other extraneous environmental factors. A previous study showed that an integrated model that adopted local solutions for identification of pregnancy, registration for ANC, birth notification, and PNC follow-up resulted in improved coverage, completeness of care, and perinatal survival (Sibley et al. 2014). The study provided insight for future endeavors to design comprehensive and tailored approaches that can positively impact pregnancy notification and service use during pregnancy, delivery, and the postnatal period.

Recommendations

Early Pregnancy Identification and Notification

- Religious leaders can play a positive role in encouraging early pregnancy notification. They can be harnessed as agents for change by providing information on ANC to their congregations during religious services and home visits to congregants. The Alive & Thrive initiative promoted breastfeeding and complementary feeding of children under 2 years old in Amhara Region through religious leaders (International Food Policy Research Institute 2017). The priests were given training on the subject. Similarly, other religious leaders, if trained on the benefits of early notification, will be able to support the promotion of ANC with scientific evidence and religious justifications.
- HDA members and HDATLs live within the communities where they work and are therefore on the frontline to notice pregnancies among their neighbors. They should be encouraged to lead pregnant women to HEWs past the cultural barriers so that ANC is initiated as early as possible.

ANC

- Changing the social norms and attitudes of communities about ANC is important. One approach is to recruit women who accessed early ANC and successfully completed the visits as role models to support pregnant women. This firsthand experience from someone within the community with positive ANC outcomes will diminish fear and encourage others to follow her. Bringing women with positive experiences to speak at pregnant women conferences (educational support groups) can encourage many to consider ANC.
- Because of inaccessibility and transportation problems, bringing ANC services closer to the community beyond the HP is critical, especially as pregnancy advances. Having more HCs and improving roads might solve the problem in the long term. However, conducting the fourth ANC visits closer to communities can increase attendance.
- In-depth study to understand why pregnancy is traditionally not celebrated until the eighth month of pregnancy is needed. This will help design determine if there are ways of modifying the tradition or scheduling celebrations earlier to facilitate early pregnancy identification and initiate ANC early.

Institutional Delivery

- Women in some *kebele*s cannot reach HCs because of distance and the lack of access to transport. Creating waiting homes or rooms in HCs for expecting mothers, especially high-risk mothers, encourages women to use birth facilities and is thus important for better pregnancy outcomes.

- Traditional ceremonies, such as porridge preparation and coffee drinking, and the company of family members and TBAs at birth need to be integrated into routine activities at health facilities. This will attract women and facilitate institutional delivery.

PNC

- Women who deliver in HCs or hospitals could be kept longer, for a minimum of 24 hours, to provide an opportunity for thorough predischarge assessment and counseling, and mothers/newborns with complications or problems could be linked to the HEWs for subsequent follow-up within 48 hours.
- Increasing the level of awareness of the community of the need for PNC requires SBCC involving HWs, religious leaders, TBAs, and traditional healers. This will help them abandon the traditional 40 days of confinement that is widely practiced.

Surveillance Mechanisms

- Current surveillance mechanisms rely mainly on HDAs for promoting early pregnancy identification and notification, birth notification, and subsequent PNC utilization. Involving husbands of HDA members and other men to convince their pregnant wives to notify HDA members and HEWs could increase uptake at the different points in the pregnancy cycle. This could be piloted in a few places and lessons learned documented.
- Current surveillance mechanisms rely mainly on oral communication with inconsistent pregnant women records at the HPs, negatively affecting tracking and follow-up. Introducing a system of written communication facilitates tracking of women and newborns, monitoring of service uptake, and introduces accountability.

Communication Channels

- While families have access to the family health guide, it is reported that they rarely read/use it. HEWs will need to work closely with other community groups (school community, agriculture development agents, faith-based leaders) to improve the use of family health guides at the household level.

Cross-Cutting Issues

- Husbands and mothers-in-law can be an important way to influence a woman's decision to attend ANC, institutional delivery, and PNC. Involving husbands in awareness-raising campaigns, including involvement in pregnant women's conferences, will facilitate ANC attendance, institutional delivery, and PNC. In Sekota woreda, HEWs are aware of the husband's influence and spend more time convincing him of the importance of these services. This practice needs to be taken to other woredas, where husbands need to be equally targeted by HEWs in all areas of maternity care, including ANC, delivery, and PNC.
- HWs at all levels need to be trained in client-centered care and client-provider relations because their treatment of women can have a significant effect on whether services are acceptable within the community. The recent Compassion and Respectful Care initiative of the Federal Ministry of Health needs to be replicated at the level of health care providers to influence how they treat their clients. Strengthening accountability within the health system also needs to be carried out simultaneously.
- Traditionally, women are the ones who handle every aspect of maternity. Assignment of female HWs to ANC, delivery, and PNC clinics will make the service culturally appropriate and attract more women.

- Distance, topography, and cultural practices can make PNC difficult at the HC level. Mothers, husbands, and mothers-in-law need to be informed about the benefits of PNC during ANC visits so they expect and welcome visits by HEWs after delivery. Building the capacity of HEWs to be fully responsible for PNC, including the first visit within the 24 hours postdelivery, especially for those who delivered at home, is beneficial.

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