A Study into the Effectiveness of the Midwives’ Mentorship for Improving Maternal and New Born Health Care Programme in Ethiopia

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Prepared by:

Dr. Yirgalem Mekonnen (JaRco Consulting)
Leelena Haddis (JaRco Consulting)
Semra Asefa (Independent consultant)
Mengistu Kefale (JaRco Consulting)

Review team: Ben Murphy, Alessandra Grasso, Tsegahun Tessema – all JaRco Consulting.

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JaRco Consulting

Addis Ababa
Ethiopia
PO Box 43107
www.Jarco.info
mail@jarrco.info
+251 113-724656/57
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### Acronyms

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<th>Definition</th>
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<tbody>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
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<tr>
<td>ART</td>
<td>Anti-Retroviral Therapy</td>
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<tr>
<td>BCG</td>
<td>Bacillus Calmette–Guérin</td>
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<tr>
<td>BEmONC</td>
<td>Basic Emergency Obstetric and Newborn Care</td>
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<tr>
<td>BP</td>
<td>Blood Pressure</td>
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<tr>
<td>B.Sc.</td>
<td>Bachelor of Science</td>
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<tr>
<td>CAC</td>
<td>Comprehensive Abortion Care</td>
</tr>
<tr>
<td>CBNC</td>
<td>Community Based Newborn Care</td>
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<tr>
<td>CHAI</td>
<td>Clinton Health Access Initiative</td>
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<tr>
<td>EDHS</td>
<td>Ethiopia Demographic and Health Survey</td>
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<td>EMwA</td>
<td>Ethiopian Midwives Association</td>
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<tr>
<td>EPI</td>
<td>Expanded Programme of Immunization</td>
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<tr>
<td>FHB</td>
<td>Foetal Heartbeat</td>
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<td>FMoH</td>
<td>Federal Ministry of Health</td>
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<td>FP</td>
<td>Family Planning</td>
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<tr>
<td>HBB</td>
<td>Helping Babies Breathe</td>
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<tr>
<td>HC</td>
<td>Health Centre</td>
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<tr>
<td>HCT</td>
<td>HIV Counseling and Testing</td>
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<tr>
<td>HDA</td>
<td>Health Development Army</td>
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<tr>
<td>HEW</td>
<td>Health Extension Workers</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
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<tr>
<td>HO</td>
<td>Health Officer</td>
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<td>HSDP</td>
<td>Health Sector Development Programme</td>
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<tr>
<td>ICCM</td>
<td>Integrated Community Case Management</td>
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<tr>
<td>IMNCI</td>
<td>Integrated Management of Newborn and Childhood Infections</td>
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<tr>
<td>ITN</td>
<td>Insecticide Treated Nets</td>
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<tr>
<td>IUCD</td>
<td>Intra-Uterine Contraceptive Device</td>
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<tr>
<td>KIIIs</td>
<td>Key Informant Interviews</td>
</tr>
<tr>
<td>L&amp;D</td>
<td>Labour and Delivery</td>
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<tr>
<td>M2M</td>
<td>Mother to Mother</td>
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<tr>
<td>MCH</td>
<td>Maternal and Child Health</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MDSR</td>
<td>Maternal Death Surveillance and Response</td>
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<td>MgSO4</td>
<td>Magnesium sulphate</td>
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<td>M-Health</td>
<td>Mobile Health</td>
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<tr>
<td>MNCH</td>
<td>Maternal, Newborn and Child Health</td>
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<td>MNH</td>
<td>Maternal and Neonatal Health</td>
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<tr>
<td>NASG</td>
<td>Non-pneumatic Anti Shock Garment</td>
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<td>NGO</td>
<td>Non Governmental Organization</td>
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<tr>
<td>OPV</td>
<td>Oral Polio Vaccine</td>
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<td>ORS</td>
<td>Oral Rehydration Salts</td>
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<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>PDA</td>
<td>Personal Digital Assistant</td>
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<tr>
<td>PMTCT</td>
<td>Prevention of Mother to Child Transmission</td>
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<tr>
<td>PNC</td>
<td>Post-natal Care</td>
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<tr>
<td>PPH</td>
<td>Post-partum Hemorrhage</td>
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<td>RHB</td>
<td>Regional Health Bureau</td>
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<tr>
<td>SM</td>
<td>Senior Midwife Mentor</td>
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<tr>
<td>SNNPR</td>
<td>Southern Nations, Nationalities, and Peoples' Region</td>
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<tr>
<td>SoP</td>
<td>Standard Operating Procedure</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
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<tr>
<td>TBA</td>
<td>Traditional Birth Attendant</td>
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<tr>
<td>ToR</td>
<td>Terms of Reference</td>
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<tr>
<td>TT</td>
<td>Tetanus Toxoid</td>
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<tr>
<td>TTC</td>
<td>Tetracycline</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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Executive Summary

The Federal Ministry of Health (FMoH) in Ethiopia is undertaking various measures to improve the services women and newborns receive. From March 2014 to February 2016, the FMoH, with the support of the Children’s Investment Fund Foundation (CIFF), is implementing a pilot model for the placement of senior midwives in selected woredas with the aim of improving the overall outcomes in maternal and neonatal health (MNH) services.

In March 2014 the FMoH Maternal and Child Health Directorate recruited, placed and supported twenty-five experienced and qualified Senior Midwives at the woreda health office level in order to improve the capacity of healthcare staff to deliver maternal and newborn care and health services. Their tasks include the provision of capacity building, supervision, technical guidance, routine assessments and reporting. Each Senior Midwife (SM) was placed at the woreda level (25 in total) and is intended to cover all health facilities within his/her catchment area, working directly with the health workers within the MNH unit and health extension worker supervisors.

Occurring just after the close of the first year of implementation, as the 25 midwives began a year-long extension, this study captures information that will help FMoH understand the lessons of its current implementation and track progress of the placement scheme during its further roll-out. The lessons are formed based on a systematic review of the effectiveness of the Senior Midwife placement model in, firstly, building healthcare provider capacity, and, as consequence, in improving the quality of care received by maternal and newborn patients/clients and the continuum of care between MNH services. The study was conducted among a sample of implementation woredas and a group of selected non-implementation woredas in all four operational regions – Amhara, Oromiya, Tigray, and Southern Nations, Nationalities, and Peoples’ Region (SNNPR) – using a combination of key informant interviews, observations, patient exit interviews and secondary data analysis.

In the design stages of the mentorship pilot the FMoH selected 25 implementation woredas based on their weak performance in maternal, newborn and child health (MNCH) outcomes. When identifying woredas for the control group in this study, it was found that the non-implementation woredas had generally better MNCH outcomes and / or had received support for their MNCH services from other actors (e.g. NGOs). It was therefore a challenge to select non-implementation woredas that were comparable to pre-implementation woredas in health workers’ characteristics and performance and outputs. The study selected non-implementation sites based on the same criteria as selecting the implementation sites, and the analysis makes mention of where the non-equal starting points or other activities in the study’s non-interventions have affected the comparison.

The findings of the study show that the Senior Midwives mentorship model appears to have been effective in increasing the capacity of health workers to provide MNH services. The scheme has increased the volume of support provided and health workers evinced that they had retained the learning through the study’s knowledge assessment. The increase in capacity has also had a demonstrable impact on the quality of service provided, with both the general conduct and technical conduct of MNCH appointments scoring better marks in the implementation areas compared to the control. The results are encouraging given that the implementation areas have
less experienced staff, fewer degree holders and fewer people who had been in their current position for over 24 months compared to the control woredas.

The greatest effectiveness is found in MNCH services up to labour and delivery, with the highest percentage of health workers being able to demonstrate and apply knowledge in antenatal care (ANC) areas and labour and delivery. The model has been less effective in the area of family planning (FP), where the non-implementation areas out-perform the implementation sites in a number of key technical areas in both the knowledge assessments and the observations of FP service delivery. Although not quantitatively tested in this study, the qualitative information from health officer and health workers attests that the SMs have been working to improve the referral systems in their areas through increased reporting and communications, and also in assisting the construction of waiting areas.

The qualitative findings (detailed in Section 3: Regional profiles) demonstrate that perceptions of the SM mentorship placement are positive in nearly all areas. They also show that the results of the effectiveness have been achieved because of the personal motivation and commitment of the individuals recruited in the scheme, who have managed to do a good job despite noted difficulties in their orientation or the stress of their workload. Despite the lack of transport, most SMs were able to reach all health centres within their catchment areas, but there are notable signs that the more remote areas do not get the same treatment as those closer to the woreda health office. Based on the results of the programme and the qualitative description of its implementation, the study team has extracted best practices and areas where improvements could be made within the current group of 25 midwives to inform the design of the upcoming scale-up to 75 SMs.

**Recommendations**

- **Improve transportation:** One of the main challenges mentioned by all SMs and other interviewees is lack of a consistent, appropriate and coordinated transportation system for the mentors and for clients.

  a) For the mentors: The mentors (i.e. SMs) are expected to visit the assigned health centres regularly which require travelling long distances with difficult topographies. The lack of transportation has been one of the main obstacles not to conduct regular mentoring especially to the remote health centres. As discussed in the infrastructure section, this has created an issue of inequity as the remote health centres are not benefitting as much as the less-remote health centres because of the transportation problem. Therefore, the woreda health offices as well as the health centres should come up with mechanisms to coordinate the transportation system for the SMs so that the SMs can provide regularly and timely mentorship activities. The zonal and regional health offices should support the woreda health offices in the arrangement of the transport while the Ministry of Health should oversee if the transportation problems are being addressed.

  b) For the clients: For the clients, especially for mothers to deliver at health institutions, the project has piloted the use of motorised tricycle ambulances in some health centres; however, these tricycles were found to be inappropriate for the topography. Since the piloted tricycles are not appropriate, the FMoH should cease to distribute similar tricycles to the rest of the health centres and consider other types of vehicles.
• **Balance workload of Senior Mentors:** The number of health centres varies from woreda to woreda and there are SMs that mentor up to eleven health centres within one woreda. The responsibility of a high number of health centres has created a big burden for some of the SMs, limiting the number of health centres, especially those remotely located, that receive regular mentorship. Besides, the dosage of the skill transfer and mentoring of mentees will be compromised and some of the SM activities like regular interface with heads of health centres, woredas and zones, capacity building of health posts/HEWs and community mobilization will be compromised. Therefore, the FMoH should design a mechanism of assigning SMs with comparable number of health centres that will enable the SMs for consistent and regular mentoring of the health centres. One option would be to add additional SMs in woredas that have larger number of health centres.

• **Strengthen weak MNCH areas:** Based on the findings of the knowledge assessments, observations of services provided and supervision results, SMs should place more emphasis in the areas of family planning and post-partum care as implementation health centres performed substandard compared to the non-implementation health centres in these areas.

• **Assign Focal Person at Woreda/Zone/Region level:** Although the SMs’ supervision channels are indicated in the job description, there is uneven supervision/accountability of senior mentors to the Woreda, Zone or Regional Health Bureau. The supervision is inconsistent, particularly at the zonal and regional level. The SMs are trying to work closely with the woreda health offices but most woreda leaders do not know the terms of reference of the SMs nor their mandate on how they should supervise or monitor the works of the SMs. Therefore in an ideal case the FMoH should assign the supervision of a SM to a person at the woreda level, or to a person at the zonal or regional level.

• **Conduct Mentorship Training:** The FMoH should provide training for the SMs in how to mentor. Most of the SMs have very good skills in midwifery but are not experts in mentorship, which is a separate skill that needs fostering. Providing mentorship training will help ensure that the mentorship is more uniform and good mentorship is not dependent on the personal abilities of the SMs hired.

• **Creation of Standard Operating Procedures:** Standard Operating Procedures (SOPs) pertaining to the project and SMs’ duties and responsibilities should be developed so that their activities will be uniform throughout the woredas. The SoP should be shared with the woreda, zone and regional health offices so that everyone in the channel of the project implementation would have similar and better understanding.

• **Standardize and Implement Checklists:** One of the strategies of the project is developing checklists for both the SMs and mentees. Checklists for the SMs assist them in monitoring mentees’ progress while checklists for the mentees help them to be thorough in evaluating mothers and newborns. However, the use of the checklists was not consistent because many SMs don’t have access to printing and/or copying and were not distributed to the health centres/mentees, and some of the checklists too complex for use. Therefore, the FMoH should simply checklists and arrange a process for preparing and distributing the checklists to the health centres.
Issues/resolutions to consider for scale-up

✓ Induction training of new senior mentors on mentoring so there is a more uniform standard of service and positive experience by receiving health centres and catchment areas.

✓ Upfront management of expectations for new senior midwife mentors, receiving health centres and local government counterparts. Some MCH units (e.g. most Under-5 units interviewed and some FP units) do not feel they get as much mentoring support as ANC, labour and delivery. For scale-up clear messaging is needed from the beginning on whether all MCH units should expect equal mentoring.

✓ Clearer implementation guidelines and reporting lines for Senior Midwife Mentors.

✓ Increased role and input for regional/zonal/ woreda counterparts as well as strengthened linkages with FMoH to increase ownership/support for project.

✓ Revision considerations of the Senior Midwife Mentor Terms of References (ToRs):

1. Reduce the reporting requirement of routine data submitted by HCs/woredas to FMoH to alleviate the reporting burden. The focus of SMs’ reporting should be on their own activities/outputs.

2. Include in job description selection criteria personal attributes common in successful SMs: initiative taker/problem solver, adaptability & level-headed response to challenges, excellent interpersonal skills with diverse groups, commitment & willingness to assume hardship postings.

✓ Additional frontload support and monitoring with new Senior Mentor deployments (which can be reduced to monitoring/maintenance role as competencies increase).

✓ Assess the workload of SMs supporting greater numbers of health centres and/or those that have a high degree of involvement in duties beyond HCs - these factors indicate that SM will struggle to maintain the required level of support without burning out or slipping in the quality of mentoring.

✓ FMoH will need to balance and align the number of HCs assigned to each SM with the duties they expect to be discharged in each assigned catchment area, noting local characteristics (e.g. Oromia may need more community engagement by SMs compared to other regions with less resistance to institutional health care).

✓ Possible models to consider include:

1. Smaller geographical coverage for the next 75 SMs to allow more SMs per woreda or;

2. Same geographical coverage area but with initial staggered deployment of SMs to critical HCs. As competencies improve over time, scale back support to the initial group of HCs to a monitoring role and switch SMs to mentor the less critical HCs within the geographical area.

✓ HCs/provincial representatives have noted that the HC5s in most need of mentoring (usually remote) are the ones more likely to get irregular mentoring.
✓ On linkages between transport issues, personal security and coverage of assigned health centres: Some female SMs expressed concern to interviewers at exposing themselves to potential violence including rape as reasons for their reluctance to visit or stay overnight at the more remote HCs. The Interviewer for Tigray noted that the SM deployed there had been robbed in one of his rotations.
Section One: Introduction

Every year there are an estimated 139 million births worldwide. Approximately 289,000 women die during pregnancy, childbirth or soon after; 2.6 million will suffer stillbirths and 2.9 million infants will die in the first month of life. Neonatal morbidity and mortality rates in Ethiopia are among the highest in the world and stem from a range of socio-economic and demographic factors. Many of these deaths are preventable. Around 120,000 newborns die every year with a neonatal mortality rate of 28 per 1000 live births. However, progress is being made: according to 2014 World Health Statistics by the World Health Organization, Ethiopia’s maternal mortality ratio declined from 990 in 2000 to 420 deaths per 100,000 births in 2014. The rate of reduction is relatively slow and this insufficient progress calls for renewed attention to diagnose the bottlenecks and to design interventions that address the bottlenecks and significantly contribute to a reduction in maternal deaths in the country.

It is well recognized that continued reductions in maternal and newborn mortality require overall improvements in quality throughout the continuum of care, as well as improved emergency services. Diagnostic studies have shown that most maternal deaths occur during delivery and the postpartum period, suggesting that increasing availability and access to Basic Emergency Obstetric and Newborn Care (BEmONC), antenatal and postpartum care and ensuring that skilled health personnel attend deliveries can immediate reduce maternal mortality. Quality midwifery services that are coordinated and integrated within communities and within the health system help to ensure that a continuum of essential care can be provided throughout pregnancy, child birth and beyond.

The Federal Ministry of Health (FMoH) in Ethiopia is taking strides to improve the services women and newborns receive. Health Sector Development Programme (HSDP) III and HSDP IV gave particular attention to maternal and newborn health, and HSDP IV (2010/11-2014/15) particularly emphasized training more midwife nurses and enhancing the capacity of health extension workers (HEWs) to deliver clean and safe delivery service. The latter also identified strategies for raising demand and improving access to quality of health care services.

From March 2014 to February 2016, the FMoH, with the support of the Children’s Investment Fund Foundation, is implementing a pilot model for the placement of senior midwives in twenty-five selected woredas. The aim is to reduce neonatal mortality through the promotion of safer deliveries and newborn care. Successfully implemented, this project is expected to generate substantial health system gains in the target woredas. It will also inform plans for a national scale-up of more integrated and unified approaches to maternal, newborn and child health (MNCH) and serve as a model for accelerating progress to achieve the health-related Millennium Development Goals (MDGs 4 & 5).

1UN-IGME 2014 report  
2 World Health Statistics 2014  
4The Lancet Series- Midwifery, 2014  
5The State of the Ethiopia’s Midwifery 2012 based on Ethiopian Midwives Association Database  
6 HSDP IV
FMoH would like to further investigate this pilot project in order to learn the lessons of its current implementation and to track the progress of the placement scheme for further roll-out. This study will explore the effectiveness of the placement model and assess the quality and continuum of care provided to maternal and newborn health patients.

BOX 1: List of duties from the Senior Midwives’ job description

- Provision of BEmONC training for the health care providers in the woreda.
- Provision of follow-up mentorship and supportive supervision on maternal and newborn health care, ensuring proper, consistent use and institutionalization of the maternal and neonatal health (MNH) checklists and providing written feedback at all levels.
- Provide technical support and regular mentorship on early detection of labour complication and management/referral; ensure no third delay occurs.
- Documentation and archival of mentorship and supportive supervision feedbacks at the health facilities and woreda health offices, submit feedbacks to FMoH whenever necessary.
- Submit a complete and timely activity report to the woreda health office and FMoH every month.
- Work closely with zonal, town and woreda health offices as well as facilities in establishing ownership and sustainability of the MNH program.
- Compile and submit woreda level reports on total number of births, number of live births, number of still births and maternal deaths at home, health post, health centre and hospital in the woreda.
- Provide technical support on the effective implementation of maternal death surveillance system (MDSR) and mobile health (M-health) in the woreda.
- Coordinate and ensure appropriate use of the available tricyclics and other ambulances and report regularly.
- As appropriate and necessary and upon request from the health facilities or woreda health office, provide professional support to the health facilities.
- Work closely and provide technical support to the health care workers, management of health centres and woreda health office to ensure the availability of quality MNH services and to facilitate uninterrupted supply of MNH service related commodities.
- Provide technical support to the woreda health office to organize review meetings, ensure documentation and archival of minutes and timely report.
- Ensure the participation of faith-based and other social support organizations/groups in the woreda based on review meetings.
- Provide technical support, coordinate, oversee and submit report on any other activities supported by CIFF and delegated by maternal and child health (MCH) directorate from FMoH.
**The Senior Midwives Model**

In March 2014 the FMoH MCH Directorate recruited, placed and has since supported twenty-five experienced and qualified Senior Midwives (SMs) at the woreda health office level in order to improve the capacity of health care staff to deliver maternal and newborn care and health services. Box 1 overleaf includes a full list of the SMs’ duties. Their tasks include the provision of capacity building, supervision, technical guidance, routine assessments and reporting. Each Senior Midwife is placed at the woreda level (25 in total) and is intended to cover all health facilities within his/her catchment area. He/she works directly with Health Extension Workers’ Supervisors, and less directly with HEWs and Health Development Army (HDA), and reports to the Woreda Health Office, Zonal and Woreda Health Office Heads. The theory of change for the pilot project is illustrated in figure 1.

In February 2015, the 25 SMs completed the original schedule for their year-long placement and began a year-long extension. It is intended that the scheme will scale up to 75 new woredas in January 2016.

Figure 1: The theory of change for the pilot project
Review of other midwives models in Ethiopia

The Senior Mentorship placement scheme employed by the FMoH in Ethiopia is one of a number of models used in Ethiopia for building the capacity of midwives and improving MNCH services. Others include a one-year accelerated training programme, run by United Nations Population Fund (UNFPA) and the Ethiopian Midwife Association (EMwA), and targeted mentorship employed by Clinton Health Access Initiative (CHAI). World Vision also works with midwives through targeted BEmONC assistance and, outside of Ethiopia, weekly clinical mentorship has been trialled in Nigeria. These models are detailed below so the FMoH can draw upon them if considering a redesign of its scheme.

**UNFPA and the Ethiopian Midwives Association: Accelerated Midwifery Training Programme**

UNFPA, through a memorandum of understanding with the FMoH and with the EMwA as the implementing partner, has had a Mentorship programme in place for the past two years. In a measure meant to address the gap between theoretical learning and the critical skills needed in the field, newly graduated nurses are enrolled in a one-year accelerated programme supported by the UNFPA at 13 Health Science Colleges then deployed to rural health centres.

Selected Senior Midwife mentors receive a two-day orientation and are then sent to the rural centres where the accelerated midwife graduates have been assigned for a month-long intervention. In the first two weeks, the senior mentor observes graduates’ case management and the centres’ patient records to identify gaps and prepares an action plan, and spends the remaining two weeks being available day or night to do one-to-one skills transfers and clinical reviews of complicated cases with mentees. In the third week, the Senior Mentor returns to her base and contacts the mentees by phone. In the fourth week, the Senior Mentor returns to the assigned rural health centre to do a follow-up observation and see if the identified gaps were rectified. The aim is that between the accelerated training and follow-up personal intervention, the graduates are able to provide much needed capacity to rural health centres as well as contribute to peer-learning among their colleagues.

To date, 4,600 accelerated midwife graduates have been assigned to rural health centres in Amhara, Oromia, Tigray and Southern Nations, Nationalities, and Peoples’ Region (SNNPR). The rural health centres where the graduates are assigned are selected by the government. The monitoring done thus far indicates that the programme gives much needed capacity to remote health centres that tend to be disadvantaged in terms of human capacity and resource capital. One lesson observed so far is that zonal health offices given sole determination over the selection of the remote health centres where mentors are to be placed has led to a few instances of health centres being selected that are not necessarily the most disadvantaged from the follow-up done by the Ethiopian Midwife Association. Additional challenges have been the lack of equipment, supplies and medication that at times prevented the Senior Mentors from doing proper demonstrations for mentees, as well as housing/security issues for Senior Mentors.

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during the period they are deployed to do their intervention (some rural areas do not have lodgings available).

UNFPA is interested in doing a detailed assessment in the near future to determine whether the accelerated programme and follow-up intervention is sufficient and sustainable over a longer period of time in maintaining skills and standards or whether a longer period of initial intervention or another short follow-up intervention may be needed. They are also in the process of finalizing a standardized manual for a four-day training for seasoned Midwives, including a component on mentoring and coaching. The draft is being prepared to be submitted to the Ministry of Health for review.

**CHAI: Midwifery Clinical Mentoring Model**

The midwife mentoring model is built on four core clinical mentoring activities recommended by the World Health Organisation: case management, clinical case reviews, multidisciplinary team meetings and reviews of patients’ medical record.

The model sets clear parameters for duration of mentoring, the qualifications and required experiences of midwife mentors and training of midwife mentors. The midwife mentorship programme works to ensure that health care workers at the health centre level have the required knowledge and skills on BEmONC service to yield sustainable high quality clinical care outcomes on MNH services.

At the beginning of the mentoring the Midwife mentor selects two to three MNH services performing health centres within the woreda. From the selected health centres within the woreda they will select two to three mentees from each to conduct a baseline knowledge and skills assessment of the mentees before conducting midwife mentoring for five months for the three selected health centres (HCS) (may be one month and 20 days for each HC) but duration of stay can vary based on mentees’ capacity (knowledge and skill). The major focus areas of midwife mentoring is BEmONC signal functions-focus areas, other essential MNH services/procedures and outreach health post level coaching (focused ANC, Helping Baby Breathe (HBB), M-health).

In addition mentors ensure the application of all the clinical tools of clinical mentoring, such as monitoring mentees’ development, output/outcome of the clinical mentoring on the quality of care. The senior midwife mentor plans and conducts knowledge and skills assessment of mentees in predetermined intervals (baseline, midterm and terminal), before and after mentoring to assess the effectiveness of mentoring. Then, the mentee is considered to be a mentor and can mentor other staff independently if s/he fulfils the graduation criteria.

The pilot implementation of the programme was conducted in ten health centres of Oromia and Tigray regions. According to the pilot implementation report of CHAI, the mentorship programme led to an increase from 67.6% to 86.3% on average knowledge level and 53.5% to 84.4% on average skill level. The programme has also resulted in improving local capacity transforming mentees into mentors who could be assigned to roll out the midwife mentorship activities other appropriate staff with in the same facilities or woredas. The study result also
identified that with improved knowledge and skills of midwives in managing major causes of maternal mortality and reducing unnecessary referrals to hospitals.  

**WORLD VISION: SENIOR MIDWIFE MENTORSHIP PROGRAMME**

World Vision has three different mentorship models for improving the skill and the capacity of the midwife placed in remote health centre. All three models are at the initial stages of implementation:

1. **One-Year Mentorship Model:** The Midwife mentorship programme is implemented by World Vision jointly with Liverpool University, Safe Motherhood Initiative Working Group, University of Gondar and EMwA. In this model, midwives who didn’t revive BEmONC training are selected and provided with a five-day intensive skill training. After the training the midwives will be assessed by the trainers (mentors) every three months and the mentors will try to identify any skill gaps with the mentees. Once skill gaps are identified, a training tailored to the skills will be provide to the mentees based on the skill gap that is been identified. Currently, 30 midwives were trained in the five-day skill training and were placed in their respective work stations. The quarterly follow up will be conducted on a timely basis. This model introduces and/or strengthens skills of midwives within the one-year period of time.

2. **Three-Year Mentorship Model (Virtual Mentorship Model):** In this model the FMoH standard of 21 days of BEmONC training is conducted in collaboration with EMwA and University of Gondar (School of Gynecology and School of Midwifery). Within the implementation areas, University of Gondar is responsible to provide the BEmONC training for the northern areas and EMwA is responsible for the central areas. In this mentorship model the trainers (mentors) are expected to do a series of telephone follow-ups following training and placement of the mentees. If mentees face any work-related problem or need technical support, the mentor will be just a phone call way to support them whenever they want. Thus this model is referred to as the “Virtual Mentorship Model” programme as mentoring is conducted through via telephone communication. On quarterly basis a joint supervision will be conducted by World Vision, EMwA and a district health office official.

3. **Third mentorship model:** World Vision in collaboration with the EMwA will select a highly qualified well-experienced senior midwife. Prior to the SM deployment the EMwA will provide training on mentorship and user-friendly service at health centres. The SM will be place in a remote health centre for one to two months. During their stay at the SM they will rearrange the health facility to make it more user-friendly, work closely with the MNH unit staff to provide a hands-on skill practice and observe the staff (mentees). After the placement is done the senior midwife will conduct supervision every three months, stay in the health centre for five days and try to address any issues during the supervision. The supervision of the SM will continue for the whole year and within that year the SM will address any issues related to staff turnover, skill attainment and user friendly service.

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8A pilot implementation report-CHAI
Objectives of the study
The study is designed to capture information that will help FMoH understand the lessons of its current implementation and to track the progress of the placement scheme during its further roll-out. These lessons are formed based on a systematic review of the effectiveness and quality of the Senior Midwife placement model in building healthcare provider capacity and in improving:

- The quality of care received by maternal and newborn patients/clients;
- The continuum of care between MNCH services and between the different levels of health service.

Section Two contains the results of the programme charting this effectiveness after one year of implementation. The study will support the FMoH in identifying areas where greater institutional capacity is required in order to strengthen the model of promoting mentorship with Senior Midwives, and will help to highlight alternatives that may improve performance and cost-efficiency. Section Three of this report provides in-depth qualitative information about the implementation of the model in each region, while recommendations and considerations are captured in Section Four.

Methodology
Occurring one year after the first placement of the senior midwives, the study assesses the effectiveness of the midwife model using its theory of change (See figure 1) and distinguishes this effectiveness by comparing implementation and non-implementation areas. It follows the overarching question: Has the placement of 25 senior midwives led to improvements in the capacity of MNCH staff within the woreda, and, if so, has this led to improvements in quality of care and the continuum of care?

Using national and international guidelines for MNCH services, the study team developed a list of criteria for measuring improvements in the quality and continuum of care that could be attributed to the SM mentorship scheme. The assessment criteria were developed into a series of tools (See table 1) used to gather and triangulate quantitative and qualitative information from a range of primary and secondary sources.

Table 1: Data collection methods, tools and data sources

<table>
<thead>
<tr>
<th>Tool</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative</strong></td>
<td></td>
</tr>
<tr>
<td>Health centre staff observation</td>
<td>MNH Unit Health Workers and the Senior midwife</td>
</tr>
<tr>
<td>Health facility assessment questionnaire</td>
<td>MNH Unit Health Workers and the Senior midwife</td>
</tr>
<tr>
<td>Health centre staff knowledge assessment questionnaire</td>
<td>MNH Unit Health Workers and the Senior midwife</td>
</tr>
<tr>
<td>Client Exit interview</td>
<td>Patients/clients of different MNH services</td>
</tr>
<tr>
<td><strong>Qualitative</strong></td>
<td></td>
</tr>
<tr>
<td>Literature Review</td>
<td>Facility records, Programme documents &amp; tools, Published journal and articles</td>
</tr>
</tbody>
</table>
A study team consisting of three technical experts (one of whom is the team leader) developed the design of the study, performed quality assurance during the field work and analysed the results. The study design started with a review of SM mentorship programme documents and key informant interviews with FMoH staff. Following this, the team conducted a scoping trip to Alecho Werro woreda in SNNPR (a non-study site) in order to observe and discuss the SMs’ work to develop a suitable data collection plan.

Once the assessment criteria and tools were agreed with the FMoH, primary data collection took place by four trained field teams, each team consisting of one Researcher (midwife specialist) and one Research Assistant conducting health facility assessments, exit interviews of patients, KII, knowledge assessments and observations with the senior midwives at the health centre. Primary data collection took place between 18 May and 19 June 2015.

**Sample size and study population**

The study was conducted among a sample of implementation woredas and selected non-implementation woredas in all four operational regions – Amhara, Oromiya, Tigray, and SNNPR. Senior Midwives, MNH unit health workers, health centre heads, woreda health office heads, zonal health office heads and patients/clients who received health care service provided at the health centres were eligible for participation.

Of the 25 Senior Midwives in the pilot scheme the study team sampled and visited 8 (30%) SMs. This percentage was selected based on a statistical standard to give a statistically relevant sample size (in the absence of an appropriate indicator from previous studies and literature) and is sufficient to produce an effective sample size to measure the effectiveness, quality of care and continuum of care of this model through the woreda-level health system.\(^9\) Within each region, implementation woredas were assigned proportionately, and, therefore, two implementation woredas were selected from Amhara and SNNPR, three from Oromia and one in Tigray. One non-implementation woreda was selected from each focus region, i.e. Amhara, Oromia, SNNPR and Tigray. Woredas were purposely sampled to demonstrate rural/urban areas and to give a perspective on performance between those woredas with the highest and lowest number of

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\(^9\) JaRco’s Statistician cites Glenn D. Isreal’s Determining Sample Size (2009) as the key reference point in defining our sample size. The base, mid and endline evaluations will be limited to the use of descriptive analysis (e.g. mean, frequencies, etc.). Therefore, nearly any sample size may suffice. In light of this and our proposed use of clusters (health centers), JaRco’s proposed sample size will include 700 exit interviews at 70 health centers at the base and endline evaluations. These 700 interviews are fully in line with a sampling design for descriptive analysis, as Sudman (1976) suggests that a minimum of 100 elements is needed for each major group or subgroup in the sample and for each minor subgroup, a sample of 20 to 50 elements is necessary. Similarly, Kish (1965) says that 30 to 200 elements are sufficient when the attribute is present 20 to 80 percent of the time (i.e., the distribution approaches normality).
health centres in the SMs’ catchment areas. The study team captured both a high and low number of health centres in the SM catchment areas as shown in figure 2. Within the woreda two health centres were purposely selected based on the distance from each woreda health office (i.e. one nearest to and the furthest to the woreda health office). As shown in table 2 below, 24 health centres were surveyed.

In each woreda the SM, MNH unit staff, health centre head, relevant woreda health office staff, and zonal health office head were interviewed, along with randomly selected patients. In total 134 key informant interviews were held.

Table 2: Study health centres and woredas

<table>
<thead>
<tr>
<th>Region</th>
<th>Zone</th>
<th>Woreda</th>
<th>Implementation HC</th>
<th>Non-implementation HC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amhara</td>
<td>South Wollo</td>
<td>Legambo</td>
<td>Akista</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fita</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jama*</td>
<td>Degollo*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fage*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Awi</td>
<td>Fagita Lekuma</td>
<td>Addis Kidam</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fagita</td>
<td></td>
</tr>
<tr>
<td>Oromia</td>
<td>Borena</td>
<td>Arero</td>
<td>Mata Gafersa</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hallona</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teltele</td>
<td>Milami</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kulcha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guji</td>
<td>Wadera</td>
<td>Burga Waba</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bale zone</td>
<td>Medawolabu*</td>
<td></td>
<td>Bidire*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gobelle*</td>
</tr>
<tr>
<td>SNNP</td>
<td>Silti</td>
<td>Mirab Azernet</td>
<td>Lera</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mugo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sidama</td>
<td>Boricha</td>
<td>Dilla Anole</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yirba</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kembata Tembaro</td>
<td>Damboya*</td>
<td></td>
<td>Damboya*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Megere *</td>
</tr>
<tr>
<td>Tigray</td>
<td>Western Tigray</td>
<td>Kafta Humera</td>
<td>Rawiyan</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Andi Goshu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Western Tigray</td>
<td>Tahtay Maichew *</td>
<td></td>
<td>Wekru Mariam*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Raga Bearehe*</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10 Zones</td>
<td>12 woredas</td>
<td>16 Health Centres</td>
<td>8 Health Centres</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(8 / 25 implementation woredas &amp; 4 *non-implementation woredas)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Characteristics of study participants

All senior midwives taking part in the study had worked as a midwife nurse previously and all except one held a Bachelor of Science (B.Sc.) degree in midwifery education. Their individual years of work experience ranged from 7 to 16 years, with average at nearly 12 years of experience. As intended through the purposive sampling, the number of health centre assigned to each midwife varies between woreda. The lowest number of health centres was found to be 4 in Arero, Oromia region and in Mirab Azernet, SNNP. The highest number of health centres was found to be 11 in Boricha woreda, SNNP. All senior midwives are able to cover the assigned health centres within their catchment areas, with the exception of SMs in Legambo and Fagita Lekuma in Amhara regions where the midwives failed to reach one health centre each due to the road accessibility and lack of transport. This is summarized in table 3, while the numbers of health centres in SMs’ catchment areas are illustrated in figure 2.

Table 3: Characteristics of the Senior Midwife Mentors

<table>
<thead>
<tr>
<th>Woreda</th>
<th>Level of Qualification</th>
<th>Years of Experience</th>
<th># Health Centres Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amhara</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legambo</td>
<td>B.Sc. Midwife Nurse and HO</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Fagita Lekuma</td>
<td>Diploma Midwife Nurse</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Oromia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wadera</td>
<td>B.Sc. HO and Diploma</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Arero</td>
<td>B.Sc. Midwife Nurse</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Teltele</td>
<td>B.Sc. Midwife Nurse</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>SNNPR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boricha</td>
<td>B.Sc. Midwife Nurse</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Mirab Azernet</td>
<td>B.Sc. Midwife Nurse</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Tigray</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kafta Humera</td>
<td>B.Sc. Midwife Nurse</td>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

Figure 2: Number of health centres assigned per SM mentor (SMM) in study woredas
In total 87 health workers from MNCH units were surveyed, 60 from the implementation woredas and 47 from the non-implementation woredas (summarized in table 4). Of the 87 health workers, 39% were male and 61% female. This distribution of gender was similar across the implementation regions, except in SNNPR where health centres had fewer male staff than other regions. The majority (87.4%) of health facility staff interviewed was between the ages of 20 to 29 years. The majority (78.2%) of the health centre staff were diploma holders (in the case of Tigray region all had diplomas holders and fewer have bachelor degrees). Drawn from table 4 below, 59% of the health care workers from the non-implementation woredas have held the same position for 1 year or longer and 81.5% have 2 or more years of experience compared to 35% holding the same position for 1 year or longer and 61.2% with more than 2 or more years of experience in the implementation woredas. Also, 33% of the health care workers from the non-implementation woredas hold a degree compared to 16.7% of the health care workers from the implementation woredas. This observation of higher percentages of degree holders, general experience and experience in current role in the non-implementation woredas is further explained below in the “Limitations of the study” and must be considered when comparing knowledge assessment outcomes between health care workers from implementation and non-implementation woredas.

Table 4: Characteristics of health care workers interviewed

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Implementation</th>
<th>Non-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>39</td>
<td>65.0</td>
</tr>
<tr>
<td>Male</td>
<td>21</td>
<td>35.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>20 – 24</td>
<td>28</td>
<td>46.7</td>
</tr>
<tr>
<td>25 – 29</td>
<td>24</td>
<td>40.0</td>
</tr>
<tr>
<td>30 – 34</td>
<td>5</td>
<td>8.3</td>
</tr>
<tr>
<td>&gt;35</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>50</td>
<td>83.3</td>
</tr>
<tr>
<td>Degree</td>
<td>10</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Months of Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 6</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>6 - 11</td>
<td>8</td>
<td>13.3</td>
</tr>
<tr>
<td>12 - 23</td>
<td>15</td>
<td>25.0</td>
</tr>
<tr>
<td>24 - 35</td>
<td>7</td>
<td>11.7</td>
</tr>
<tr>
<td>&gt; 36</td>
<td>30</td>
<td>50.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
</tr>
<tr>
<td>Months of Experience on the current role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 6</td>
<td>6</td>
<td>10.0</td>
</tr>
<tr>
<td>6 - 11</td>
<td>17</td>
<td>28.3</td>
</tr>
<tr>
<td>12 - 23</td>
<td>16</td>
<td>26.7</td>
</tr>
<tr>
<td>24 - 35</td>
<td>3</td>
<td>5.0</td>
</tr>
<tr>
<td>&gt; 36</td>
<td>18</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Limitations of the study

As the study uses predominately qualitative methods it provides good detail on the operations in the MNCH after the placement of the SMs, but as the first exploratory study it does not allow for a fully objective assessment of the effectiveness of the midwives’ placement. Differences are compared to a control group, but not to a baseline (which this assessment intends to be) and therefore change is not measured. In certain instances, figures were taken from the health facility records from one year prior to the survey to assess change, but this was only possible for selected indicators. The improvement in the continuum of care could be more accurately assessed if there was accurate referral information captured at the health facility level, or if a household survey had of been performed. The qualitative information therefore provides examples and descriptions of referral improvements that have been made but does not measure or triangulate the results.

Many indicators in the study use subjective value judgments in order to make an assessment of the current situation. The study team tried to limit the variance in the assessments by recruiting experienced midwives to perform the observations, creating standard tools, training all staff in the methods of the study, and holding an in-depth debrief workshop after the field work. Despite these efforts, a level of subjectivity is unavoidable and has been borne in mind during the analysis. Another area of subjectivity arises in the knowledge assessments and the observations of MNCH health service appointments, where the level of capacity building is determined by the health workers’ recall during the one period of questioning/observation. As health workers may know the information but are unable to deliver it during this period, the results in these areas may not fully represent the situation of knowledge retained or quality of health service delivery. It can be reasoned that the health workers should be able to recall the information for their day-to-day job, and if they are unable to in an interview or during observation it is a reflection on the services delivery.

There was a practical limitation in selecting non-implementation woredas comparable to implementation woredas. Non-implementation woredas generally are or have been supported by different partners (e.g. NGOs) in regards to MNCH. In its design of the mentorship model FMoH selected implementation woredas based on higher number of maternal and neonatal mortality; thus, non-implementation woredas generally have lower number of maternal and neonatal mortality reported. Therefore, one must take caution when comparing indicators of effectiveness for the implementation and non-implementation woredas. However, as the report does not attempt to measure change or impact the effect of this is minimised.
Section Two: Results

This section describes the findings of the study, which are used to demonstrate the effectiveness of the SM mentorship model in building health care provider capacity and subsequently in improving the quality of MNCH service provision and the continuum of care received by patients. The overall result for each of the objectives is given in table 5, and the details, as well as the linkages between them, are detailed in sub-sections below.

Table 5: Level of effectiveness of SM mentorship model with confidence in judgement

<table>
<thead>
<tr>
<th>Objective</th>
<th>Effectiveness</th>
<th>Description</th>
<th>Confidence in judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building health care provider capacity</td>
<td>High</td>
<td>Most of the objectives were achieved</td>
<td>Strong</td>
</tr>
<tr>
<td>Quality of MNCH service provision</td>
<td>Medium</td>
<td>Some of the objectives were achieved</td>
<td>Medium</td>
</tr>
<tr>
<td>Continuum of care</td>
<td>High</td>
<td>Most of the objectives were achieved</td>
<td>Medium</td>
</tr>
<tr>
<td>Overall effectiveness of SM Placement</td>
<td>High</td>
<td>Most of the objectives were achieved</td>
<td>Strong</td>
</tr>
</tbody>
</table>

Results area 1: Capacity Building of Mentees/Health Care Providers

"Before the placement of the Senior Midwife Mentor, I was hesitant to implement all the concepts I got from the BEmONC training, but after the placement, I started to implement all the concepts with the support of the Mentor."

*Mentee, Labour & Delivery Unit, Boricha-SNNPR*

Training and Mentoring of health workers

Assessed by quantity alone, the SM model is effective in increasing the amount of exposure that MNCH staff within the implementation woredas have to guidance and support in the core functions of their job. Senior midwives provide mentoring, or orientations, which involve on-the-job training within a certain topic. Table 6 reveals that health staffs within the implementation areas have received far greater numbers of training compared to the non-implementation groups.

When accounting for the different sample sizes between implementation and non-implementation woreda, health staff in the non-implementation woredas attended more trainings compared implementation woredas, with exceptions for community-based newborn care (CBNC) and family planning training. There are a number of training areas where there were fewer people under the mentorship scheme that received training compared to those outside of it. This is accounted for by the fact that in the placement woreda trainings are provided only by the FMoH and not by NGOs or other external trainers.
From KIIIs with health staff it is explained that the mentoring, on-the-job training given by the SMs is valued by the health staff and leads to greater application levels than off-site trainings. The combination of on-the-job training and mentoring/orientation was found to provide both theory and practice and to be immediately applicable. On the other hand, trainings that convene health professionals off-site take health staff away from their daily roles, yet are attractive to health workers because of the per diems and the opportunity to travel. Nonetheless, the study team finds the SM approach to mentoring and training to be most advantageous as it reduces the health workers’ time away from the health centre and the costs of paying per diems and enables health workers to adopt and utilise new methods right away.

Trainings are defined in this context as capacity building that is separate from the day-to-day work schedule of the recipient. The recipient takes work off or commits time out of his/her non-working hours to attend the trainings. Orientations are defined as capacity building given by the SM during the recipient’s day to day work activity.

### Table 6: Health centre staff who received mentoring/training in specific MNCH areas

| MNCH areas                  | Mentoring | | | Training | | |
|-----------------------------|-----------|---|---|-----------|---|
|                             | Implement % | Non-implement % | Implement % | Non-implement % |
| Essential newborn care-PNC  | 47.4       | 0.0 | 5.1 | 10.4 |
| PMTCT                       | 39.4       | 0.0 | 17.1 | 17.4 |
| STI                         | 16.0       | 0.0 | 5.1 | 4.3 |
| CBNC                        | 20.0       | 0.0 | 14.3 | 9.6 |
| IMNCI                       | 19.4       | 0.0 | 20.0 | 7.0 |
| ICCM                        | 10.9       | 0.0 | 9.1 | 4.3 |
| FP                          | 30.3       | 0.0 | 18.9 | 19.1 |
| Providing ANC               | 39.4       | 0.0 | 12.0 | 7.0 |
| Attending deliveries        | 50.3       | 0.0 | 6.9 | 7.8 |
| Essential newborn care- delivery | 46.3     | 0.0 | 12.6 | 7.8 |

**Supervision at health facilities**

Similar to the orientations, the SM mentorship scheme has increased health care staffs' exposure to supervision in the areas of i) checking and delivering supplies, ii) record keeping and reporting and iii) observing client interaction. There are higher percentages of recipients of supervision in these areas in the implementation areas (shown in figure 3). The SM scheme is also effective in increasing the levels of feedback that staffs receive on their work. The highest percentage is in the staff that were observed during their interaction with patients, which is expected to be a major contributing factor for the improvements in quality of care (see Results Area 2), although the percentages are still low; only 45% for all people in the implementation area. More than 90% of health centres had received a supervision visit by a health official from either the federal, zonal or woreda level on record keeping in the year prior the survey (during the SM’s placement). For the 86.3% HCs that received supervision on checking/delivering supplies, the supervision visit had been conducted by the woreda health office and Ministry of Health officials from the regional level.
The study compared the MNCH service delivery in a one-year period between the implementation and non-implementation health centres with the frequency of supervision/support the mentees received in the past one year. Figure 4 (below) compares the average number of clients served per health centre per MNCH service (i.e. antenatal care (ANC), delivery, post-natal care (PNC), infants <12 months who received 3rd dose of pentavalent (penta) vaccine and family planning). The comparison is between health centres where health care workers were supervised four or more times and centres where health care workers were supervised three or less times in the past one year. The qualitative discussions suggest the greater amount of supervision increases the confidence that health workers have in providing a service and they are, therefore, less likely to refer or decline a woman that tries to access a service. The quantitative results to support this are mixed, with an apparent correlation being found in three service areas and an apparent negative correlation being found in two.
While more than half of the health care centres (about 65.7%) had health care workers who were supervised four or more times in the past year, these centres only achieved a greater number of MNCH service provisions in three (i.e. ANC, delivery and PNC) out of the five MNCH areas. However, health care centres that receiving greater amounts of supervision provided fewer MNCH service in the areas of infants <12 months who received 3rd dose of pentavalent vaccine and family planning. The results here, therefore, do not fully validate the suggestion from the qualitative that greater supervision led to more services; however, they also do not control for the number of women that sought these services and, therefore, are not the ideal assessments.\textsuperscript{11}

**Health care workers’ knowledge**

Health care workers who were mentored by a SM expressed an increase in knowledge, which may be attributed to the increase in number of orientations and supervisions they received. Assessments were conducted to assess the knowledge of health care workers who were mentored by a SM compared to health care workers from non-implementation woredas.\textsuperscript{12} Assessments were conducted in core aspects of ANC, the labour process, PNC, management of sick children and family planning.

\textsuperscript{10} For ANC and PNC the numbers are based on clients receiving at least one of the services under these areas.

\textsuperscript{11} The request for this analysis was not part of the original design of the study but has been applied retrospectively to test the relationship between supervision and services mentioned in the qualitative.

\textsuperscript{12} In each health centre the team attempted to assess one staff member (the most relevant) for each of the five MNCH knowledge areas. However, in some instances one member of staff covered more than one function and so some staff members were assessed on more than one knowledge area. In each health centre five assessments were conducted – 80 assessments with 60 people in the implementation areas and 40 assessments with 27 people in the non-implementation. Each Figure between and inclusive of 5-10 (below) is based on 16 assessments in the implementation area and 8 in the non-implementation areas.
and family planning. Study participants were asked to speak broadly about each type of service delivery, and when they referred to a particular component of the service this was recorded.

Thirty-five knowledge areas (outlined in table 7 below) were assessed. The implementation areas have higher percentages of knowledgeable staff in 21 out of the 35 knowledge areas assessed, and by sizeable margins. Out of the 14 knowledge areas that the implementation areas did not perform as well, there were 5 knowledge areas that the implementation and non-implementation areas had roughly equal percentages, and in the remaining 9 knowledge areas the non-implementation areas had higher percentages of knowledgeable health care workers. The results are particularly encouraging given the higher percentages of health workers with degrees, longer experience, and longer periods in their current position in the non-implementation sites (See table 4 in earlier section).

Table 7: Knowledge assessment categories

<table>
<thead>
<tr>
<th>MNCH Key Categories</th>
<th>Primary aspect assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary aspects of focused ANC</td>
<td>1. Minimum four consultations</td>
</tr>
<tr>
<td></td>
<td>2. Ensure woman has a birth plan</td>
</tr>
<tr>
<td></td>
<td>3. Prevent illness and promote health (e.g. tetanus toxoid)</td>
</tr>
<tr>
<td></td>
<td>4. Detect illness and manage complications (includes STI)</td>
</tr>
<tr>
<td></td>
<td>5. Teach danger signs (pregnancy, childbirth and postpartum)</td>
</tr>
<tr>
<td></td>
<td>6. Promote breastfeeding</td>
</tr>
<tr>
<td>What to observe/follow in a labouring woman</td>
<td>7. Foetal heartbeat</td>
</tr>
<tr>
<td></td>
<td>8. Colour of amniotic fluid</td>
</tr>
<tr>
<td></td>
<td>9. Degree of head molding</td>
</tr>
<tr>
<td></td>
<td>10. Dilation of the cervix</td>
</tr>
<tr>
<td></td>
<td>11. Descent of the head</td>
</tr>
<tr>
<td></td>
<td>12. Uterine contractions</td>
</tr>
<tr>
<td></td>
<td>13. Maternal blood pressure</td>
</tr>
<tr>
<td></td>
<td>14. Maternal temperature</td>
</tr>
<tr>
<td></td>
<td>15. Maternal pulse</td>
</tr>
<tr>
<td>What to check for in mothers in PNC</td>
<td>16. Fever</td>
</tr>
<tr>
<td></td>
<td>17. Bleeding</td>
</tr>
<tr>
<td></td>
<td>18. Convulsion</td>
</tr>
<tr>
<td></td>
<td>19. Hypertension</td>
</tr>
<tr>
<td></td>
<td>20. Abnormal vaginal discharge</td>
</tr>
<tr>
<td></td>
<td>21. Lower abdominal pain</td>
</tr>
<tr>
<td>What to check for newborns in PNC</td>
<td>22. Proper feeding</td>
</tr>
<tr>
<td></td>
<td>23. Weight</td>
</tr>
<tr>
<td></td>
<td>24. Signs of umbilical infections</td>
</tr>
<tr>
<td>Main four steps to take in evaluating and managing sick children</td>
<td>25. Assessment</td>
</tr>
<tr>
<td></td>
<td>26. Clarification</td>
</tr>
<tr>
<td></td>
<td>27. Identification of treatment</td>
</tr>
<tr>
<td></td>
<td>28. Follow-up care</td>
</tr>
<tr>
<td>Types of modern family planning methods</td>
<td>29. Oral contraceptive methods</td>
</tr>
<tr>
<td></td>
<td>30. Barrier methods</td>
</tr>
<tr>
<td></td>
<td>31. Injectables</td>
</tr>
<tr>
<td></td>
<td>32. Implants</td>
</tr>
</tbody>
</table>
33. Intra-uterine contraceptive device (IUCD)  
34. Tubal ligation  
35. Vasectomy

The biggest difference in knowledge levels between implementation and control areas is in ANC. 
Figure 5 shows the differences in ANC knowledge scores between health care workers from 
implementation and control areas, with the greatest difference in knowledge in ensuring women 
have a birth plan. The ANC knowledge area that health care workers in implementation areas 
are most knowledgeable in is ‘prevent[ing] illness and promot[ing] health’; health care workers 
in the implementation areas scored 94%, 31% higher than health care workers in non-
implementation areas. Similarly high results and differences between the implementation and 
non-implementation are found in ‘Detect illnesses and manage complications’ and ‘Teach 
danger signs’ (pregnancy, childbirth, and postpartum). The mentorship appears not managed 
to improve the very low levels of knowledge in promoting breastfeeding, although there could have 
been improvement from even lower levels.

Figure 5: Health care workers’ knowledge on primary aspects of focused ANC

![Knowledge Score Chart]

Equally positive results are found in mentees’ knowledge of what to observe during labour, with 
implementation woreda health staff demonstrating higher levels of knowledge than those in 
non-implementation sites in seven of the nine knowledge areas (See figure 6). The knowledge 
areas with the biggest differences include uterine contractions and maternal temperature 
observation, with large leaps between the implementation and non-implementation.

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13 Based on 16 individual assessments in the implementation areas and 8 in the non- implementation areas
While knowledge levels between the implementation and non-implementation areas become less distinguishable in the post-partum knowledge areas, significant difference is still to be found in PNC checks. For instance, far higher percentages of health workers in the implementation sites are aware that they should check hypertension and abnormal vaginal discharge in the mother (see figure 7) and signs of umbilical infections in the child (see figure 8). However, on the checks where there are already very low percentages of knowledge holders in the non-implementation, the SM appears to have done little to improve knowledge. Checking for convulsion and lower abdominal pain in the mother (see figure 7) are less known areas in those that received SM mentorship and those that didn’t. Conversely, all four steps for evaluating and managing a sick child are relatively well-known, but the mentorship has helped to make a noticeable increase in all but the follow-up care (see figure 9).

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14 Based on 16 individual assessments in the implementation areas and 8 in the non-implementation areas
Figure 7: Health care workers’ knowledge on what to check for in mother in PNC$^{15}$

![Bar chart showing knowledge scores for different symptoms in the mother's health.]

Figure 8: Health care workers’ knowledge on what to check for in newborn in PNC$^{16}$

![Bar chart showing knowledge scores for different aspects of newborn care.]

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$^{15}$ Based on 16 individual assessments in the implementation areas and 8 in the non-implementation areas.

$^{16}$ Based on 16 individual assessments in the implementation areas and 8 in the non-implementation areas.
Figure 9: Health care workers’ knowledge on the main four steps to take in evaluating and managing sick child

![Figure 9](image-url)

Family planning (FP) is an area where there is the greatest variance of knowledge between implementation and non-implementation (see figure 10). The SM model seems to be effective in increasing the knowledge in the common FP methods – oral contraception and barrier methods – with health care workers in implementation areas scoring higher than health workers in control areas. However, in a number of the less-common and longer-term methods the implementation areas lag behind the control areas. While health care works in the implementation areas scored higher in implants, health workers in control areas scored higher in injectables, intra-uterine contraceptive devices (IUCD), tubal ligation and vasectomy. There have been a number of government initiatives to encourage the use of longer-term contraceptive measures in the control woredas and the equipment for the measures were found to be in-stock in many of these places.

Figure 10: Health care workers’ knowledge on types of modern FP methods

![Figure 10](image-url)

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17 Based on 16 individual assessments in the implementation areas and 8 in the non-implementation areas
18 Based on 16 individual assessments in the implementation areas and 8 in the non-implementation areas
BOX 2: Checklist usage for Labour & Delivery and PNC

One of the activities of the SM placement model is the promotion of checklists for the SMs to use in monitoring the progress of their mentees and for the mentees to use in systematically evaluating mothers and newborns. Both the SMs and the mentees were asked about the utilization of the SM Mentorship checklist and the Case Management checklist (which has two components – newborn evaluation and post partum haemorrhage). The study found that all SMs mentioned they had introduced the use of both checklists to all of their mentees and tried to supply and supervise their regular use. However, for a number of reasons there was a great variation in the utilization of the checklists among the woredas.

In Amhara both mentors said they promote the use of both checklists. The SM in Legambo said that the newborn evaluation and postpartum haemorrhage (PPH) checklists are used but access to printing paper is an issue, particularly an issue as one checklist is seven pages long. The SM at Fagita Lekuma woreda said they do not have the budget to cover their paper needs, and subsequently their use of the checklists became irregular and more for reference rather than documentation of each client. In Oromia, the three SMs stated they use checklists (though the SM in Teltele complained that at 14 pages the mentorship checklist is too long and time consuming) and print and distribute checklists to mentees. Labour and Delivery (L&D) mentees in all three woredas confirmed they use checklists.

In Tigray, the SM utilises checklists and, from the interviewees, the L&D unit uses both of the checklists. In SNNPR, checklist usage is mixed in both woredas. Both SMs stated that they promote use of checklists in orientations and most interviewees, with the exception of two, confirmed awareness of the checklists. But usage isn’t consistent as the availability of the checklists is dependent on the availability of stationary/printers, and an unequal distribution of checklists was observed between health centres.

Certainly woreda consider supplies to be the responsibility of each health centre which have their own budget line for supplies. One of the zonal representatives interviewed felt that the health management information systems (HMIS) documentation was sufficient and recognises the necessity for checklists. According to one of the SMs, as long as access to paper is not consistent and the woreda representatives do not monitor for checklist usage on their site visits, mentees and other healthcare workers will not adopt routine checklist use to the point it becomes habitual. As mentioned by most of the interviewees, the major challenge was the size and complexity of the checklists, further burdening staff with high case loads and time issues. A sustainability issue raised was the lack of stationary items which makes it very difficult to print and use the checklists consistently.

The quantitative analysis reveals possible connections between further factors and consistent usage of the checklists. Mentees who were supervised four or more times in the past year reported more consistent use of checklists than the mentees who were supervised less than four times. Greater proportions of mentees working in the health centers near to the main town in the woreda utilised checklists consistently than those working in the far health centers. The nearest health centers are the ones who receive frequent supervisions and mentorships, which as noted above improve the level of the checklist usage.

Mentees working in a health center located in a woreda with five to eight health centers have used the checklists better than the mentees working in health centers located in woredas with four or less health centers and woredas with nine to twelve health centers.
Table 8: Proportion of health professionals who used checklist in the labour and delivery ward for newborn evaluation and PPH management in different parameters

<table>
<thead>
<tr>
<th>Supervision</th>
<th>Distance</th>
<th>No. HC per Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervised 4 or more times</td>
<td>Supervised less than 4 times</td>
<td>Near</td>
</tr>
<tr>
<td>Consistent Checklist Use</td>
<td>80</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Comparing health centres that use the case management checklist in their daily activity with those that do not, the former health centres had a higher increase of service deliveries in the checklist areas after the SM was placed compared to the latter. A percent increment of services delivered for HCs using checklists versus HCs not using checklists was measured by the difference of services delivered before and after the SM was placed. The results, shown in the figure 11, indicate that the HCs using the case management checklist in the labour and delivery unit had 85.2% increment better than the 49.3% increment in the health centres where there was no use of the checklist, and similar results are seen for usage of the checklist in PNC services (more than 200% increment versus 90% increment).

Figure 11: Percent increment of services delivered for HC using checklists vs. no checklists after the SM was placed

![Figure 11: Percent increment of services delivered for HC using checklists vs. no checklists after the SM was placed](image-url)
Table 9: Qualitative accounts of the positive and negative aspects of the checklists

<table>
<thead>
<tr>
<th>Positives</th>
<th>Negatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM Mentorship Checklist</td>
<td></td>
</tr>
<tr>
<td>The SMs mentioned that the checklist helps give specific feedback to the</td>
<td>The checklist requires a huge resource for printing.</td>
</tr>
<tr>
<td>mentees and assists them to assess if the feedback is addressed or not.</td>
<td>The lack of transportation affects on-time distribution of the checklist</td>
</tr>
<tr>
<td>User stated that the checklist was important to ensure correct provision</td>
<td>to all the health centres.</td>
</tr>
<tr>
<td>of care and to follow whether a service was missed or not.</td>
<td>SMs mentioned that they found the mentorship checklist lengthy and time</td>
</tr>
<tr>
<td>One of the SMs said that the importance of using a checklist is that it</td>
<td>taking.</td>
</tr>
<tr>
<td>guide them how to proceed during a service provision.</td>
<td>SMs mentioned that they face some resistance in acceptance and consistent</td>
</tr>
<tr>
<td>The checklists mainly focus on MCH units’ services, logistic supplies,</td>
<td>usage of the case management checklist from the mentees.</td>
</tr>
<tr>
<td>skill observation of health care workers.</td>
<td>The work load in the health centres make it more difficult on the usage</td>
</tr>
<tr>
<td>It helps improve their skill and knowledge.</td>
<td>of the case management checklist on the day to day work.</td>
</tr>
<tr>
<td>It helps them not to miss activities to be done in their working units.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Case Management Checklist (L&amp;D, PNC and PPH)</td>
<td></td>
</tr>
<tr>
<td>Helps to take the necessary appropriate steps. e.g. in newborn resuscitation</td>
<td>Not receiving the checklist on time.</td>
</tr>
<tr>
<td>and managing post-partum haemorrhage</td>
<td>Due to work load it is difficult to use it for every patient.</td>
</tr>
<tr>
<td>The user stated that knowing everything 100% is difficult so the checklist</td>
<td></td>
</tr>
<tr>
<td>directs them on how to proceed without skipping a single procedure.</td>
<td></td>
</tr>
<tr>
<td>The checklist was useful to know and provide necessary support accordingly.</td>
<td></td>
</tr>
<tr>
<td>The users mentioned that the checklist helps manage a problem correctly</td>
<td></td>
</tr>
<tr>
<td>and according to the protocols. As a result it increases their confidence</td>
<td></td>
</tr>
<tr>
<td>on their work.</td>
<td></td>
</tr>
<tr>
<td>One of the mentees mentioned that the checklist helps to identify the</td>
<td></td>
</tr>
<tr>
<td>area that was not covered and also to differentiate the strength and</td>
<td></td>
</tr>
<tr>
<td>weakness of job performance.</td>
<td></td>
</tr>
<tr>
<td>Helps to alert and to focus on the area that shows low achievements.</td>
<td></td>
</tr>
<tr>
<td>The checklist helps them remember to record all the information needed.</td>
<td></td>
</tr>
</tbody>
</table>
Results area 2: Quality of care

As seen in results area one, the SM mentorship has been effective in building the capacity of the health care workers. The focus of this section is whether this has translated into better quality of care in MNCH services.

Quality of care is here measured firstly by the general conduct of interactions between health workers and patients/clients, for which a number of indications, from the way information is explained to the amount of time spent with the patient/client (see table 11), are used to assess how conducive the experience is for supporting the patient/client. After this, the technical quality of the appointment is assessed by various indicators relevant to the particular MNCH service areas. The patients’ experience of the appointment is also used to gauge how mothers perceive the care that they received. The study also looks into the availability of equipment and the infrastructure at the health centre – although the placement of the SM has an indirect influence on the presence of equipment and infrastructure, they are studied to demonstrate factors affecting the results. Lastly, the number of services available at the health centres is described as it gives a good indication of what MNCH services women have access to in their areas and provides useful information about the continuum of care (see following section).

In order to capture this information, the research team performed a series of observations on health worker/client appointments in each of the five MNCH service areas under review – ANC, labour and delivery, PNC, under-five clinic and family planning. They sat in for the entire duration of each appointment and recorded their observations. Patients’ experiences were captured using exit interviews from those leaving the services. The researchers also performed observations on the health facility infrastructure and equipment.

This evaluation initially aimed to compare the implementation and non-implementation MNCH achievements with their respective woreda core plans to identify trends; however, it is not wise to infer or conduct statistical tests or comparisons for the following two reasons. (1) The time period of this study and of the woreda core plan is not similar; for this study data was gathered from May 2014 – May 2015 whereas the timeframe for the woreda core plan was July 2014 – June 2015. (2) This evaluation collected data from two health centres from each study woreda while the woreda core plan target included the service of all health centres, health posts and hospitals in each woreda. The evaluation cannot compare the two health centres average with the average of all types of health facilities in the woreda.

Interaction with Clients

“Before [the Mentor]’s placement, we only asked the mother what she needs to use and gave that method immediately... Currently we counsel clients about HIV testing and we discuss with the client about all available methods in the health centre. So there is a method mix and a shift from short acting methods like Depo-Provera to long acting family planning methods like Implant and IUCD.”

Family Planning Mentee, Tigray

Most health workers interviewed mentioned that their interaction with clients and counselling skills have improved because of the mentorship they received and this is confirmed through the observations that the field teams performed. In each health centre, the researchers sat in during
one service provision for each of the five types of service available – ANC, PNC, FP, labour and delivery, and under-five treatment – and assessed the general conduct of the meeting between the health worker and client (using standards used in other studies) and the technical content of the service (using national guidelines).

The health care workers (mentees) were observed while providing the MNCH services to their clients starting from the greetings they provided. Most of the mentees (75%) greeted their clients and about 83% used culturally appropriate body language. As shown in figure 12, Standard 6, “Allocated enough time for client to raise health concern(s),” saw the greatest difference (13.4%) between the percent of health care workers meeting standards in implementation and control areas. In the implementation areas, 12.3% more health care workers explained and provided clarifications to the client compared to those in control areas. This is one of the most important of the eight standards, listed in Table 11, for ensuring patients receive correct information.

Table 10: Standards of health care workers for quality care

<table>
<thead>
<tr>
<th>Ensuring patients receive and understand correct information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Greets client</td>
</tr>
<tr>
<td>2. Uses culturally-appropriate body language</td>
</tr>
<tr>
<td>3. Spends sufficient time to conduct visit</td>
</tr>
<tr>
<td>4. Does not make negative comments to client</td>
</tr>
<tr>
<td>5. Does not inappropriately interrupt client</td>
</tr>
<tr>
<td>6. Allocates enough time for client to raise health concern(s)</td>
</tr>
<tr>
<td>7. Ensures client understands</td>
</tr>
<tr>
<td>8. Explains and provides necessary clarifications</td>
</tr>
</tbody>
</table>

Figure 12: Health care workers’ general conduct with clients during observation

---

10 In one health centre this was not possible because there was no delivery during the visit
The technical content of MNCH service provision has also improved across each of the five service areas. Of the 30 technical areas assessed, shown in table 11, the implementation areas held higher percentages of people practicing them in 16, and in 3 of these there was zero practice in the non-implementation areas. In 5 technical areas the non-implementation and implementation had the same percentages, and 3 of these were at 100% of people practicing them. In the remaining 9 the non-implementation areas had higher percentages of health workers practicing, although there are no technical areas that are only practiced in the non-implementation areas. The trend of improvement broadly follows the patterns of results in the knowledge assessment, with greater improvements in the antenatal and labour services than postnatal (although improvements are seen here too), and with the most variable results within the FP service.

Table 11: Technical assessment categories

<table>
<thead>
<tr>
<th>MNCH Service Categories</th>
<th>Primary service assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC follow-up</td>
<td>Check/ask signs &amp; symptoms during:</td>
</tr>
<tr>
<td></td>
<td>1. Abnormal vaginal discharge</td>
</tr>
<tr>
<td></td>
<td>2. Fever</td>
</tr>
<tr>
<td></td>
<td>3. Pallor</td>
</tr>
<tr>
<td></td>
<td>4. Fundal height</td>
</tr>
<tr>
<td></td>
<td>5. FHB / movement</td>
</tr>
<tr>
<td></td>
<td>6. Oedema</td>
</tr>
<tr>
<td>ANC vaccine &amp; drugs</td>
<td>7. TT</td>
</tr>
<tr>
<td></td>
<td>8. Iron/folate</td>
</tr>
<tr>
<td></td>
<td>9. Mebendazole (once at 3rd trimester)</td>
</tr>
<tr>
<td></td>
<td>10. Use of ITN</td>
</tr>
<tr>
<td>Maternity ward</td>
<td>11. Used partograph</td>
</tr>
<tr>
<td></td>
<td>12. Used checklist for newborn examination</td>
</tr>
<tr>
<td></td>
<td>13. Provided postnatal appointment</td>
</tr>
<tr>
<td>PNC clinic</td>
<td>14. Weight</td>
</tr>
<tr>
<td></td>
<td>15. Signs of umbilical infection</td>
</tr>
<tr>
<td></td>
<td>16. Proper feeding counselling</td>
</tr>
<tr>
<td>FP unit</td>
<td>17. Effectiveness</td>
</tr>
<tr>
<td></td>
<td>18. Side-effects</td>
</tr>
<tr>
<td></td>
<td>19. Advantages &amp; disadvantages</td>
</tr>
<tr>
<td></td>
<td>20. Correct utilisation</td>
</tr>
<tr>
<td></td>
<td>21. Follow-up care</td>
</tr>
<tr>
<td></td>
<td>22. STI/HIV prevention</td>
</tr>
<tr>
<td>Under-five unit</td>
<td>23. Assessment</td>
</tr>
<tr>
<td></td>
<td>24. Classification</td>
</tr>
<tr>
<td></td>
<td>25. Identify treatment</td>
</tr>
<tr>
<td></td>
<td>26. Follow-up care</td>
</tr>
</tbody>
</table>

Within ANC units, 100% of observed mentees in the implementation woredas checked fundal height and foetal heartbeat (FHB)/foetal movement, compared to only 75% and 88% respectively in the non-implementation woredas. Shown in figure 13, 37% more health care
workers in the implementation woredas checked if the mothers have oedema compared to 38% of the health care workers in control woredas. Shown in figure 14, only in the implementation areas was mebendazole given at the 3rd trimester, and 18.75% more health care workers in implementation woredas provided advice on using insecticide treated nets (ITN) in malaria zones compared to health care workers in control woredas.²⁰

Figure 13: Percentage that checked or asked signs and symptoms during ANC follow ups

Figure 14: Percentage of health workers that provided ANC vaccines and drugs

Another observation conducted was in labour and delivery unit. In the implementation woredas, 67% of the mentees have used partographs appropriately in following the progress of labour and the same proportions of mentees have offered the mothers appointments for postnatal check.

²⁰Part of the reason the ITN promotion is low is because not all of the study areas are malaria zones.
The use of partograph in the implementation woredas was better than in the non-implementation woredas where only 38% of the health workers in the L&D ward used the partograph appropriately (shown in figure 15).

The project designed checklists for newborn evaluation to increase the quality of appropriate newborn assessment. However, only about 47% of the mentees have used these checklists for newborn evaluations. From the key informant interviews, most of the mentees and the senior midwife mentors mentioned the importance of using such checklists which enable them to make thorough newborn examinations by going through all necessary steps. However, they have faced a challenge to use the checklists consistently and they mentioned that they don’t have adequate supply of papers and toners for printing or photocopying to duplicate the checklists.

In the PNC unit, approximately 71% mentees checked the weight of the newborn babies and about 64% of the mentees have checked for signs of umbilical infection. These check-ups were better addressed in the implementation woredas than the non-implementation woredas where about 63% and 50% of the health care workers checked the weight of the newborn and checked for signs of umbilical infection, respectively. Proper feeding counselling was provided by 79% of the mentees in the implementation woredas, 9% less than the non-implementation woredas, where about 88% of the health care workers provided proper feeding counselling (See figure 16).

In the Family Planning unit of the implementation woredas, most of the mentees (about 73%) explained the advantages and disadvantages of the method, the correct use of the method, the side-effect of the method and also about follow-ups to the patients. 67% of the mentees have also discussed the effectiveness of the method and only a lower proportion of the mentees (20%) discussed sexually transmitted infection/human immunodeficiency virus (STI/HIV) prevention (shown in figure 17).

In the family planning unit of the non-implementation woredas, about 88% of the health care workers explained the effectiveness of the method and discussed follow-ups and complications. 75% explained about the advantages/disadvantages of the method and also discussed the side-effects of the methods. When compared to the implementation woredas, most of the family planning components were better addressed in the non-implementation woredas. However, none of the health workers in the non-implementation woreda discussed prevention of STI/HIV with the patients but a small proportion (20%) of the mentees in the implementation woredas discussed the prevention of STI/HIV.
Figure 15: Service in the maternity ward provided by the health care workers

Figure 16: Service in the PNC clinic provided by the health care workers

Figure 17: Service in the family planning unit provided by the health care workers
In the under-five unit, health workers are expected to use the Integrated Management of Newborn and Childhood Infections (IMNCI) guideline in evaluating and treating the sick children with four steps to follow. These steps are: Assessment, Classification, Identify Treatment and Follow-up of Care. During the observation time, all of the under-five mentees in the implementation woreda have followed the three steps in evaluating and treating the sick children and only 75% of them applied the fourth step “Follow up of care” (shown in figure 18). This observation was comparable with the non-implementation woreda health workers where all of them applied the first three steps and about 88% of them followed the fourth step, i.e. ‘Follow up of care’.

Figure 18: Service in under-five unit provided by the health care workers

An observation was also made if the IMNCI mentees/health workers were checking the danger signs in under-five sick children. In the implementation woreda about 94% of the mentees checked if the ‘child [was] unable to drink or breast-feed’ while about 88% and 69% of the mentees checked if the child was ‘vomiting everything’ and ‘lethargic or unconscious’, respectively. About 75% checked whether the child was convulsing.

In the non-implementation woreda, about 88% of the health workers checked or asked the three danger signs: ‘child unable to drink or breast-feed’, “child lethargic or unconsciousness”, and ‘child convulsing now’. The other danger sign ‘child vomiting everything’ was checked by 75% of the health workers. Half of the danger signs were better assessed in the implementation woredas and the other half of the danger signs were better assessed in the non-implementation woredas, shown in figure 19.
Client Satisfaction

Clients who received MNCH services on the day of the survey were asked about the service they received and their level of satisfaction. The majority of the clients (96%) said that they were very satisfied by the service they received from the mentees. From the Oromia and Tigray regions, all clients interviewed were very satisfied with the service they received. However, satisfaction is registered slightly higher in the non-implementation areas, which may be a result of the lower sample size making it easier to achieve 100%. Although it had slightly lower ‘very satisfied’ scores than the other regions, SNNPR registered high ‘high-satisfied scores’ shown in figure 20.

Availability of Drugs, Diagnostics and Vaccines

The placement of the Senior Midwives did not come with an extra budget for drugs and equipment, but the improvement of reporting mechanisms for these as a result of the placement are intended to help the health facilities stay in stock of their requirements for MNCH services.
Stock-level indicators provide more information on the quality of care in the implementation areas.

As shown in figure 21, most health centres in the implementation areas have the essential drugs for the MNCH services but there are a few health centres that lack certain drugs, meaning it is difficult to link the effectiveness of the SM model with increased stock levels. The SMs were found to be highly involved in identifying the stock-out medication and supporting the health heads in facilitating the identification of the needed medication. There may be a need to improve timely identification of needed medication, strengthen the communication line and/or facilitate prompt delivering of the medication.

Figure 21: Available drugs for MNCH

![Available drugs for MNCH](image)

One of the factors affecting the quality of care of MNCH services is the availability of diagnostic tools at health centres. Unlike the essential drugs, most health centres in the implementation woredas have the basic diagnostic tools for MNCH and the few health centres that don’t have these tools will have compromised quality of service. Pregnancy tests and syphilis tests were available in about 88% of the health centres and HIV rapid tests were available in 93% of the health centres, which is relatively higher than the other diagnostic tools. Protein urea tests were found in only 81% of the health centres.
Figure 22: Available diagnostic tools for MNCH

In the non-implementation woredas, pregnancy test kits and HIV rapid tests were available in all of the surveyed health centres while protein urea tests and syphilis tests were found in 75% and 86% of the health centres respectively. When compared with the implementation woredas, the health centres in the non-implementation woredas were better equipped with in pregnancy tests and HIV rapid tests. The health centres in the implementation woredas were also better equipped with protein urea tests and syphilis tests.

The other component of MNCH service is provision of vaccines; there were few health centres that do not have some of the vaccines in the implementation woredas. Tetanus toxoid (TT), Bacillus Calmette–Guérin (BCG) and oral polio vaccine (OPV) were available in 88% of the health centres whereas rota, measles and pentavalent vaccines were available in 93% of the health centres.

Health centres in the non-implementation woredas were better equipped in terms of vaccines. Except for the TT vaccine, which is found in about 88% of the health centres, the other vaccines, BCG, OPV, pentavalent, rotavirus and measles vaccines, were available in all health centres.
Service Coverage

“Before the mentoring, some of our health centres did not give delivery services. But now the health centres are the more preferred choice for the community than hospitals... The Midwife Mentor contribution towards home-free delivery is high.”

Zonal representative, Amhara

The types of MNCH services available on the day of the survey (between May 18th and June 19th 2015) were assessed and most of the MNCH services were provided at the surveyed health centres in both implementation and non-implementation woredas. All health centres in the implementation woredas were providing family planning, ANC, delivery, vaccination and IMNCI services. Prevention of mother to child transmission (PMTCT) and PNC were available in 93% of the health centre while BEmONC was available in 87% of the health centres. Though two health centres in the implementation woredas were not providing the PMTCT, PNC or BEmONC on the day of survey, all other health centres provided these services, including all signal functions of BEmONC, routinely.

In the non-implementation woredas, all health centres were providing ANC, PMTCT, family planning, under-five and IMNCI services. About 88% of the health centres were providing delivery, PNC and vaccination services whereas BEmONC service was observed in only 75% of the health centres. In the implementation woredas, higher proportion of the health centres were providing most of the MNCH services than the health centres in the non-implementation woredas.
Although there are a number of factors that lead to greater of utilisation service, notably the promotional activities of the health extension workers and HDAs, the year placement of the SM has coincided with a sharp increase in the number of services provided to patients given in these woredas. As it can be seen in figure 25 below, there is a significant increase in the number of MNCH services provided from prior to the placement to a year after the SMs’ were placed. Family planning visits increased by 46%, and the provision of at least one ANC care increased by 43%. Delivery rates also increased by 71%, whilst provision of PNC within two days of birth increased by more than 100%, although absolute numbers are still very low.

Part of the reason for the increase in number of MNCH services provided to clients during the SM placement is that health workers have greater confidence in conducting the services. Most interviewees mentioned that because of the skill and knowledge transfer the mentees were able to perform a number of procedures that they didn’t feel confident in before the mentors’ placement. Whereas previously the lack of confidence would have resulted in a patient being referred to the hospital (unnecessary referral), now it is widely reported that many of the
services can be conducted at the health centre. The interviewees have witnessed increased confidence in utilisation of new theoretical skills through mentoring. Abortion care, assisted delivery using vacuum, use of magnesium sulphate, use of partograph, etc. were established or strengthened because of the mentor. Apart from the clinical services, the mentor was instrumental in improving the infection prevention status of the MNCH units and the whole health centre in some cases. Further, the number of clients receiving MNCH services from the health centres has increased progressively. Increased client flow including dramatic increases in institutional deliveries and continuum of care on antenatal and postnatal visits was noticed.

Other factors affecting the MNCH service provisions are: availability of transportation and frequency and regularity of SM visits, which are both also affected by the distance of the health centres from main towns. As shown in the table 12 below, when MNCH service provisions for a one-year period are compared between health centres that are closest to the woreda health office or the main town and health centres that are the furthest in the catchment areas of these sites, those closer to the woreda health office or town have better proportion of service provisions in all the five MNCH units.

Table 12: Comparison of MNCH services provided in the past one year in health centres: nearest to vs. furthest from the woreda office or main town

<table>
<thead>
<tr>
<th>Service</th>
<th>Nearest (n=8 HCs)</th>
<th>Furthest (n=8 HCs)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>ANC</td>
<td>6,433</td>
<td>63.2</td>
<td>3,739</td>
</tr>
<tr>
<td>Delivery</td>
<td>3,655</td>
<td>57.8</td>
<td>2,669</td>
</tr>
<tr>
<td>PNC</td>
<td>3,057</td>
<td>54.9</td>
<td>2,510</td>
</tr>
<tr>
<td>Infants less than 12 m who received third dose of penta</td>
<td>1,690</td>
<td>62.5</td>
<td>1,013</td>
</tr>
<tr>
<td>Family Planning</td>
<td>6,393</td>
<td>54.0</td>
<td>5,442</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21,228</strong></td>
<td><strong>58.0</strong></td>
<td><strong>15,373</strong></td>
</tr>
</tbody>
</table>

As mentioned above, distance has multiple implications for services delivery: chief among these is transportation for both mentor and clients. The burden of transportation is significantly reduced for those that are near to the main woreda health office as most are in walking distance. This affects the frequency of SMs visits - most SMs and mentees mentioned that the nearby health centres receive frequent and regular mentorships compared to farther health centres in the catchment area since the transportation problem is minimal.

The number of MNCH services provided in the past one year before the survey was averaged across the studied health centers and was assessed against two factors (amount of supervision and number of health centers per woreda) that may increase the number of services provided. Mentees who were supervised four or more times provided a greater number of MNCH services per health center in ANC, delivery and PNC. The difference between the numbers of MNCH services provided for HCs supervised four or more times and for HCs supervised less than four
times is sufficiently large, shown in table 13. This suggests that those health centers with higher frequency of supervisions are more confident and are working more efficiently, thus seeing better turn-around of patients/clients and attracting more clients. The connection is supported with the information given in the qualitative interviews which suggests the supervision helps increase confidence, leading to HCs less likely to turn people away for reasons of incapability.

Table 13: Health centers where health care workers received supervision < 4 times vs. ≥ 4 times

<table>
<thead>
<tr>
<th>MNCH Area</th>
<th>Number of MNCH Services Provided</th>
<th>Supervised 4 or more times</th>
<th>Supervised less than 4 times</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of HCs</td>
<td># of services provided per HC</td>
<td>Number of services provided</td>
</tr>
<tr>
<td>ANC</td>
<td>11</td>
<td>665</td>
<td>7313</td>
</tr>
<tr>
<td>Delivery</td>
<td>10</td>
<td>453</td>
<td>4525</td>
</tr>
<tr>
<td>PNC</td>
<td>13</td>
<td>416</td>
<td>5406</td>
</tr>
<tr>
<td>Family Planning</td>
<td>10</td>
<td>716</td>
<td>7160</td>
</tr>
</tbody>
</table>

The number of health centers per woreda for which the Senior Mentors are responsible also has a connection to the number of services provided (see table 14). Except for family planning, health centers with SMs who have the responsibility of fewer than five health centers and five to eight health centers provided more delivery, ANC and PNC services per health center than those health centers with SMs who have the responsibility of eight to twelve health centers. This is in agreement with other qualitative and quantitative findings suggesting that health centers mentored by an SM who is responsible for an average of five health centers are performing better than those health centers mentored by an SM who is responsible for higher number of health centers.

Table 14: Health centers where health care workers are mentored by SM who is responsible for <4 HCs vs. 5-8 HCs vs. 9-12 HCs

<table>
<thead>
<tr>
<th>MNCH areas</th>
<th>Number of MNCH Services Provided</th>
<th>Mentors with &lt; 5 HCs</th>
<th>Mentors with 5 – 8 HCs</th>
<th>Mentors with 9 – 12 HCs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of services provided</td>
<td>Number of services provided / HC (N= 4 HCs)</td>
<td>Number of services provided</td>
<td>Number of services provided / HC (N= 6 HCs)</td>
</tr>
<tr>
<td>ANC</td>
<td>2237</td>
<td>560</td>
<td>4697</td>
<td>783</td>
</tr>
<tr>
<td>Delivery</td>
<td>1794</td>
<td>449</td>
<td>2558</td>
<td>427</td>
</tr>
<tr>
<td>PNC</td>
<td>1469</td>
<td>368</td>
<td>2703</td>
<td>451</td>
</tr>
<tr>
<td>Family Planning</td>
<td>2498</td>
<td>625</td>
<td>3596</td>
<td>616</td>
</tr>
</tbody>
</table>
Results area 3: Continuum of Care
Continuum of care in MNCH involves 1) connecting service delivery between pre-pregnancy, pregnancy, childbirth, the postnatal period and early childhood, and 2) connecting service delivery between the community level, health post and health facilities. For example, a mother who delivered at the health centre is linked with the family planning unit and the newborn is linked with the PNC unit and the Expanded Programme of Immunization (EPI) unit.

One of the expected outcomes of the SM placement is the increase in the MNCH continuum of care at all levels. To achieve this SMs are required to initiate and/or strengthen the workflow among the MNCH units within the health centres. The study did not assess quantitative values for the continuum of care as reliable secondary data for referrals is not readily available at the health facility level; instead it used qualitative interviews to capture a picture of how the SM mentorship model helps to increase the linkages.

Most people interviewed agreed that the strengthening of internal and external linkages was reducing the number of defaulting mothers from ANC and PNC. To strengthen the internal referral linkage, some health centres use written referral slips while others rely on what they call a ‘walking referral’, which occurs when the services are either in the same room or close-by. Some health centres also use the written referral slips for the link with the catchment health posts while others use phone calls or mothers’ conferences to make sure that the referred mother or child has been linked with the HEW at the health post level.

Continuum of care is also affected by other factors like infrastructure, availability of equipment and supplies, motivation and turnover of staff. To improve the existing level of continuum of care, the SMs have taken the lead in strengthening or initiating the construction of maternity waiting areas within or around the health centres. The waiting areas are helping pregnant mothers coming from remote areas to stay in the waiting rooms when their due date approaches and to also stay a few days after delivery to make sure that they receive appropriate postnatal care. The maternity waiting areas help the delivering mother to be comfortable and feel at home during delivery. In some of the surveyed health centres maternal waiting areas are in process of being constructed.

In most of the health centres, monthly mothers’ conferences are arranged by HEWs in support from health centre staffs. In such conferences they discuss MNCH issues and mothers are strongly advised about the importance of institutional deliveries and seeking other MNCH services available at the health centres and health posts. In each conference, HEWs, health centre staffs and the SMs make sure that the pregnant mothers are linked with the health centres for delivery and the newborn babies are receiving the PNC either at the health post or health centre.
The mentees in Tigray mentioned that every month there is a monthly meeting and all identified pregnant mothers will be registered in “Lemat Budin.” Every two weeks midwives from the health centres attend the monthly mothers’ conferences to discuss ANC follow-up, institutional delivery, PNC and FP. After a mother delivered at the health centre she will be referred to the health post with the referral slip and the HEWs will provide follow-up and counselling in breastfeeding, personal hygiene and danger signs.

One of the challenges affecting the continuum of care in the implementation areas was cultural norms that discourage women not to deliver at health facilities. Another challenge was religious stances that discourage females not to use family planning methods.

“There are traditional sayings that make the women deliver at home and not at health institutions, ‘Sarendaysemash’, ‘Wefendaysemash’ [Not even the grass/birds should hear you give birth].”

Zonal representative, Oromia

The monthly mothers’ conferences are used to teach and address such issues and the SMs are strengthening or initiating such conferences which are improving the continuum of care at the woreda level.

In the non-implementation woredas there are existing referral systems among the MNCH units; in some health centres referral slips were used and in others the internal referral linkage was not strengthened. The connection of the health centres with the HEWs/health post and the community is also encouraging in some health centres and there were observed gaps between the health centres and the community in some areas. Construction of maternity waiting areas is not strongly mobilized in the non-implementation woredas despite most interviewees mentioning that construction of maternity waiting areas are important in improving the continuum of care. It is not possible to explicitly assess the attribution of the SM placement in this regard as the data does not allow comparison of numbers of HCs with maternity waiting rooms, referral systems, etc. between implementation and non-implementation HCs. Nonetheless, interviewees within the implementation HCs reported improvements in continuum of care.

To assess the level of continuum of care within the health facilities, the number of MCNH services provided in the past one year before the survey was compared with the preceding MNCH services delivered, i.e. from ANC to delivery, PNC and infants who received third dose of pentavalent vaccine. As shown in table 15, the proportion of mothers who received the first ANC care and delivered at the health centre was 62%, a 38% reduction of the number mothers who took the ANC service. When we compare the number of newborns delivered at the HC with the number of newborns who received PNC within the first two days of birth, the proportion of the newborns that received the PNC service and were delivered at the HC was 88% which is an encouraging figure. When looking at the number of infants who received third dose of pentavalent vaccine and also received PNC within the first two days of birth, the proportion is lower at 48.6%. This indicates a need for improvement so that every infant delivered at health facility can complete the immunization schedules to decrease level of child morbidities and mortalities.
Table 15: Percent of MNCH services provided as a continuum of care

<table>
<thead>
<tr>
<th>MNCH Service Areas</th>
<th>Total number of services provided</th>
<th>% of services from the preceding service delivered</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC</td>
<td>10,172</td>
<td></td>
</tr>
<tr>
<td>Delivery</td>
<td>6,324</td>
<td>62%</td>
</tr>
<tr>
<td>PNC</td>
<td>5,567</td>
<td>88%</td>
</tr>
<tr>
<td>Infants less than 12 m who received third dose of pentavalent vaccine</td>
<td>2,703</td>
<td>48.6%</td>
</tr>
</tbody>
</table>

Factors affecting results: Infrastructure and availability of basic equipment/supplies

Infrastructure such as electricity supply and water supply hugely affect the MNCH services provided at health centres and, although they do not fall directly under the control of the Senior Midwives, they are important factors in accounting for the quality and continuum of care. In the implementation health centres, though most health centres have the basic infrastructure and basic equipment and supplies, there are few health centres that lack these components. About 81% of the health centres have a source of clean running water whereas only 75% have source of electricity. About 94% have functional fridge and toilets for clients use in the health centre and all of the health centres have functional sterilizer.

One of the strategies of the project is supplying the health centres with tricycle ambulances to increase the MNCH service utilisation and quality. The FMoH has delivered a number of tricycles to some health centres and is planning to deliver the tricycles to the remaining health centres. From the surveyed health centres, only 31% of them have received the tricycle ambulances. However, the tricycles delivered were not used by the health centres and most of the interviewees complained that the tricycles are not appropriate for the topography. On the other hand, the health centres that have not received the tricycle ambulances are hoping to receive as promised by the FMoH wanting to improve the MNCH services.

Figure 26: Infrastructure present in the health centres
In the non-implementation woredas, only half of the health centres have a source of clean running water while about 88% of the health centres have source of electricity and toilets accessible to facility users. All of the health centres in the non-implementation woredas have functional fridge while only 75% of the health centres have functional sterilizer. Some of the infrastructures were better observed in the implementation woredas (source of running water, functional sterilizer, toilets for facility users, tricycle ambulance) and few of the infrastructures were better in the non-implementation woredas (source of electricity, functional fridge).

There is basic medical equipment that directly affects the quality of the MNCH service provisions. In the implementation woredas, most health centres have the general basic MNCH items. All of the health centres have fetoscopes, stethoscopes, blood pressure cuff, delivery couch in good condition, and baby weighing scale. Thermometer and umbilical tie/clump were available in 93% of the health centres. One of the basic elements to use in following a labouring mother is the partograph and it was available in 88% of the health centres.

Figure 27: General items available for MNCH service in the health centres

In the non-implementation woredas, all of the health centres have the general items for MNCH service like fetoscope, stethoscope, thermometer, blood pressure (BP) cuff, umbilical tie/clump, delivery couch and oral rehydrating salts (ORS). A baby scale was observed in 88% of the health centres and a partograph was found in only 75% of the health centres. When the implementation and non-implementation woredas are compared, both have comparable basic MNCH equipment with slight variation on few items.

The study compares the MNCH services delivered in the past one year in the implementation woredas of health centres which have source of electricity and water with health centres that don’t have either source of water or source of electricity. As shown in table 16 below, the health centres that have both water and electricity provided more MNCH services per health centre compared to health centres that don’t have either source of water or electricity. On average, the number of MNCH services (ANC, delivery, PNC, infants less than 12 months who received third dose of pentavalent vaccine and family planning) provided per health care centre with available water and electricity in the past one year is 2,786 compared to 1,458 MNCH services provided per health care centre without available water and/or electricity. The difference of 1,328 MNCH
services not provided by health care centres without available water and/or electricity is a substantial number of services that were not provided; however, we cannot say that this difference is completely attributed to the lack of water and/or electricity. Yet, this result suggests that water and electricity are important assets for providing MNCH services and SMs should help acquire and secure this infrastructure if not currently available.

Table 16: Comparison of MNCH services provided in the past one year in health centres: with source of water and electricity vs. without source of water or electricity

<table>
<thead>
<tr>
<th>Availability of water and electricity</th>
<th>Yes (10 HC)</th>
<th>No(6 HC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N/HC</td>
</tr>
<tr>
<td>ANC</td>
<td>7445</td>
<td>745</td>
</tr>
<tr>
<td>Delivery</td>
<td>4679</td>
<td>468</td>
</tr>
<tr>
<td>PNC</td>
<td>4203</td>
<td>420</td>
</tr>
<tr>
<td>Infants less than 12 m who received third dose of pentavalent vaccine</td>
<td>2085</td>
<td>209</td>
</tr>
<tr>
<td>Family Planning</td>
<td>9439</td>
<td>944</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27,851</td>
<td>2,786</td>
</tr>
</tbody>
</table>

N= number of MNCH services provided in past year
HC= health centre
Section Three: Regional profiles

This section provides in-depth information about the SM placement model within each of the regions visited. It includes background information about how the SMs were orientated to their task and a wealth of qualitative information on the perceptions of the SM model, challenges and best practices. There are specific recommendations for each region, and these have been collated into overall recommendations in the next section.

Regional Implementation Profile: SNNPR

In SNNPR, Boricha woreda in Sidama zone and West Azernet woreda in Silti zone served as implementation sites. Boricha has 11 health centres with a catchment area of 39 health posts covered by one male Senior Midwife Mentor while the Senior Mentor in West Azernet, also male, covers four health centres and their catchment area. From these, Yirba and Dila Anole health centres in Boricha woreda and Mugo and Lera health centres in West Azernet woreda were selected for qualitative evaluation.

Thirty key informant interviews were carried out with senior mentors, mentees, health centre heads, woreda heads and zonal representatives. Both senior mentors have a B.Sc. in Midwife Nursing with 10 years working experience for the Senior Midwife place in Boricha and 12 years of experience for the Senior Mentor place in West Azernet. The background of the mentees and centre heads ranged from diplomas to clinical B.Sc. degrees and work experience ranging from one to six years.

Pre-deployment and placement experience

Prior to deployment, the SM in Boricha received the Hybrid training offered by FMoH whereas the SM in W. Azernet did not. Post deployment, the SM in Boricha received training on clinical HIV mentoring for ART and PMTCT from AMREF and the SM at W. Azernet took training on CBNC.

The SM in Boricha noted that information received during the hybrid training on the support to expect from authorities and budget allowances for housing and travel did not match his experience in the field where the SM did not receive the equipment or budget allowance. (Nb: it is not in SM contract or budget description for the SMs to receive housing allowance, however, the fact that the SM was told of these things in Boricha and elsewhere shows there is misinformation in hybrid trainings that has created incorrect expectations). Furthermore, without a formal introduction to accompany his deployment, the authorities and health centres were not initially cognizant as to why he was in Boricha. He credited the woreda-wide maternal death surveillance and response (MDSR) training for allowing him to meet all the necessary stakeholders to inform them on his deployment and role in the woreda. Once linkages were established, the SMs, centre and woreda heads noted that the working relationship between all of them was good, with the SM in West Azernet in particular being able to adapt his mentoring visits to take advantage of the frequent visits the woreda authorities paid to the health centres in their area of responsibility.

Both SMs set their own schedules for visits to the health centres they cover and usually use public transport, though they coordinate with woreda authorities (particularly West Azernet) for access to transport and to discuss issues that come up at the health centre visited. The SM in
Boricha tries to visit all 11 health centres at least once a month for mentoring though he uses the health centre at the woreda capital as his primary base and the more accessible health centres from his base tend to be visited more than the more remote health centres. He noted that he has easy access to the woreda health officials in the capital should he need to consult the leadership and sometimes gets per diem from them (the woreda) for his visits to the more remote health centres. The SM in W. Azernet with the four health centres visits most of his centres at least once a week and Mugo, one of the more inaccessible centres, twice a month though he tends to stay overnight or for a few days once there.

The two SMs from SNNPR expressed enjoyment of and commitment to their work though the SM in Boricha felt 11 health centres were too much for one midwife mentor to handle effectively while the SM in W. Azernet felt the number of health centres he was assigned (4) and catchment areas was appropriate and at a level he can handle effectively.

**Perceptions of Senior Mentors’ effect on health centres’ outcomes and challenges**

Improvements cited in both woredas since the placement of the Senior Mentors include an increase in skilled delivery; increased knowledge and skill capacity of health care workers; improved infection prevention; increased social mobilization; reduction in maternal and neonatal mortality (e.g. Boricha stated that maternal mortality went from 4 in Ethiopian calendar 2006 to zero in 2007); and improved documentation, reporting and referral system (both within MCH departments and with health posts). The senior mentors were also credited with strengthening linkages and collaboration with health posts and the health development army which, along with the maternity waiting areas that were established, is believed to have contributed to increased service utilisation.

With fewer HCs to cover, the SM in W. Azernet has a lot of face to face interaction with woreda officials, health extension workers and community stakeholders. In Boricha, the SM is credited with introducing focused ANC services from a low base in some health centres. Additionally, during the first year of his tenure, 186 health care workers and 79 health extension workers were trained in MDSR and committees were established at the kebele, HC and woreda levels.

In reviewing practices, referral slips are utilised between health centres and their catchment health posts but not intra-departmentally within health centres though interviewees in W. Azernet have noted that MCH units have joint weekly meetings to review their activities.

Checklist usage is mixed in both Woredas. Both SMs state that they promote use of checklists in orientations and most interviewees confirmed orientation or awareness of the checklists with the exception of one or two interviewees. In Boricha, checklists used include post-partum hemorrhage (PPH) management (for health care providers) and newborn checklist at the health centre level, and at the health post level health extension workers use clean delivery and postnatal checklists but usage isn’t consistent as the SM prints and delivers the checklists as he does his rounds so their availability depends on the availability of stationary/printers and the distribution isn’t equal between health centres. W. Azernet utilisation of checklists is also mixed with interviewees in family planning and PNC stating they do use checklists (when available) while interviewees in ANC, L&D and under-5 stated they do not. Interviewees in Mugo (the more remote health centre in W. Azernet) are less likely to use checklists, saying they utilise health management information system (HMIS) cards for documentation instead.
Facilitating factors cited by the leadership in both woredas include: responsiveness and support to the feedback they get from the SMs within their capacity, strong community participation (W. Azernet noted they have a strong women HDA) in improving the health infrastructure and, (in Boricha) the relatively good road access to the health centres despite their numbers. Both SMs participate in monthly mothers’ forum at the kebele level and in addition, West Azernet woreda officials credit constant follow-up/cluster meetings on their part (with the participation of the SM) and MSDR trainings as factors that facilitated positive outcomes.

The main challenges cited by both SMs are lack of dedicated budget for transport and training as well as administrative necessities such as office space, stationary and a computer to submit reports. Shortages in drugs and equipment cited by the SMs include (for Boricha): sterilizers, oxytocin, anticonvulsants and kerosene while the SM in W. Azernet listed HIV kits, HIV counseling and testing (HCT) machine and laboratory regents. Interviewed mentees also mentioned shortages/lack of KHB tests, iron folate, anti-D, hematoctrit machines and Depo-Provera. Challenges cited by local authorities were absence of transport for the SMs and shortage of ambulances. Both SMs tried to address supply shortfalls by filling request forms to the Pharmaceuticals Fund and Supply Agency (PFSA) within the government health infrastructure. The woreda and the regional health office should work collaboratively in addressing the request of equipment within the system.

The SM in Boricha also noted that his heavy workload (covering 11 centres) and trained staff turnover was an issue in his woreda and that he did not receive the mobile and housing allowance support that he had been under the impression would be covered in his orientation.

Perceptions of Senior Mentors’ support and supportive supervision

Both mentors seem to be appreciated by a large majority of their mentees and governmental counterparts for their support and their dedication. While a majority of mentees felt the level of mentoring and support they received from the SM in West Azernet was sufficient, there were two mentees in Mugo (the more remote health centre visited twice a month) who said they would have liked to have had more support. Similar to other regions, the under-5 units expressed the sentiment that most of the mentoring support focuses on other MCH units. On the other hand, while noting that he has a heavy caseload, a significant portion of mentees in Boricha, where the SM has 11 centres, stated that the level of mentoring they received was not sufficient for them to be confident, particularly for the more complicated procedures, and they would have liked to have had more opportunities to observe and practice under the SM’s supervision. What is slightly of concern for Boricha is that some of the interviewees noted that the SM became ‘emotional’ or ‘did not visit again in a while’ when they made mistakes under observation; this could be an indication that the strain of his workload was becoming increasingly evident in the SM’s interactions. Both SMs are quite engaged in social mobilization and reviewing HMIS data for trends in antenatal care follow-up between health centres and health posts on where to focus their outreach. However, one interesting feedback from mentees and the zonal representative at W. Azernet is that they would like more emphasis to be put on practical case management and shadowing of mentees.

Both senior mentors primarily give oral feedback though the SM at W. Azernet says he sometimes gives written feedback as well (confirmed by some mentees and notes in a comment book). Woreda representatives do the most site visits at health centre and health post level (once
a week for the more accessible sites particularly in West Azernet, and zonal representatives two
times a year on average though the health centre at Lera said they had received up to four visits
from Silti zone office in the past year.

**Recommendations from interviewees in the region**

- Have reliable transport for regular mentoring.
- Reduce the workload of senior mentors to 4-6 health centres per mentor.
- Secure regular budget to hold more trainings/refreshers for health workers at woreda
  and facility level.
- More supervision and follow-up between the different management levels - from health
centre heads, woreda, zonal and FMoH.

**Regional Implementation Profile: Amhara**

Amhara region’s two implementation woredas for the Senior Mentorship programme were
Legambo woreda in South Wollo zone and Fagita Lekuma woreda in Awi zone. Legambo has
nine health centres and catchment area that the assigned female Senior Midwife Mentor is
responsible for but in actuality, she mentors only eight out of the nine health centres because
one of the health centres is inaccessible (takes 6-hours walking). Fagita Lekuma has six
assigned health centres for their SM but there is one remote health centre that she mentors
infrequently. For the key informant interviews, Akista health centre (the main one in the
woreda) and the more remote Fita health centres were selected for Legambo woreda and Addis
Kidam (the principal health centre) and Fagita (the remote) health centres were selected for
Fagita Lekuma woreda.

Thirty in-depth individual interviews were carried out with the senior mentors, mentees, health
centre heads, woreda heads and zonal authorities (note 29 persons interviewed, one person in
Fagita handles two units). The Midwife assigned to Legambo has a B.Sc. diploma in Midwifery
and 16 years of work experience. The Midwife assigned to Fagita Lekuma has a diploma and 11
years of work experience. All the health centre heads have a B.Sc. and one year work experience
with the exception of the head of Addis Kidam, who has 13 years of experience. The mentees
have a mix of diplomas and B.Sc. degrees and experience ranging from six months to seven
years (the latter in an under-5 unit).

**Pre-deployment and placement experience**

Prior to being employed as a Senior Mentor, the SM sent to Legambo woreda had had training
on BEmONC, IMNCI, PMTCT, safe and clean delivery and long-term family planning. Once
hired and before being deployed to Legambo, she did not receive any orientation/hybrid
training from FMoH. Once in her post, she received orientation on MSDR, CBNC and
integrated community case management (ICCM). The Senior Mentor at Fagita Lekuma did
receive an orientation prior to her deployment but no further training after her deployment.

The two senior mentors said that instructions they received after arrival were unclear and at
times contradictory. The SM at Legambo with nine health centres was initially told that
mentoring visits to health posts were as important as visits to health centres and when that
proved to be impractical (Legambo has 27 health posts), she was re-directed to put primary
focus back on health centres. The Senior Midwife at Fagita Lekuma noted that she initially
encountered resistance after her placement because quite a few officials were not aware of her
deployment and status. She had also been informed by FMoH that housing would be provided for her at the health centre (her main base) and that was not the case. Both midwives were also initially told to focus on L&D followed by ANC and PNC but then a few months later informed to mentor all maternal and neonatal health units.

Both mentors are based out of the main health centres in the woreda capitals (Akista for Legambo and Addis Kidam for Fagita Lekuma woreda) and set their own schedules to visit the other health centres in their areas of responsibility. They stated the HCs they visit to mentor are partly based on their determination of which HC needs extra support and partly on access to the health centres. They use a combination of public transport (particularly on market days when more options are available), hitching rides with woreda officials or the NGO SAVE when they were scheduled to visit the town/health centres they were interested in going to or as a last resort, walking to the HC of interest. The SM at Legambo noted that out of her nine health centres, the one she has never visited is a health post that was upgraded to a health centre and is a six hours journey by foot and, while the woreda has promised to take her, thus far nothing has come of it. The senior mentor at Fagita Lekuma noted that the average walk for her to health centres not easily accessible is about two hours which is why she infrequently visits Waz, the health centre she finds remote and with low client load. However, when she does go to other remote HCs, she says she remains there for up to two weeks if they require a lot of capacity building, and once they do better, up to two days on subsequent visits.

The SM at Legambo noted she found overnight stays difficult as her options are staying at health centres as the night duty officer without food or invading the privacy of one of her mentees by staying over with them and sharing their food. As a result, their pattern of mentoring HCs varies from once a week once every one to two months, and hours of mentoring per site varies, with sites closer to their base HCs benefiting disproportionately.

**Perceptions of Senior Mentors’ effect on health centres’ outcomes and challenges**

Improvements credited to the placement of the senior mentors include:

- Increasing skills, confidence and modelling of ethical behaviour
- An increase in ANC, PNC and delivery services
- Consistent laboratory investigations
- Improved quality of service, coverage of service and data collected
- Counselling of clients and client-friendly approach
- Improvements in BEmONC
- More emphasis on neonatal health
- Ensuring timely arrival of supplies
- Proper decontamination and infection control
- (Legambo) Integrated MNCH as one service
- Improving the linkages between health centres and
- Deceasing unnecessary referrals

Reviews from mentees were mostly positive and highlighted the changes listed above as well as the high calibre of technical understanding of the SMs, with one mentee in Akista mentioning that clients come and ask for the SM by name. However, some mentees expressed the sentiment that health centres outside of the main ones do not get sufficient mentoring and that some units
(like under-5) do not get much mentoring as L&D gets receives most attention. On the whole, junior mentors seem to be the most appreciative of the skills-transfer from the senior mentors.

Both mentors say they promote use of checklists, with the SM in Legambo saying that the FMoH neonatal and PPH checklists are used in her woreda but that access to printing paper is an issue particularly when one of the checklists is seven pages long. The SM at Fagita Lekuma noted that after the woreda said they do not have the budget to cover their paper needs, their use of the checklists became irregular and utilised more for reference rather than documentation of each client case. This seems to be borne out by the other interviewees, for example the PNC unit in Addis Kidam (Fagita Lekuma) stated they do not use checklists while PNC in Akista does, and in Fita (a remote HC in Legambo) the under-5 uses the IMNCI chart as their checklist.

An additional factor may be that the woredas consider supplies to be the responsibility of each health centre, which have their own budget-line for supplies. One of the zonal representatives interviewed felt that the HMIS documentation was sufficient and did not seem to see the necessity for checklists. According to one of the SMs, as long as access to paper is not consistent and the woreda representatives do not also monitor for checklist usage on their site visits, she does not see the mentees and other healthcare workers adopting the practice of checklist use routinely to where it becomes a sustainable habit.

Challenges cited by interviewees include lack of transport with no set budget for transportation and lack of resource materials available at the woreda level. Related to that, it seems there had been an expectation that the deployment of SMs would come with money and resources to carry out their work. In tandem with the deployment of the senior mentors, other training initiatives in the woreda by other NGOs were halted in order to properly measure the impact of the senior mentors. The senior mentors report that this has created resentment among some health workers who were attending the trainings by other NGOs because they were denied their per diems and the incentives they were used to receiving. The SMs indicated that they struggle to foster a uniform understanding of objectives and camaraderie among health care staff.

Other challenges cited include: lack of ambulances (the authorities state they have received tricycle ambulances but say they are not functional); lack of training on how to mentor; delays in payment of salaries\(^\text{21}\); and, for Akista in Legambo, high client flow reducing the time available for proper counselling of clients. On the last point, this was actually a criticism levelled at the SM by the centre head and a mentee who mentioned that the SM is a good counsellor but that her counselling is too time-consuming for their client load. A weakness cited for the SM in Fagita Lekuma is that she focuses too much on L&D at the expense of other units.

**Perceptions of Senior Mentors’ support and supportive supervision**

The senior mentors meet with woreda officials once a week for feedback and the SM in Fagita Lekuma says she makes a point of informing the woreda on her planned itinerary. The woreda representatives say they get oral reporting (from both SMs) and written reports at times (from Fagita Lekuma) and they work with the woreda authorities for the monthly report to FMoH.

\(^{21}\) FMOH has since taken measures to remove the delays in payment. However, the study did not check that these were in effect at the SM level and the interviewees still mentioned it.
Mentees report they primarily get oral feedback from the senior mentors, with the senior mentors checking in on subsequent visits. What is a bit concerning is that there seems to be a disparity in the supportive supervision between the main health centres and the remote health centres. More than one mentee in the more remote centre Fita in Legambo felt that they did not get feedback from the Senior Mentor on her visits. The main health centres also report that the woreda carries out site visits at least once a month while Fita gets a visit from the woreda once every three months.

Both the zonal authorities (confirmed by the SMs) state that there is not much interaction between them and that the SMs do not submit any reports to the zonal offices. According to one zonal head, the weakness of the Mentorship model from what he has observed is the lack of accountability by the senior mentors and a lack of equity in how the health centres are mentored.

**Recommendations from interviewees in the region**

Recommendations from interviewees in Amhara include:

- Incentives should be provided to mentees participating in the programme.
- Housing (or housing allowance) should be provided to SMs.
- On supportive site visits, the evaluating health officer should follow-up on use of checklists.
- Have an alternative source for key supplies besides the budget of health centres, perhaps by having memorandum of understanding with interested NGOs.

From zonal, woreda & health centre heads:

- The Mentorship programme should utilise clear monitoring and evaluation with a supervisor to ensure the senior midwives are accountable.
- SMs should receive per diem for work that take them away from base.
- SMs should participate in zonal and regional meetings.
- SMs should receive their salaries on time.
- Rather than non-functional transportation [referring to tricycle ambulances], provide transportation suitable for the environment.
- Deployed midwives should be able to communicate in the language of the workplace.

**Regional Implementation Profile: Oromia**

Oromia has three implementation woredas, Teltele and Arero woredas in Borena zone and Wadera woreda in Guji zone. In Teltele woreda the female SM covers five of the six health centres that were assigned to her. The senior mentor is a midwife nurse with a B.Sc. and has seven years of experience. Two implementation health centres were evaluated: Milami, which is the woreda’s main health centre, and Kulcha, a remote health centre.

Arero has four health centres covered by a male Senior Mentor. He is a midwife nurse with a B.Sc. and 15 years of experience. The health centres evaluated were Mata Gafarsa (the main health centre) and Hallona, a remote health centre.

The female SM in Wadera covers five health centres. She has a B.Sc. and diploma, and has 12 years of experience working as both a midwife and health officer. The health centres evaluated were Wadera health centre (the main one) and Burqa Waba, a remote health centre.
Thirty-two people participated in key informant interviews [note: some mentees cover two or three units]. The interviewees included senior mentors, mentees, health centre heads, woreda heads and zonal representatives. The mentees were mostly diploma holders in midwifery with a few B.Sc. holders and experience ranging from eight months to seven years. The health centre heads were mostly B.Sc. holders, with one centre head having a diploma in clinical nursing and work experience ranging from two to five years.

**Pre-deployment and placement experience**

Of the three mentors in Oromia, the male mentor in Arero and the female mentor in Teltele received hybrid training from FMoH though the female mentor in Teltele noted that her ‘orientation’ (she did not consider it a training) covered logistical systems and MDSR. Her prior trainings included PMTCT, neonatal resuscitation, abortion care, FP, HMIS, community-based newborn care and extension supportive supervision. The mentor in Wadera has taken training in BEmONC, comprehensive abortion care (CAC), IMNCI, FP, ICCM, expanded programme of immunization (EPI), mother to mother (M2M) support and PMTCT prior to assuming the senior midwife post. The male mentor in Arero had prior training on BEmONC, PMTCT, abortion care, FP and infection prevention.

All three mentors seem to have established strong relations with administrative counterparts in the health centres and woreda. Having a lower average load of health centres in comparison to other regions, the mentors in Oromia worked closely in collaboration with woreda, health centre and health post professionals for site visits, HEW and community orientations in addition to the clinical mentoring and coaching in health centres. To the extent of their ability, the receiving woredas and health centres seem to have made extensive effort to provide transport and office support to the mentors including housing for the female senior mentor in Wadera and male senior mentor in Arero. The SM in Wadera is given access to the official woreda car and main health centre motorbike whenever they can spare them.

All mentors have their main base at the health centre located in the woreda capital and travel to other health centres to do mentoring, staying two to three days in the more remote health centres. The exception was the female Senior Mentor in Wadera who assumed responsibility for a non-functioning remote health centre (Burqawaba) and, along with the health centre head, hired staff for the MNCH units and oriented them. However, once the units were up and running the Wadera SM assumed a similar pattern of visiting the remote centres that the other SMs had. Despite the transport support from the woreda/main health centre, access to remote health centres was still an issue and the remote health centres tend to view the mentoring they get as irregular and not sufficient for their needs though they hasten to point out that the senior mentors are doing what they can with the constraints they have. As the SM in Teltele explained, her most remote HC is 110 kilometres away and when she doesn’t have access to Woreda transport, she spends 300 birr one-way (about 15 USD) on a rented motor cycle to take her there and uses the “On Duty” room for the two to three days she is there and manages to average four site visits to the remote HCs per month this way (in addition the covering the main health centre).

In terms of coverage, the SM in Teltele has one HC in her area that she does not visit and the male SM does not include the under-5 health care workers in his mentoring though they have noted stronger intra-departmental referrals despite his lack of direct intervention. Only the SM
in Wadera seems to cover all five of her health centres and all MNCH departments for mentoring. In addition to their mentoring/coaching duties, all the mentors also serve as extra human capacity for the health centres they cover, providing weekend/graveyard shift coverage as needed. The senior mentors expressed satisfaction with their job despite some challenges, with the male SM stating he is managing adequately with the workload of four health centres that he has (echoed by the SM in Teltele who feels four health centres should be the most assigned for optimal results). The SM in Wadera feels that for the degree of community involvement that she has in addition to mentoring, three health centres would be ideal. She also doesn’t feel her salary is adequate for the job load she has assumed including 24/7 availability.

**Perceptions of Senior Mentors’ effect on health centres’ outcomes and challenges**

All administrators and mentees have given good reviews on all the senior mentors, especially the Senior Mentor in Wadera whom the authorities noted is inclusive and consultative and that they would trust her to interact with FMoH and other interlocutors without needing their stamp of approval. The only slight negatives cited came mainly from the rural health centres who felt that with more mentoring, they would have been able to reduce their referrals even more. They also keep tabs on the SMs’ movements; as one mentee mentioned, their HEWs do not get the same level of support that HEWs falling under the main health centre get. The SM in Arero does not mentor under-5 units but interestingly, the other under-5 units interviewed are satisfied with the mentoring they received from the remaining senior mentors, even whilst acknowledging it was irregular (in remote sites) and less than what other MNCH units get.

Interviewees in Oromia credited the SMs with the following:

- Technical support to staff including applying the seven signal functions of BEmONC.
- Increased utilisation of tools such as partographs and vacuum for assisted delivery.
- Establishing new MNCH services (PNC, abortion care & deliveries in centres that didn’t offer such services).
- Creating demand within communities and increasing service utilisation.
- Increase in institutional deliveries (Arero: 35% to 70% plus; Wadera: 6% to 80%).
- Sterilization and infection control.
- Improved utilisation of checklists.
- Advocating for construction of maternity waiting areas.
- Registration and record keeping.
- Identification and utilisation of unused equipment, liaising with health centre and woreda heads to procure missing supplies.
- Initiating MDSR.
- Getting MNCH services to waive fees (Wadera).

Through participation in joint community awareness sessions with health extension workers, community leaders and woreda representatives as well as more in-depth orientation sessions for HEWs on neonatal health and management of childhood illnesses, linkages were strengthened between health posts, health centres and hospitals. Written referral slips are utilised between health posts and health centres in Teltele and Arero and within health centres in Teltele while Arero and Wadera rely on what they call a ‘walking referrals’ which is sometimes facilitated by having the services either in the same room or nearby.
The three senior mentors stated they all use checklists (though the SM in Teltele complained that at 14 pages, it is too long and time consuming) and also print and distribute checklists to mentees. On checklist usage ANC and L&D mentees in all three woredas confirmed they use checklists. Additionally, Teltele mentees in FP and under-5, Arero mentees in PNC and FP (same person as ANC) and the Wadera mentee in PNC stated that they use checklists.

Challenges raised by interviewees include:

- Transport (and accommodation) to rural health centres.
- Culture/religion resistant to institutional delivery and to obtaining MNCH services from health care workers of the opposite sex.
- Infrastructure issues such as water, electricity and poor mobile network.
- Gaps in key drug/equipment supplies.
- Lack of sufficient training for staff.
- Lack of functioning ambulances.
- (Wadera) Not enough manpower to supervise and follow-up with trained HEWs to ensure they are applying skills gained.
- (Arero) Clients being charged on the return trip for ambulance usage.

Borena zone has received tricycle ambulances and found them not to be suitable for rough roads/terrain. Teltele noted they had not received any tricycle ambulances. The SM in Teltele said the two ambulances they did have were out of commission for a while. Meanwhile Guji zone raised the fact that they have yet to see the tricycle ambulances they were promised.

**Perceptions of Senior Mentors’ support and supportive supervision**

The senior mentors primarily utilise oral feedback to mentees and woreda/HC administrators and following up on issues raised on subsequent visits and meetings. Senior mentors accompany woreda officials on some of their site visits or meetings with community counterparts. During the more formal monthly and quarterly review meetings, minutes are taken for the record and follow-up.

Senior mentors debrief the woreda after a visit to a remote health centre. The woredas are also consulted before senior mentors submit monthly reports to FMoH. Remote health centres in Teltele get a visit once a month from woreda representatives though sometimes it gets lengthened to once every two months. The main health centre in Wadera says that they get visits from the Guji zonal office once every two months on average.

Both zonal offices noted that they encourage competition among the woredas and that the mentors have contributed in raising the profiles of the woredas they have been assigned by reducing the number of home deliveries. The zonal office in Guji also convenes meetings that bring high performing and low performing health centres together to share experiences.

Remote centres say that the support they get is useful and critical but too irregular. With the main health centres, L&D mentees are the ones more likely to say they would like more mentoring, despite their awareness that senior mentors do focus a lot on L&D when they happen to be in residence.
Recommendations from interviewees in the region

- Assign two mentors per woreda or one senior mentor per three health centres.
- Improve the transport situation.
- Have more regular mentorship for remote health centres.
- Augment the salaries of senior mentors.
- Strengthen supervision of health posts and health extension workers at all levels.

[Woreda/Zone]

- Have a coordinator assigned to support the activities of senior mentors (woredas want it at the woreda level and the zonal offices want it to be at their level).
- Have SMs who speak the local language assigned to facilitate mentoring.
- Provide additional financial support for key medical supplies/equipment.
- Have logistical and budgetary support available to accompany assigned SMs.
- Continuous refresher training and follow-up so training is applied.
- Provide incentives/awards to home delivery free woredas.
- Provide programme mandate and senior mentor TORs to the Zone.

Regional Implementation Profile: Tigray

Tigray had only one implementation woreda, Kafta Humera, with nine health centres and their catchment area. The male senior mentor, who has a B.Sc. and 10 years of experience, covered all nine health centres. For the qualitative evaluation, Rawiyan (the main health centre) and Andi Goshu (a remote health centre) were selected.

Fifteen interviews were conducted with the senior mentor, health centre heads, mentees, woreda and zonal representatives. The mentees were diploma holders with one B.Sc. in an under-5 unit and with experience ranging from one year and five months to seven years at the time of the interviews.

Pre-deployment and placement experience

The senior mentor did not received a hybrid training (orientation) from FMoH but prior to accepting the Senior Mentor position had training that included a four-day mentorship training from AMREF on BEmONC, family planning and MDSR. After his deployment as Senior Mentor, he also received training on IMCNI, ICCM and CBNC.

The coverage model that the senior mentor in Tigray adopted is different from that of other SMs in other regions in that he rotates his time more or less equally among his assigned health centres, spending an average of 10 days at each health centre. While more equitable than the other model at implementation sites where remote health centres tend to be mentored less than main health centres, the fact that he has a high number of health centres assigned means that there is an interval gap of three months before he revisits a health centre to follow-up on progress (or gaps) since his prior visit.

The SM describes the working environment at most of the health centres as harsh, with high temperatures close to the Eritrean border and health centres affected by transport, network and electricity issues as well as missing some of their essential equipment (e.g. Rawiyan lacks a non-pneumatic anti-shock garment (NASG) suit for post-partum haemorrhage and Andi Goshu lacks vacuum equipment). In addition to native inhabitants, there is a significant presence of soldiers,
their partners and dependents which also presents a challenge for antenatal and postnatal care follow-up as they tend to be a mobile group. Lastly, the interviewer shared that the SM was robbed once when rotating from one centre to another.

**Perceptions of Senior Mentors’ effect on health centres’ outcomes and challenges**

Improvements cited by Kafta Humera include:

- Mentees applying the seven signals of BEmONC and lab investigations.
- Providing focused antenatal care with improved advice and counselling to clients
- A 90% increase in institutional delivery in the woreda.
- Decrease in maternal deaths from 5 to 1 after the intervention year (source: woreda office).
- Consistent use of equipment/drugs [partograph, NASG, Vacuum, MgSO4].
- Improved registration and record keeping.
- Decrease in unnecessary referrals.
- Clients shifting to longer-lasting family planning methods.
- Improved utilisation of checklists (newborn, post-partum and under-5 guidelines).

The SM utilises checklist and from the interviewees, L&D, PNC and under-5 units utilise checklists while family planning and ANC did not. Linkages with health posts have been strengthened by working with HEWs and health development army ‘buden’ to register and follow-up on pregnant mothers. Three visits are done at the health post level before the fourth visit at the catchment health centre. Post-delivery, the catchment health centre sends a report back to the concerned health post so the mother may be followed up on for postnatal care including an appointment back at the health centre after 45 days.

Challenges raised included transport for clients. The one ambulance is used by the nine health centres for clients as well as accompanying health care staff who often end up having to pay out of pocket to return to their base if the ambulance happens to leave. The high workload and fatiguing environment contribute to high staff turnover. The senior mentor often does not have access to paper, printers, EVDO/CDMA and other office supplies as he moves from health centre to health centre. Lastly, the lack of supervision and accompanying support for the SM as well as two to three month delays in receiving his salary were also cited as a challenge.

One good practice shared is the woreda amending regulations and making arrangements so that private taxis/vans can be utilised after hours (rather than being confined to lots) for emergencies so clients in critical need can access health care sooner.

**Perceptions of Senior Mentors’ support and supportive supervision**

The senior mentor is highly respected by mentees and most have pointed out that his method of mentoring has helped them gain hands-on skills. Unlike other regions, there is no perceived rural/urban divide in mentoring from the mentees though the under-5 unit in Kafta Humera does not feel as mentored as other units. All mentees and centre heads have shared that they would like longer mentorship from him with shorter intervals but understand that he has a lot of centres to cover and appreciate his availability day or night when he is with them. The SM
GOOD PRACTICES

Oromia: Experience sharing of high and low performing woredas

In Oromia both zonal offices, Borena and Guji, noted that they encourage competition among the woredas and that the mentors have contributed in raising the profiles of the woredas they have been assigned by raising the number of home delivery-free kebeles. The zonal office in Guji also convenes meetings that bring high performing and low performing health centres together to share experiences.

Tigray: Transport system arrangement at bus stations

Private mini-buses/vans are not allowed to give services after 6:00 in the evening and they stay in the bus stations overnight. In case of medical emergencies, the woreda residents can't use these mini-buses because of the regulations. The woreda health office has discussed the issue with the woreda administration and has amended the regulations. Because of the amended arrangement, the private mini-buses/vans can be utilised after hours (rather than being confined to lots) for emergencies so clients in critical need can access health care sooner.

Amhara: Dedicated day for discussion

In one of the woredas of Amhara region, there is a dedicated day per month arranged when the woreda leaders meet with the SM to discuss the progress of the mentorship activities and the gaps identified. These meetings help to ensuring feedback raised by SM are addressed on time.

SNNPR: Recognising good works

HDAs (Health Development Agents) are part of the community health system who work closely with the HEWs in sensitizing the community. Ceremonies are held to give recognition for those HDAs who have done relatively great job in remote areas and are renowned as Community Ambassadors for doing outreach in remote locations.

Recommendations from interviewees in the region

- Adding another senior mentor so that there is not a large time gap between health care centre rotations.
- Assign a regional focal point to supervise/support senior mentors.
- Provide training and refresher training for staff.
- Paying the SM’s salary on time.

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22 FMOH has since taken measure to remove the delays in payment. However, the study did not check that these were in effect at the SM level and the interviewees still mentioned it.
Conclusions

Overall the mentorship model has shown a lot of promise in achieving its objectives despite some challenges observed.

**Building the capacity of the health care providers (mentees):** the achievement is ‘high’ with strong confidence in judgement. Although not measured against a baseline, the knowledge assessment, observation of service delivery of mentees and the KII of the mentees and SMs suggest that knowledge and skills of the mentees have improved and in certain cases are greater compared to health care workers in non-implementation woredas. If the challenges affecting the knowledge and skill transfer are minimized, better achievements are likely.

**Quality of MNCH service provision:** Because of the knowledge and skill transfer from the SMs, the mentees are better knowledgeable and skilful to provide better quality of MNCH services. However, the quality of service is affected by a number of factors like infrastructure, availability of equipment and supplies, motivation and turnover of staff, etc and the achievement in this regard is ‘medium’ with strong confidence in judgement. The information obtained from the health facility assessment and record review, observation of mentees providing services, KII of mentees, SMs and local leaders provided strong confidence in judgement.

**Continuum of Care:** The internal referral linkage among the MNCH units as well as the external referral linkage with HEWs/health posts and the community has improved. The SMs as well as the mentees are involved in community mobilization and strengthening the connection of health centres with the community. The continuum of care is also affected by a number of factors, but overall the level of achievement is ‘High’. Since the study did not gather representative quantitative data on patients’ actual experience of continuum the confidence in this judgement is medium.

**Effectiveness of SM Placement:** Most of the mentees are less experienced and less knowledgeable as their skill and knowledge is limited to what they got from education and experience. The SMs placement has created frequent contact of SMs with mentees providing on-the-job training which enabled the knowledge and skill transfer to be more tangible. The effectiveness of the SM placement is ‘high’ with high confidence in judgement as all the quantitative and qualitative assessments suggest this effectiveness despite some challenges.
# Amhara Region Participant Profile

## South Wollo zone KII profile

<table>
<thead>
<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Wollo Health Office Head</td>
<td>01</td>
</tr>
<tr>
<td>Legambo Woreda Health Office Head</td>
<td>01</td>
</tr>
</tbody>
</table>

### 1. Akista Health Centre - Legambo Woreda

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.SC.</td>
<td>1 year</td>
<td>01</td>
</tr>
<tr>
<td>Midwife mentor</td>
<td>Midwife + HO</td>
<td>B.SC.</td>
<td>16 years</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>B.SC.</td>
<td>6 months</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>B.SC. holder</td>
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### 2. Fita Health Centre - Legambo Woreda

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<tr>
<th>Position</th>
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<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>1 year</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 year</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>1 year</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>9 months</td>
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<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>9 months</td>
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## Awi zone KII profile

<table>
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<tr>
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<tbody>
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<td>Awi zone Health Office Head</td>
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<tr>
<td>Fagita Lekuma Woreda Health Office Head</td>
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</table>

### 1. Addis Kidame Health Centre - Fagita Lekuma woreda

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
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<th>Number of Respondents</th>
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<tbody>
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<td>11 years</td>
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<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
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<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>7 months</td>
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<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>7 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
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### 2. Fagita Health Centre - Fagita Lekuma woreda

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health officer</td>
<td>B.SC.</td>
<td>1 year</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 year</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>7 months</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>B.SC.</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>7 months</td>
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</table>
### Oromia Region Participant Profile

**Borena and Guji zone interviewees profile**

<table>
<thead>
<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borena zone Health Office Head</td>
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<tr>
<td>Arero Health Office Head</td>
<td>01</td>
</tr>
<tr>
<td>Teltele Health Office Head</td>
<td>01</td>
</tr>
<tr>
<td>Arero woreda senior midwife</td>
<td>01</td>
</tr>
<tr>
<td>Teltele woreda senior midwife</td>
<td>01</td>
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</table>

#### 1. Milami Health Centre

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C. Nurse</td>
<td>B.Sc.</td>
<td>4 years</td>
<td>01</td>
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<tr>
<td>FP provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>6.6 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>4.8 years</td>
<td>01</td>
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<tr>
<td>ANC care provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>1.9 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC care provider</td>
<td>C. Nurse</td>
<td>diploma</td>
<td>7 years</td>
<td>01</td>
</tr>
<tr>
<td>IMNCI/under 5 care provider</td>
<td>C. Nurse</td>
<td>B.Sc.</td>
<td>1.6 years</td>
<td>01</td>
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</table>

#### 2. Kulcha Health Centre

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<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>2 years</td>
<td>01</td>
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<tr>
<td>FP provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>1.6 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D, ANC and PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 years</td>
<td>01</td>
</tr>
<tr>
<td>IMNCI/under 5 care provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4.7 years</td>
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#### 3. Mata Gafarsa Health Centre

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<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>FP, and ANC provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>6.3 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D and PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3.8 years</td>
<td>01</td>
</tr>
<tr>
<td>IMNCI/under 5 care provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>6 years</td>
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#### 4. Hallona health centre

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<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
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<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>FP provider</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>1.7 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D and PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 years</td>
<td>01</td>
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<tr>
<td>ANC care provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>0.8 years</td>
<td>01</td>
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<tr>
<td>IMNCI/under 5 care provider</td>
<td>C. Nurse</td>
<td>B.Sc.</td>
<td>0.8 years</td>
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#### 5. Burqawaba health centre

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<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>FP provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>1.3 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D ANC and PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>IMNCI/under 5 care provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>1.3 years</td>
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#### 6. Wadera Health Centre

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<th>Work Position</th>
<th>Number of Respondents</th>
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<tbody>
<tr>
<td>Health Office Head</td>
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<tr>
<td>Woreda Health Office Head</td>
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</table>

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Nurse</td>
<td>Diploma</td>
<td>6 years</td>
<td>01</td>
</tr>
<tr>
<td>Midwife mentor</td>
<td>Midwife + Health Officer</td>
<td>Diploma + Degree</td>
<td>12 years</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Nurse</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>Health Officer</td>
<td>Degree</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
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### SNNP Region Participant Profile

#### Sidama zone KII profile

<table>
<thead>
<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidama zone health department (delegated head and MNCH officer)</td>
<td>01</td>
</tr>
<tr>
<td>Boricha Woreda Health Office Vice Head</td>
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</tbody>
</table>

#### 1. Dila Anole Health Centre

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.Sc.</td>
<td>7 years</td>
<td>01</td>
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<tr>
<td>Midwife mentor</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>10 years</td>
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<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>2 years &amp; 5 mon</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>2 years &amp; 5 mon</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>3 years &amp; 5 mon</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>4 years &amp; 3 mon</td>
<td>01</td>
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</table>

#### 2. Yirba Health Centre

<table>
<thead>
<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>5 year</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>1 years &amp; 7 mon</td>
<td>01</td>
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<tr>
<td>PNC provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years &amp; 9 mon</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C/nurse</td>
<td>B.Sc.</td>
<td>2 years &amp; 7 mon</td>
<td>C/nurse</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years &amp; 9 mon</td>
<td>01</td>
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#### Silti zone KII profile

<table>
<thead>
<tr>
<th>Work Position</th>
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<tbody>
<tr>
<td>Silti zone health department delegated head</td>
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</tr>
<tr>
<td>West Azernet Woreda Health Office Head</td>
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#### 1. Mugo Health Centre

<table>
<thead>
<tr>
<th>Position</th>
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<tbody>
<tr>
<td>Health Centre Head</td>
<td>Pharmacy</td>
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</tr>
<tr>
<td>Midwife mentor</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>12 years</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>1 years &amp; 4 mon</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>8 month</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>1 year</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>1 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>C/nurse</td>
<td>Diploma</td>
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#### 2. Lera Health Centre

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<th>Position</th>
<th>Profession</th>
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</thead>
<tbody>
<tr>
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<td>B.Sc.</td>
<td>1 year &amp; 8 mon</td>
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</tr>
<tr>
<td>Family planning provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
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<tr>
<td>PNC provider</td>
<td>C/nurse</td>
<td>Diploma</td>
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<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>3 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>4 years &amp; 6 mon</td>
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### Tigray Region participants Profile

**West Tigray KII profile**

<table>
<thead>
<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
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<tbody>
<tr>
<td>West Tigray Health Office Head (Region MNCH coordinator)</td>
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</tr>
<tr>
<td>Kafta Humera Woreda Health Office Head</td>
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#### 1. Rawyan Health Centre

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<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.Sc.</td>
<td>5 years</td>
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<tr>
<td>Midwife mentor</td>
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<td>B.Sc.</td>
<td>11 years</td>
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<td>Diploma</td>
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<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
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<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
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<tr>
<td>Under-five provider</td>
<td>C.Nurse</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
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#### 2. Adigoshu Health Centre

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<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
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<td>01</td>
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<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>7 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>3 years</td>
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### Oromia Region Participants Profile

#### 1. Degolu Health Centre

<table>
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<tr>
<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.SC.</td>
<td>13 year</td>
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</tr>
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<td>Family planning provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years</td>
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#### 2. Fage Health Centre

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<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 year</td>
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</tr>
<tr>
<td>Family planning provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 year</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>8 months</td>
<td>01</td>
</tr>
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<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>8 months</td>
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<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
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### Amhara Region Participants Profile

#### Bale zone interviewees profile

<table>
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<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Jama Woreda Health Office Head</td>
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</tr>
<tr>
<td>Medawolabu Health Office Head</td>
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#### 1. Bidire Health Centre

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<th>Position</th>
<th>Profession</th>
<th>Qualification</th>
<th>Work experience</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.Sc.</td>
<td>4 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider and FP provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>4.6 years</td>
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<tr>
<td>Under-five provider</td>
<td>C. Nurse</td>
<td>B.Sc.</td>
<td>2.7 years</td>
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<tr>
<td>L&amp;D provider and PNC provider</td>
<td>Midwife</td>
<td>B.Sc.</td>
<td>5.3 years</td>
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#### 2. Gobelle Health Centre

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<th>Position</th>
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<th>Work experience</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C. Nurse</td>
<td>Diploma</td>
<td>3 years</td>
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<tr>
<td>ANC, PNC, FP and L and D</td>
<td>Midwife</td>
<td>Diploma</td>
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<td>Under 5 provider</td>
<td>Midwife</td>
<td>B.Sc.</td>
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## SNNP Region Participant Profile
### Kembata Tembaro zone KII profile

<table>
<thead>
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<th>Work Position</th>
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<tbody>
<tr>
<td>Kembata Tembaro zone health department (delegated head and M &amp; E coordinator)</td>
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</tr>
<tr>
<td>Damboya Woreda Health Office Head</td>
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### 1. Damboya Health Centre

<table>
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<tr>
<th>Position</th>
<th>Profession</th>
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<th>Work experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>Health Officer</td>
<td>B.Sc.</td>
<td>2 years</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>7 years &amp; 6 mon</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>8 years</td>
<td>01</td>
</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>7 years &amp; 6 mon</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>C/nurse</td>
<td>Diploma</td>
<td>7 years</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>2 years &amp; 7 mon</td>
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### 2. Megere Health Centre

<table>
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<th>Work experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
<td>C/nurse</td>
<td>B.Sc.</td>
<td>2 year &amp; 9 mon</td>
<td>01</td>
</tr>
<tr>
<td>Family planning provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>PNC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
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</tr>
<tr>
<td>ANC provider</td>
<td>Midwife</td>
<td>Diploma</td>
<td>5 years</td>
<td>01</td>
</tr>
<tr>
<td>Under-five provider</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>8 month</td>
<td>01</td>
</tr>
<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
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## Tigray Region Participant Profile
### West Tigray KII profile

<table>
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<tr>
<th>Work Position</th>
<th>Number of Respondents</th>
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</thead>
<tbody>
<tr>
<td>West Tigray Health Office Head (Region MNCH coordinator)</td>
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</tr>
<tr>
<td>Tahetay Michew Woreda Health Office Head</td>
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### 1. Wukro Maray Health Centre

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Health Centre Head</td>
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<td>B.Sc.</td>
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<tr>
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<td>Diploma</td>
<td>24 years</td>
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<td>Diploma</td>
<td>25 years</td>
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<td>Midwife</td>
<td>Diploma</td>
<td>24 years</td>
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<td>Under-five provider</td>
<td>Health officer</td>
<td>B.Sc.</td>
<td>4 years</td>
<td>01</td>
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<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
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### 2. Edaga Berhe Health Centre

<table>
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<tbody>
<tr>
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<td>Clinical nurse</td>
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<td>Diploma</td>
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<tr>
<td>PNC provider</td>
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<td>Diploma</td>
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<tr>
<td>ANC provider</td>
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<td>Diploma</td>
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</tr>
<tr>
<td>Under-five provider</td>
<td>Health Officer</td>
<td>B.Sc.</td>
<td>2 years</td>
<td>01</td>
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<tr>
<td>L&amp;D provider</td>
<td>Midwife</td>
<td>Diploma</td>
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