Maternal and Child Survival Program Community Based Newborn Care – Newborns in Ethiopia Gaining Attention

October 2014 – February 2019

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The Maternal and Child Survival Program (MCSP) is a global, United States Agency for International Development (USAID) Cooperative Agreement to introduce and support high-impact health interventions with a focus on 27 high-priority countries with the ultimate goal of preventing child and maternal deaths. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

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Acronyms and Abbreviations

ANC	Antenatal Care
CBNC	Community-Based Newborn Care
COMBINE	Community Based Intervention for Newborns in Ethiopia
DHIS	District Health Information System
FHG	Family Health Guide
FMOH	Federal Ministry of Health
GoE	Government of Ethiopia
EFY	Ethiopian Fiscal Year
HC	Health Center
HDA	Health Development Army
HEP	Health Extension Program
HEW	Health Extension Worker
HMIS	Health Management Information System
HP	Health Post
HSTP	Heath Sector Transformation Plan
ICCM	Integrated Community Case Management
IMNCI	Integrated Management of Newborn and Childhood Illnesses
KCP	Kebele Command Post
LB	Live Birth
LBW	Low Birth Weight
MCSP	Maternal and Child Survival Program
MCHD	Maternal and Child Health Directorate
MNCH	Maternal, Newborn, and Child Health
MNH	Maternal and Newborn Health
NEGA	Newborns in Ethiopia Gaining Attention
PDQ	Partnership Defined Quality
PHCU	Primary Health Care Unit
PRCMM	Performance Review and Clinical Mentoring Meeting
PRT	Performance Review Team
PSBI	Possible Serious Bacterial Infection
PTFU	Post-Training Follow-Up
QI	Quality Improvement
RDQA	Routine Data Quality Assessment
RSS	Routine Supportive Supervision

SBA	Skilled Birth Attendant
SBCC	Social and Behavior Change Communication
sKCP	Strengthened Kebele Command Post
SNL	Saving Newborn Lives
SYI	Sick Young Infant
TOT	Training of Trainers
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

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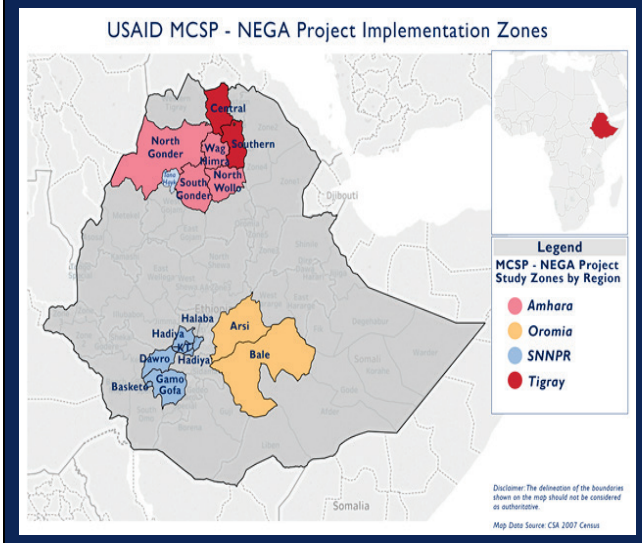


Sources: Central Statistical Agency (CSA) [Ethiopia] and ICF. 2016. Ethiopia Demographic and Health Survey 2016. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF.
Central Statistical Agency [Ethiopia]. 2014. Ethiopia Mini Demographic and Health Survey 2014. Addis Ababa, Ethiopia.

Selected National Health and Demographic Data	2014	2016
Antenatal Care (ANC) – at least 4 visits (%)	32	32
First ANC in the first trimester of pregnancy (%)	17	20
Blood pressure measured during ANC (%)	70	75
Urine sample taken during ANC (%)	50	66
Institutional delivery (health facility delivery by skilled attendant) (%)	15	28
Breastfeeding initiated within one hour of delivery (%)	51	73
Postnatal care for women within two days of delivery (%)	12	17
Postnatal care for newborn within two days of delivery (%)	12	13
Stayed for more than 24 hours at the facility after delivery (%)[1]	-	31
Informed about danger signs of newborns during postnatal care (%)[1]	-	34

Program Dates	October 2014 to February 2019			
Funding	**Total Mission Funding to Date**	**Total Core Funding to Date by Area**		
	$13,706,300	N/A		
Geographic Coverage	**No. (%) of regions**	**No. (%) of provinces**	**No. (%) of districts**	**No. of facilities**
	4 of 9 regions (44%)	12 of 48 zones (25%)	135[2] of 565 agrarian rural woredas (24%)	730 health centers 3,605 health posts
Country and HQ Contacts	Dr. Abeba Bekele (Chief of Party); Joseph Johnson (HQ Newborn Advisor); Ayne Worku (Program Officer); Yordanos Molla (HQ MMEL Advisor); Gail Snetro (HQ Community Advisor)			
Technical Interventions	PRIMARY: Newborn Health, Community Health, Health Systems Strengthening OTHER: Maternal Health, Child Health			

[1] The two indicators without data in 2014 were not collected. Data for these indicators was first collected for the 2016 DHS.
[2] The project began with 135 woredas. In April 2016, one of the woredas in Bale Zone was split into two, bringing the total number of woredas to 136.

Program Objectives and Major Accomplishments

Goal: To contribute to the reduction of neonatal morbidity and mortality in Ethiopia by supporting the Government of Ethiopia (GOE) to scale-up high-impact newborn interventions in communities and primary health care facilities. The Maternal and Child Survival Program Newborns in Ethiopia Gaining Attention (MCSP NEGA) project's strategic objective to scale up high-impact essential newborn care interventions in communities and primary health care facilities through demand creation, universal provision of quality high impact services, and strengthened support systems was designed to meet this goal by increasing use of key maternal and newborn health services and care practices.

Achievement of the strategic objective was ensured through three intermediate results (IR):

IR 1: Improved community maternal and newborn health practices and care-seeking behaviors

- Developed Demand Creation Strategy to address newborn health care seeking behaviors and practices.
- Trained 881 health workers drawn from zones, woredas and health centers as trainers and 7,099 Health Extension Workers (HEW) on Demand Creation integrated into the CBNC training. The training was also provided to 695 health centers' Performance Review Teams (PRT), which included over 6,700 health workers (95% of the targeted PRT). All trained health workers rolled out the demand creation strategy in 3441 project kebeles.
- Strengthened over 2,700 Kebele Command Posts (KCPs) to lead and support community actions on maternal, newborn, and child health (MNCH)-Community Based Newborn Care (CBNC) by implementing a community empowerment and demand creation strategy in over 70% of the target kebeles based on the Community Action Cycle (CAC) model. Further strengthened the organization of community meetings to enable stakeholders to identify problems, develop tailored action plans and implement actions to address newborn health
- Reinforced community awareness of and action in support of MNCH-CBNC by engaging over 500 faith-based leaders in the target woredas and communities.

IR 2: Increased provision of high-impact, quality newborn care services in the community

- Trained and provided ongoing mentoring support in CNBC to 2,447 health workers and 7,099 health extension workers, enabling them to provide high-impact newborn health services for over 1.2 million beneficiaries.
- Improved access to newborn health services in 98% of targeted rural health posts (3,533 health posts), including access to management of Possible Serious Bacterial Infection (PSBI) in sick young infants, a leading cause of newborn death in Ethiopia.
- Supported introduction of day-of-birth quality improvement interventions in 13 high-delivery caseload health centers, enabling them to improve the quality of care they provide and serve as "learning sites" for other health centers in project target areas to improve intrapartum and immediate postnatal care for mothers and newborns.

IR 3: Strengthened supportive systems for provision of newborn health care

- Supported the introduction and use of simple CBNC performance monitoring charts for all project health posts and health centers, enabling use of data for local decision-making.
- Collaborated with UNICEF and the FMOH to ensure essential CBNC supplies were available at service delivery points, minimizing interruption of high impact newborn care services due to stock-outs.

Acknowledgments

The Maternal and Child Survival Program (MCSP) would like to thank the United States Agency for International Development (USAID) and the American people for providing the technical and financial assistance needed to implement this project. MCSP NEGA is privileged to have worked closely with the Government of Ethiopia (GoE), particularly the Maternal and Child Health Directorate (MCHD) at the Federal Ministry of Health (FMoH) and regional health bureaus (RHBs) of Amhara, Oromia, Southern Nations Nationalities and Peoples (SNNP), and Tigray Regions, in efforts towards improving maternal, newborn and child health (MNCH) services for Ethiopian mothers and their families.

MCSP NEGA sincerely appreciates the collaboration and support of the UNICEF Ethiopia Country Office for availing the CBNC training materials and medical supplies needed to implement this project. MCSP NEGA also appreciates the USAID DELIVER Project for their support in integrating the Integrated Pharmaceutical Logistics (IPLS) training for health extension workers.

MCSP NEGA acknowledges the commitment of supported zonal health departments, woreda health offices, health facilities and their staff and appreciates their collaboration and ownership that resulted in the successful completion of this project.

Finally, MCSP NEGA extends a deep appreciation to the women and men in the community and to health workers at different levels of the health system who were gracious with their time, providing detailed information for number of research questions. Without their insights, the studies MCSP NEGA undertook to better understand and improve newborn health in Ethiopia would not have been possible.

Executive Summary

The Maternal and Child Survival Program (MCSP) is a global USAID cooperative agreement to introduce and support high-impact health interventions in 25 priority countries with the ultimate goal of preventing child and maternal deaths. MCSP engages governments, policymakers, private sector leaders, health care providers, civil society, faith-based organizations and communities in adopting and accelerating proven approaches to address the major causes of maternal, newborn and child mortality such as postpartum hemorrhage, birth asphyxia and diarrhea, respectively, and improve the quality of health services from household to hospital. The Program tackles these issues through approaches that also focus on health systems strengthening, household and community mobilization, gender integration and eHealth, among others.

Ethiopia has shown a remarkable reduction in under five mortality from 166 in 2000 to 67 in 2016 representing a 60% reduction. However, due to a slower pace of reduction in mortality during the neonatal period, neonatal mortality currently accounts for about 42% of the country's under-five mortality. Moreover, Ethiopia still has unacceptably high maternal mortality ratio (420 deaths /100,000 live births), low coverage of antenatal and postnatal care, as well as low coverage of institutional delivery – 32%, 13% and 28% respectively.

Understanding the GoE's continuing interests and needs and considering Save the Children's leadership in newborn health in Ethiopia, USAID requested MCSP NEGA to support the rollout of the national CBNC program in woredas where USAID was already supporting the health extension program (HEP). The three-year project aimed to increase availability and utilization of quality newborn health services in 135 woredas in Amhara, Oromia, SNNP and Tigray Regional States.

MCSP NEGA supported the GoE to implement high impact newborn health interventions included under the CBNC package in a total of 3,605 health posts and 730 health centers through building the capacity of health workers, health extension workers and managers to deliver the services at community and facility levels. Alongside introducing management of possible serious bacterial infection (PSBI) for sick young infants at the community level, MCSP NEGA strengthened maternal and newborn health services including early identification of pregnancy and early enrollment to antenatal care (ANC), focused ANC, promotion of facility delivery and early postnatal home visits by health extension workers.

In order to systematically address newborn health care seeking practices in large parts of the country, MCSP NEGA worked with stakeholders to design a strategy - implemented through the existing government structure at the community level, the Kebele Command Post (KCP) - to mobilize communities for MNCH-CBNC action. Understanding the critical influence of the religious belief system on MNH care seeking in Ethiopia, MCSP NEGA engaged over 500 faith-based leaders selected from the 135 project woredas to participate in strengthened KCPs and support MNCH-CBNC action in their localities. In collaboration with target woredas, MCSP NEGA identified and supported a total of 370 kebeles to serve as demand creation learning sites for other kebeles in the woredas to support subsequent expansion of the approach. Over 6,000 health workers based in health centers and woredas, representing over 70% of the project's target kebeles, were trained to support the community empowerment/demand creation strategy. This training included using techniques and approaches to strengthen communities' abilities to own, manage and sustain program strategies and activities, while also addressing a focused development goal.

To address gaps in the quality of MNH service delivery in health centers, MCSP NEGA focused on improving quality of care on the day of birth using the FMOH's "MNH quality improvement and self-assessment tool" in 13 high volume health centers. These facilities were intended to serve as learning sites for other health centers in the woredas/zones and started sharing their experiences with other health centers'

staff during the life of the project. The self-assessment tool was instrumental in simplifying indicators and actions that health workers could apply to their day-to-day work. Moreover, the intervention has raised awareness of quality issues in zones, woredas and health centers and empowered them to address issues using their own internal resources, without external support. For example, health centers have prioritized identified gaps when allocating health center budgets and health workers have taken on the additional responsibilities of reconfiguring space to improve patient flow and maintaining the cleanliness of the health center compound.

To address breaks in the supply chain and an inefficient health management information system, MCSP NEGA collaborated with partners to strengthen Integrated Pharmaceutical Logistics (IPLS) at the primary health care unit level by training health workers and health extension workers in forecasting and commodity security, and providing continuous mentoring support. MCSP NEGA also introduced data use tools, including a CBNC monitoring chart (Figure 9 further below) at health posts and health centers to facilitate local data use for decision-making. Through proactive engagement at national technical and policy fora, MCSP NEGA supported the development of the National ICCM-CBNC Quality Improvement and Transition Plan, designed to further institutionalize CBNC within the public health system. MCSP NEGA also conducted operations research to generate alternative solutions to identify and address gaps in both service delivery and demand for services, through learning activities as well as through improving coordination among partners to ensure continuous flow of essential supplies.

Over 1.2 million pregnant women and their babies were reached through MNH-CBNC messages, counseling, and direct service delivery. MCSP NEGA's concerted efforts with the GoE and partners has also contributed to improving coverage of key MNH services in targeted areas:

- Proportion of women who disclosed their pregnancy to non-family member in the first trimester remained similar at baseline and end line at **44%**.
- Proportion of women who started ANC in the first trimester of their pregnancy increased from **28%** at baseline to **30.7%** at end line (P<0.001)
- Proportion of women who received four or more ANC visits increased from **43%** at baseline to **46%** at end line (P=0.067)
- Proportion of women who delivered at a health facility increased from **50%** at baseline to **58%** at end line (P<.001)
- Proportion of women who stayed at the facility for less than 12 hours after delivery reduced from **60%** at baseline to **54%** at end line (p<.001), and those who stayed for more than 24 hours increased from **41%** to **47%** (p<0.001)
- Postnatal care home visit by HEWs for newborns increased from **7.8%** at baseline to **12.6%** at end line and for mothers from **6.8%** at baseline to **13.7%** at end line (p<.001).

Introduction

Ethiopia has achieved a remarkable reduction in under-five mortality over the past two decades from 166/1,000 Live Births (LB) in 2000 to 67/1,000 LBs in 2016 – representing a 60% reduction over a period of 16 years. Over the same period, a 50% reduction in infant mortality rate was reported, bringing the rate from 96/1,000 LBs in 2000 to 48/1000 LBs in 2016. Neonatal mortality accounts for 43% of the country's under-five mortality at 29/1,000 LBs[3] (Figure 1). Despite encouraging progress in reducing maternal mortality, Ethiopia still has a high maternal mortality ratio of 412 deaths per 100,000 live births[4]. Coverage of focused ANC visits is 32% and only 20% of women attend ANC in their first trimester. Institutional delivery rates are low at 28%, indicating that the majority of women and neonates are not benefiting from the assistance of skilled birth attendants (SBA), defined as professional health workers, including doctors, midwives or nurses, health officers and health extension workers[5]. To address these challenges, the Government of Ethiopia (GOE) has prioritized maternal, newborn and child health (MNCH) in its Health Sector Transformation Plan 2016-2020, a continuation of its predecessor, the Health Sector Development Plan. Significant investments have been directed at improving the quality and equitable delivery of health services in MNCH, primarily through strengthening the Health Extension Program (HEP)[6].

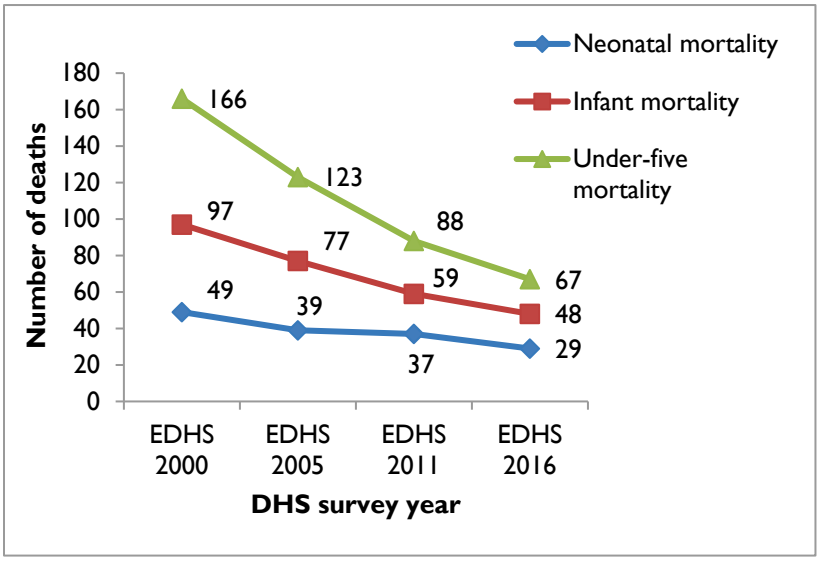


Figure 1: Decreasing Trend in Early Childhood Mortality Rates (deaths per 1,000 live births)

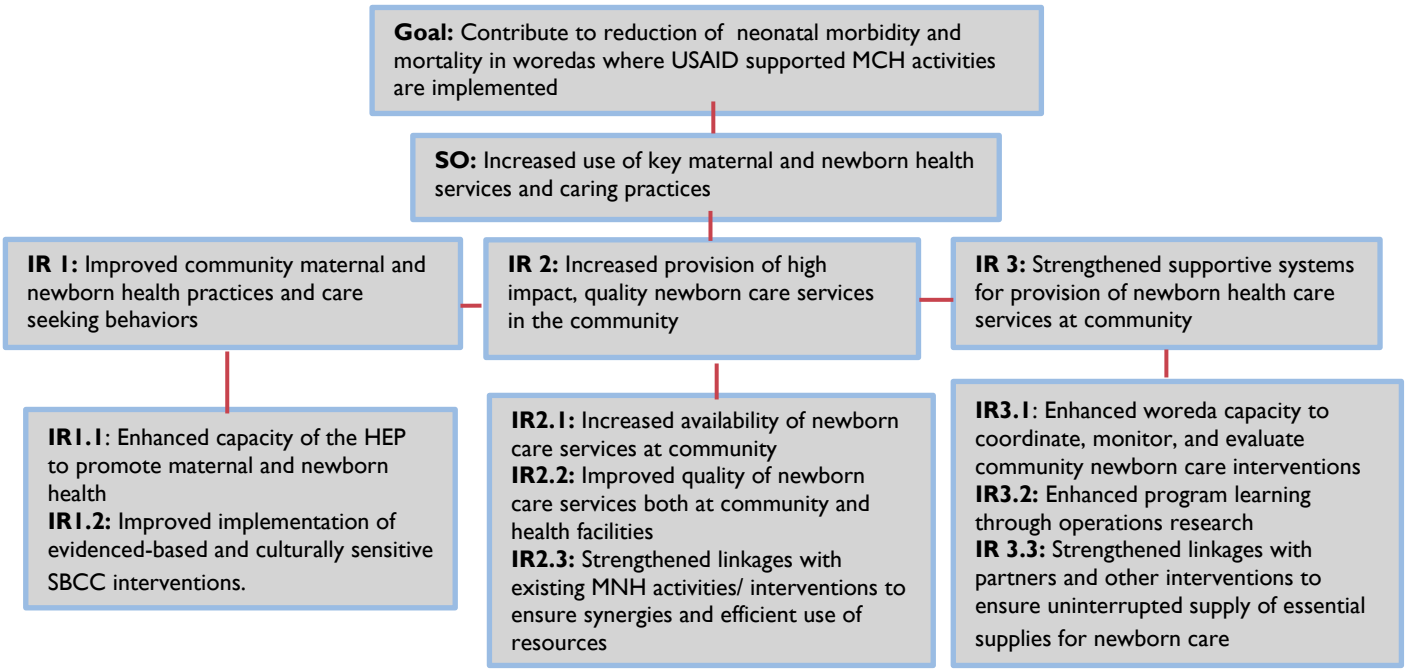
In March 2013, based on the lessons learned from the successful implementation of Save the Children's Community Based Intervention for Newborns in Ethiopia (COMBINE) research trial, the Ministry of Health launched the National CBNC Plan. At the request of USAID/Ethiopia, the Maternal and Child Survival Program (MCSP) initiated Newborns in Ethiopia Gaining Attention (NEGA)[7], building upon Save the Children's pioneering efforts, to bring much needed attention to newborn health by implementing CBNC in woredas where USAID was supporting the HEP through the bilaterally funded Integrated Family Health Program. In addition to supporting the implementation of the HEP, with the aim of strengthening integrated service delivery model to improve MNCH outcomes, IFHP was tasked to support the rollout of ICCM in the

[3]Central Statistical Agency (CSA) [Ethiopia] and ICF. 2016. *Ethiopia Demographic and Health Survey 2016*. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF.
[4] Ibid
[5] Ibid
[6] The HEP is an innovative community-based strategy to deliver preventative services and selected high-impact curative interventions at the community level to promote equity in access to health services. The backbone of the HEP is the HEW cadre that was introduced to provide preventative and promotive health services (with gradual introduction of basic curative services focused on selected high-impact interventions) closer to communities within the PHCU structure. HEWs are trained on a package of 16 health interventions, including family, maternal and child health; control of communicable disease; environmental sanitation and hygiene; and health education and communication. To date, there are over 44,000 government-salaried HEWs working in over 15,000 health posts (on average 2 HEWs per HP) throughout the country. They promote community participation in health through community organization and working closely with the Health Development Armies, community volunteers leading households organized into a one-to-five networks to improve health awareness, and community based organizations.
[7] MCSP has selected the term NEGA for the program identifier, which stands for "Newborns in Ethiopia Gaining Attention". *Nega* is also an Amharic word meaning "It turned into dawn". The program has been named as such to signify that newborn health, which some feel has been overlooked in the process of addressing overall child mortality in Ethiopia, is receiving increased attention.

target woredas, which served as the platform on which to base CBNC. Based on ICCM lessons, the CBNC program was designed to strengthen the linkage between health centers, health posts and communities.

The goal of MCSP NEGA was to contribute to reductions of neonatal morbidity and mortality in Ethiopia through capacity building at the community and the Primary Health Care Unit (PHCU) levels to provide high-impact services, focusing primarily on the woredas, or districts, where USAID-supported MNCH activities are implemented. The MCSP NEGA project achieved its goal through a strategic objective and three intermediate results (IR) s shown below.

Figure 2: Results Framework: Goal, Strategic Objective, and Results



Working in close collaboration with and providing support to the regional, zonal and woreda health bureaus, MCSP NEGA rolled out key elements of the CBNC package in 135 woredas across 12 zones located in Amhara, Oromia, SNNP and Tigray Regional States. The primary foci were newborn health, community empowerment and health system strengthening. MCSP NEGA also supported selected maternal and child health services in line with the 4C[8] CBNC framework that spans a continuum of care. Main strategies included:

- Building technical and managerial capacity of health workers to initiate and institutionalize CBNC in health centers and health posts.
- Implementing community empowerment approaches to improve community capacity on MNCH-CBNC and improve care-seeking practices.
- Collaboration with key partners at national level and on the ground to ensure complementarity, avoid duplication and maximize use of resources.
- Proactive engagement at national and sub-national child survival technical working group and sub-groups to share lessons, advocate for the adoption of new approaches to overcome barriers or close gaps, and coordinate with other partners to leverage resources.

[8] The 4Cs, the framework for COMBINE implementation, include Contact (contacting women early in their pregnancy and newborns early after delivery), Capture (capturing all sick newborns as early in the illness as possible), Care (caring for sick newborns as per the care/treatment protocol) and Completion (ensuring antibiotic treatment is completed).

- Use of operations research to answer key questions identified by the project and provide practical recommendations to facilitate MCSP NEGA to transition CBNC in the four regions to the government.
- Support to health centers to improve quality of day-of-birth care by introducing self-assessment tools and processes and by strengthening quality improvement teams and ongoing monitoring system.

Major Accomplishments

IR 1: Improved community maternal and newborn health practices and care-seeking behaviors

Early contact with mothers and newborns after birth is an important entry point to MNH services. The COMBINE study identified traditional beliefs and cultural practices around seclusion of mothers and newborns after birth that pose barriers to proper assessment of danger signs during home visits and lead to delays in seeking care. Qualitative studies conducted in East Shewa and Sidama zones by COMBINE identified cultural beliefs and practices that contribute to improper cord care, poor breastfeeding practices, and poor thermal care and hygiene[9,10]. A study done by MCSP NEGA in Amhara to understand barriers for early identification, notification, ANC and PNC also identified various barriers, including traditional beliefs and practices, lack of awareness on benefits of services, perceived poor quality of care in the facilities, as well as women feeling culturally inhibited to disclose and openly discuss their pregnancy with non-family members[11]. Moreover, the importance of focusing on strategies that improve health service utilization[12] was among the major lessons learned from the implementation of the national Integrated Community Case Management (ICCM) program, on which the CBNC intervention was built.

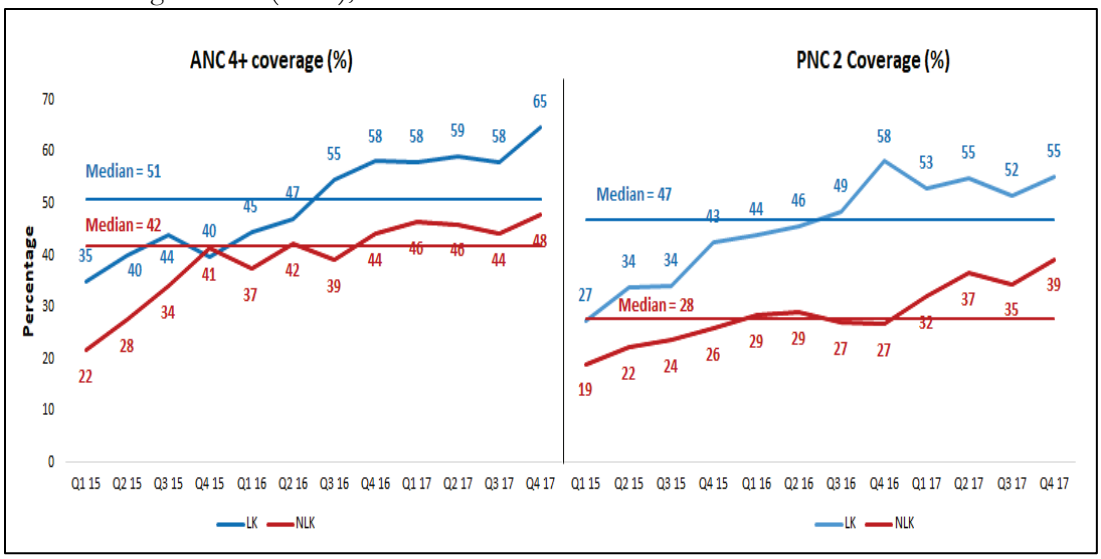
To address social and cultural barriers and improve health service utilization, MCSP NEGA designed and implemented a comprehensive social and behavior change communication (SBCC) strategy with community empowerment as its centerpiece. The community empowerment/demand creation strategy was informed by the Community Action Cycle (CAC) model[13], which was developed by Save the Children (through the SNL project) in partnership with the FMOH. The design process included desk review of local and global experiences on demand creation for MNCH-CBNC, consultative workshops, visits to learn from other partners engaged in MNCH community mobilization interventions in the country, and a demand creation design workshop for key FMOH and partner organizations. The strategy was in its final stages of development when the MCSP NEGA project was awarded. This provided an opportunity for MCSP NEGA to develop an implementation strategy using existing structures and mechanisms. MCSP NEGA developed a training module and systematically integrated the demand creation training into the CBNC training for health workers and HEWs to build zonal, woreda, and PHCU capacity on MNCH-CBNC demand creation. The Kebele Command Posts or KCPs (a multi-sectoral group) from the neighborhood in the communities and the Performance Review Teams (PRTs) in the health facilities were targeted. The KCPs were strengthened to lead and own the empowerment process through inclusion of influential individuals (such as faith-based leaders and respected elders), traditional birth attendants, and individuals affected

[9] Save the Children. COMBINE Trial. A Report on a Qualitative Assessment Conducted on Care Seeking for Sick Newborns in Sidama and East Shoa Communities, Ethiopia. August 2011 (Unpublished)
[10] Tedbabe Degefie, Yared Amare, Brian Mulligan. Local understandings of care during delivery and postnatal period to inform home based package of newborn care interventions in rural Ethiopia: a qualitative study. BMC Int Health Hum Rights 2014 19;14:17. Epub 2014 May 19
[11] Barriers and facilitators for early pregnancy identification, birth notification, antenatal and postnatal visits in Amhara regional state, Ethiopia. Save the Children. June 2017.
[12] Miller NP, Amouzou A, Bryce J, Victora C, Hazel E, Black. Assessment of iCCM implementation strength and quality of care in Oromia, Ethiopia. Baltimore, USA and Addis Ababa, Ethiopia: Institute for International Programs, Johns Hopkins Bloomberg School of Public Health; 2013.
[13] How to mobilize communities for maternal and newborn health. ACCESS, Jhpiego. April 2009. Based on the Community Action Cycle and theoretical concepts first described in 2003 in How to Mobilize Communities for Health and Social Change, L. Howard-Grabman and G. Snetro, Baltimore, MD: Health Communication Partnership/USAID.

by and interested to engage in MNCH-CBNC community action. The initial orientation to the Woreda Cabinets on the demand creation strategy, and how it could contribute to improved service utilization, was instrumental in facilitating ownership and ongoing support. Training materials were developed and integrated into the national CBNC training for Health Extension Workers (HEWs) and into the monthly health center supportive supervision visits for the PRTs as on-the-job training.
The project's initial plan was to strengthen the capacity of 70% of the KCPs in the project target woredas to start implementing their MNCH action plans by the end of the project. However, given the civil unrest and drought that occurred in PY2, MCSP NEGA adjusted the original plan. The drought affected a large part of the country, diverting the attention of health facilities and local administrative structures, including communities, to drought emergency response. Moreover, the civil unrest and ethnic conflicts in large parts of Oromia and Amhara regions in the second half of PY, significantly restricted movement of project staff and health workers. In response, MCSP NEGA simplified the demand creation strategy to be led by the HEWs jointly with the Kebele Administrators, rather than being led by the PRT members as per the original strategy. HEWs and Kebele Administrators were oriented on the simplified strategy, including how to facilitate the KCP meetings. MCSP NEGA also identified at least two "learning kebeles" from each of the project woredas where the demand creation strategy was implemented as per the original design. These kebeles were considered "Learning Kebele" (LK) sites. The rest of the kebeles – "Non-Learning Kebele" (NLK) sites – implemented the simplified strategy with minimal engagement of the PRTs, which was often limited to facilitating the first KCP meetings.

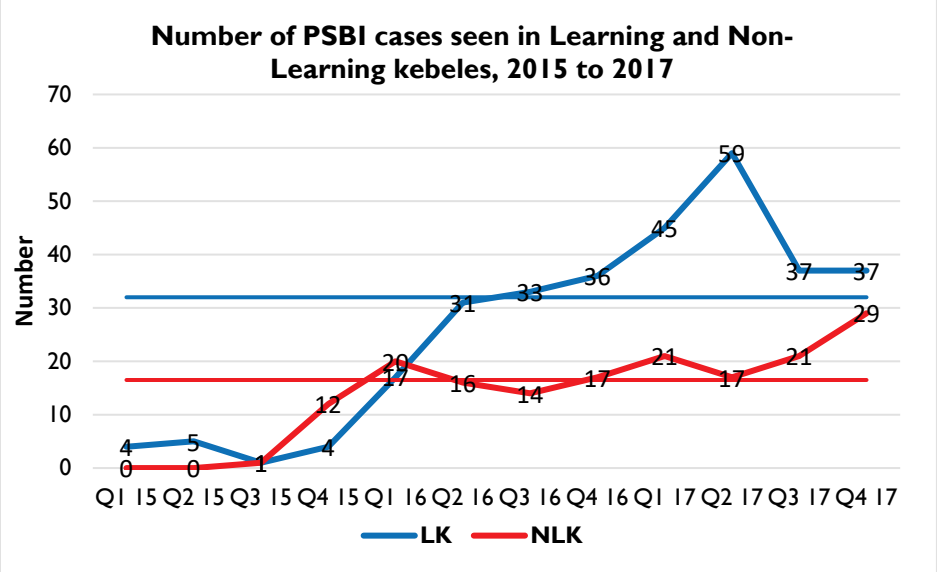
Despite the challenges faced in PY2, 2,461 KCPs (71% of the target), were strengthened to identify and act on MNCH issues. Figure 3 below shows the improvement of ANC4+ and PNC2 coverage indicators in "Learning" and "Non-Learning" kebeles where the community empowerment/demand creation strategy was implemented. In addition, HEWs in learning kebeles were able to identify and treat more cases of PSBI compared with those in non-learning kebeles (Figure 3). Figures 3 and 4 below show service utilization data collected from a sample of 31 learning and 37 non-learning kebeles to show the changes following project interventions. Data were analyzed for both learning and non-learning kebeles, organized by quarter and are presented in a time series chart (run chart) and interpreted based on probability-based rules (shift and trend) defined for this purpose[14]. The fulfilment of the rules (shift and trend) indicates that the changes were not random, but a result of MCSP NEGA's intervention.

Figure 3: Greater % Increase Observed in ANC 4+ and PNC 2 Coverage in Learning Kebele (LK) versus Non-Learning Kebeles (NLK), 2015 to 2017



[14] Shift is when six or more consecutive data points fall either all above or all below the median; and trend is when five or more data points are all going up or all going down.

Figure 4: Greater Number of PSBI Cases Treated by HEWs in Learning Kebeles (LK) than in Non-Learning Kebeles (NLK)



MCSP NEGA also conducted a formal study to assess caretakers' referral compliance when HEWs identified sick young infants with PSBI and referred them to higher-level care. Results reflect that caretakers bypassed health posts to go to higher-level facilities for neonatal illnesses. The project's baseline and end line surveys found the same: most caretakers of sick neonates sought care first from health centers and hospitals (63% baseline, 72% end line), followed by private health facilities (20% baseline, 12% end line), with only 11% at baseline and 8% at end line seeking care from health posts as recommended. The project's surveys also revealed that care seeking for neonatal illness decreased from 77% at baseline to 64% at end line. Although there were various factors at play, the project believed that widespread civil unrest and violence likely prevented many families from traveling to seek care during this period.

Engaging faith-based leaders

Religion is highly intertwined with Ethiopian tradition, norms and culture, and has a strong influence on the everyday lives, including in health care choices. Accordingly, MCSP NEGA systematically engaged faith-based leaders in target woredas and communities to help address some of the barriers to seeking services and improve MNCH-CBNC outcomes through two approaches:

1. Strengthening faith-based leaders' membership and function within Kebele Command Post (KCPs) through the CAC process; and
2. Capacity building of selected woreda-level faith-based leaders from each project woreda on key MNCH-CBNC actions to support other faith-based leaders engaged in the KCPs and cascade what they have learned to other woredas for a broader reach.

More than a year after the initial training workshop, MCSP NEGA, in collaboration with the respective zonal and woreda health offices, organized zonal-level experience sharing workshops for faith-based leaders. These workshops provided an opportunity for leaders to hear and learn from what their peers had achieved over the past year, address bottlenecks and challenges they may have faced, and discuss strategies for sustaining their work going forward. (See Appendix B for further details.)

Eighty percent of the faith-based leaders who participated in the trainings took part in the experience sharing meetings. In addition, over 90% of the faith-based leaders trained by the project educated their respective woredas and communities on positive MNCH behaviors and practices during faith gatherings and through home visitation of followers, particularly of pregnant women.

Figure 5: Faith-based leaders in Arsi at the end of a training workshop showing their commitment to integrate MNCH in their sermons and individual counseling by displaying the National Family Health Guide MCSP NEGA provided. (Photo credit: Bari Oljira/MCSP)

Zonal and woreda health office representatives in the workshops noted that the faith-based leaders' work and teachings in MNCH had gained significant acceptance from the community, their peers and health facilities and offices. They confirmed that the faith-based leaders consistently used the Family Health Guide they were provided during the training workshop. Over 80% of the faith-based leaders demonstrated a "very good"[15] level of knowledge of appropriate MNCH behaviors during an assessment session conducted using the MNCH knowledge assessment brochure developed by MCSP NEGA.

IR 2: Increased provision of high-impact, quality newborn care services in the community

Implementation of the national CBNC package

With the aim of bringing newborn health services closer to the community, MCSP NEGA developed and implemented a comprehensive capacity building strategy to enable the PHCUs to provide primary health care to sick young infants at the community level. Using the national CBNC training materials, MCSP NEGA developed a health worker trainer pool at the zonal and woreda level to support the training of health workers and HEWs in project target health centers and health posts, respectively. MCSP NEGA added a fifth day to the four-day national CBNC training to integrate topics related to demand creation and pharmaceutical supply management. MCSP NEGA trained a total of 2,447 health workers (84% of target)[16] and 7,099 HEWs (105% of target)[17] on CBNC. In collaboration with UNICEF and the Ministry of Health, kits containing a one-year stock of essential CBNC supplies were given to each health post so services could be initiated as soon as they returned to their kebeles (see Annex F: contents of CBNC kit).

Per the national protocol, a joint post training follow up (PTFU) visit by the MCSP NEGA project team and woreda and/or supervising health center staff was completed at each of the target health center and health

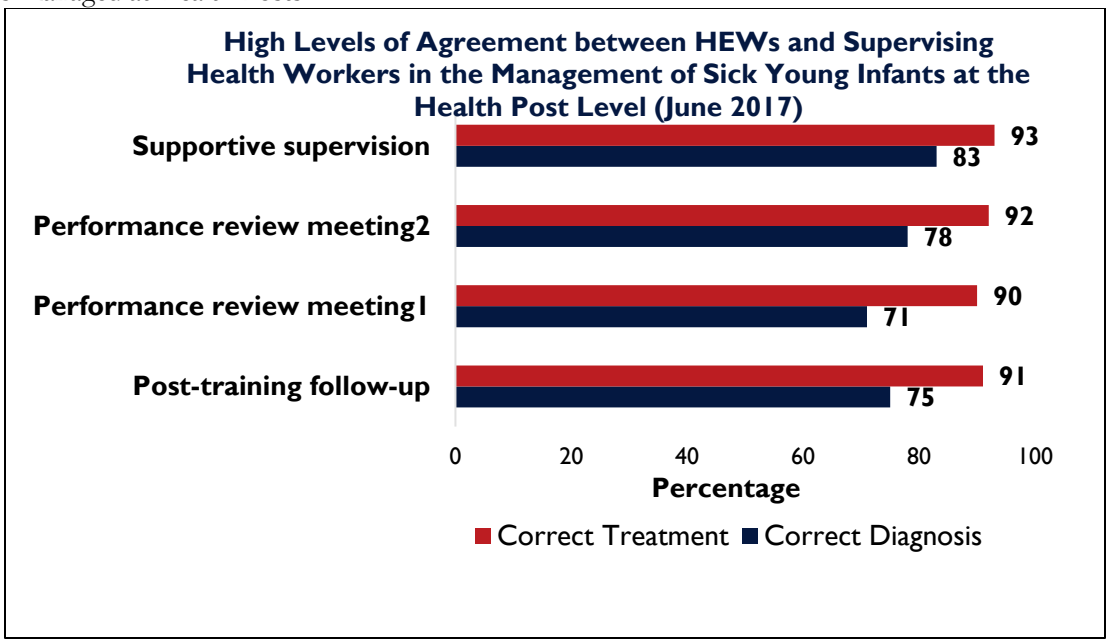
[15] Correct response to 80% or more of the questions in the MNCH knowledge assessment brochure is considered 'very good'; 60-80% considered 'good' and below 60% 'poor'.
[16] The underachievement is a result of limited number of IMNCI trained health workers in the HCs (IMNCI training is a prerequisite for CBNC training). While IMNCI training was not a primary responsibility of MCSP NEGA (based on the assumption that the bilateral IFHP has already trained health workers on IMNCI), due to very high attrition of trained health workers, MCSP NEGA collaborated with partners to train a total of 694 health workers in IMNCI in HCs with serious shortage to ensure availability of trained health workers in all the project HCs.
[17] Overachievement due to training additional HEWs that were in school during the project period at the end of their generic training.

post within an average of eight weeks after the training. The PTFU was based on a nationally developed standard checklist to assess initiation of CBNC services, including identification and management of possible serious bacterial infection (PSBI) in sick young infants, the quality of the case management, and HEWs' CBNC knowledge and skills (see Annex G & H: Form C and Form G respectively). PTFU visits were used to provide tailored, instant feedback and refresher training to health workers and HEWs based on the gaps identified and to develop an action plan with the woreda health offices on subsequent support needs.

MCSP NEGA also conducted two rounds of performance review and clinical mentoring meetings (PRCMM) for each project woreda, at six to eight months after the initial training and again six months after the first meeting. This second PRCMM served as another tailored mentoring and refresher-training opportunity to address the major gaps identified from peer review of the health posts' sick young infant registration books. In addition to the classroom-based discussions, the first PRCMM provided HEWs opportunities for practical skills mentoring sessions through attachment to a nearby health center. Moreover, MCSP NEGA conducted routine supportive supervision (RSS) to health posts classified as "needy" based on a set of criteria developed by MCSP NEGA to ensure that critical knowledge and skills gaps were addressed (see Annex I: classification criteria).

Figure 6 summarizes HEWs skills improvement in diagnosis and management of sick young infants with PSBI over time. This was measured at four key points: post training follow up (six to eight weeks after CBNC training), performance review meeting 1 (six months after the CBNC training), performance review meeting 2 (six months after the first performance review meeting), and supportive supervision (three months after the second performance review meeting). Although improvements were observed over time, slightly surpassing the nationally expected 80% cut-off point, HEWs continued to have challenges in correctly diagnosing a sick young infant as having PSBI. As the number of sick neonates seeking care at the health posts is limited, HEWs have few opportunities to practice these skills. However, when they did diagnose PSBI, HEWs treated the infant correctly, maintaining a very high concordance (>90%) with experts.

Figure 6: HEWs and Supervising Health Workers Diagnosis and Treatment Concordance for Sick Young Infants Managed at Health Posts



By the end of the project, all health centers and functional health posts in the project woredas initiated CBNC service, including management of PSBI at the community level. However, while use of chlorhexidine for cord care was one of the elements of the CBNC training package, the intervention was not implemented in MCSP NEGA target woredas as the FMOH was not able to provide the product during the project period.

Health Center Quality Improvement

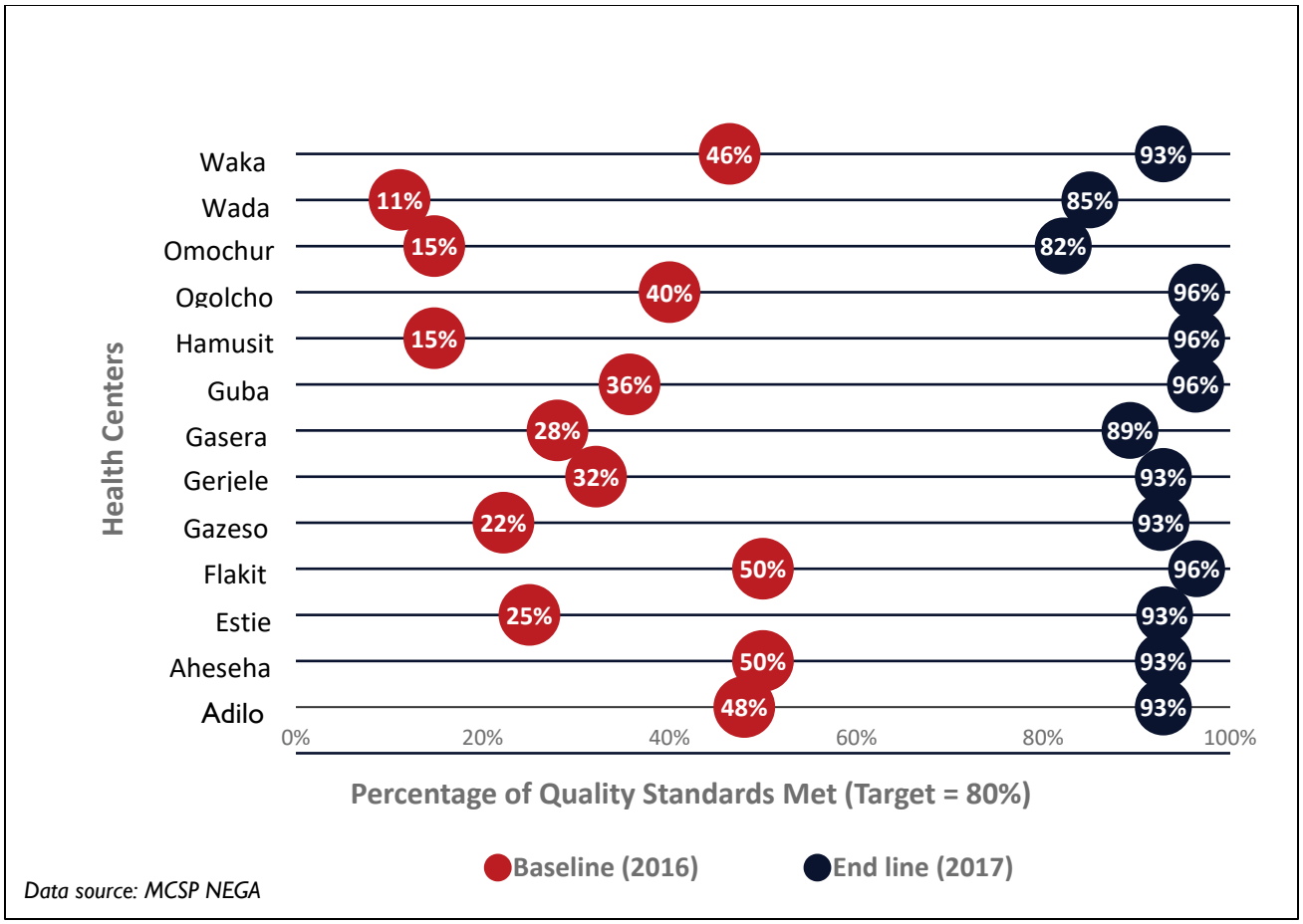
A key constraint MCSP NEGA through USAID funding as well as Save the Children with UNICEF's support identified while implementing CBNC across the 245 woredas was the limited focus of the national CBNC program at the health center level, which seriously undermined the PHCU linkage and capacity to meaningfully address all major causes of neonatal morbidity and mortality. Additionally, CBNC implementation was – by design - generally skewed to supporting and monitoring management of PSBI, and mainly targeted health workers engaged in under-five clinics. This led to missed opportunities to systematically address the other major causes of newborn mortality: asphyxia and prematurity/Low Birth Weight (LBW). Greater health center focus would have been particularly important given the increasing trend of institutional delivery, in the face of variable facility readiness to provide essential labor and postnatal care for women and babies. In addition, the majority of the relatively new HCs have very limited capacity in number, mix and skills of health professionals, managerial capacity and essential supplies.

To address these gaps in the target areas, MCSP NEGA designed a strategy to strengthen the capacity of health centers to provide appropriate essential newborn care services, including management of birth asphyxia, and care for small babies, in addition to the management of neonatal PSBI. In keeping with the national BEmONC guidelines, MCSP NEGA supported selected maternal health interventions focusing on use of partograph, administration of uterotonics immediately after delivery, and postnatal care, including counseling. Additionally, infection prevention and control, which benefits both the mother and the baby, was a critical part of the intervention.

MCSP NEGA adapted the draft national "Maternal and Newborn Care Quality Improvement and Assessment Tool for Health Centers," (see Annex J: abridged QI tool) which was developed by the Ministry of Health to focus on day-of-birth care for the mother and baby. Jointly with the project zonal health offices, the project enrolled thirteen high delivery caseload health centers for a quality improvement intervention to serve as learning health centers for others health centers in the woredas. MCSP NEGA revitalized and strengthened the Quality Improvement Teams (QITs), a subset of the PRTs, and oriented them on the tools to carry forward the activity. With minimal technical support from MCSP NEGA, QITs were able to conduct the self-assessment, identify and prioritize the gaps, develop and implement action plans, and monitor completeness of assigned tasks. Over the course of four iterative QI cycles, all health centers exceeded the expected minimum 80% national standard[18] (Figure 7).

Figure 7: Health Center Quality Standards Met or Exceeded for all Selected Health Centers at End line (August 2017)

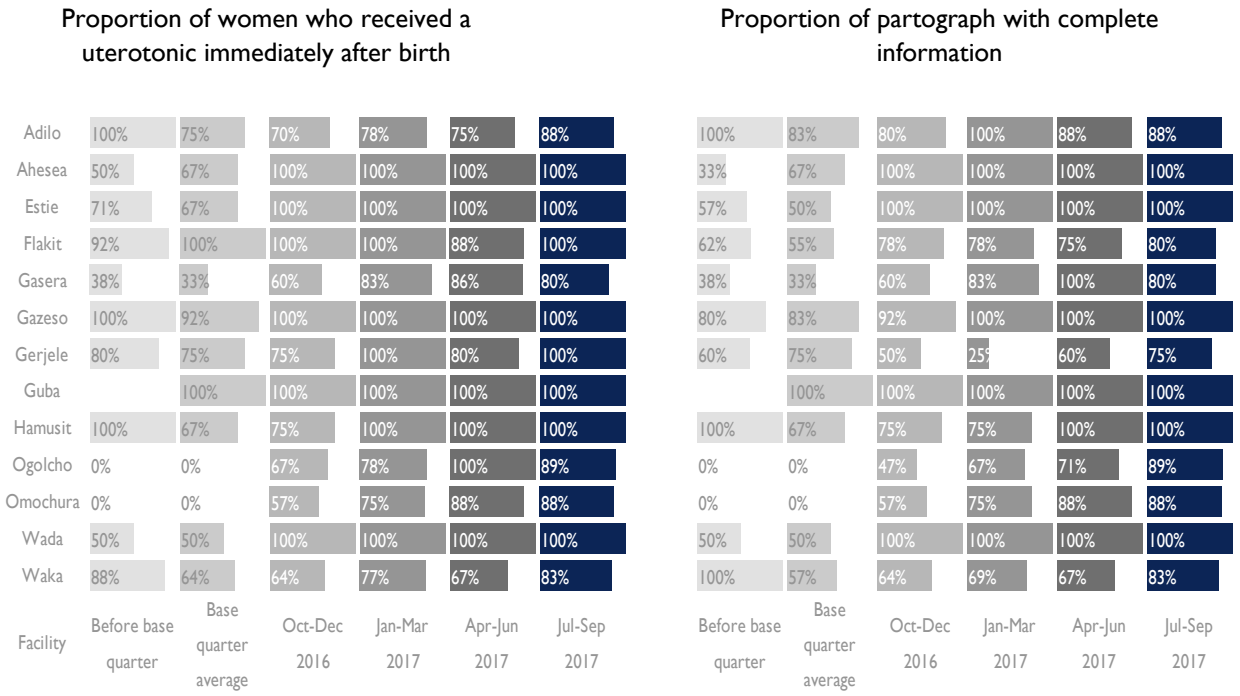
[18] MCSP NEGA used an abridged version of the national Maternal and Newborn Care Quality Improvement and Assessment Tool for Health Centers. The abridged tool has 28 standards and 206 verification criteria. A health center has to achieve a minimum of 80% of the standards to qualify as having good quality care.



Application of the quality assessment tools led to improvement in the care provided. MCSP NEGA found an increasing trend in the provision of uterotonics to women immediately after birth and in partograph use with complete information (Figure 8). For instance, at baseline, only 62% (8/13) of the health centers provided uterotonics to 70% of women after birth, while at end line 100% of the health centers were providing a uterotonic to at least 80% of the women immediately after birth.

Similarly, as reflected in Figure 8, only one HC had partographs filled with complete information at the baseline and two HCs were not using partograph to monitor labor at all, thus the missing baseline data. At the end line, however, six HCs (46%) had partographs for all women with complete information. Ninety-two percent of all HCs (12/13) had at least 80% of partographs with complete information at the end line compared with only three (23%) at baseline.

Figure 8: Increases from Baseline to End line (Jul-Sep 2017) in Proportion of Women Receiving Uterotonic Immediately Following Birth and of Completed Partographs (August 2017)



Source: MCSP NEGA project reports, via data collected from 13 health centers

In addition to the maternal health indicators mentioned above, MCSP NEGA tried to look at select newborn health indicators to gauge if quality improvement efforts resulted in improved newborn care practice. However, the health center delivery registration books were found largely incomplete for newborn related information. As a result, meaningful analysis could only be done for the maternal care indicators, which data were extracted from the completed partographs rather than directly from the registration books.

IR 3: Strengthened supportive systems for provision of newborn health care

Strengthened supportive systems, particularly at woreda and health center levels, are prerequisites to ensure access to good quality MNH care. Limited capacity of the woreda health management team, breaks in the supply chain and inefficient HMIS were some of the bottlenecks identified in the national rollout of other MNCH initiatives. Through engaging in national and sub-national fora, MCSP NEGA supported the strengthening of support systems (including planning, supervision and reviews; use of data for decision making; IPLS; HMIS) for provision of quality newborn health care services. The program also generated alternative solutions to identify and address gaps in both service delivery and demand for services by conducting learning activities as well as by improving coordination among partners to ensure continuous flow of essential supplies.

Supporting local use of data for decision-making

The national HMIS did not include indicators that measure coverage of key newborn services included in the CBNC package. For example, the indicator "proportion of neonates treated for sepsis", one of the two newborn health indicators in the HMIS, covered only health centers. Moreover, it lacked clarity on what to use for denominator. As a result, partners implementing CBNC, including MCSP NEGA, were responsible for collecting their own data. The FMOH is working to incorporate selected indicators in the HMIS to resolve this problem, and MCSP NEGA actively contributed in terms of prioritizing key indicators for HMIS inclusion. In 2017, newborn health partners, including MCSP NEGA, were successful in influencing the inclusion and/or modification of key newborn health indicators focused on PSBI, asphyxia and small babies. The FMOH collaborated with the Data Use Partnership Project to revise the data collection tools to accommodate these changes.

In addition, to demonstrate the benefits of using data generated at the local level for program improvement, jointly with the Saving Newborns Lives Project, MCSP NEGA developed a CBNC monitoring chart for key CBNC indicators aligned with the 4C framework for use at HP and HC levels. For each indicator, health care providers record the number of mothers who have accessed the service for the month against the expected number. By plotting the percentage on the chart, providers can easily visualize how they are doing against the expected target and devise strategies to address low achievement of targets. The PHCU framework was designed to strengthen the linkage between HP and HC, with HCs providing day-to-day support and oversight to HPs. The use of monitoring charts at the HPs and HCs has contributed to the acknowledgement of the continuing challenges of early postnatal home visits by HEWs (considered the main entry point to identify sick young infants with PSBI).

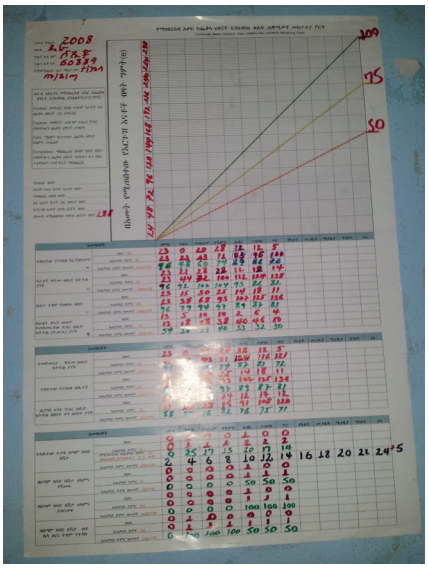


Figure 9: CBNC monitoring chart in use

While the chart was for local program monitoring and decision-making, it also helped identify key denominator related challenges. One denominator issue was overestimation of PSBI cases (hence inflated denominator) through the use of the African estimate that 7.6% of all livebirths will have sepsis.[19] Based on experts' opinion, this estimate is considered high for Ethiopia owing to the strong disease prevention and health promotion work done through the HEP over the past several years. The other challenge was the discrepancy between denominators derived from the Family Folders (HEWs count) and from census (provided by the woreda), with the latter usually being higher. Although these denominator challenges have been brought to the national technical working group for discussions and possible action, nothing much has been done so far.

Supportive supervision technical manual

Although supervisory skills were included in the IMNCI training for health workers, MCSP NEGA integrated a supervision refresher session into the CBNC training. In addition, MCSP NEGA field staff collaborated with woreda and health center staff while conducting routine supportive supervision, using these opportunities to mentor health workers on how to conduct technical supervision visits. However, the high turnover of IMNCI trained staff at health centers and poor motivation of others resulted in irregular and poor quality supervision. To address these challenges, MCSP NEGA's technical team worked closely with the FMOH child health team to develop a Supportive Supervision Technical Manual for HCs to use while supervising HPs. MCSP NEGA supported the printing and distribution to MCSP NEGA project sites with FMOH and other partners to distribute it to other parts of the country. The manual is self-explanatory and

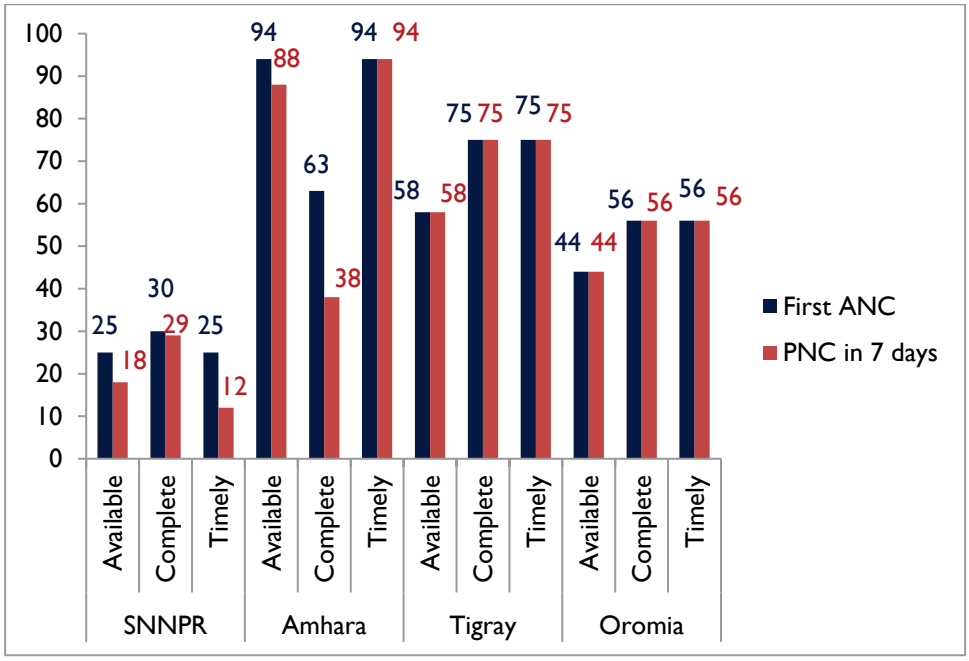
[19] Anna C Seale et al, "Estimates of possible severe bacterial infection in neonates in sub-Saharan Africa, south Asia, and Latin America for 2012: a systematic review and meta-analysis. Anna C Seale et al for the pSBI Investigator Group.," *Lancet Infect Dis,* vol. 741, p. 731, 2014.

can be used by health workers with minimal orientation, integrating into routine review meetings or supervision visits as necessary.

Routine data quality assessment (RDQA)

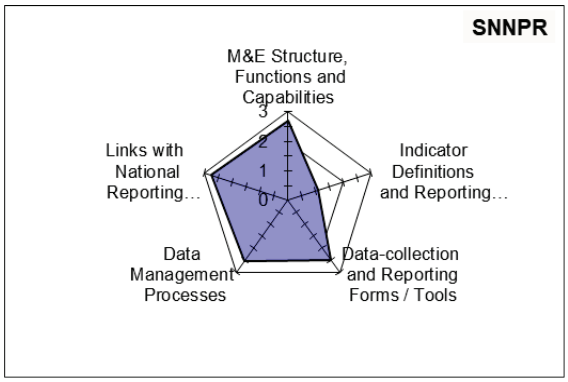
MCSP NEGA supported RDQA in selected woredas and health facilities in the four regions to improve data quality at the PHCU level and integration of routine data monitoring in the government integrated supportive supervision system. Ten woredas were jointly selected covering 10 HCs and 49 HPs. Teams composed of MCSP NEGA staff and regional, zonal and woreda health bureau representatives were deployed to each PHCU to review availability of source documents, assess the completeness and timeliness of reports, and compare data in source documents with reports. Findings revealed considerable regional variations in terms of availability of source documents as well as completeness and timeliness of the information for ANC and PNC indicators (Figure 10).

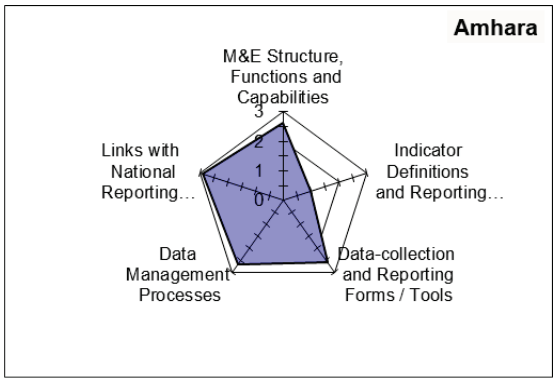
Figure 10: Findings of RDQA Reveal Variability across Regions for first ANC and PNC in 7 days (October 2016 - February 2017)

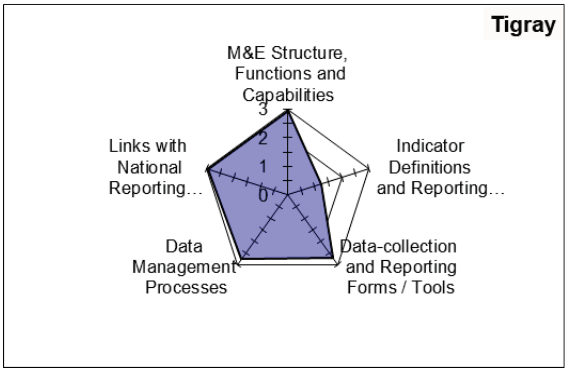


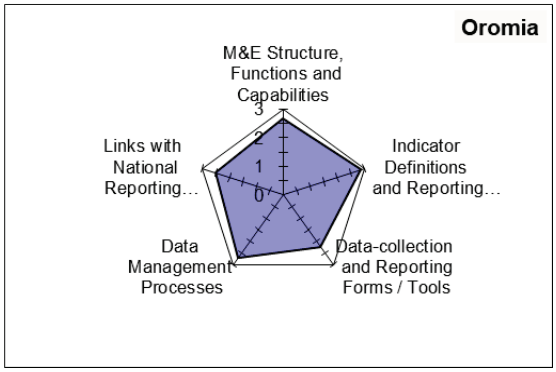
Data verification based on the recount of data reported to the higher level at the source facility revealed a general tendency of over reporting across all the indicators and regions, with the exception of Amhara, which showed considerable underreporting as well. Regarding the data management and reporting system, major gaps were found across all the regions in the areas of indicator definition and reporting guidelines (Figure 11). The lack of common understanding in indicator definitions severely affects the quality of data and is an aspect that needs to be addressed at a national level. This was important to improve data quality at the PHCU level and integrated routine data monitoring in the government system.

Figure 11: Findings of the RDQA System Assessment Reveal Gaps in Shared Understanding of Indicator Definitions and Reporting Guidelines, and Availability of Data Collection and Reporting Tools (October 2016-February 2017)









Institutionalizing CBNC within the public health system

MCSP NEGA developed an exit strategy that provided critical input to the national discussion among key CBNC partners on transition planning. The criteria developed by the project stratified woredas by performance level into "good", "medium" and "poor" to inform government priorities on where investments are most needed. The strategy was adapted by the FMOH for use in the National iCCM-CBNC Quality Improvement and Transition Plan (QITP). MCSP NEGA played a proactive role in the development of the QITP through participation in technical working groups and consultations, and by working on specific sections of the document. Through this engagement, MCSP NEGA successfully advocated for the integration of key strategies in the QITP, including strengthening and working with KCPs to empower communities for MNCH, strengthening the PHCU linkage through empowering the HC PRTs, and improving ownership through integrating iCCM-CBNC in review meetings. The QITP indicates the need for tailored sub-national support to ensure project gains are sustained and strategies are further institutionalized in the public health system.

Furthermore, MCSP NEGA closely worked with key newborn health implementing partners supporting the revision of the iCCM-CBNC Implementation Plan and HEP revitalization exercise to incorporate key implementation lessons and revise HMIS to include key newborn indicators. MCSP NEGA also conducted various meetings and consultations with the new USAID RMNCH bilateral, Transform Primary Health Care, to share key strategies, implementation lessons, tools and guidelines for continued use.

Program learning

In line with the national interest in generating new evidence to contribute to the successful implementation of high impact interventions, MCSP NEGA designed and conducted studies in three program learning topics – barriers to MNH care-seeking, PSBI referral compliance and care for low birth weight infants. Findings and recommendations from all the three studies were shared with the FMoH and relevant stakeholders (Annexes K, L, and M.: study briefs). The recommendations from the barriers and facilitators study will reinforce the demand creation activities included in the quality improvement and transition plan and contribute to enhanced community empowerment strategies that are designed to improve community care seeking behaviors and practices. Additionally, the recommendations from the referral and low birth weight studies will contribute to a critical look at referral systems for sick young infants with PSBI as well as for small babies. Findings can be used to develop strategies that minimize non-compliance and improve linkages across the continuum of facility based care to improve care for small babies.

Barriers and facilitators to early pregnancy identification, birth notification and antenatal and postnatal visits in Amhara Regional State

MCSP NEGA conducted a qualitative study in Amhara Regional State to understand the barriers to MNH care seeking and inform SBCC interventions. Results revealed a wide array of population characteristics, behavior, health outcomes and environmental factors that affect attitudes, beliefs, and behaviors about pregnancy, childbirth, newborn care, and postpartum care for mothers. Key findings are summarized below.

Pregnancy notification: Many women feel culturally inhibited from revealing a pregnancy early, an important first step to accessing ANC services, especially if the pregnancy occurs outside marriage or happens "too soon" after an earlier pregnancy. Some women believe that early notification is a bad omen or might result in miscarriage or late delivery of the baby.

Antenatal care: Distance and the topography between the home and the health facility, absence of female maternity staff or the unfriendly behavior of some health workers, low levels of awareness of the benefits of ANC, competing traditional practices such as visiting traditional witchcraft practitioners, TBAs and holy water sites and past experiences of safe deliveries without ANC were the major barriers women cited. The enhancing factors include participation in pregnant women conferences, men having a good understanding of the benefits of ANC, availability of support at home during ANC follow up visits and supplementary food provided by health facilities.

Childbirth: Barriers to facility delivery include preference for their mothers or close friends to perform their delivery, trust in traditional practitioners or distrust of health facilities (fear that facilities are not clean and have incompetent staff), lack of female midwives at facilities, past experience of safe delivery at home, distance and lack of transportation. Among the main enhancers mentioned were better knowledge of benefits of facility delivery (control of bleeding, pain management, and prevention of mother-to-child HIV transmission), free service and free supplementary foods.

Early postnatal care: The major barriers for early postnatal care include the long-standing tradition of a longer postpartum stay (weeks or even months) in the house or confinement for women and infants for fear of Satan, the "evil eye" or other supernatural dangers; the belief that women are vulnerable because their vaginas are "open" after the delivery; and fear that the baby's exposure to bright light could cause the baby to develop a squint.

Do caretakers of newborns with PSBI referred from HCs to HPs comply with the referral?

As per the national CBNC protocol, referral to a HC is the first option for all sick young infants classified as having PSBI at the HPs. However, there was a lack of information on whether referral is offered by HEWs and if caretakers comply with the referral. To understand this, MCSP NEGA conducted a cross sectional

quantitative study supported by interviews with health workers and discussions with community members. The results revealed a very low rate of compliance to referral (38%) as reported by the caretakers. However, this could not be confirmed through HC outpatient registers as none of those who reported to have gone to the facilities could be matched. The high turnover of IMNCI trained health workers and the tendency to use individual patient cards (as opposed to the Integrated Under-5 OPD Registers) in the management of sick young infants were mentioned as major reasons. Adherence to the national protocol in terms of offering referral as a first option was variable in the different woredas assessed. HEWs were found to adhere better to the treatment protocol compared with health workers based in the HCs.

The study also looked into barriers and facilitators to referral adherence by caretakers. Major facilitators were informed severity of illness; good awareness on benefits of health care seeking; having relatives of acquaintances in the referral town; having support from family/neighbors to take care of the chores and other children at home; good counseling; facilitation of transport for referral; and provision of referral slip. On the other hand, key barriers included distance of HC; cost of care (direct and indirect); poor decision making power of women; perception that there is no different between HP and HC treatment; perception that small neonates are 'unfit' for care at higher facility; and perceived symptomatic improvement after pre-referral treatment.

How do communities and HEWs provide care for LBW/preterm babies in the communities?

While identification and provision of extra care to LBW babies is part of the CBNC training package, based on routine supervision reports, MCSP NEGA found that very few LBW babies were identified and cared for at HCs. An exploratory study was conducted to better understand the identification and care for LBW babies in MCSP NEGA's operating areas. LBW babies were identified from hospital registers in Arsi and North Wollo zones and were tracked at home for caretaker interview. In addition, MCSP NEGA assessed through observation HEWs skills in assessing and managing LBW babies. The study found that HEWs have the theoretical knowledge on how to identify a LBW/premature baby, however they do not have much practical experience: less than half of the interviewed HEWs had identified a LBW/premature baby over the course of their career. The low early PNC coverage and the poor hospital-HC-HP linkage were mentioned as the main reasons for these findings. In terms of care for LBW/premature babies, the majority of the HEWs mentioned exclusive breastfeeding and keeping the baby warm, but less than one in five mentioned all the elements of KMC. Mothers appear to have a strong understanding on the importance of exclusive breastfeeding, keeping the baby warm and clean. Various traditional care practices related to feeding and keeping the baby warm were also mentioned by caretakers. As for major barriers to care, HEWs mentioned workload and difficulty to talk about LBW babies during ANC counseling or pregnant women conferences, as it is considered a bad omen by pregnant women.

Improvement in key MNH service uptake

MCSP NEGA conducted an end line survey in June 2017 (two years after the baseline survey) to measure changes in knowledge, practice and coverage of key MNH indicators. In general, findings indicated significant improvement in uptake of key MNH services in the target project communities. Below are highlights of the key findings.

Pregnancy notification and ANC

Early disclosure of pregnancy is an important step to starting ANC early and has been among the key messages MCSP NEGA promoted using the various SBCC strategies. The proportion of women who disclosed their pregnancy in the first trimester remained the same at both baseline and end line at 44%. The proportion of women who started ANC in the first trimester of their pregnancy increased from 28% at baseline to 30.7% at end line ($P<0.001$) and proportion of women who received four or more ANC increased from 43% at baseline to 46% at end line ($P=0.067$).

Delivery

Proportion of women who delivered at a health facility increased from 50% at baseline to 58% at end line (P<.001). The duration of stay at the facility after delivery also increased: the proportion of women who stayed at the facility for less than 12 hours reduced from 60% at baseline to 54% at end line, and those who stayed for more than 24 hours increased from 41% to 47% (p<.001).

Early PNC home visits for mother and baby

Early postnatal home visits (within 48 hours of birth) at the home by HEWs is the key entry point for identifying sick young infants with PSBI or local bacterial infections and for initiating management. The CBNC program as a whole, including MCSP NEGA, promoted early PNC home visits by HEWs. However, the CBNC program has faced various challenges particularly related to poor PNC at health facilities, poor birth notification system, and HEWs' inability to visit all deliveries within 48 hours. While early PNC home visit remained low, there was significant improvement in the coverage (6.8% at baseline versus 13.7% at end line for the mother; 7.8% at baseline and 12.6% at end line for the baby) (p<0.001); PNC home visit for mother or baby improved from 8% at baseline to 15.6% at the end line (p<0.001). Moreover, for those who were visited, the quality of the visit improved for both the mother and baby, based on significant improvement observed in general physical examination of the mother and baby, checking for heavy bleeding, weighing the baby, checking cord, and breastfeeding counseling.

Informing future implementation of Community-Based Newborn Care

In December 2017, MCSP NEGA conducted a national dissemination event with over 60 participants from key MNCH implementing partners; USAID and other donors; selected woreda, health center and community representatives; and the Ministry of Health. The main objectives were to share key achievements, research findings, and lessons learned to inform improved decision-making on CBNC implementation and institutionalization going forward. MCSP NEGA staff and beneficiaries presented lessons learned from implementing quality improvement activities as well as successful experiences implementing the demand creation/community empowerment strategy. The program staff wrapped up the dissemination event by sharing the program's views on the unfinished agenda when it comes to newborn health in the Ethiopian health care system. Furthermore, MCSP NEGA key technical staff also organized meetings with the Transform PHC and Transform: Health in Developing Regions counterparts to present and share strategies, experiences, lessons and outstanding challenges that came out of the MCSP NEGA program. All relevant strategy documents, training materials, tools, and reports were also shared so these projects can further build on the work done thus far.

Developing a Long-term Vision for Newborn & Child Health in Ethiopia

In light of this 'unfinished agenda', and following the phase out of MCSP NEGA field activities and handing over of the implementation to the sub-national government, MCSP NEGA and Save the Children's Saving Newborn Lives program successfully advocated for developing a long-term newborn visioning document informed by the experiences and lessons of implementing CBNC at scale. The visioning document was to be based on a critical review and synthesis of key CBNC lessons learned and framed around forward looking, long-term aspirations to help spur the development of capable and integrated newborn and child health systems. The initiative was readily accepted by the Maternal and Child Health Directorate (MCHD) Director as timely and useful for the country, especially as it could help FMOH explore comprehensive strategies that factor in dynamic global and country level environment as well as the evolving nature of health in Ethiopia and its various determinants. Although MCSP NEGA's proposal focused on developing a 10-year newborn health vision based on lessons from CBNC implementation, the FMOH decided to expand the scope to newborn and child[20] health and extend the vision 15 years so that it is aligned with the Sustainable

[20] Child defined as the age group 0-18 years.

Development Goals period and can potentially serve until 2035. In addition to looking at child survival, the FMOH also decided to align the scope with the global agenda of '*survive*, *thrive,* and *transform*'.

Upon USAID's approval of the visioning activity, the MCHD Director of the FMOH identified experts from partner organization (implementing partners, donors, academics, professional associations and others) and key departments members within the FMOH to serve on a Technical Working Group (TWG) to develop the long term child health visioning document (hereafter called roadmap). The FMOH identified and engaged a consultant to facilitate the working group, coordinate inputs, streamline the overall process and shape the roadmap based on an agreed upon framework. The TWG, in its first meeting, formed a consensus on the conceptual framework for the roadmap; working modality, including formation of sub-groups along the 'survive', 'thrive', and 'transform' domains; and a timeline with key milestones. The TWG outlined a scope of work that entailed priority activities such as a desk review of key documents to synthesize the past and current trends in child health and wellbeing along the three domains and a benchmarking visit to middle-income countries to help understand what the future may look like. The FMOH also identified and invited global child health experts to serve as 'Advisors' to contribute to the initiative through reviewing versions of the draft documents as well as participating in consultative meetings (face to face or remote) whenever possible. As per the guidance from the FMOH, the visioning exercise was to be completed within six to eight months' to potentially inform the thinking process for possible course adjustment that may be needed following the Health Sector Transformation Plan (HSTP) mid-term review. In order to ensure the task was completed within the timeline, the FMOH mobilized resources and hired additional consultants to support each of the TWG sub-groups.

In April of 2018, the FMOH underwent significant leadership changes. Despite these transitions, the visioning technical working groups continued their document review and synthesis. Following the appointment of the new MNCH Director in mid-June, the director assured MCSP that the visioning activity remained a priority for the FMOH, as indicated by the inclusion of this activity in the Child Health Team's annual plan for Ethiopian Fiscal Year (EFY) 2011 (2019 in Gregorian Calendar). Due to the FMOH changes, a travel restriction was placed on government officials during the transition period. As a result, the FMOH requested that MCSP halt plans for the middle-income country benchmarking visit. Instead, the MCHD Director and lead of the Child health team requested that the benchmarking visit be replaced with more extensive desk review of selected middle-income countries.

Due to the various transitions and uncertainties, the quality of the draft versions of the roadmap developed by the consultant was significantly affected and the document required several revisions. Moreover, the strategic recommendations put forward by each of the TWG sub-groups – the most essential component of the document – could not be finalized due to inability to organize a consultative meeting to debate and agree on a prioritized list. Hence, MCSP NEGA adjusted its activity plan accordingly and held additional discussions with FMOH directly to agree upon a revised timeline for finalization of MCSP NEGA's inputs to the visioning documents by the end of 2018. In addition, based on the TWG's inputs MCSP NEGA further refined a roadmap summary document and drafted a list of recommended next steps for FMOH to finalize the roadmap. MCSP NEGA will share the draft summary document, list of recommended next steps with the FMOH next quarter for review, and buy-in.

Cross-cutting and Global Learning Themes

Health Systems Strengthening (HSS)

MCSP NEGA's HSS interventions described in previous sections have been focused on addressing barriers that directly affect service delivery at different levels of the health system in line with the GOE's priorities and working within existing health systems, a hallmark of the program. These interventions have supported the institutionalization and scale up of CBNC high impact interventions. MCSP NEGA support has reinforced the leadership and management capacities of staff based in the regional, zonal and woreda, health offices through joint integrated supportive supervisions, periodic planning and review meetings and proactive engagement in working groups. Moreover, the project's interventions strengthened the ability of the PHCUs to avail high impact newborn and maternal health services closer to the communities.

Community Health and Civil Society Engagement (CSE)

Using the Demand Creation Strategy, MCSP NEGA has supported the GOE to fulfill its commitment to institutionalize CBNC as one of the key aspects of community health, a central component of the health system. The Demand Creation Strategy ensures that health priorities and concerns of the community are taken into account and addressed and that services are equitable and accessible and meet the cultural expectations of the community. MCSP NEGA has taken an expanded and holistic view to community health and supports an inclusive model that engages all actors at regional, zonal, woreda health bureaus as well as the KCPs, community groups and beneficiaries in protecting and building the health of mothers, newborns and children. The community mobilization interventions prioritize community participation and ownership in decision making, resource mobilization and allocation, promote monitoring and accountability in the health system and increase demand and use of health services. MCSP NEGA has reinforced the technical, organizational and communication skills of health workers and HEWs as well as faith-based leaders by integrating CBNC into HEW training and supportive supervision and developing CBNC focused communication tools for faith-based leaders. The program has especially supported linkages and coordination between community health workers and KCPs who have played a pivotal role in improving demand and quality (through social accountability and advocacy) in the provision of the CBNC package as well as the broader MNCH system. MCSP NEGA has supported training, supervision and developed a number of SBCC guidelines for HEWs to ensure they are well trained, motivated and supported to engage various community groups to promote and support CBNC, including guides to engage faith-based leaders, pregnant women conferences, schools and Agricultural Development Army groups for male engagement. The engagement of faith-based leaders, in particular, has been an approach NEGA has used to foster champions who advocate for health promotion, illness prevention and care seeking and referral for treatment.

Quality

Quality has been an integral part of MCSP NEGA trainings, post-training follow-up, review meetings and supportive supervision through clearly articulated indicators to monitor progress. Quality focused interventions under MCSP NEGA have reinforced the governance of quality by strengthening the capacity of local management and leadership structures at the subnational level PRTs and KCPs to engage communities and civil society in addressing barriers to care and improving the quality of care. These interventions have likewise fostered a strong commitment of health managers as well as facility and community based health workers to continuously improve care, emphasizing approaches that prioritize the needs and values of the community and motivate and reinforce health workers' competencies. MCSP NEGA has promoted team work around QI by reinforcing existing health structures, such as the KCP, by integrating and engaging non-traditional stakeholders, such as faith-based leaders and men's group in the process of understanding and overcoming critical gaps in maternal and newborn health care. These existing structures have been mobilized around a measurable and clear aim to ensure the high quality delivery of the CBNC package. MCSP NEGA

facilitated opportunities for real time analysis and use of data and shared learning through routine meetings and exchanges with the full DC kebeles.

Innovation

NEGA is one of several MCSP NEGA programs that has implemented a study on care-seeking and quality of care for PSBI as part of the global innovations of the program. The aim of this research in Ethiopia and globally is for MCSP NEGA to contribute to a shift to the next phase in the pathway from innovation to impact at scale by describing the inputs and strategies needed to advance infection prevention in newborns and ultimately reduce mortality. Findings from the PSBI study in Ethiopia have increased the global body of evidence surrounding this priority innovation through program learning, implementation research, and dissemination of results. MCSP NEGA has supported the introduction and expansion of PSBI by sharing evidence with the Ministry of Health and its existing systems, including civil society, donors, and other implementing organizations, facilitated a dialogue on improving implementation of PSBI and CBNC more broadly, and supported the adoption to achieve high coverage, quality, and equity.

Measurement and Data Use

MCSP NEGA implemented systematic improvements to measurement and data use to accelerate achievement of sustainable impact of CNBC at scale. Project data, based on the DHIS 2 database platform, was regularly analyzed to inform national and sub-national level policy and strategy discussions in addition to project course adjustment as needed. MCSP NEGA also developed charts for use by health posts and health centers to guide data visualization and use for decision-making. Other data improvement interventions included reinforcing data collection and analysis tools, including checklists. The data quality assessment of routine MNH data jointly undertaken with the regional, zonal and woreda health offices was specifically used to strengthen data quality monitoring systems at sub-national level.

Recommendations and Way Forward

MCSP NEGA collaborated with the MOH at federal, regional, zonal and woreda level to successfully introduce the national Community Based Newborn Care package in four regions of Ethiopia. This represents significant progress toward institutionalizing greater access to higher quality newborn health services within Ethiopia's public health system. MCSP NEGA also made significant progress in support of Ethiopia's vision of households producing their own health, by introducing and scaling MNCH community empowerment approaches.

MCSP NEGA routinely shared successful project strategies, implementation lessons, research outputs and recommendations with MoH and stakeholders in real time and through regular meetings of the national child survival technical working group, annual conferences of relevant professional associations, health annual review meetings, scientific conferences, and more (see Annex C for further details). Further to that, MCSP NEGA offers the following recommendations aimed at sustaining project gains and addressing remaining gaps and challenges. The recommendations are directed to the Ministry of Health at national and sub-national levels as well as partners implementing MNCH interventions in the country.

Community empowerment and demand creation

Improving uptake of appropriate MNH-related household practices and norms including increase in timely recognition and care-seeking for maternal and newborn danger signs through community empowerment and demand creation significantly contribute to reduction of neonatal mortality. MCSP NEGA developed a report on Implementing a Demand Creation Strategy for Improved Maternal, Newborn, and Child Health Outcomes, which is a helpful resource.

- The FMOH and key MNH partners should give the much-needed focus to demand creation/community empowerment approaches to improve care seeking as well as community MNCH-CBNC literacy.
- To encourage accountability and facilitate institutionalization, demand creation approaches should leverage existing multi-sectoral structures (such as the KCPs, woreda or zonal level cabinets).
- MCSP NEGA demonstrated that Pregnant Women Conferences contribute to improved access to ANC. The FMOH and Regional Health Bureaus are therefore advised to strengthen Pregnant Women Conferences at kebele level through (i) structured meeting guide, (ii) good facilitation, and (iii) inclusion of spouses and mothers/in-laws in the meetings.
- The facilitative and interactive methods used in demand creation and community empowerment approaches can help to identify deep-rooted challenges and develop tailored strategies to address them. Ethiopia's health workforce requires further capacity building in these approaches in order to scale them with quality, realize the potential of community empowerment, and demand creation to further reduce newborn mortality.

Community Based Newborn Care service delivery:

Strengthened service provision and supportive systems, particularly at woreda and HC levels, are pre-requisites for ensuring access to high quality maternal and newborn health care. A functional support system needs to have adequately trained and an appropriate mix of human resources, an uninterrupted flow of essential supplies and a working referral system for pregnant women and newborns.

- Ensure availability of IMNCI/CBNC trained health workers at health centers to provide quality care for sick young infants as well as provide technical support to HEWs. Improve the culture of transferring knowledge within health centers such that serious gaps can be avoided when a trained provider is not present.
- Strengthen early postnatal care for mothers and babies through (i) increasing the duration of health facility stay for mother-baby day after birth to at least 24 hours; (ii) improving the HC-HP linkage such

that HEWs are notified of the delivery and can follow up at home; (iii) early PNC home visits are done by HEWs/HDAs for women who deliver at home. Reinforcing the capacity of HEWs to support KCPs to provide health education in the community and religious leaders to promote facility-based delivery are promising practices to promote PNC as reflected in the improvements in PNC in the NEGA baseline and end line results. It is also important to (i) explore transportation options for HEWs covering vast geographic areas to improve early postnatal home visits and early identification of vulnerable neonates; and (ii) engage HDAs during early PNC home visits and early identification of vulnerable neonates; and (ii) engage HDAs during early PNC home visits to ensure visits are done as early after delivery as possible and vulnerable neonates are identified. With the appropriate orientation, HDAs can identify danger signs and link with the HEWs for subsequent management. They can also play a critical role in improving household awareness on neonatal danger signs.

- Strengthen routine supportive supervisions such that they can also be an opportunity to provide tailored technical mentoring for HEWs and providers in the health centers.
- Strategically use the periodic HEWs and supervising health center meetings for CBNC performance review based on analysis of local data and course adjustment as necessary.
- Strengthen health centers' capacity through a comprehensive quality improvement initiative, led by the zonal and woreda health offices, for better MNH outcomes. Based on the project experience, specific recommendations are for (i) the need for a comprehensive QI initiative, as day-of-birth care requires improvement in various aspects (including provider motivation, overall cleanliness and hygiene, appropriate use of space, leadership, etc.), and (ii) the need for engagement of managers at zonal and woreda level for support, oversight, and ultimate accountability.
- Reinforce health centers' capacity on appropriate care for low birth weight and preterm babies through KMC. Tailored capacity building can be integrated into the periodic supportive supervision and mentoring platform. The MCSP NEGA developed a report on How communities and health extension workers provide care to Low-Birthweight babies in the Amhara and Oromia Regions, Ethiopia that can be used as a resource.
- Strengthen referral system (including counter-referral) for sick young infants, low birth weight and preterm babies through standardizing referral slips, strengthening counseling and improving record keeping. This should include improved communication between HPs, HCs and hospitals to ensure appropriate post-discharge follow up of babies closer to where they live.
- In order to ensure quality of care for management of sick young infants, there is a need to develop mechanisms for tracking and ensuring adherence to CBNC sick young infant management protocol at all levels.

Measurement and data quality:

A health information system that avails data is accurate and of quality in a timely manner for implementers and program managers to help make program adjustments when needed and supports program learning is important for ongoing monitoring of program implementation and measurement of success.

- Integrate RDQA into the regular supportive supervision to identify and address data quality issues in a timely manner. This can also serve as an opportunity for on-the-job refresher training for staff involved in data management.
- Critically follow health center level data quality issues, including accuracy of data recording and reporting practices in HMIS. Enforce proper and complete record keeping of sick young infants at health centers.
- Strengthen data analysis and use at local level for (i) timely improvement in service delivery, and (ii) help those who generate the data give meaning to the data, understand its use and hence the need to focus on data quality.
- Address denominator issues related to estimation of major newborn morbidity and mortality, including PSBI and LBW/premature birth through researches, including integrating into existing epidemiologic surveillance sites or other mechanisms.

Conclusively, MCSP is hopeful that the recommendations outlined above are taken forward by the Ministry of Health at the national and subnational level and by implementing partners to sustain implementation of the MNCH interventions via the existing CBNC package.

Appendix A: PMP

Selected project indicators are summarized below.

Key Life of Project (LOP) Indicators	Target	Cumulative Performance
Routine Monitoring Indicators		
Proportion of targeted HEWs trained (and equipped) on CBNC package	6,768	7,099 (105%)
Proportion of woredas with at least one woreda office staff trained on CBNC	135	135 (100%)
Percentage of HWs trained on CBNC	2,912	2,447 (84%)
Percent of identified sick newborns correctly classified	80%	83%
Percent of correctly classified newborns that are appropriately managed	80%	93%
Proportion of sick young infants classified as having PSBI and initiated treatment at health posts, who received complete 7 days antibiotic treatment at health post	90%	91%
Household Survey Based Indicators		
Proportion of women who attended 4+ ANC during their most recent pregnancy in MCSP NEGA areas	50%	43%
Proportion of births attended by (facility-based) HWs in MCSP NEGA areas	50%	58%
Percent of mothers who sought care from a health facility for perceived newborn illness during the neonatal period in MCSP NEGA areas	77%	64.5%
Percent of mothers or babies who received early (within 48 hours) postnatal home visits by HEWs in MCSP NEGA areas	8%	15.6%
Proportion of newborns who were breastfed within one hour of birth in MCSP NEGA areas	52%	60.4%

Sources: MCSP NEGA routine data (DHIS 2 database); MCSP NEGA end line survey

Appendix B: Success Stories

Photo by: Mesgena W/Gebriel/MCSP

NAME

Kes Melakeselam Hailemnase

ROLE

Orthodox Priest

LOCATION

Embaalaje district of Tigray Regional State, Ethiopia

SUMMARY

Kes Melakeselam Hailemnase, 64 years old, Orthodox Priest and head of Embaalaje Woreda Orthodox Churches Forum, participated in the training MCSP NEGA organized for faith-based leaders in Southern Zone of Tigray. Kes Melakeselam describes his participation in the CBNC training organized by MCSP NEGA as an essential tool in providing him with the knowledge required to educate community members such as Abeba Mesele on beneficial MNH practices.

Faith Leaders Play a Role in Preventing Maternal and Newborn Deaths

In the Embaalaje district of Tigray Regional State, Southern Zone, much progress has been made since MCSP NEGA started engaging faith-based leaders in improving the state of MNCH.

Kes Melakeselam Hailemnase, 64 year old Orthodox Priest and head of Embaalaje Woreda Orthodox Churches Forum, participated in the training on Community Based Newborn Care (CBNC) MCSP NEGA organized for faith-based leaders in Southern Zone of Tigray. He explains how the presentations and lively interactions with facilitators and other participants in the training have equipped him with the knowledge required to educate community members on beneficial MNH practices. Kes Melakeselam further elaborated how the training helped him have a deeper understanding of the role of faith-based leaders can play a role in helping prevent maternal and newborn death.

Since his training, Kes Melakeselam has reached more than 8,000 individuals with MCNH messages during regular sermons and other religious festivities using the Family Health Guide he received at the training workshop. He has also oriented his peers on the role they too can play to improve maternal and newborn health in their community.

One of the beneficiaries from Kes Melakeselam's efforts is Abeba Mesele, a 21-year-old mother of two. When she was pregnant with her second child, Kes Melakeselam approached her and taught her the importance of going to a health facility for antenatal checkup, delivering at a health facility and having early postnatal checkups.

"As a result, I took more than four antenatal facility checkups during my pregnancy, and gave birth to my baby at Adishuhu primary hospital. Upon returning from the hospital, I have informed the health extension worker in my kebele of my delivery and she visited me at home to check on me and my baby. Many thanks to Kes Melakeselam's advice, both my child and I are healthy."

-Abeba Mesele

Photo by: Zewge Abate/MCSP

NAME
Zubeyda Musa

ROLE
Health Extension Worker

LOCATION
Arsi, Ethiopia

SUMMARY

Zubeyda Musa, a Health Extension Worker (HEW) at Ufra Agamsa, describes how her engagement with the community through providing counseling services at the Kebele Health post has significantly improved following the MCSP CBNC NEGA program's guidance on restructuring of the committees within these command posts. She appreciates MCSP's approach to demand creation that has helped to leverage local community members and improve their maternal and newborn care-seeking behavior.

MCSP Ethiopia CBNC NEGA Program Strengthens Kebele Command Posts in the Arsi Zone of Ethiopia

Zubeyeda Musa, a Health Extension Worker (HEW), conveyed her appreciation for MCSP Ethiopia CBNC NEGA's work in the Arsi zone. Prior to the guidance shared by the CBNC NEGA program, Kebele Command Post committees had members mainly from government structures, such as HEWs like Zubeyeda, the local school director, the Kebele Chairman, a representative from the office of Women and Children's Affairs, etc. Following the guidance provided by CBNC NEGA, the Kebele Command Posts began to restructure committees to include key members from the grassroots level. The primary purpose of the committee is to work towards creating demand within the community for health services, along with embarking on other endeavors aimed at ensuring community development. Having these discussions was particularly difficult without the insight of community members from the grassroots level.

As a health extension worker, Zubeyeda uses various platforms to teach the community about the importance of postnatal care for mothers and newborns. This includes going to community meetings organized by the Kebele administration and using this as an opportunity to provide health education. Additionally, Zubeyeda visits religious congregations to promote delivery at health facilities as an instrumental step in reducing maternal and neonatal mortality and morbidity. Through her role as the secretary of the strengthened Kebele Command Post, Zubeyeda uses the platform to raise community awareness of the available maternal, newborn and child health services and their contribution to reducing the incidence of maternal and newborn death.

Zubeyda expressed how MCSP NEGA has helped to strengthen the Kebele Command Post through a four-stage process that starts with reorganizing the committee by including relevant members. Then the committee identifies MNCH-CBNC issues within the community. Once the outstanding issues are identified, the members devise a plan to address these challenges. Next, the committee works together to reach out to community members using various platforms like monthly women conferences, religious gatherings, school settings, farmers training center discussions, house-to-house visits and so on.

The strengthened Kebele Command Post does not use these initiatives to address just the issues it identified. It also monitors the situation to see whether the planned activities were implemented (e.g., whether a pregnant woman took her sick newborn to a health facility following the guidance from members of the committee). Finally, members of the strengthened Kebele Command Post evaluate their current performance, identify lessons learned and re-plan for future engagements accordingly.

"After years of hard work through various platforms, I am now happy to see so many mothers showing no reluctance to go for antenatal and postnatal care as well as institutional delivery. It is like a dream come true for me that the community I always love working for has almost entirely abandoned traditional birth attendance and understands the difference MNCH services make in reducing maternal and newborn mortality and morbidity."

- Zubeyda Musa

The guidance from MCSP CBNC NEGA on strengthening the Kebele Command Post structures for effective community intervention has helped Zubeyeda to have fruitful conversations with religious leaders, community elders, Health Development Army (HDA) leaders, and mothers with previous pregnancy complications who have all now become members of the Kebele Command Post. For example, Zubeyda indicated that instead of her addressing a religious mass about the importance of seeking maternal, newborn and child health services at a facility, she now has the support of a religious leader like Sheik Musa Asabel, a member of the strengthened Ufra Agamsa Kebele Command Post, with communicating these messages. Community members trust the Sheik's words and take them to heart.

As another example, mothers on the committee who had unfortunate birth experiences now send strong and supportive messages to women who are reluctant to seek maternal health services. Zubeyda highlights how the active participation of the newly added members of the Kebele Command Post has significantly strengthened the platform and improved the performance of the committees, particularly in creating community demand for MNCH- CBNC services.

Health Extension Worker Misaye Asmamaw (center) visits Addise Yaregale and her son, Saleamelak, (right) at home.

Photo credit: Karen Kasmauski/MCSP

NAME
Addise Yaregale

ROLE
Mother

LOCATION
South Gonder zone, Amhara region

SUMMARY
At the urging of MCSP NEGA-trained Health Extension Worker Misaye Asmamaw, a young mother, Addise Yaregale, sought antenatal care at her local health post. When her infant son Saleamelak later fell ill, she turned again to Misaye for help. With the right tools and supplies, Misaye treated Saleamelak. He is now a thriving 14-month-old boy.

In Ethiopia, Health Extension Workers Gain the Knowledge They Need to Help Save Lives

Misaye Asmamaw, 30, has been a Health Extension Worker for the past eleven years at the Bisage Health Post in South Gonder zone, Ethiopia. She talks about this work with joy, but adds, "It was a challenge and a long journey to get to the point we are right now."

Three years ago, Misaye first heard of the Maternal and Children Survival Program (MCSP). The MCSP NEGA, or "Newborns in Ethiopia Gaining Attention" project, began working in her community in the Amhara region of Ethiopia. Through this project, Misaye and 2,489 health extension workers (HEW) in Amhara region (more than 7,000 total in the four regions of MCSP NEGA implementation) received a 5-day training in community-based newborn care, including both competencies and skills.

Before the MCSP/NEGA training, she "was only working on referring the small babies to the health center and teaching mothers on preventive methods. After I took the training, I was able to treat small babies when the families did not accept referral to [the] health center".

After the training, she met Addise Yaregale, 22. Addise is the proud mother of a happy, healthy 14-month old boy, Saleamelak. But this wasn't always the case. Three years ago, Addise was pregnant for the first time. She was in constant pain. Eventually, the pain became unbearable so she finally decided to seek antenatal care at her nearby health center. Once she arrived at the health center, she was referred for to the hospital in Debratabor town. It was there that she learned that she had high blood pressure. Her baby would not survive.

A couple years later, Addise suspected she was pregnant again. This time, she went to her nearby health post. There, she met Misaye. It was Misaye who counseled her to go to the health center for examination. With Misaye's urging, this time Addise went.

Upon examination, the health center staff confirmed Addise's good news – she was pregnant! As she describes it, she then "went back and told Misaye at the health post. Since then, I kept coming to the health post every month to check by blood pressure and the progress of my pregnancy."

In nine months' time, Addise gave birth to baby Saleamelak. A couple of weeks after his birth, Addise noticed that Saleamelak had a high temperature. He was breathing abnormally. She was worried and unsure what to do.

Fortunately, Misaye did.

She examined Saleamelak carefully. Thanks to the training, job aides, and supplies she received from MCSP NEGA, Misaye was able to provide the needed medication. Misaye continued to visit Addise and Saleamelak for the next few days to check for improvement.

Our story ends happily – Saleamelak did fully recover from his illness. Now 14 months old, he is healthy and thriving.

"I love my people and the people love me. I believe I have accomplished a lot with this community. Helping mothers and children is the most satisfying work."

- Misaye Asmamaw

Appendix C: List of Presentations at International Conferences and Publications

Title	Type	Presenter and venue
Strengthening Quality of Essential Maternal and Newborn Care Services of Health Centers – Baseline Findings	Poster presentation	Atrie Fekadu; National MNCH Quality of Care Symposium (alongside the Launching Workshop of the Global Alliance for MNCH Quality of Care - GAMQC). Addis Ababa, Ethiopia. November 2016
The Power of Design: A Demand Creation Strategy for Maternal, Newborn and Child Health and Community Based Newborn Care (MNCH-CBNC) in Ethiopia	Oral presentation; panel	Asayehegn Tekeste; The First International SBCC Summit. Addis Ababa, Ethiopia. February 2016.
Newborn Care through the Social Behavior Change Lens: The Experience of MCSP in Ethiopia Implementing Community Empowerment Centered Demand Generation for Newborn Services	Oral presentation; roundtable	Asayehegn Tekeste; Core Group Global Health Practitioners Conference, Spring 2017. Washington, D.C. February 2017.
Best Practice on Health Center Day-of-Birth Quality Improvement: A Case of Guba Health Center	Poster presentation	Dr. Hailu Tesfaye; Save the Children Ethiopia Extended National Management Team Retreat. Kuriftu, Ethiopia. June 2017.
The Power of Design: Demand Creation for CBNC in Ethiopia	Oral presentation	Jimmy Teshome; Brown bag presentation at MCSP Headquarters in Washington, D.C. February 2017.
Community Based Newborn Care – Newborns in Ethiopia Gaining Attention: Achievements and Lessons	Oral presentation	Dr. Abeba Bekele and Dr. Solomon Tesfaye; USAID Ethiopia Health Team Internal Learning Event. November 2017.
Community Based Newborn Care – Newborns in Ethiopia Gaining Attention: Achievements and Lessons	Oral presentation	Dr. Abeba Bekele. MCSP NEGA National Dissemination Event. Addis Ababa, Ethiopia. December 2017.
Health Center Day-of Birth Quality Improvement in Ethiopia: Outcome and Lessons	Poster presentation	Dr. Abeba Bekele; First Africa Forum on Quality and Safety in Healthcare. Durban, South Africa. February 2018.

Appendix D: List of Materials and Tools Developed or Adapted by the Program

Document Title	Date
Technical Documents (Full Reports)	
MCSP NEGA Baseline Survey Report (MCSP)	June 2016
Rapid Data Quality Assessment (RDQA) Report (MCSP)	November 2017
Faith-Based Leaders' Engagement Synthesis Report (MCSP)	December 2017
Barriers and Facilitators to Early Pregnancy Identification, Birth Notification, ANC and Postnatal Home Visits in Amhara Regional State, Ethiopia study report (MCSP)	February 2018
CBNC Service Delivery Process Documentation (MCSP)	December 2017
Demand Creation Process Documentation (MCSP)	November 2018
Day-of-Birth Quality Improvement Process Documentation (MCSP)	February 2019
Do Caretakers of Sick Newborns with Possible Serious Bacterial Infection (PSBI) Referred from Health Post to Health Center Comply with the Referral? A report of cross-sectional study in Tigray, Amhara, Oromia and SNNPR regions, Ethiopia (MCSP)	June 2018
How do Communities and Health Extension Workers Provide Care for Low Birth Weight /Preterm Babies in Their Communities? A report of exploratory study in Amhara and Oromia Regions (MCSP)	May 2018
MCSP NEGA End line Survey Report	November 2018
Briefs	
MCSP NEGA Project Brief (MCSP)	March 2015
MCSP NEGA Demand Creation Brief (MCSP)	May 2015
MCSP NEGA Baseline Survey Brief (MCSP)	April 2017
Research Brief: Do Caretakers of Sick Newborns with Possible Serious Bacterial Infection (PSBI) Referred from Health Post to Health Center Comply with the Referral? (MCSP)	October 2017
Routine Data Quality Assessment (RDQA): Findings from selected MCSP NEGA implementation woredas, Ethiopia (MCSP)	November 2017
Community Based Newborn Care – Newborns in Ethiopia Gaining Attention: MCSP Technical and Performance Brief (MCSP)	November 2017
Research Brief: Barriers and Facilitators to Early Pregnancy Identification, Birth Notification, ANC and Postnatal Home Visits in Amhara National Regional State, Ethiopia (MCSP)	November 2017
Research Brief: Communities and health extension workers provide care for low birth weight babies in Amhara and Oromia regions (MCSP)	November 2017

Document Title	Date
Technical Brief: Implementing a Demand Creation Strategy for Improved Maternal, Newborn and Child Health Outcomes (MCSP)	December 2017
Tools /Guidelines /Checklists	
Form G: IMNCI Supportive Supervision Checklist for post-training follow up (FMOH)	February 2012; adapted January 2015
Form C: ICCM /CBNC Supportive Supervision Checklist for post-training follow up (FMOH)	November 2013; adapted January 2015
ICCM /CBNC PRCMM Guidelines and tools (FMOH)	2014; adapted January 2015
CBNC Monitoring Chart in Amharic, Oromiffa, Tigrigna (MCSP and SNL)	January 2015
Pregnant women and birth registration and follow up book in Amharic, Oromiffa, Tigrigna (MCSP)	July 2015
Faith-based Leaders' Engagement Guideline in Amharic, Oromiffa, Tigrigna (MCSP)	February 2016
School Engagement Guideline in Amharic, Oromiffa, Tigrigna (MCSP)	February 2016
Pregnant Women Conference Guideline in Amharic, Oromiffa, Tigrigna (FMOH and MCSP)	February 2016
Health Extension Worker and Health Development Army Meeting Guideline in Amharic, Oromiffa, Tigrigna (MCSP)	February 2016
Criteria to prioritize health posts for supportive supervision (MCSP)	March 2016
Form C: ICCM /CBNC Supportive Supervision Checklist (adapted for routine supervision by MCSP)	March 2016
Form G: IMNCI Supportive Supervision Checklist (adapted for routine supervision by MCSP)	March 2016
Supportive Supervision Technical Manual in Amharic and Tigrigna (FMOH)	December 2016
SBCC	
Family Health Guide Revised Color Print in Amharic, Oromiffa, Tigrigna (FMOH and MCSP)	August 2016
Empowering Communities for MNCH – Short Video	October, 2017
Improving Quality of Day-of-Birth Care at Health Centers – Short Video	October, 2017
Implementing CBNC – Short Video	October, 2017
MCSP NEGA Project Overview – Short Video	November, 2017
Postpartum Danger Signs Poster in Amharic, Oromiffa, Tigrigna (MCSP)	July, 2015
Newborn Danger Signs Poster in Amharic, Oromiffa, Tigrigna (MCSP)	July, 2015
CBNC Radio Spots /Messages in Amharic, Oromiffa, Tigrigna (MCSP)	October, 2015
MNH Question and Answer Brochure in Amharic, Oromiffa, Tigrigna (MCSP)	July, 2016

Document Title	Date
Family Health Guide Promotion Student Poster in Amharic, Oromiffa, Tigrigna (MCSP)	July, 2016
Training Materials	
CBNC Training Materials & Chart Booklet in Amharic, Oromiffa, Tigrigna (FMOH)	2013; reprinted January 2015
IMNCI Training Materials & Chart Booklet, revised (FMOH)	2015
Creating Demand for CBNC: A training Package (MCSP)	March 2015
IPLS Training Materials	DELIVER
District Health Information System (DHIS) 2 Training Manual, adapted (MCSP)	January 2016
Annexes	
Project Performance Monitoring Plan	Revised September 2016
Photo journal (MCSP)	November 2017

Appendix E: Learning Matrix

Learning questions	Status/Update, incl. IRB Approvals and planned technical assistance	Final products and dissemination
What are key barriers for early pregnancy identification, birth notification, and early home PNC visits?	IRB approval obtained from Amhara Regional Health Bureau and Western IRB. Study completed. Technical support obtained from headquarters backstops for the IRB protocol development and approval process, as well as finalization of the study report. Field-funded.	Final report submitted to USAID. Final report submitted to Amhara Regional Health Bureau. A research brief shared with participants of the national dissemination event in Addis Ababa.
Do caretakers of referred sick newborns with VSD comply with referral and do they receive appropriate and adequate treatment at the health center? A cross sectional study to assess referral compliance of newborns with PSBI in Amhara, Oromia, SNNPR and Tigray regional states.	IRB approval obtained from Ethiopian Science and Technology Agency and Western IRB. Study completed. Technical support obtained from headquarters backstops for the IRB protocol development and approval process, as well as finalization of the study report. Field-funded.	Final revised report submitted to USAID. Final report to be submitted to the four Regional Health Bureaus. A research brief shared with participants of the national dissemination event in Addis Ababa.
Are Low birth Weight (LBW) newborns below 2,500g identified and appropriately cared for by health extension workers and the community in Ethiopia?	IRB approval obtained from Amhara and Oromia Regional Health Bureaus, and Western IRB. Study completed. Technical support obtained from headquarters backstops for the IRB protocol development and approval process, as well as finalization of the study report. Field-funded.	Final report submitted to USAID. Final report to be submitted to Amhara and Oromia Regional Health Bureaus. A research brief shared with participants of the national dissemination event in Addis Ababa.