



COMMUNITY PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (CPMTCT) PROJECT

END OF PROJECT REPORT

November 2014



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ACRONYMS

ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
BCC	Behavior change communication
BC/CM	Behavior change/community mobilization
BEmONC	Basic emergency obstetric and neonatal care
CBO	Community-based organization
CMSG	Community mothers support group
CPMTCT	Community Prevention of Mother-to-Child Transmission project
CQI	Continuous quality improvement
CSO	Civil society organization
C&T	Counseling and testing
DBS	Dried blood spot
DCCM	Demand creation community mobilization
DQA	Data quality audit
EDHS	Ethiopia Demographic and Health Survey
EFY	Ethiopian fiscal year
EIFDDA	Ethiopian Interfaith Development and Dialogue for Action
EmONC	Emergency obstetric and neonatal care
E-MTCT	Elimination of mother-to-child transmission
EOC-DICAC	Ethiopian Orthodox Church Development and Inter Church Aid Commission
ENHAT-CS	Ethiopia Network for HIV/AIDS Treatment, Care and Support
FANC	Focused antenatal care
FP	Family planning
FMOH	Federal Ministry of Health
FSS	Follow-up supportive supervision
GBV	Gender-based violence
GoE	Government of Ethiopia
HAPCO	HIV/AIDS Prevention and Control Office
HCT	HIV counseling and testing
HEP	Health extension program
HEW	Health extension worker
HMIS	Health management information system
HRH	Human resources for health
ICASA	International Conference on AIDS and STIs in Africa
IEC	Information, education, and communication
IFHP	Integrated Family Health Program
IGA	Income-generating activities
IP	Infection prevention
IPLS	Integrated Pharmaceuticals Logistics System
IYCF	Infant and young child feeding

IYCN	Infant and Young Child Nutrition program
IOCC	International Orthodox Christian Charities
JSS	Joint supportive supervision
MNCH	Maternal, neonatal, and child health
MSG	Mother support group
NAP+	Network of HIV-Positive Associations
NGO	Nongovernmental organization
OCAT	Organization capacity assessment tool
OPQ	Optimizing Performance and Quality
PATH	Program for Appropriate Technology in Health
PEPFAR	President's Emergency Plan for AIDS Relief
PFSA	Pharmaceutical Fund and Supply Agency
PHCU	Primary health care unit
PI&QA	Performance improvement and quality assurance
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PPC	Postpartum care
PQI	Performance quality improvement
QOC	Quality of care
RTK	Rapid test kits
RHB	Regional health bureau
SCMS	Supply chain management system
SdNVP	Single-dose nevirapine
SDO	Service delivery officer
SGD	Small group discussion
SS	Supportive supervision
STI	Sexually transmitted infection
TBA	Traditional birth attendant
TOT	Training of trainers
TWG	Technical working group
UHEP	Urban health extension professional
USAID	United States Agency for International Development
VCHW	Volunteer community health worker
WHO	World Health Organization
WrHO	<i>Woreda</i> health office

INTRODUCTION

Ethiopia has the second largest population in sub-Saharan Africa with over 97 million people. The majority (80%) lives in rural areas, and approximately one-fifth are aged 15–24 years. The average woman in Ethiopia gets married at age 16.5, has her first birth at age 19, and has 4.8 children during her lifetime, according to the 2011 Ethiopia Demographic and Health Survey (Central Statistical Agency and ICF International 2012). Most women want to either space or limit their childbearing at some point during their lives, yet only 29% of currently married women are using any method of family planning. The unmet need for family planning remains high at 25% of married women.

Pregnant women in Ethiopia face many challenges during pregnancy, delivery, and the postpartum period. Women's limited independent decision-making, gender-based violence (GBV), and limited male involvement restrict women's access to family planning (FP) and maternal, newborn, and child health (MNCH) services, which in turn has a negative impact on women's reproductive health. Antenatal care (ANC) and postpartum care (PPC) use is low. Only 19% of pregnant women made four or more ANC visits, 10% of women delivered with the assistance of a skilled birth attendant, and 7% received postnatal care two days after their last delivery (Central Statistical Agency and ICF International 2012). The National Reproductive Health Strategy lists poor access, weak referral systems, limited human resources, and shortages of supplies and equipment as major problems contributing to the low uptake of ANC services. Ethiopia also faces a shortage of emergency obstetric and newborn care (EmONC) services, including post-abortion care.

In the past few years, the government of Ethiopia (GoE) has invested heavily to prevent the transmission of HIV from mother to child. The number of health facilities providing prevention of mother-to-child transmission (PMTCT) services has increased dramatically, rising from 719 in 2008 to 2,044 in 2013. In 2012, the Federal Ministry of Health (FMOH) launched a PMTCT accelerated plan (Federal Ministry of Health 2012), which included rapid site expansion and improved community mobilization. An additional 559 health centers started offering PMTCT services, and community mobilization was strengthened with the introduction of the volunteer Health Development Army, a government-led initiative intended to foster community engagement and improve uptake of critical MNCH services (Admasu 2013). By June 2013, 64% of antenatal health facilities were providing PMTCT services, and the overall PMTCT coverage for the population reached 43%. However, mother-to-child transmission of HIV remains a challenge in Ethiopia due to missed opportunities and high dropout rates, in addition to poor access to services. Among tested HIV-positive pregnant women, 60% did not receive antiretroviral (ARV) prophylaxis for PMTCT. Cognizant of these facts, the FMOH prepared a three-year strategic plan (2013–2015) that aims to eliminate mother-to-child transmission of HIV.

The five-year USAID-funded Community Prevention of Mother-to-Child Transmission (CPMTCT) project (2009–2014) led by IntraHealth International played a critical role supporting the FMOH in implementing the above-mentioned strategies and policies. In particular, the project

supported expansion of PMTCT services to rural areas, creating awareness of the availability and benefits of PMTCT services, tracking HIV-positive pregnant women and their infants to ensure that they receive and adhere to treatment, and improving basic emergency obstetric and neonatal care (BEmONC) services. Since 2009, IntraHealth and project partners—Pathfinder International, the Program for Appropriate Technology in Health (PATH), and the International Orthodox Christian Charities (IOCC)—have established comprehensive MNCH/PMTCT services in 519 health centers in five regions: Addis Ababa, Amhara, Oromia, SNNPR, and Tigray.

Goal and Objectives

The goal of the CPMTCT project was to increase PMTCT service uptake and case follow-up at the community level and to integrate PMTCT services within MNCH services. The project had four key objectives:

1. Build the capacity of regional health bureaus (RHBs), zonal and *woreda* (district) health offices, and community-based organizations to support and manage community-based PMTCT.
2. Increase access to integrated MNCH/PMTCT services through providing facility-based and community services and improving bidirectional linkages and referrals.
3. Increase demand for MNCH/PMTCT services through community outreach.
4. Improve the quality of community and facility-based MNCH/PMTCT services.

The project worked at all levels of the health system, from the community to federal levels, to achieve the four objectives.

Community level

The project educated communities about the benefits of ANC, facility deliveries, and PMTCT services as well as mobilized communities to access these services. This was achieved by building the capacity of health extension workers (HEWs), community volunteers, and faith-based groups in social and behavior change communication in MNCH/PMTCT, and strengthening linkages between these community groups and the health facilities supported by the project.

Health facility level

The project focused on quality service delivery, service integration, and strengthened human resources for health (HRH). Quality service delivery was achieved by strengthening health center managers' and supervisors' leadership and management skills and providing up-to-date trainings for health care providers in ANC, labor and delivery, postnatal care, BEmONC, comprehensive HIV care and prevention (including PMTCT), and respectful maternity care. Project staff also assisted health facilities to improve tracking of drug consumption, communicate with agencies involved in supply chain management, and utilize the health care financing system to prevent stockouts of drugs and supplies.

Woreda level

A *woreda* is an administrative division managed by local government. The project strengthened the capacity of *woreda* health offices to implement and facilitate regular primary health care unit (PHCU) meetings, in particular focusing on how to use data to improve referrals and services.

Regional and zonal levels

The project trained the relevant staff in these offices on how to plan, implement, and manage effective MNCH/PMTCT services. This was accomplished by working in partnership with the RHBs in technical working groups (TWGs) and by conducting regular review meetings. The project also worked on the major challenge of supply and drug stockouts throughout the regions in which it was active. The CPMTCT project played a coordinating role in supply chain management, whereby CPMTCT staff served as facilitators between health centers, districts, and pharmaceutical management agencies to eliminate supply stockouts and procure supplies when necessary.

Federal level

The project seconded an MNCH/PMTCT technical advisor to the FMOH. The technical advisor assisted the ministry with MNCH/PMTCT policy development, PMTCT guidelines, and training materials and also participated in TWGs. This person played a critical role in coordinating and leading the FMOH PMTCT-related activities. Project technical leads also contributed to the various TWGs and preparation of training materials.

Role of Consortium Members

IntraHealth was the project lead, responsible for overall project management, achievement of results, and coordination of consortium partners. IntraHealth's technical role focused on leading PMTCT site expansion; training health care providers on PMTCT, MNCH, and BEmONC service delivery; mentoring health center staff; overseeing mother support group (MSG) activities; strengthening performance and quality assurance of health services; and carrying out monitoring and evaluation. IntraHealth represented the project to the GoE, donors, and implementing partners and worked closely with staff at the RHB, zonal, and *woreda* levels to ensure an effective transition to government counterparts and the long-term sustainability of the project.

Pathfinder International led the design and implementation of MNCH/PMTCT demand creation and community mobilization (DCCM) activities. Pathfinder increased demand for antenatal care, couples counseling and HIV testing of pregnant women, facility-based delivery, postnatal care, adherence to treatment of HIV-positive pregnant women and HIV-exposed infants, exclusive breastfeeding, and male partner support and engagement in PMTCT. Pathfinder worked in partnership with other behavior change communication (BCC) agencies (such as the National AIDS Resource Center) to harmonize and standardize MNCH/PMTCT messages and information, education, and communication (IEC) materials at all levels. Furthermore, Pathfinder built the capacity of civil society organizations (CSOs) (such as associations of HIV-positive people) to implement, manage, and sustain DCCM activities focused on MNCH/PMTCT by providing project and financial management trainings.

PATH provided expertise in infant feeding, nutrition, and newborn care and survival to prevent HIV transmission to HIV-exposed infants and young children. The emphasis was on preventing mother-to-child transmission, other infections, and malnutrition before two years of age, when the burden of disease and malnutrition are highest. PATH also supported the production of behavior change communication materials related to nutrition, conducted an infant and young child feeding (IYCF) study to identify barriers and facilitators for optimal IYCF practices, and provided supportive supervision and mentorship to MSGs and selected health facilities.

IOCC, in partnership with two local subgrantees—the Ethiopian Orthodox Church Development and Inter Church Aid Commission (**EOC-DICAC**) and Ethiopian Interfaith Development and Dialogue for Action (**EIFDDA**)—used its extensive network of churches and volunteers to disseminate MNCH/PMTCT messages, create demand for ANC and PMTCT services, reduce stigma and discrimination against HIV-positive people, and advocate for male involvement in PMTCT at the grassroots level. Channels of communication included community conversations during church services, community sensitization meetings, mass media, and quarterly *woreda* MNCH/PMTCT review and planning meetings.

Geographic Coverage

During the first year, the project focused on 70 health centers and their surrounding 163 *woredas* in the five project regions: Addis Ababa, Amhara, Oromia, SNNPR, and Tigray. The health centers were selected using the following criteria: highest population, highest HIV prevalence rate, degree of accessibility, and availability of qualified staff.

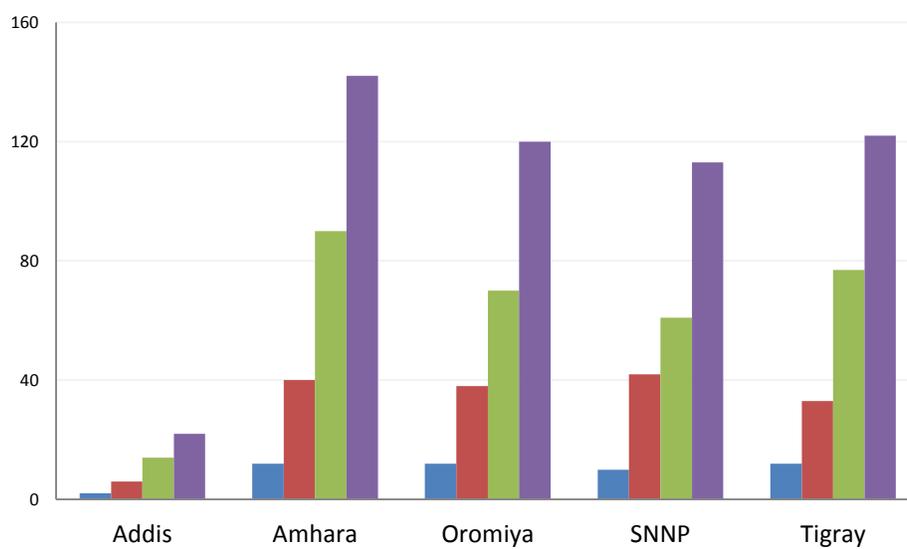
Within the first year of implementation, it became clear that multiple US government partners were working in the same *woredas*, and as a result there was double counting and reporting to USAID. In consultation with USAID and the RHBs, the CPMTCT project therefore expanded its support to health facilities in remote areas that were previously supported with outreach activities only, even though many of these rural health centers had very low HIV prevalence. DCCM activities followed this expansion with community mobilization efforts focusing on the catchment area around project-supported health centers, thereby increasing MNCH/PMTCT uptake and strengthening referral systems. Over the five-year period, the project expanded to 519 health facilities in 244 *woredas* in five regions (Figure 1, next page).

Transition and Sustainability

Transition and sustainability were an overarching goal of the CPMTCT project. The transition of CPMTCT-supported sites was designed to be a gradual, phased process with the vision that by the end of the five years, the CPMTCT services would be sustained by the RHBs. From the beginning of the project, interventions were designed such that the FMOH and RHBs could continue to support the project's achievements in increasing quality of PMTCT/MNCH care and demand for services once the project ended. Capacity strengthening efforts were planned to ensure that sustainability was achieved, including training and conducting joint supervision with regional, zonal, and district health officers; training local nongovernmental organizations (NGOs)

in management and leadership; PHCU facilitation; and data for decision-making skills training. In addition, the CPMTCT management team began preparing for this transition with each of the five regions in 2011, holding transition workshops with RHBs, zonal health departments, *woreda* health offices (WrHOs), health centers, and communities. This approach enabled RHBs and affiliates to be fully aware of the CPMTCT project exit plan and the importance of the capacity strengthening efforts undertaken by the project. (See for objective 1 results for more details.)

Figure 1: CPMTCT site (in health facilities) expansion by region



Technical and Program Approaches

During the implementation of the CPMTCT project, five cross-cutting approaches guided the project's interventions:

1. Understanding the health care needs, aspirations, preferences, and experiences of pregnant women and their infants
2. Ensuring local ownership and stewardship of all project interventions and outcomes
3. Using rigorous internationally-generated evidence and programmatic best practices to inform the design and implementation of project activities
4. Leveraging existing infrastructure, systems, and experiences to maximize both sustainability and return on investment
5. Recognizing that gender matters as it relates to HIV stigma, discrimination, and women's decision-making around health-seeking behavior.

Understanding the health care needs, aspirations, preferences, and experiences of pregnant women and their infants

At the start of this project, it was understood that most pregnant women in Ethiopia do not seek antenatal care and prefer to deliver at home. The CPMTCT project set out to better understand the health care needs and expectations of these clients and the barriers that prevent them from

seeking MNCH/PMTCT services. This was accomplished through DCCM activities, which included conducting small group discussions; establishing mother support groups; successfully advocating for fee exemption at the health center level for maternal and child health care; carrying out a gender assessment that explored the barriers to women's access to health services and male involvement; and closely monitoring MNCH/PMTCT service delivery and quality. Findings revealed a need for accurate and up-to-date information on MNCH/PMTCT services; establishment and/or strengthening of accessible, quality, friendly, and respectful maternity services; and integration of MNCH, FP, and PMTCT services. The activities implemented under the four project objectives addressed these findings and are detailed in this report. Most importantly, the project applied one of its guiding principles—ensuring the integration and strengthening of MNCH, FP, and PMTCT services at public sector sites.

Ensuring local ownership and stewardship of all project interventions and outcomes

The CPMTCT project partnered with the GoE at all levels to ensure full alignment with GoE MNCH/PMTCT national policies and guidelines and alignment of project investments with national priorities and strategies. Most importantly, the project worked in line with the GoE's PMTCT strategy by implementing the four-pronged approach: primary prevention of HIV infection; prevention of unintended pregnancies among HIV-infected women; prevention of HIV transmission from infected women to their infants; and treatment and support of HIV-infected women and their infants and families. The project worked in partnership with the regional, zonal, and *woreda* health bureaus throughout the project's life cycle with regular reviews of achievements and challenges to ensure that targets were met and quality services provided.

From the outset, the project collaborated with government counterparts to identify intervention areas, select new PMTCT service sites, map services and referrals, and implement trainings, supportive supervision, and management activities. The project invested in building strong local leadership, cultivated team work and accountability, and reinforced transparent management systems by providing PMTCT program management orientation to health managers, organizing and funding review meetings, and carrying out joint supportive supervision (JSS) and review of achievements and challenges. The project also worked to improve the knowledge and skills of leaders, health care providers, and community volunteers for improved quality and uptake of services. As a result, the CPMTCT project improved the coordination and planning of stakeholders at the regional, zonal, and *woreda* levels for increased service coverage and support for community-based HEWs and volunteers. This approach served as the foundation for the project's transition strategy, as these government counterparts were integrated into the project from the beginning and, therefore, were well prepared to continue activities when the project ended.

Using rigorous internationally-generated evidence and programmatic best practices to inform the design and implementation of project activities

To learn about what did and didn't work in increasing client uptake of services, the project team analyzed existing and newly published literature, developed a strong monitoring and evaluation framework, and targeted and implemented operations research to define and scale up the most effective community MNCH/PMTCT model for Ethiopia. In addition, the project conducted

operations research on the use of “mama kits” (layette kits) for the promotion of institutional delivery; trials of improved IYCF practices; a gender assessment of the low uptake of institutional delivery and low rate of partner testing; and periodic quality of care assessments. Results from this research informed the content of mentoring and training packages and job aides for improvement of services. The project team worked with regional and local GoE and community-based organization (CBO) counterparts to ensure that performance indicators were known, fully understood, accepted, and monitored. In addition, it complemented and supported overall government programs and strengthened the capacity of local institutions.

Leveraging existing infrastructure, systems, and experiences to maximize both sustainability and return on investment

IntraHealth and CPMTCT project partners (Pathfinder, PATH, and IOCC) have extensive and long-lasting experience strengthening MNCH and HIV services in Ethiopia. The project team capitalized on this experience for rapid start-up and expansion as well as integration of services. For example, where possible, it integrated MNCH/PMTCT messages into Pathfinder’s Integrated Family Health Program (IFHP) and vice versa. IOCC’s religious networks were leveraged to reach communities with DCCM activities, and PATH’s Infant and Young Child Nutrition (IYCN) project and the CPMTCT project shared IEC/BCC materials for awareness creation and community education about infant and young child feeding.

The GoE has invested heavily in community-level health services through health centers, health posts, and urban health extension professionals (UHEPs), HEWs, and other cadres. USAID and other donors have reinforced an extensive network of local CBOs among people living with HIV, women, and religious groups that is capable of training and supporting high-functioning community health volunteers. The project relied heavily on these existing networks, integrating different MNCH/PMTCT services as appropriate into existing scopes of practice and building linkages and referrals where necessary. Through these efforts, the CPMTCT project was able to enhance PEPFAR and USAID investments in MNCH and other health systems.

Recognizing that gender matters as it relates to HIV stigma, discrimination, and women’s decision-making around health-seeking behavior

The CPMTCT project implemented appropriate strategies to address gender-based discrimination, gender-based violence, economic dependence, and gender-based barriers to MNCH and PMTCT service access. The project conducted a gender assessment to explore factors explaining why pregnant women do not utilize available labor and delivery services and men do not accompany partners to health facilities for PMTCT services or partner testing. As a result of the assessment, the project developed a training curriculum on respectful maternity care and trained health care providers in project-supported sites. The project used its community outreach networks to create community awareness of women’s right to maternal health services. The project also implemented partner invitation cards, father support groups, and community dialogue to increase involvement of men in PMTCT services. In addition, project staff participated in Women’s Day celebrations, disseminating findings of the gender assessment and reflecting on various interventions implemented by the project to address gender issues.

RESULTS: OBJECTIVE 1

Objective 1: Build the capacity of regional health bureaus, zonal and *woreda* health offices, and community-based organizations to support and manage community-based PMTCT.



Intermediate Results

From the outset, the project partnered with the GoE at all levels (federal, regional, zonal, and *woreda*) as well as with a number of CBOs to build capacity to support and manage community-based PMTCT services for the duration of the project and afterwards. The project successfully equipped these entities to lead, advocate for, manage, and evaluate community MNCH/PMTCT services and then transferred ownership to them. Using a combination of technical assistance, coaching, team-building, leadership development, mentoring, and skills development, the following intermediate results were met:

- 1.1 Increased PMTCT leadership, project management, and coordination skills at health bureaus and identified CBOs to transition in three years.
- 1.2 Increased acquisition of relevant and accurate MNCH/PMTCT technical knowledge and skills among identified health care cadres.
- 1.3 Supported improvement in existing integrated MNCH/HIV logistics management systems and knowledge in the health bureaus and CBOs.
- 1.4 Improved skills and knowledge of good financial management of projects and grant writing skills.
- 1.5 Increased policy changes on HEW involvement in MNCH/PMTCT and patient cost standardization.
- 1.6 Established improved quality assurance, quality improvement, and overall strategic information practices at health bureaus and CBOs.

IR 1.1 Increased PMTCT leadership, project management, and coordination skills at health bureaus and identified CBOs to transition in three years

To increase CPMTCT leadership and project management of the regional health bureaus and identified CBOs, the project established and supported regional, zonal, and *woreda*-level quarterly, annual, and biannual review meetings. These meetings were attended by a broad range of stakeholders, including RHBs, regional HIV/AIDS Prevention and Control Offices (HAPCOs), health facility managers and staff, CBOs, and other development partners. The focus of the meetings was to review progress against targets, coordinate and communicate with key stakeholders, and address technical and management issues to improve the quality of MNCH/PMTCT services. The meetings emphasized the importance of building relationships between key players to transfer knowledge and skills in PMTCT program implementation and promote effective collaboration and the use of data for decision-making. The project provided both technical and financial support to these meetings.

The project also supported the five RHBs' annual meetings to ensure that annual planning processes were linked to the development of *woreda* operational plans, targets, and budgets, as well as ensure sufficient integration of MNCH/PMTCT plans, targets, and resources. These annual meetings served as a platform for strategic decisions, policy dialogue, and target setting that were specific to regional and community data. Over the final two years of the project, CPMTCT staff gradually handed over support of these meetings to the regional and *woreda* health offices and consolidated programmatic, financial, and workforce management issues, with only targeted technical assistance being provided as needed. Furthermore, the project's regional offices conducted zonal catchment review meetings in different locations to review MNCH/PMTCT performance in supported health centers. Specifically, the performance of each project-supported health center's PMTCT service provision was reviewed, gaps identified, and action plans developed accordingly. Additional support at the regional level included: technical and logistics support to the regional HAPCO for biannual joint integrated supportive supervision; technical and financial support to the curative, rehabilitation, and multi-sectoral HIV/AIDS annual review meetings; and support for a regional health extension program festival.

In addition to these interventions at the regional level, the project identified the need for support at the federal level for improved management and coordination of PMTCT services. As a result, the project seconded a full-time consultant who served as an MNCH and PMTCT advisor to the FMOH. This person provided a variety of support including: developing the PMTCT accelerated plan and leading its implementation; preparing the FMOH PMTCT annual program analysis report; revising the national MNCH/PMTCT training package and guidelines to reflect changes to the ARV protocol (Option A); facilitating the rollout of the FMOH's Option B+ strategy; conducting master training of trainer (TOT) sessions; preparing an orientation package for Option B+; representing the project at regional, national, and international elimination of mother-to-child transmission (E-MTCT) meetings; revising the monitoring and evaluation tool to reflect Option B+ implementation; leading the PMTCT TWG with activities related to the adoption of World Health Organization (WHO) Option B+ guidelines; and preparing the quantification of 2006 Ethiopian fiscal year (EFY) HIV commodities. This support was essential to

the FMOH as it provided them with a technical expert to lead the PMTCT initiative throughout the time of the project. Project technical leads also contributed to the various TWGs and development of policies and guidelines, as stated above.

The CPMTCT project supported major national PMTCT initiatives such as the development, launch, and implementation of the FMOH's *Accelerated Plan for Scaling-up PMTCT Services in Ethiopia* (Federal Ministry of Health 2012). The accelerated plan was presented at the prelaunch session of the International Conference on AIDS and STIs in Africa (ICASA), which took place in Addis Ababa in 2011. The project also assisted the FMOH to develop a safe motherhood/PMTCT plan and contributed to the revision of existing national PMTCT training materials as well as producing new MNCH/PMTCT training materials for the health extension program.

Training. At the zonal level, CPMTCT staff provided technical support to zonal and *woreda* office staff and health center managers to use the PHCU meetings as a forum to review progress, identify gaps, and propose actions to improve MNCH/PMTCT services as well as ensure that zonal offices are tasked with resolving higher-level supply, transport, and budget issues. A zonal catchment review meeting was organized to review CPMTCT project performance, attended by regional, zonal, and *woreda*-level officials, including project-supported health center heads. This opportunity was used to orient and sensitize the audience on Option B+.

At the *woreda* level, the project supported and assisted the WrHOs with annual planning as well as review meetings (including quarterly) to ensure inclusion of MNCH/PMTCT plans, targets, and resources in the plans. During *woreda*-based quarterly review meetings, the project supported the WrHO by presenting the barriers to increased service utilization and developing corresponding action plans. The project also provided technical and financial support during *woreda*-based planning.

At the health center level, the project supported monthly meetings of relevant health center staff, health extension program (HEP) supervisors, and UHEPs/HEWs to review progress against quality measures and targets. These meetings focused particularly on analyzing referral uptake and receiving referrals for follow-up of HIV-positive mothers and HIV-exposed infants who did not make scheduled appointments. (HIV-positive clients are asked if information can be shared.) This also became a forum for short training updates for the health extension cadres.

Site transition. Project staff undertook a desk review to assess each site according to a set of criteria established by the project (Table 1). (The transition criteria were established based on the FMOH minimum requirements to provide PMTCT services in health center settings.) Using these criteria, the project was able to gauge the quality of MNCH and PMTCT services and each health center's readiness for handover. A detailed action plan was developed to guide the handover of sites, which was then shared with the health center managers, health center PMTCT focal persons, district health offices, zonal health department heads, and RHB staff.

Table 1: Site transition criteria

Focus Areas	Criteria
Staff	<ul style="list-style-type: none"> • At least five basic MNCH/PMTCT trained staff/facility
Quality of care	<ul style="list-style-type: none"> • Meet minimum PMTCT standards; 24/7 coverage labor and delivery • Availability of logistics and supplies (essential drugs, rapid test kits, infection prevention and FP supplies) • Functional system for dried blood spot (DBS) testing/CD4 count HIV+ pregnant women
Data quality	<ul style="list-style-type: none"> • Summary reports agree with registers for three months
Review/planning meetings	<ul style="list-style-type: none"> • 85% of targeted monthly or bimonthly PHCU meetings accomplished (health center plus HEWs or UHEPs) • Uptake analyzed, gaps identified, action plan developed, and 80% action plan carried out
Follow-up within PHCU	<ul style="list-style-type: none"> • 70% of pregnant women have one ANC visit at health center • Monthly visit OR follow-up visits to those lost to follow-up (HIV-exposed infants or pregnant or lactating HIV-positive women) by UHEPs/HEWs or MSG
Coverage	<ul style="list-style-type: none"> • ANC coverage for health center and HEP > 80% • Antiretroviral therapy (ART)/ARV coverage 100% • DBS coverage 80% of HIV-exposed infants delivered in the health facility

The initial plan to provide need-based project support for matured health facilities could not be applied due to rollout of Option B+ to the mature sites and the subsequent need for close monitoring and mentoring of health facility staff.

At the health center level, the transition was defined as the reduction of technical support reflected in four phases and based on the capacity of the health centers.

- **Phase one:** Project provides regular quarterly joint supportive supervision, coupled with monthly follow-up supervision and mentoring.
- **Phase two:** Project provides regular quarterly joint supportive supervision, with only required follow-up supervisory visits.
- **Phase three:** Government counterparts take over the responsibility of supportive supervision and project staff monitoring, with the availability of project support on an as-needed basis.
- **Phase four:** After a health center maintains high standards for 3-6 months, complete handover to the RHB takes place. Subsequently, project staff assists the RHB to monitor quality in sites that have been handed over.

Civil society organizations. Within the first three months of the project, CPMTCT partners reached an agreement on a common approach to build the capacity of CSOs as it related to skills needed for sustainable and comprehensive MNCH/PMTCT services. The CSOs were primarily composed of associations of people living with HIV (PLHIV).

The CPMTCT project identified two strategies for building CSO capacity. First, IOCC subgranted and mentored the EOC-DICAC to undertake DCCM activities. Second, the project completed

organizational capacity assessments of 20 CSOs identified as potential partners in demand creation. These included three EOC-DICAC branch offices and the nine PLHIV organizations in Addis Ababa supporting MSG expansion and *kebele* (neighborhood) level community MSG/PMTCT focal persons. The assessments identified gaps and weaknesses in project and financial management, which guided the development of training plans to build the capacity of 20 CSOs in managing PMTCT programs, leadership, financial management, and proposal writing. The objective of this support was to assist the CSOs in educating their members on major topics related to PMTCT (including family planning, adherence to treatment, exclusive breastfeeding, disclosure of HIV status, and discordance), and, most importantly, empower them to play a significant role in increasing demand for services and reducing loss to follow-up of HIV-positive pregnant women. The capacity-building support activities included training CSOs to deliver sensitization, mentoring, leadership training, and training on behavior change/community mobilization (BC/CM) including job aides.

Sensitization workshops

The project organized sensitization workshops with CSOs and community leaders to introduce them to the project and gain local support in *woredas* where the project expanded its reach. These workshops were considered entry points for DCCM activities. After initial sensitization meetings, the project supported periodic *woreda*/town advisory committee meetings to secure and then review and plan *woreda* support in creating an enabling environment for pregnant women to seek ANC/PMTCT services. Community-level sensitization workshops were conducted in intensive DCCM intervention sites to orient and sensitize influential community members to identify and address barriers that hinder women from accessing MNCH services. The workshops provided an opportunity to identify and address cultural and normative barriers in the social environment. Health service providers, religious leaders, *kebele* officials and administrators, PLHIV association members, community leaders, and youth and women's groups were among the participants at these workshops.

The project also held *woreda*-level sensitization meetings for over 3,000 local leaders, health extension workers, and health facility and health office staff to secure buy-in and support for demand creation efforts in their *woredas*.

Awareness-raising workshops on MNCH and PMTCT were organized for members of PLHIV associations in Addis Ababa, Amhara, Oromia, SNNPR, and Tigray. A total of 165 participants from 11 associations attended the two-day orientation on PMTCT, family planning for HIV-positive people, and appropriate infant feeding in the context of maternal HIV.

Mentoring and supportive supervision

The project carried out mentoring visits with the CSOs and conducted biannual review meetings with the Women's Federation. Monthly meetings also took place with volunteers from the four PLHIV associations in Addis Ababa. Support provided to the Network of HIV-Positive Associations (NAP+) included a workshop on how to improve uptake of ANC/PMTCT and ARV prophylaxis by pregnant women, and the role of PLHIV associations in CPMTCT.

Monthly review and planning meetings were held with volunteers from the CSOs to discuss monthly performance, challenges faced, and the way forward. The meetings also enabled volunteers from the different CSOs to share experiences and lessons learned.

IOCC volunteers and focal persons conducted monthly review meetings in their respective catchment areas, which allowed them to discuss project reports, best practices, challenges faced, and any other issues relating to the project.

Leadership training

Forty-five leaders from 20 CSOs participated in a 10-day *Basic Managerial and Leadership Skills* training to equip participants with skills and knowledge of topics including community mobilization, behavior change, and financial management.

Job aides

The project developed and distributed job aides to the CSOs, and IOCC adapted and customized job aides particularly for the faith-based organizations. In all, 650 job aides were printed and distributed to religious volunteers. Necessary orientations were made on use of the job aides.

IR 1.2 Increase acquisition of relevant and accurate MNCH/PMTCT technical knowledge and skills among identified health care cadres

IntraHealth is recognized as a leader in the provision of clinical and community-based PMTCT training and has provided technical assistance to the FMOH, universities, and the private sector to design and apply many of the key PMTCT service guidelines, training curricula, approaches, and tools used in Ethiopia today. The CPMTCT project drew on this experience to ensure that PMTCT knowledge and skills were continually updated and shared in a decentralized fashion through active participation in national and regional TWGs, support for trainings (preservice and in-service), and development, printing, and distribution of job aides and guidelines.

Technical working group support. The project provided technical support to the FMOH by participating in several technical working groups (see box). Project staff also supported the FMOH in developing its Option B+ implementation guide, Option B+ basic and updated training packages, continuous quality improvement (CQI) training manual, nutrition training package, E-MTCT implementation plan, and national quality improvement guides and protocols. The project supported revisions of the FMOH BEmONC training package and newborn intensive care unit training package, as well as supporting child survival investment fund proposal writing and newborn intensive care unit assessment tools. It is through the TWGs that the project was able to lead, participate in, and influence key PMTCT-related guidelines, policies, and curricula.

Technical working groups

- Safe motherhood
- PMTCT
- Newborn and child health
- Mother support groups
- Nutrition
- Family planning
- Quality improvement

Safe Motherhood/PMTCT TWG

At the request of the TWG and FMOH, the CPMTCT project contracted out and then oversaw the revision of the *National Comprehensive PMTCT/MNCH Training Manual*. The original curriculum was revised during the first year of the project and had already been approved by the FMOH, but a recent decision by the FMOH to adopt the WHO 2010 recommendations on PMTCT meant the materials needed to be revised again and the national PMTCT guidelines amended. CPMTCT project staff led a TWG subgroup, which revised the training manual and actively participated in designing both the *PMTCT Emergency Plan* and the *Road Map for Accelerating the Reduction of Maternal and Newborn Morbidity and Mortality*.

As part of the *Safe Motherhood/PMTCT TWG*, the CPMTCT project participated in and presented promising practices at the FMOH-led national safe motherhood/PMTCT micro-planning and the federal HAPCO-led meeting on increasing religious leaders' involvement in PMTCT. The project also supported a month-long safe motherhood/PMTCT campaign (including the production and airing of PMTCT-related radio spots) and participated in the Bush Institute-facilitated meeting with Safe Motherhood/PMTCT TWG partners. One outcome of the micro-planning undertaken by the TWG was that the FMOH decided to promote a "fast-track" approach to improving PMTCT performance, which in many ways was similar to the CPMTCT project's community demand creation approach.

Nutrition and HIV & National Nutrition TWG

CPMTCT staff supported the updating of guidelines on nutritional care for people living with HIV/AIDS and produced a radio spot on the importance of breastfeeding in the context of HIV/AIDS for national breastfeeding week. In addition, CPMTCT project staff provided substantial input on the production of IYCN counseling cards. CPMTCT partner, PATH, produced two IYCN edutainment videos intended for use with project MSGs. The videos, which communicate key messages on proper IYCF practices for women with children less than two years of age based on the current WHO recommendations, were reviewed by members of the nutritional TWG.

National Health Communications TWG

Project staff participated in this TWG to ensure standardization of MNCH/PMTCT messages and sharing of CPMTCT IEC materials and BC/CM training materials. The translated versions of the training materials were shared with the FMOH for adaptation for training the health development army.

Other CPMTCT support for TWGs included the following:

- The project team actively participated in monthly PMTCT and UHEP TWG meetings and contributed to the preparation of draft UHEP implementation guidelines and development of IEC/BCC materials on breastfeeding.
- Project staff from all five regions participated in the Regional Accelerated PMTCT Plan steering committees and TWGs for the scale-up of PMTCT services. The CPMTCT regional managers worked closely with RHB staff to facilitate implementation of the Accelerated

Plan at the regional level. In addition, regional staff ensured implementation of the revised PMTCT guide in all project-supported health centers.

- As the lead of the PMTCT TWG, the CPMTCT's seconded MNCH/PMTCT advisor and the CPMTCT technical lead also contributed to the revision of the national MNCH/PMTCT training package and guidelines to reflect changes to the ARV protocol (Option A). The MNCH/PMTCT advisor presented the updated PMTCT guidelines during the federal HAPCO biannual review and conducted a half-day orientation for 30 PMTCT trainers.

Regional health bureaus. Regional project staff actively participated in the Regional Partners Forum, the consultative committee (IntraHealth staff served as secretary), and different TWGs in the areas of reproductive health/maternal and newborn health, HIV/TB/STI, systems strengthening, and pharmaceuticals. These entities prioritized MNCH/PMTCT issues and, as a result, there are promising practices regarding institutional delivery and MNCH services in the regions.

Guidelines and job aides. At the national level, the project supported the FMOH directly and indirectly by assisting with the development of national guidelines (and/or revision thereof) and also distributing essential MNCH/PMTCT guidelines and job aides to health centers. Job aides and IEC materials such as focused antenatal care posters, birth preparedness cards, positive pregnant women tracking wall charts, danger signs in pregnancy posters, referral cards, partner invitation cards, and appointment cards were printed and distributed to all project-supported health centers where such gaps were identified. Moreover, an IYCF DVD was produced and 800 copies distributed to project sites, MSGs, partner organizations, and MOH offices. IYCF counseling cards were translated into Tigrigna and Oromifa and 1,290 cards distributed to the regions. The project also supported the printing of 4,200 copies of three types of HEW integrated refresher training modules in Tigrigna for use by the FMOH.

The project produced BCC materials (posters, brochures) on optimal IYCF practices to increase demand. The project also duplicated and distributed counseling cards to project-supported regions after translating them into three local languages (Amharic, Tigrigna, and Oromifa).

Training health care providers. Ensuring that health workers have up-to-date technical knowledge was a fast-paced, ongoing component of the project that required a substantial investment in regular in-service trainings (basic and refresher) to strengthen the provision and continuous development of PMTCT services. The project invested heavily in building the capacity and MNCH/PMTCT knowledge and skills of health care workers by providing in-service trainings on basic MNCH/PMTCT, BEmONC, IYCF, MSGs, performance quality improvement/supportive supervision (PQI/SS), CQI, CD4/DBS, health management information systems (HMIS), the Integrated Pharmaceuticals Logistics System (IPLS), and BC/CM. In the first two years of the project implementation period, preservice training for urban health extension workers and BEmONC training for graduating midwifery students were provided.

The project’s approach to establishing integrated MNCH/PMTCT services involved training the health center manager and two health workers from the selected health centers using the national MNCH/PMTCT curriculum (see Objective 1 for the project’s role in curriculum revision). After training, health center staff received job aides, copies of the national MNCH/PMTCT guidelines, and supportive supervision from CPMTCT staff on a monthly basis and joint supportive supervision (CPMTCT staff with *woreda* health officials) on a quarterly basis. These visits ensured that staff applied what they learned during the trainings and that the health centers had all that they needed (infrastructure, HIV test kits, ARVs, furniture, etc.) to provide quality MNCH/PMTCT services. In addition, the project trained the health center managers and the regional PMTCT focal person in performance improvement and quality assurance (PI & QA) to build the capacity of government personnel to ensure consistent, quality services.

During the life of the project, Ethiopia’s PMTCT guidelines and ARV regimen changed three times, which required numerous revisions to the curricula and job aides as well as refresher trainings for all project staff and health care providers. Initially, the training was nine days with the guideline of ARVs for HIV-positive pregnant women starting from 28 weeks of pregnancy. With the adoption of Option A under the FMOH’s *Accelerated Plan of PMTCT*, the CPMTCT team led the development of a 12-day, comprehensive MNCH/PMTCT curriculum. During the third year of the project, the FMOH adopted Option B+, which offers all HIV-positive pregnant women lifelong antiretroviral therapy, regardless of their clinical stage or CD4 count, thus streamlining the PMTCT process. Option B+ was adopted and the ARV regimen changed once again, resulting in the need to revise all training materials and job aides as well as retrain health facility providers.

To reduce infant and young child malnutrition and mortality, improved IYCF trainings were provided to 858 health center providers, site coordinators, and mentor mothers.

Over the life of the CPMTCT project, a total of 20,096 health care providers working in project-supported health centers received training (Table 2). This includes health managers working at the *woreda* and zonal levels trained on quality assurance, supportive supervision, and HMIS.

Table 2: Number of health workers trained with CPMTCT project support, by region

Training topics	Addis Ababa	Amhara	Oromia	SNNPR	Tigray	Total
Comprehensive MNCH/PMTCT training ¹	1505	3045	2028	1618	1947	10,143
Performance quality improvement and supportive supervision	421	324	349	277	581	1,952
Basic mother support group training	226	189	182	129	172	898
Demand creation and community mobilization	420	1788	1163	1469	1202	6,042
HMIS and supply chain management	99	129	86	174	573	1,061
Total	2,671	5,475	3,808	3,667	4,475	20,096

¹ Includes basic MNCH/PMTCT, basic emergency obstetric and neonatal care, infant and young child feeding, HIV rapid testing, and CD4 and dried blood spot HIV testing.

IR 1.3 Supported improvement in existing integrated MNCH/HIV logistics management systems and knowledge in the health bureaus and CBOs

The project took a systems approach to address Ethiopia's pervasive logistic management challenges by focusing on interventions at the national, regional, and health center levels.

National level. Through participation in the USAID-led PMTCT procurement meeting (where MNCH equipment and supplies needed for hospitals and health centers were identified), the CPMTCT project ensured that all new CPMTCT and Pathfinder IFHP PMTCT health centers were included on the Pharmaceutical Fund and Supply Agency (PFSA) and Supply Chain Management System (SCMS) procurement and distribution lists. Subsequently, regional project staff worked with the RHBs and local offices of PFSA/SCMS to ensure that all the regions that proposed PMTCT expansion sites were included for future procurements.

Both supply shortages (notably of drugs, labs, and infection prevention [IP] materials) and confusion regarding the interpretation of policies were observed on the ground. Based on these observations, the project mobilized the FMOH, USAID, and implementing partners to:

- Clarify guidance regarding the use of combination ARV prophylaxis versus single-dose nevirapine (sdNVP) at all PMTCT sites
- Improve proper supply maintenance
- Address the issue of temporarily unaffordable and/or unavailable labs and supplies.

With the support of USAID, health centers supported by CPMTCT and IFHP received essential labs and HIV rapid test kits (RTKs) for free as part of "program" drugs.

Regional level. At the regional level, the project worked with US government PEPFAR program logistics management partners to ensure commodity security for PMTCT and HIV testing commodities, ARV drugs, and modern contraceptives. The project collaborated with each RHB to ensure that the PMTCT logistics system and the accompanying and needed skills were well understood and practiced. Project staff participated in various meetings with RHBs, PFSA, and SCMS to resolve supply-related issues such as lack of essential drugs and stockouts.

Health center level

Training and mentoring

In collaboration with PFSA/SCMS, CPMTCT supported IPLS training for 264 staff from 207 health centers. The project's regional staff provided technical support to health care providers and health center directors to secure MNCH/PMTCT-related pharmaceuticals and other needed medical supplies. This training was discontinued in the fourth year of the project due to duplication of such trainings by another US government partner.

The project team supported and encouraged facility teams to appropriately forecast their logistical needs and to prepare and send report and request forms on time according to the agreed-upon schedule with existing PFSA hubs. In addition to logistics management training,

the project also monitored the supply situation on the ground during supportive supervision visits. The project used a two-pronged approach, assisting RHBs to inform the PFSA of the supply situation as well as directly informing both USAID and the FMOH.

National distribution list

To strengthen the project's relationship with PFSA and prevent commodity stockouts, the project shared an updated list of CPMTCT-supported health centers with PFSA staff at the national level. This type of exchange and follow-up also occurred at the regional level, where CPMTCT staff worked closely with PFSA regional counterparts to resolve ongoing supply challenges, such as shortages of RTKs and CD4/DBS testing.

In the case of health facilities that could not be served by PFSA due to distance, project staff distributed ARV prophylaxis and DBS testing supplies during their joint supportive supervision (JSS) and follow-up supportive supervision (FSS) visits. This enabled an immediate distribution of these items as the project worked closely with the RHBs, the PFSA/SCMS project, and USAID staff to improve the situation. The project also purchased and distributed IP materials and key lab reagents.

Supply gaps

In some instances, the project procured and/or distributed basic medical equipment and supplies (such as microscopes, blood pressure apparatus, hemoglobin meters, IP materials, laboratory reagents, and RTKs) to health centers. To avoid duplication, this was done in consultation with the RHBs and implementing partners responsible for providing these. In most cases, the CPMTCT project facilitated their distribution rather than procuring the items. In some sites, the project's service delivery officers (SDOs) supported health centers to avail supplies by locating them at nearby ART health centers and hospitals.

Implementing partners

The project also supported SCMS in the national quantification of drugs and equipment for all health facilities.

IR 1.4 Improved skills and knowledge of good financial management of projects and grant-writing skills

The project conducted an organization capacity assessment tool (OCAT) assessment that identified gaps in financial management and grant-writing skills. Accordingly, the project trained 46 senior officials from 22 CSOs in basic finance for non-finance managers. CSO officials also received training in leadership and management skills (n=45) and financial management and health governance (n=14). The training helped them to understand the processes that contribute to better health care management and steps to improve current practices. The project also assisted two CSOs to submit a proposal to *Positive Action for Children* (Glaxo Foundation) to undertake PMTCT activities.

IR 1.5 Increased policy changes on HEW involvement in MNCH/PMTCT and patient cost standardization

Before the inception of project implementation, there was considerable policy dialogue around the need to reallocate service delivery tasks to HEWs and UHEWS to increase access to quality primary health care services. Accordingly, the project assisted the FMOH and the regions to identify which tasks could be provided by HEWS and also provided guidance on cost exemption of MNCH/PMTCT services.

Task shifting. In the first year of the project, Amhara region authorized HEWs to carry out HIV counseling and testing of pregnant women in their respective communities. The project planned to advocate for the same authorization in other regions. However, after the second year of the project even Amhara region stopped the HEWs from performing C&T. The only region where it continued was Tigray. The project had planned to organize and facilitate trainings for UHEPs (the majority of them in AA) to perform PMTCT services, but AA region HB did not authorize them to perform C&T.

Cost exemption. The project also supported the FMOH to review existing health care financing and safe motherhood exemption policies, which were developed in isolation from one another, and help them to develop clear and consistent policy guidance for implementation at health facility level. The issue frequently came up in many forums, and therefore the fee exemption proclamation was adopted in all project-supported HCs.

IR 1.6 Established improved quality assurance, quality improvement and overall strategic information practices at health bureaus and CBOs

Using the IntraHealth performance improvement model, the project strengthened the ability of RHBs and CBOs to establish, oversee, and sustain continuous quality assurance and improvement approaches and tools, including supportive supervision. This activity was done at HC level only. Support for improved strategic information practices was withdrawn from the project due to another USG partner leading the national HMIS program.

RESULTS: OBJECTIVE 2

Objective 2: To increase access to integrated MNCH/PMTCT services through providing facility and community-based services and improving bidirectional linkages and referrals between MNCH/PMTCT services at the community, health post, health center, and hospital levels.

Intermediate Results

Implementing IntraHealth's optimizing performance and quality (OPQ) approach, establishing mother support groups (MSGs) within facilities and CBOs, and supporting PHCU meetings were key interventions that the project implemented to achieve this objective. The following are the intermediate results that the project achieved:

- 2.1 Increased number of health posts and health centers providing MNCH/PMTCT services
- 2.2 Introduced innovative ways of providing MNCH/PMTCT services and follow-up in communities
- 2.3 Collaborated with government and other stakeholders to establish clear and strong referral linkages between facilities and community services in regions
- 2.4 Introduced internationally accepted tools and systems for confirming client follow-up on referrals
- 2.5 Integrated service delivery (MNCH/STI/PMTCT)
- 2.6 Enhanced community management in oversight of services linkages (see Objective 3)
- 2.7 Increased ability of identified health workers to access communities and pregnant women to access facilities.



Since many of these intermediate results are overlapping, we have combined some of them in this report to prevent repetition of results and achievements.

2.1 Increased number of health posts and health centers providing MNCH/PMTCT services

CPMTCT site expansion. Increasing the number of health centers and health posts providing MNCH/PMTCT services and strengthening bidirectional referrals was one of the project's key activities. The original plan was to establish MNCH/PMTCT services in 70 health centers and to implement community mobilization in the catchment areas of 160 health centers that already offered PMTCT services. The approach was to create model MNCH/PMTCT sites by strengthening the capacity of RHB, zonal, and *woreda* health managers to provide quality services at health centers, and for these centers to then provide technical support to establish

PMTCT services at other health centers and health posts. However, during the first year of the project, the CPMTCT project had to revise its strategy and the number of sites it supported for several reasons:

1. The CPMTCT project could not count numbers of HIV-positive pregnant women referred to PMTCT services supported by other US government partners toward its targets.
2. The model MNCH/PMTCT approach was not possible due to the low technical capacity of *woreda* officials in coordinating and providing technical support to health center staff and the limitations in the job responsibilities of health center managers to provide technical support to other health centers.
3. The regional health bureaus were keen for the project to support the rollout of the government’s *Accelerated PMTCT Plan*, putting pressure on the project to expand quickly to more rural sites where PMTCT services did not previously exist.

In consultation with USAID, the FMOH, and the RHBs, the project responded to these issues by revising the geographic rollout with each RHB and zonal and *woreda* health office. Baseline assessments were performed for potential facilities and those that met the selection criteria of adequate staffing, infrastructure, prevalence of HIV, and ANC patient load were selected to receive the project’s support for establishing PMTCT services and strengthening MNCH services. It is important to note that the prevalence rate of the health centers where the project rolled out PMTCT services was much lower than expected—over the life of the project, the HIV-positive rate in supported facilities was 0.5%.

As mentioned above, the project increased the number of health facilities supported over a three-year period, from 49 in Year One to 519 in Year Four (Table 3). The 519 sites were supported for the remaining two years of the project.

Table 3: Regional distribution of CPMTCT-supported health centers

	Addis	Amhara	Oromia	SNNP	Tigray	Total
Year I	2	12	12	10	12	48
Year II	6	40	38	42	33	159
Year III	14	90	70	61	77	312
Total Years IV and V	22	142	120	113	122	519

Woreda mapping. To collaborate and coordinate efforts between health facilities and community organizations, the project carried out *woreda* mapping and identified areas of collaboration to strengthen referral linkages among different service providers.

MNCH/PMTCT outreach services. In addition to expanding PMTCT services in health centers, the project supported HEWs providing HIV counseling and testing (HCT) to provide PMTCT in rural areas where health centers did not yet provide PMTCT services. These outreach services enabled *woredas* to reach their counseling and testing targets and also proved to be an efficient

way to provide integrated services. Integration included not only ANC/PMTCT but also family planning, weight/height monitoring for children, and immunization services.

When the FMOH introduced the PHCU model during the project's second year, the project expanded to additional health centers but only did outreach within health center catchment areas. As the CPMTCT project matured, these outreach interventions were conducted independently by the health centers as part of their *Expanded Program for Immunizations* outreach. For example, in Tigray, the HEWs who conduct HCT services at the health post level are now responsible for MNCH/PMTCT outreach services.

2.2 Innovative ways of providing MNCH/PMTCT services and follow-up in communities

2.5 Integrated service delivery

Using IntraHealth's OPQ approach, the CPMTCT project successfully assisted 519 health centers to provide comprehensive MNCH/PMTCT services. The OPQ approach combines standardized tools such as checklists and measurement instruments with on-site mentoring and coaching. It assists health workers in identifying performance strengths and gaps as well as solutions. Supervisors help health workers understand the causes of performance gaps and how to close gaps through development of action plans. Addressing performance gaps may involve additional training or clinical mentoring. CPMTCT staff not only provided supportive supervision to sites on a regular basis but also implemented joint supportive supervision with *woreda* and zonal health officials to build their capacity in the OPQ approach.

Supporting Option B+ rollout. CPMTCT project staff played a key role in leading rollout of Option B+ implementation in the five project regions. This included preparing implementation guidelines and training packages, officially launching Option B+, training nine trainers at the national level, and following up with RHBs on implementation status. In addition, project staff participated in the development of an E-MTCT plan to which the GoE is fully committed.

To introduce Option B+ to RHBs and zonal and *woreda* health offices, the project conducted orientation meetings to discuss start-up and implementation of Option B+ with zonal and *woreda* officials and health center heads. In addition, the project's regional managers worked with their respective RHB heads and TWGs to develop and implement regional Option B+ rollout plans, including prioritization of sites, supply chain management, and distribution of revised job aides and monitoring and evaluation tools. In this Option B+ implementation endeavor, the project provided in-service training to a total of 1,039 health care providers.

Building capacity in BEmONC services. Beginning in 2011, the CPMTCT project implemented a BEmONC program with the aim of strengthening MNCH services at the health center level. Initially, this program had two components: in-service BEmONC training and mentoring for health care providers working in health facilities, and preservice BEmONC training for final year midwifery students. By the end of Year Two, the project had trained 493 graduating nurses, midwives, and health officers in MNCH/PMTCT and 164 graduating midwives in BEmONC and PMTCT. In addition, 21 teaching staff from the School of Midwifery and Nursing at Hawassa University received BEmONC training.

Monitoring and evaluation of the project identified low institutional delivery in CPMTCT-supported sites and identified the lack of emergency obstetric care skills among the health care providers working in MNCH units. The project then provided BEmONC trainings to 603 health care providers and 290 midwifery graduating class students, some of whom were deployed to project-supported facilities.

As the project expanded to 519 health centers, the focus shifted to in-service BEmONC training and training of health professionals using the integrated MNCH/PMTCT curriculum. These trainings ensured that women received integrated MNCH/PMTCT and BEmONC services from a single service outlet.

Site readiness assessment

A comprehensive site assessment was conducted throughout the 519 CPMTCT-supported health centers. Findings from these assessments, which focused on critical indicators such as infrastructure, human resources, signal functions, equipment, and supplies were used to develop action plans that supported 215 health centers to provide quality BEmONC services. The project staff shared the findings of the assessments with the respective *woreda*, zonal, and regional health staff to work on developing joint action plans to address the gaps.

Training and mentoring

The CPMTCT project continued to assess health center staff capacity during JSS and FSS visits to ensure that all providers working in MNCH/PMTCT services had up-to-date and accurate knowledge and skills. Where necessary, gap-filling trainings were provided, which resulted in 893 health care providers trained in BEmONC over the five years of the project.

MNCH/PMTCT materials and supplies. To strengthen the supply chain management system, the project provided the names of the health centers it supported to RHBs and PFSA regional hubs immediately after trainings. This was to ensure that these centers were on the ARV distribution list. The updated list of CPMTCT-supported health centers was also shared with PFSA staff at the national level to resolve ongoing supply challenges such as shortages of RTKs and CD4/DBS testing. In areas where PFSA did not reach health facilities, project staff distributed ARV prophylaxis and DBS testing supplies during their JSS and FSS visits, enabling an immediate distribution of these items. In some sites, the project's SDOs supported health centers to avail supplies by taking them from nearby ART health centers and hospitals. This collaborative effort prevented stockouts of essential supplies and commodities. The project also trained lab technicians from all five regions on CD4/DBS sample taking and transportation.

To address the lack of equipment and supplies for newborn resuscitation, the project distributed newborn corner tables with direct heating and a full pack of newborn resuscitation materials to 368 health centers in four regions and the Addis Ababa city administration. In addition, the project distributed 67,460 layette kits with USAID and UNICEF support to all health centers.

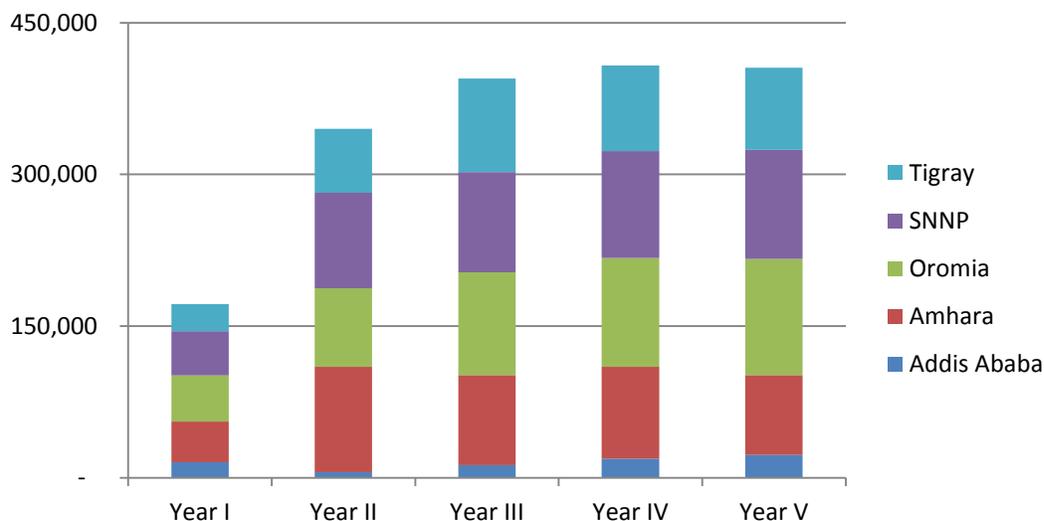
The project also procured and/or distributed basic medical equipment and supplies such as microscopes, Ambu bags, stethoscopes, blood pressure apparatus, hemoglobin meters, IP materials, laboratory reagents, and RTKs to project-supported health facilities. This was done in consultation with USAID, the RHBs, and implementing partners that were also responsible for such supplies to avoid duplication of purchases.

The project provided supply chain management training to 264 health care providers and supported and encouraged facility teams to forecast their supply needs and to send report and request forms according to the schedule agreed upon with the PFSA hubs. In most cases, the CPMTCT project facilitated distribution rather than procuring the items. The project also supported the SCMS in the national quantification of drugs and equipment for all health facilities. Moreover, the project’s regional staff provided technical support to health care providers and health center directors to secure MNCH/PMTCT-related pharmaceuticals and other medical supplies. This was done in a sustainable manner and in harmony with their health care financing scheme by supporting them on the day-to-day use of the IPLS.

MNCH/PMTCT clinical indicators. The project supported 519 health centers with a catchment population of 13,831,062 to provide integrated MNCH/PMTCT services to pregnant women, lactating mothers, male partners, and their infants.

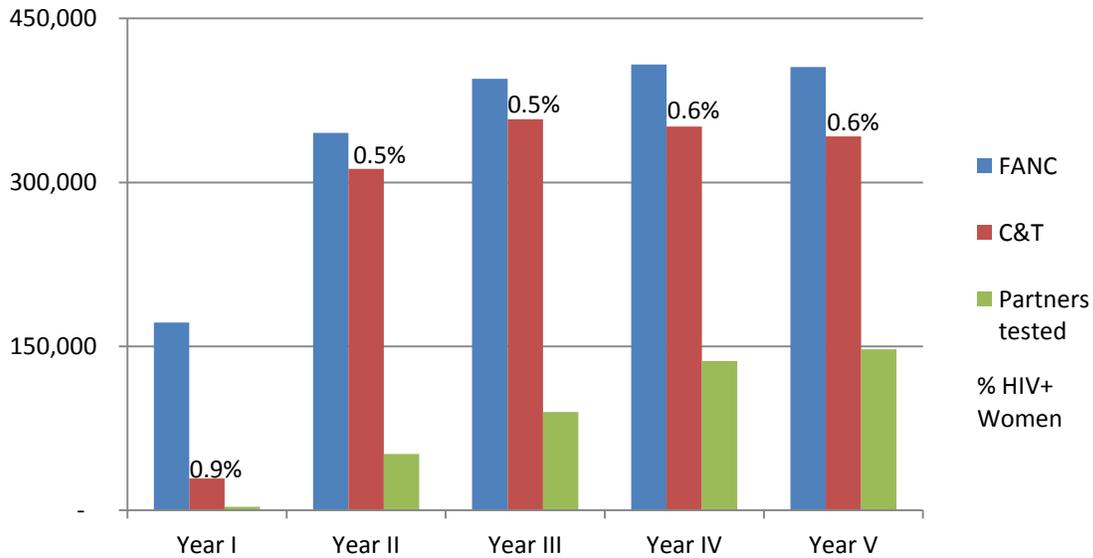
Focused antenatal care. Over the five-year period, the number of women attending focused antenatal care (FANC) in CPMTCT-supported health facilities increased commensurate with the increase in the number of facilities supported (Figure 2). Overall, 1,724,797 women attended FANC in CPMTCT-supported facilities over the life of the project. The project achieved 94% of its FANC target over its five years.

Figure 2: Number of new focused antenatal care patients by region, October 2009–September 2014



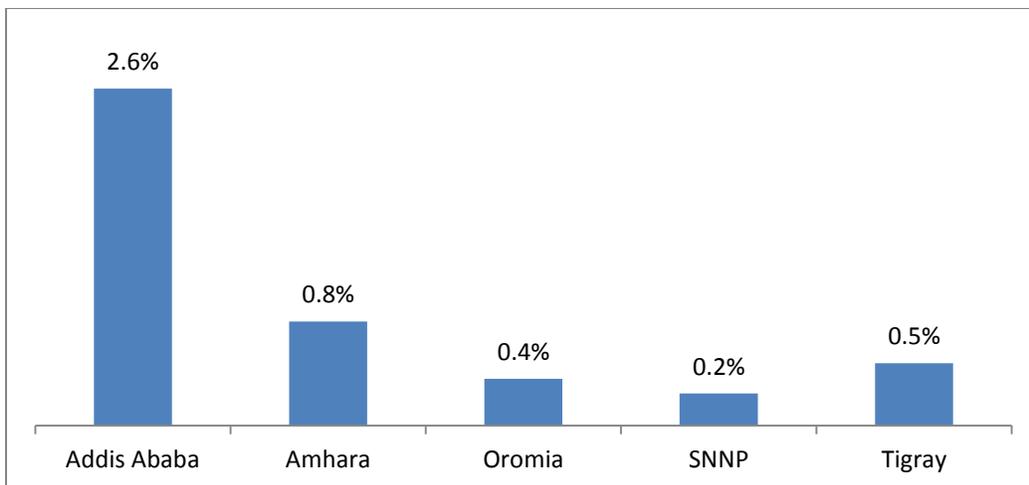
HIV counseling and testing. As the number of sites with available PMTCT services increased, so did the proportion of women attending FANC who consented to be tested for HIV (Figure 3). In Year One, 17% of women attending FANC were tested for HIV and knew their status. In Year Five, that figure had increased to 84%. Overall, the project achieved 89% of its target on this indicator. This figure also varied from region to region. The proportion of partners agreeing to be tested also increased from 11% in Year One to 43% in Year Five.

Figure 3: HIV counseling and testing in FANC for women and their partners



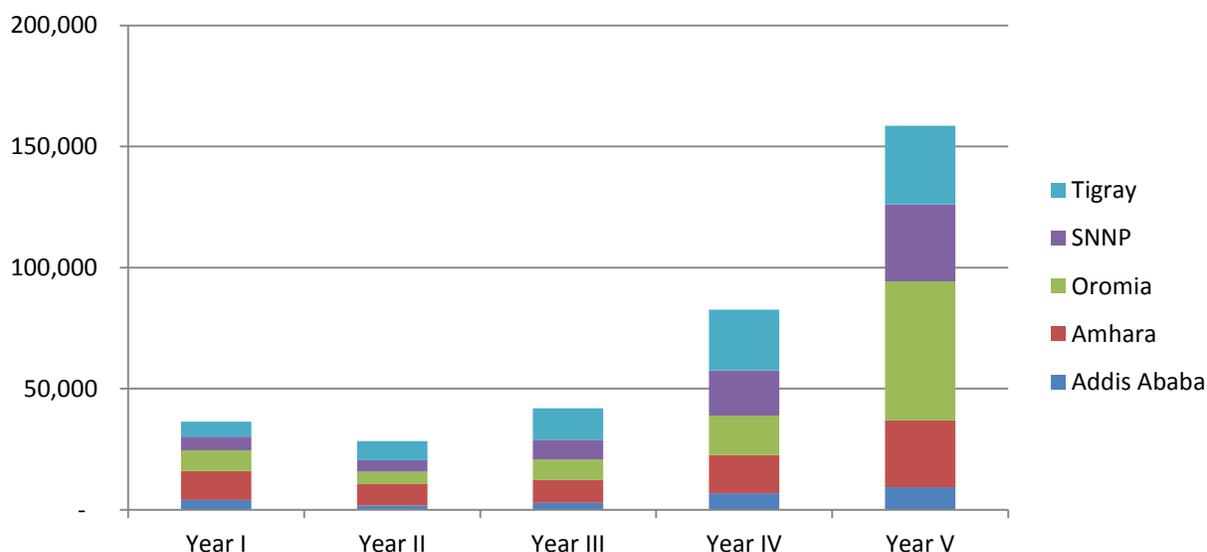
HIV prevalence rates were relatively low (Figure 4), representing only 45% of the life-of-project target for the five years. This, in turn, affected whether the project met other indicator targets. HIV prevalence rates varied greatly from region to region, with a high of 2.6% in Addis Ababa. We hypothesize that the reason the rates are lower than national averages is because the majority of CPMTCT-supported sites are in rural areas, where HIV prevalence tends to be lower. Among women who were found to be HIV-positive in FANC visits, 68% were newly identified.

Figure 4: HIV prevalence rates among women tested in FANC, October 2009–September 2014



Deliveries assisted by skilled birth attendants. A national objective is to increase the proportion of women giving birth in health facilities, so as to decrease the infant and maternal mortality rates. The number of deliveries by a skilled birth attendant in the last month doubled from Year Three to Year Four and again from Year Four to Year Five (Figure 5). The project thus achieved 100% of its target for this indicator.

Figure 5: Number of deliveries by a skilled birth attendant in the last month, by region



Care for HIV-positive mothers and HIV-exposed infants. Over the life of the project, 7,855 HIV-positive pregnant women were identified. Following the status of these women was complicated by a number of factors, principally that women could transfer to other facilities and some had not yet given birth at the time of the end of the project. Of those 7,855 women, the project-supported sites directly provided ARVs to 63%. Further analyses showed that the majority of women who were not receiving ARVs at project-supported sites had transferred to another facility. Records showed that 39% of these women gave birth attended by a skilled birth attendant; however, many of these women gave birth in facilities that were not supported by the CPMTCT project because women frequently prefer to give birth at hospitals rather than health centers. Thus, this information was not captured in this report. Virtually all (91%) of pregnant women identified as HIV-positive received family planning counseling over the life of the project. Table 4 summarizes the PMTCT cascade over the five years of the project.

Table 4: PMTCT cascade across 519 health centers (October 2009–September 2014)

Indicators	Results	Coverage (%)	Compared to target
Number of CPMTCT-supported health centers	519		From 70 to 519 health facilities

Indicators	Results	Coverage (%)	Compared to target
Number of new ANC clients	1,724,855		94% of ANC target
Number of pregnant women with known HIV status	1,393,190	81% of new ANC clients	89% of counseling and testing target
Number of HIV-positive pregnant women identified	7,855	HIV+ rate: 0.5%	
Number of HIV-positive pregnant women on ARVs	4,974	63% of HIV-positive pregnant women identified	With tracking to non-CPMTCT-supported sites; 82% (n=1,462) on ARVs
Number of HIV-exposed infants on ARVs	3,110	40% of HIV-positive women identified	
Number of HIV-exposed infants who have confirmatory tests	2,174	2,121 HIV-free babies (HIV+ rate @ 2.5%)	

Mother support groups. IntraHealth successfully introduced the MSG program to Ethiopia during the USAID-funded Hareg project in 2003. MSGs have since become a best practice and the FMOH has integrated this model into its national PMTCT strategy. Typically, MSGs have been health center-based and closely integrated with the clinic-based PMTCT program. Under the CPMTCT project, however, MSGs were also established in community-based organizations such as PLHIV associations.

The MSG program has the following objectives:

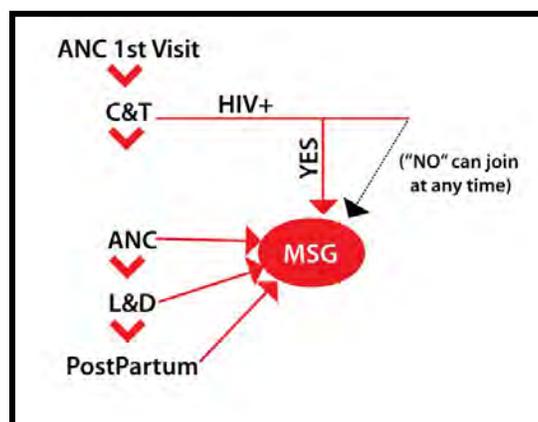
- To enhance **access** to and use of PMTCT by building strong linkages between health care providers and peer support networks
- To ensure **adherence** to antiretroviral therapy in pregnant and postpartum women
- To lessen HIV-related **stigma** and discrimination
- To increase HIV-positive mothers' **understanding** of infant feeding options
- To reduce the **incidence** of new STIs and HIV infections among girls and women
- To increase **acceptance** and use of family planning among postpartum mothers
- To build **linkages** with other programs and services that strengthen women's health and decision-making (e.g., nutritional support, income-generating activities, and skills training).



To achieve these objectives, the MSG program fosters several mutually reinforcing strategies for peer-to-peer contact. Health-center-based peer support groups for mothers-to-be and mothers living with HIV are the core of the MSG program. In the groups, trained mentor mothers help their HIV-positive peers address their unmet psychological, social, medical, and even economic needs. In addition, both the mentor mothers and mothers who graduate from the support groups are encouraged to reach out to their communities to provide prevention education, decrease stigma, and refer pregnant women for ANC and PMTCT services.

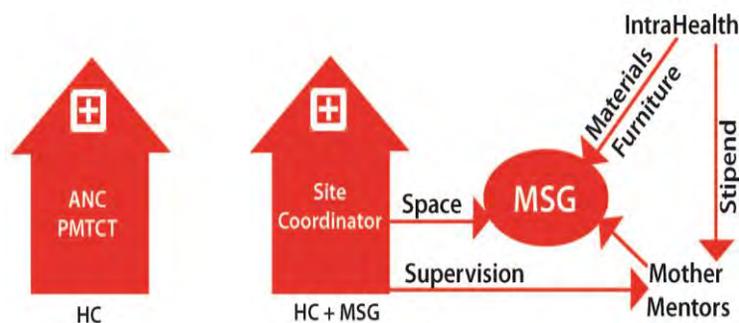
The MSG program is designed to reach women from the beginning of pregnancy through the first year of motherhood. Mothers-to-be and mothers may join a mother support group following their first HIV counseling and testing (C&T) visit, after any repeat ANC visit, following labor and delivery (L&D), or postpartum (Figure 6).

Figure 6: Points of entry into the MSG program



Health centers were selected to become MSG sites based on ANC and PMTCT flow, HIV prevalence, and availability of space for support group meetings and mentor trainings. Health center staff (including HIV counselors) had to be willing to work with the MSG program’s site coordinators and mentor mothers (Figure 7). The project paid a monthly stipend to the mentor mothers and site coordinators to cover their time and transportation and covered the costs of some basic furniture and refreshments for MSG meetings.

Figure 7: Facility MSG program structure



Community MSGs

Community MSGs have the same objectives as facility-based MSGs but are located in and are the responsibility of *woreda* or *kebele* offices. UHEPs serve as site coordinators and guide MSG home visits as well as community conversations. With the introduction of the Health Development Army in the fourth year of the project, the FMOH ceased community MSGs, stating that they were a duplication of effort by the Health Development Army.

MSG expansion

The project supported a total of 230 MSGs during the life of the project. Out of these, 109 MSG sites were community-based MSGs, which have already been handed over to the respective regional health bureaus. The residual CMSG sites were closed out. This is due to expansion of MSGs to the nearest health centers and to avoid duplication of effort by having community and health facility MSGs. Five health center-based MSG sites (four in Tigray and one in SNNP regions) were transferred to the MSH-supported Ethiopia Network for HIV/AIDS Treatment, Care and Support (ENHAT-CS) and the RHBs.

MSG capacity building

A TOT on MSGs was given to 39 health professionals in Adama and Wolayita Sodo during the first year of the project to cascade the basic MSG training to mother mentors. In addition, six MSG officers received a TOT on ART adherence support.

Basic MSG and ART adherence support training was given to 511 MSG key personnel: 312 mentor mothers and 199 site coordinators from the five supported regions. In addition, 91 mentor mothers (53) and site coordinators (38) had MSG refresher training from Year One to

Year Three of the project period. A total of 1,295 (137% of the target) MSG site coordinators and mentor others completed basic MSG training.

Follow-up supportive supervision was conducted in all MSG sites on a monthly basis and JSS was done quarterly. These visits ensured that a strong referral system was established between MSG clients and health facilities as well as other community-level care and support services. The project was able to directly support or facilitate the establishment of 538 (361% of the target) mother support groups.

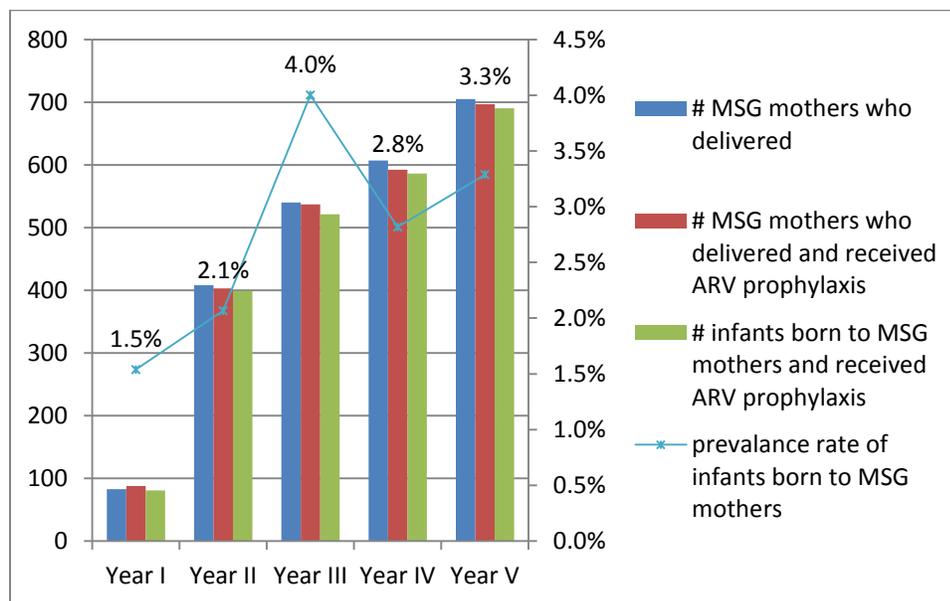
MSG achievements

Enrollment: A total of 5,777 HIV-positive pregnant women (60%) and non-pregnant women (40%) were enrolled into the program, while 2,444 HIV-positive women attended MSGs (70% of the project target) and 970 male partners joined MSGs in the five years.

Health behaviors: A total of 3,241 HIV-positive women were enrolled in the MSG program, 69% of whom were pregnant and the balance being lactating mothers. Of the total number of MSG members (n=3,241), 21% were enrolled in community-based MSGs, while the rest were enrolled in facility-based MSG sites.

Ninety-six percent of MSG-enrolled women delivered at a health institution. Of these women, 99% received either ART or ARV prophylaxis. Of the 2,343 recorded deliveries, 97% of HIV-exposed infants received ARV prophylaxis (either sdNVP or combined). Nearly 99% of MSG members practiced exclusive breastfeeding for the first six months. Ninety percent of infants born to MSG members started cotrimoxazole prophylaxis between 45 days to 2 months following birth. Figure 8 shows the cascade of services used by MSG mothers and their infants.

Figure 8: Annual trends for MSG mothers participating in the CPMTCT program



Over the life of the project, 1,672 infants received DBS testing and 1,141 infants received confirmatory HIV testing. Of the total who received confirmatory tests, 23 (2%) were HIV-seropositive. Most of the HIV-positive test results were found among infants whose mothers either did not attend PMTCT services appropriately, delivered at home, or engaged in the MSG program late in their pregnancy or after childbirth.

A total of 797 MSG member mothers graduated from MSG sites: Addis Ababa (550), Amhara (38), Oromia (81), SNNPR (49), and Tigray (79). Graduates are defined as MSG member mothers who completed 52 educational sessions and whose infants received confirmatory test results. Only two infants of MSG graduates tested HIV-positive after confirmatory testing. Table 5 summarizes the PMTCT cascade among the MSGs, reflecting major achievements and benefits.

Table 5: PMTCT cascade across mother support groups (October 2009–September 2014)

Indicators	Results	Coverage (%)
Number of MSGs	230	
Number of MSG members (HIV-positive pregnant and lactating mothers)	3,241	
Number of MSG members on ARVs	3,206	98% of MSG members
Number of MSG members who delivered at health facility	2,343	96% of HIV-positive pregnant MSG members
Number of HIV-exposed infants on ARVs	2,273	97% of MSG members who delivered
Number of HIV-exposed infants who have DBS testing	1,627	
Number of HIV-exposed infants who have confirmatory tests	1,141	1,118 HIV-free babies (HIV-positive rate at 2%)

MSG sustainability

A sample of MSG member mothers (454) were followed by the project, many engaged in various income-generating activities in partnership with health centers, the Organization for Social Services for AIDS (OSSA), PLHIV associations, HAPCO, and *kebeles*. Some MSG members received seed money to start income-generating activities such as gardening on plots of land provided by health centers (Oromia, SNNPR, and Tigray) or launching a health center-based cafeteria service (Amhara and SNNPR). In addition, MSG members received skills training in hair dressing, embroidery, animal husbandry (Addis Ababa and SNNPR), and chicken farming (Tigray and Addis Ababa). Moreover, in SNNP region, MSG members' husbands were helped to obtain drivers' licenses. The project also held numerous workshops and meetings with responsible government bodies and other partners to ensure funding of MSGs following the completion of the CPMTCT project.

MSG assessments

The project performed a cost-effectiveness analysis of the MSGs and confirmed that MSG activities are cost-effective. In addition, a retrospective study conducted at the end of Year Four assessed MSG activities and their impact on service utilization among HIV-positive women and their infants. The assessment was done jointly with USAID-Ethiopia and the MSH-led ENHAT-CS project. The assessment covered 44 health centers within the five regions, of which 27 were IntraHealth/CPMTCT-supported centers. The study revealed that service utilization among MSG member mothers was significantly higher than among non-MSG mothers and infants.

Trials of Improved Practice Study (TIPS)

To strengthen the feeding practices of HIV-positive pregnant women and HIV-exposed infants and learn more about whether MSG member mothers had adopted the IYCF behaviors that the CPMTCT and other nutrition projects promoted, we carried out an assessment of feeding practices among HIV-positive mothers and their children less than two years of age. The objective of the Trials of Improved Practice Study (TIPS) was to identify facilitators and barriers to optimal IYCF practices for HIV-positive mothers with HIV-exposed children less than two years of age in Ethiopia.

The study investigated:

- The content and quantity of foods eaten by HIV-exposed children less than two years old whose caregivers had attended MSGs
- Whether children were fed using responsive feeding techniques, which are particularly important for children who are difficult to feed
- Barriers to feeding children nutrient-dense foods—such as poor food availability, lack of income, seasonality, mothers' lack of time, lack of family involvement in feeding children (including who makes decisions on what foods are fed to children), food preferences and beliefs, and inadequate knowledge about feeding sick children.

The project conducted dissemination workshops in all regions included in the study, attended by RHB representatives and stakeholders working on HIV/AIDS and nutrition. The recommendations generated by the study were then integrated into training materials and job aides for health workers, MSG site coordinators, and mentor mothers.

2.3 Introduce internationally accepted tools and systems for confirming client follow-up on referrals

Successful implementation of PMTCT interventions depends on the follow-up of mother-baby pairs identified during ANC, delivery, and post-delivery. For this reason, the CPMTCT project modified a tracking wall chart developed by past projects for HIV-positive mothers and HIV-exposed infants and provided them to all supported health centers. The wall chart documents each positive mother-infant pair, allowing staff to identify at a glance anyone who is due for delivery and track whether HIV-positive pregnant women and HIV-exposed infants have come for ARVs, DBS testing, and so forth. Due to the adoption and implementation of Option B+, the tracking wall chart was revised and made into a cohort chart to help providers to follow HIV-

positive pregnant women and their HIV-exposed infants for 24 months. The tracking wall chart facilitated monitoring and tracking of women living with HIV and HIV-exposed infants and served as a way for health providers to monitor HIV status and to reduce loss to follow-up through improved facility organization and patient tracking.

2.4 Collaborate (coordinate) with government and other stakeholders to establish clear and strong referral linkages between facilities and community services in regions

Supporting PHCUs became a critical component of the CPMTCT project's capacity-building efforts as well as an important forum for reviewing clinical and referral data to address gaps and challenges in services and community awareness and build on program strengths. A PHCU is made up of one health center, five health posts (catchment population of 25,000), and a referral hospital. The project invested substantially in building PHCU capacity as a means of improving referral linkages between health posts and health centers, reducing loss to follow-up, and using data to improve the quality of MNCH/PMTCT services. This was achieved by providing financial and technical support to monthly PHCU meetings at which data such as the tracking wall charts were reviewed. Project staff developed and distributed a PHCU review meeting guide to all project-supported health centers. Field-level project staff also provided guidance and mentoring to health facility managers on how to structure and facilitate PHCU review meetings. Some regions have taken ownership of this process by providing financial support, while relying on the project to strengthen PHCU technical support. Although the focus of the PHCU review meetings initially was on MNCH and PMTCT, the PHCU forum has been extended to include other comprehensive health package discussions such as immunization, TB, and malaria.

2.7 Increase ability of identified health workers to access communities and pregnant women to access facilities

IntraHealth originally proposed to train UHEPs and UHEP supervisors, based on the initial understanding that the majority of project sites would be in urban areas. It was expected that UHEPs would be attached to health centers, would provide outreach services (such as home-based counseling and testing), would supervise HEWs, and would play a critical role in strengthening bidirectional linkages and referrals. In the first year of the project, CPMTCT staff prepared PMTCT training materials that were integrated into the UHEP preplacement training, and trained 2,550 UHEPs in MNCH/PMTCT, including their role in referral and follow-up.

The rollout and deployment of UHEPs did not occur as expected, however. The UHEPs completed their training before their supervisors were in place and before town and *kebele* officials and leaders had been oriented and informed of the UHEPs' role in their communities. As a result, the deployment of UHEPs was disorganized, and UHEPs lacked supplies to do their job. In addition, some regions chose to attach UHEPs to the *kebele* health offices (Addis Ababa, Oromia), while others chose to attach them to a health center (Amhara, SNNPR, Tigray). Health centers are essential for referrals to work well, so the project worked closely with the RHBs and the UHEP TWG at the regional level to ensure health center attachment. The attachment to *kebele* health offices has had some implications for those who provide supervision. For example, in Addis Ababa, many *kebele* UHEP supervisors are nurses, but in Oromia, the majority are environmental and sanitation degree-holders. In addition, the baseline data collection that

UHEPS were required to complete occupied the first several months of their time, and the lack of HIV test kit supplies meant that UHEPs only began testing in a few sites in Amhara, SNNP, and Tigray regions by the end of the project's first year.

The CPMTCT project assisted in the training of both UHEPs and UHEP supervisors. The UHEPs in some regions began referring clients for health center services, as mentioned above. In a few towns, house-to-house counseling and testing began in the first and second years of the project. Strengthening the referral and follow-up linkages by UHEPs was emphasized throughout the project. This cadre worked in tandem with many other community workers and volunteers who referred women and their partners for MNCH/PMTCT services (see objective 3 for more information).

RESULTS: OBJECTIVE 3

Objective 3: To increase demand for MNCH/PMTCT services through community outreach.

Intermediate Results

Over the past five years, the CPMTCT project has adapted and implemented a variety of models and strategies aimed at increasing MNCH/PMTCT service uptake through improved community awareness about the availability and benefits of such services. The project implemented an extensive DCCM program across the five project regions, with a particular focus on supporting and building the capacity of HEWs and CSOs (including PLHIV associations, religious institutions, and women's federations) to ensure that they play a role in increasing MNCH/PMTCT service uptake and promoting healthy behaviors such as family planning use, ART adherence, exclusive breastfeeding and postnatal care. Central to the program has been the active engagement of HEWs and the Ethiopian Orthodox Church in mobilizing communities to create an enabling environment for pregnant women and their partners to seek MNCH/PMTCT services. We believe this contributed to the significant increase in uptake of facility-based births.

For this objective, the project achieved the following intermediate results:

- 3.1 Created a favorable policy environment for MNCH/PMTCT services
- 3.2 Increased community awareness and knowledge of available MNCH/PMTCT services and their importance
- 3.3 MNCH/PMTCT services and related health-seeking behaviors established as cultural norms with a special focus on FANC
- 3.4 Increased community's ability to recognize early signs of pregnancy-related illnesses and seek help early
- 3.5 Increased male involvement in accessing MNCH/PMTCT services
- 3.6 Introduced culturally acceptable incentives and disability grants to HIV-positive women to encourage use of health facilities.

IR 3.1 Created a favorable policy environment for MNCH/PMTCT services

IntraHealth and its implementing partners (Pathfinder, PATH, and IOCC) provided technical support and expertise to promote a policy and social environment conducive to PMTCT service expansion by working closely with the federal HAPCO, the FMOH, technical working groups, university partners, professional associations, RHBs, and other relevant stakeholders. Through these groups, the project was effective in coordinating dialogue, documentation, and dissemination of best practices, which resulted in increased service uptake and use of data to inform policy decisions. The project also played a significant role in promoting free MNCH services for all pregnant women through different communication channels.

The other approach to creating an enabling environment for pregnant women to seek MNCH/PMTCT services was the project's contribution to service integration. Over time, project

staff observed that referrals of HIV-positive pregnant women from ANC to other institutions or from other departments within the same facility contributed to loss to follow-up. This problem was addressed by integrating HIV care and treatment services into MNCH settings, thereby creating a one-stop-shop scenario. This not only reduced loss to follow-up but also encouraged HIV-positive pregnant women to adhere to treatment and to deliver with the assistance of a skilled birth attendant.

Community-level sensitization workshops were conducted to orient and sensitize community members on availability and benefits of MNCH/PMTCT services. Emphasis was given to increasing awareness of free, friendly, quality MNCH/PMTCT services by skilled providers. The workshops incorporated women-friendly maternity care topics such as confidentiality of test results; availability of trained, skilled, and experienced providers at facilities; and safe and risk-free services at facilities. These topics addressed community concerns identified during a gender assessment performed by the project. The workshops were also devoted to creating knowledge of FANC and encouraging pregnant women and families to share experiences about facility-based delivery and major problems associated with home deliveries.

The project conducted similar workshops to promote the use of family planning among HIV-positive women to avoid unintended pregnancies. In collaboration and coordination with volunteers from PLHIV associations, the project organized workshops to sensitize association members on the choice of family planning methods for people living with HIV and infant feeding options in the context of maternal HIV, with a focus on exclusive breastfeeding up to the age of six months.

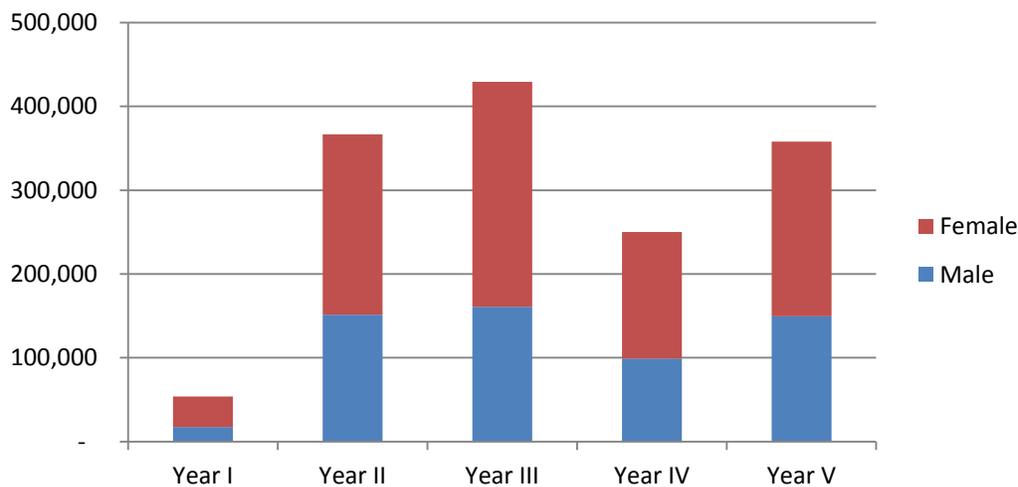
IR 3.2 Increased community awareness and knowledge of available MNCH/PMTCT services and their importance

The project implemented three key approaches to increase community awareness and knowledge of available MNCH/PMTCT services at health centers and health posts. These included:

1. Interpersonal communication
2. Community mobilization
3. Mass media.

The project reached 1,457,723 adults (aged 15 and older) with individual or small group activities, representing 108% of the life-of-project target. Forty percent of those reached were men (Figure 9).

Figure 9: Number of targeted populations reached with individual and/or small group interventions, by project year and sex



Interpersonal communication. To reach individuals and families, the project trained HEWs, UHEPs, and volunteer community health workers (VCHWs) as well as religious fathers, women’s groups, and people living with HIV to integrate and disseminate MNCH/PMTCT messages and information into their work. A community mobilization and behavior change training manual was developed and used. During the first two years of the project period, more than 3,000 HEWs were trained to do community mobilization for MNCH/PMTCT services. Topics included IYCF, FP, couples counseling and testing, discordance, ART adherence, and use of insecticide-treated bed nets to prevent malaria among pregnant women. Through these channels of communication, myths and misconceptions about mother-to-child transmission were also addressed. HEWs used the one-to-five Health Development Army and Women’s Development Army network (intended to facilitate HEWs’ community promotion activities) to promote healthy behavior (Teklehaimanot & Teklehaimanot 2013). Health extension workers and community volunteers used flip charts (on topics such as IYCN, FP, and HIV counseling), referral cards, training materials, audio and video drama, brochures, and posters to support community education efforts. Some of the channels of communication used by the project are detailed below.

House-to-house visits

Since HEWs and religious fathers already conduct house-to-house visits in their daily work, the project ensured that these individuals addressed MNCH/PMTCT and related topics with pregnant women, their partners, and men and women of reproductive age during home visits. The project provided HEWs and religious fathers with job aides to ensure that messages and information were accurate, consistent, and action-oriented. House-to-house visits were particularly important and effective in providing pregnant women and their male partners with detailed information about the importance of ANC, HIV testing during pregnancy, couples testing, the benefits of facility deliveries, birth preparedness, and referrals. HEWs, religious fathers, and other volunteers were given T-shirts, bags, umbrellas, and caps as incentives.

IEC materials

To complement the interpersonal communication approach, the project developed and distributed materials to increase awareness of the availability and benefits of MNCH/PMTCT. These materials were translated into local languages and included audio and video materials, posters, leaflets, billboards, and stickers. An audio serial drama adapted from the AED-led C-Change (Communication for Change) project was used during small group discussions, while video materials were used in health center waiting areas, MSG rooms, and in some cases on mobile vans in rural areas. All of the materials promoted male engagement to encourage shared responsibility between couples on PMTCT. In total, 121,501 materials were distributed, which was 187% of the life-of-project target.

Community mobilization

Woreda advisory committees

During its first three years, the CPMTCT project established *woreda* advisory committees in all project regions. Members of the committees were from *woreda* health offices, *woreda* HAPCO, *woreda* Women's Affairs, women's organizations, PLHIV associations, religious leaders, and health center heads. The committees were responsible for coordinating MNCH/PMTCT and HIV-related community mobilization activities in their respective *woredas*. In addition, the committees supported project staff in dealing with administrative challenges and advocacy issues to mobilize resources and communities to support pregnant women and their partners in seeking MNCH/PMTCT services. When the FMOH established the PHCUs, however, the PHCU forum replaced the role of the *woreda* advisory committees.

Community conversations

The project supported HEWs in strengthening and using community conversations to entertain MNCH/PMTCT topics in their regular meetings. Community conversations, a forum for community dialogue, are a strategy that the FMOH encourages HEWs to use for creating awareness of important community health topics. The project provided technical support to help HEWs plan and undertake community conversations with the aim of strengthening regular meetings that engage mothers, VCHWs, *kebele* officials, religious fathers, and others in discussing the quality of health services and the benefits and availability of MNCH/PMTCT services. Specific community conversation topics included the role of male partners, issues related to discordance, risks associated with home delivery, availability of free services for pregnant women, the role of communities in supporting pregnant women to seek services and deliver at facilities, and barriers.

With continuous education and sensitization, traditional birth attendants (TBAs) were also transformed into change agents. TBAs educated and linked pregnant women with HEWs at health posts and then with health centers for delivery. This shift in the role of TBAs can be attributed to a combination of factors, including the sensitization workshops spearheaded by the project, the government's Health Development Army approach, HEW efforts during community conversations, and other avenues such as *kebele* officials following up and providing direction.

Mass media and other communication channels. The project used national and regional media outlets to reach the larger community with key MNCH/PMTCT messages. The radio serial drama, *Yetesfa mit* (Labor of Hope), was aired on five regional FM radio stations in Amahric, Oromifa, and Tigrigna languages in the second year of the project. The audience was given a chance to provide their opinion on the radio drama at the end by calling the studio. The audience also answered questions asked at the end of each episode by sending messages through SMS, e-mail, and mail. In addition, the project technically and financially supported media campaigns during the safe motherhood months and World AIDs Day events on local radio stations.

Mobile vans

In collaboration with Pathfinder's IFHP project, the CPMTCT project used mobile vans as public announcement tools to increase awareness within communities of the availability and benefits of MNCH/PMTCT services. These vans played an important role in informing communities about where and when MNCH/PMTCT outreach services were available.

Small group discussions

The project encouraged pregnant women conferences and *Tsiwa mahiber* (religious peer groups) to hold small group discussions (SGDs) to discuss MNCH/PMTCT topics. These Ethiopian Orthodox Church groups typically meet once a month for religious purposes and to discuss social, economic, and family issues. The project conducted SGD facilitation skills training for facilitators from these groups and selected CSOs. In addition, audio CD players with a three-episode *mesenado* serial drama (adapted from C-Change) were given to facilitators to be used during the SGDs. SGD facilitators were trained on facilitation skills and use of the CD players.

The project also supported pregnant women's conferences conducted at the Health Development Army level and led by HEWs to motivate and support pregnant women to deliver at health institutions. Pregnant women's conferences are meetings organized and conducted by HEWs where every pregnant woman in the catchment area meets to discuss issues related to pregnancy. Service providers from health centers travel to communities to support HEWs in conducting the meetings. Pregnant women raise concerns and challenges related to seeking services at health centers and delivering at facilities. Birth preparedness and nutrition are also among the topics.

Over the project period, monthly and yearly Saint's Day celebrations were used for organizing voluntary HIV counseling and testing in church compounds in collaboration with catchment area health centers. Religious fathers provided education starting two weeks before the event, announcing the benefits of couples testing, confirming the confidentiality of test results, informing congregants that follow-up medical care is available in the catchment area health centers, and encouraging couples to be tested. On the day of celebration, health center providers came to the church and offered community outreach services on the grounds of the church. In a case of positive findings, HIV-positive couples were linked to the health facility for further medical care and follow-up.

IR 3.3 MNCH/PMTCT services and related health-seeking behaviors established as cultural norms with a special focus on FANC

In 2012, the CPMTCT project conducted a gender assessment that identified barriers that hinder pregnant women from seeking maternal health services. The results informed the contents of DCCM work and were also presented as a poster at the 2014 International AIDS Conference in Melbourne, Australia (Tesfaye, Wesson, and Ramsey 2014). Male and female community members could knowledgeably discuss both the benefits of facility-based delivery and the risks of home birth. Many women reported attending ANC but not all delivered in health centers, with some giving birth in private clinics and others still preferring to deliver at home. HIV-positive women, however, were motivated to deliver in health centers to have a healthy, HIV-negative baby. Provider perceptions were that they are offering facility-based delivery services of reasonable quality. This is distinctly different from the more negative perceptions of facility-based delivery services held to a certain degree by UHEPs and most certainly by community members. The primary barrier identified to use of facility-based delivery was that disrespect and abuse deter pregnant women from seeking those services.

During house-to-house visits and SGDs, communications were tailored to establishing service-seeking behavior and a supportive culture and social environment according to the dictates of community culture. Through house-to-house visits, pregnant women felt free and comfortable to talk to HEWs about their fears, concerns, and challenges related to getting services at health centers. HEWs recommended, encouraged, and supported women to get services by addressing barriers at the household or social levels using the ecological model of change. Pregnant women and their partners were also given details on FANC and the services to be offered during each visit.

Community sensitization workshops were also used to help communities understand the frequency and reasons for ANC visits by pregnant women, birth preparedness, and role of men in supporting their wives in the process. During sensitization workshops, communities received the message that healthy pregnant women are required to have only four ANC visits, although providers may request that women have additional visits. The workshops also addressed the importance of partners accompanying their wives for ANC, labor, and delivery, and covered what is needed to be prepared for the birth event. The workshops contributed to strengthening the supportive environment through facilitating traditional/local transport for laboring women, encouraging supportive male partners, and sensitizing TBAs about risks associated with home delivery and the benefits of skilled birth attendance.

In all, 230,389 women acted upon referrals by community-based or health post workers to attend ANC/PMTCT services. This, combined with the large increase in the number of women attending FANC and number of women choosing facility-based births, indicates that demand for MNCH services increased over the life of the project.

IR 3.4 Increased community's ability to recognize early signs of pregnancy-related illnesses and seek help early

Over the past five years, the project has developed and used communication strategies and IEC materials (including job aides to be used by HEWs and mentor mothers) to reach pregnant women and their partners with clear and consistent messages on the benefits of FANC, the danger signs of pregnancy, risks related to home delivery, the importance of skilled birth attendance, the benefits of postnatal care, and the benefits of IYCF (with a focus on exclusive breastfeeding). The project was an active member of the national and regional DCCM working groups and taskforces, which are led by the FMOH to standardize MNCH/PMTCT communication tools. The project also actively worked with the National AIDS Resource Center and AED C-Change in message harmonization and standardization. The project organized training sessions for HEWs and UHEPs focusing on special needs of HIV-positive people in integration with its MSG and BC/CM basic trainings. These trainings were followed by regular supportive visits to health posts and UHEP centers (or *kebele* compounds where UHEPs are located or based) to help pregnant women develop birth preparedness plans.

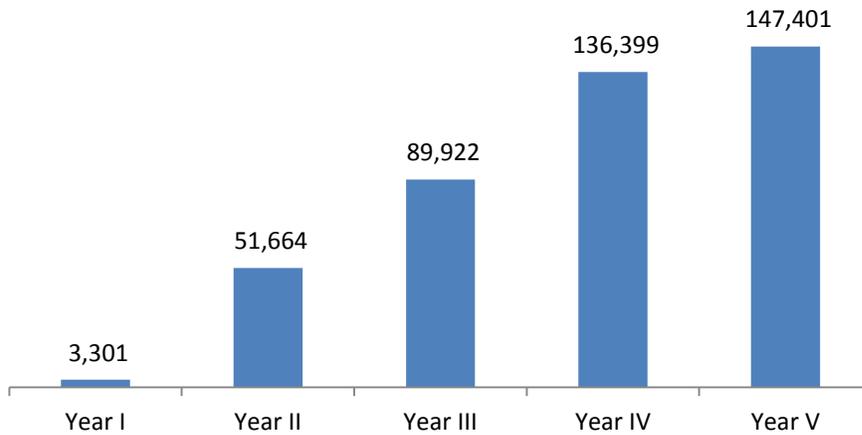
IR 3.5 Increased male involvement in accessing MNCH/PMTCT services

The gender assessment also looked at motivations for partner testing. Both men and women were aware of the benefits of PMTCT and male partner testing and professed their support for it. However, that professed support did not translate into actual couples testing. Men, in particular, reported a variety of barriers, none of which are unique to this setting. Men also reported that they were in fact being tested, just not necessarily as part of a couple. The dynamics of relationships and the role of trust within those relationships affect testing and disclosure for both men and women. One troubling and oft-repeated belief was that men do not need to test if their partners have already done so (i.e., the idea of testing by proxy). Many men did express a desire to be more involved. Men, women, and religious leaders alike saw a positive role for religious leaders in promoting partner testing.

Religious leaders lead various community groups and gatherings to educate men on the importance of HIV counseling and testing and using the abstinence or be faithful strategy following knowledge of HIV status. They also educate men to accompany their wives to ANC appointments, support skilled delivery, and attend postnatal follow-up of their wives and children. The priests serve as role models by bringing their own spouses for voluntary counseling and testing services and attending couples counseling in static health facilities and church outreach services.

The number of men accessing HIV counseling and testing services dramatically increased over the life of the project. By the end of the project, 428,687 (79% of the target) male partners of pregnant women were counseled, tested, and received their HIV results through project-supported services (Figure 10).

Figure 10: Male partners of pregnant women who were counseled, tested, and received HIV results



IR 3.6 Introduced culturally acceptable incentives and disability grants to HIV-positive women to encourage use of health facilities

Although the project initially planned to introduce and implement culturally acceptable incentives to encourage pregnant women to use MNCH/PMTCT services, this was not implemented due to the FMOH’s concern that such incentives might create a sense of dependency among pregnant women and that these would be project-specific and, therefore, not implemented nation-wide. The performance monitoring plan references newborn layette kits under this intermediate result (n=79,500 distributed; 85% of target).

RESULTS: OBJECTIVE 4

Objective 4: To improve the quality of community and facility-based MNCH/PMTCT services.



Intermediate Results

The project achieved six intermediate results for Objective 4:

- 4.1 Identified appropriate cadres of staff and built capacity to provide skilled and compassionate PMTCT services both in communities and health facilities
- 4.2 Increased number of PMTCT service managers and providers trained in PMTCT quality improvement
- 4.3 Increased supportive supervision to PMTCT service providers
- 4.4 Increased mentorship of PMTCT service providers
- 4.5 Increased access to PMTCT quality improvement resource materials, job aides, and guidelines
- 4.6 Increased utilization of PMTCT data for quality improvement.

IR 4.1 Identified appropriate cadres of staff and built capacity to provide skilled and compassionate PMTCT services both in communities and health facilities

The project team identified the appropriate cadres of staff, focusing on building their capacity to provide skilled and compassionate MNCH/PMTCT services both in communities (HEWs, UHEPs, MSGs, religious volunteers) and health facilities (clinical nurses, midwives, health officers, lab technicians, pharmacists, health managers, CSO leaders). The project built the capacity of 216,986 public sector health workers (individuals involved in safeguarding and contributing to the prevention, promotion, and protection of the health of the population) who successfully completed MNCH/PMTCT on-the-job trainings (see Objectives 1 and 2 for more details).

IR 4.2 Increased number of PMTCT service managers and providers trained in PMTCT quality improvement

The project developed a performance and quality improvement (PQI) training curriculum to better manage PMTCT programs at all levels. The curriculum targeted different levels of the health system, including the *woreda*, zonal, and health facility levels. By the end of the project, 778 (94% of the target) health center managers and providers had completed project-supported performance improvement training.

The project produced respectful maternity care training materials and linked them with all trainings provided to health workers and community volunteers. PQI materials and service delivery improvement tools were developed for training, mentoring, and supportive supervision.

With the adoption of Option B+ for PMTCT, the FMOH also adopted the continuous quality improvement (CQI) methodology. An integrated Option B+ and CQI training package was developed by the national PMTCT TWG. Using a TOT approach, project staff received training and then cascaded the training down to 818 health providers in health facilities. Health providers in CPMTCT-supported facilities also conducted self-assessments to maintain the standard of care.

IR 4.3 Increased supportive supervision to PMTCT service providers

Trainings of trainers on PQI and SS were carried out for around 113 *woreda*, zonal, and regional health staff. These trainees then cascaded the training to nearly 920 regional, zonal, and *woreda* MNCH focal persons, health center managers, and staff. By the end of the project, 299 (74% of the target) Ethiopia government staff at the regional, zonal, and *woreda* levels had been trained in performance improvement and supportive supervision.

All CPMTCT-supported health centers received at least one joint supportive supervision visit per quarter (using the JSS checklist), with the exception of Year Five, in which 78% of CPMTCT sites received JSS visits. Findings from the SS visits were used to guide health care providers in improving the quality of their clinical practice. Similarly, JSS was done for BEmONC services to ensure that the quality of the services was up to the standard established in the BEmONC trainings. Supportive supervision findings were discussed during PHCU meetings and various other levels of review meetings so that identified gaps could be made into action items for follow-up and resolution.

The project awarded laptop computers to institutions and individuals who demonstrated the best performance in PMTCT service delivery. These incentives were awarded to five health care providers and five health facilities through a transparent and competitive process.

IR 4.4 Increased mentorship of PMTCT service providers

The project performed 3,055 follow-up mentoring visits (73% of target) at new PMTCT health center sites and conducted periodic JSS by involving responsible government bodies at the health center, *woreda*, and zone levels.

IR 4.5 Increased access to PMTCT quality improvement resource materials, job aides, and guidelines

Project technical teams, including seconded staff, participated actively in Years Two and Three in various national technical working groups and were instrumental in the revision and development of various guidelines and training packages. Topics included PMTCT, safe motherhood, MSGs, nutrition, quality, and others. In addition, various job aides (wall charts, flip charts, counseling cards, and posters) were developed to aid health workers in following standard procedures while providing MNCH/PMTCT services. The project developed a mother-baby tracking wall chart; utilization of the tool resulted in reduction of lost-to-follow-up women and HIV-exposed infants. This tool was adopted by the FMOH and incorporated in the CQI training manual for scaled use. The project also developed training packages, referral cards, counseling cards, and registers for CSOs and for HIV-positive pregnant women participating in MSGs.

Over the five years, the project developed a variety of tools (see box). The materials were developed based on standards and recognized practices to allow users to assess performance against targets. The tools for SS were developed and used in regular JSS, FSS, and mentoring visits. The QOC tools were developed to monitor the quality of care at health centers. As a result of the project's efforts, 100% (519) of the health centers reported receiving and using these QI tools to serve their clients.

Project staff also participated in the biannual national and regional joint integrated HIV supportive supervision and provided technical as well as financial support. During this activity, IntraHealth had the opportunity to share its experiences and organized performance-based review meetings at the *woreda*, zonal, and regional levels.

CPMTCT-Developed Tools

- MNCH/PMTCT, MSG, and DCCM mentoring guides
- Supportive supervision (SS) checklists
- SS inventory checklists
- SS standard operating procedure mentoring guide
- SS action plan formats
- SS reporting formats
- JSS checklists (revised for the Addis Ababa region to include more MNCH material)
- Monthly summaries for reporting
- Action plan formats
- Standard QOC assessment reporting tools and performance tracking charts
- Internal assessment and training quality monitoring tools.

IR 4.6 Increased utilization of PMTCT data for quality improvement

During Years One and Two of the project, staff provided on-the-job training to 618 health care providers on utilization of the national HMIS registers and a TOT for 179 *woreda* staff (see also Objective 1). This training stopped after Year Two since Tulane University was responsible for HMIS training for health care providers through its own project.

During catchment review meetings, HMIS data were used to influence decision-making for performance and quality improvement in 246 WrHOs (123% of target) by comparing performance measurements and making decisions on future areas of improvement. The project also developed CSO and MSG registers specifically to collect data on demand creation activities

and adherence. In turn, these data were used to improve the performance and quality of demand creation activities.

Quality of Care Improvements

The CPMTCT project substantially contributed to an improved quality of community and facility-based MNCH/PMTCT services, ensuring that services were sustained and implemented according to national policies and guidelines. The project team established improved quality assurance, performance improvement, and overall strategic information practices in health facilities and COS. Specifically, project activities contributed to increases in:

- The percent of health facilities with acceptable data quality (via implementation of the project's data quality control system in project-supported sites)
- The percent of clients satisfied with the services that health cadres are providing
- The percent of health facilities meeting the requisite standard of care for PMTCT.

The project conducted two quality of care (QOC) assessments in Years Two and Four. The QOC assessments were designed to assess the quality of PMTCT services, the usefulness of joint supportive supervision (JSS), and client satisfaction as well as to identify gaps to be addressed to improve the quality of MNCH/PTMCT services. The quality of care of MNCH/PMTCT services was assessed based on clinical observation, review of records, client exit interviews, and interviews with health center managers. In the second QOC assessment, 84 project-supported facilities were randomly selected to participate. Data were collected through facility audit questionnaires, observations of client-provider interactions, client record reviews (for HIV-positive pregnant women and delivery in low-volume health centers), client exit interviews, and in-depth interviews with health facility managers.

Facility Data Quality

Quality data are needed to understand whether a project's activities are having the desired impact and whether any changes need to be made. The CPMTCT project improved data quality from supported health facilities and community-level providers by conducting regular data quality control checks. The project implemented a two-part data quality audit (DQA) system that includes reviewing the quarterly supportive supervision checklists data section with *woreda* officials and health center managers and having the project's monitoring and evaluation team use the data quality audit tool to compare data reported to the original data sources. The percent of facilities with acceptable data quality increased from 75% in Year Three to 96% in Year Five, exceeding the project target of 90%.

Client Satisfaction

The project target was that 85% of clients would express a level of satisfaction of 75% or over. Among clients who utilized MNCH services in the facilities included in the QOC assessments, 87% reported an aggregate satisfaction score of 75% or higher in Year Four; thus, the project met its goal. The 87% of clients who were satisfied with their health care provider and the services provided in Year Four represented an increase over the 53% of clients who expressed satisfaction in Year Two.

The elements that clients were least likely to report satisfaction with were interpersonal communication (13%) and the human and physical environment (12%). In particular, 21% of women disagreed or strongly disagreed with the statement that their providers encouraged questions and responded to patient questions. Fifteen percent of women disagreed with the statement that the health center location was easily accessible for MNCH/PMTCT services. Nearly one-third (30%) of respondents did not believe that their health center had clean and sufficient water, and 13% did not believe that it was appropriately equipped and supplied.

Standards of Care

Year Four findings showed that all supported health facilities had MNCH services available, and 51% provided services according to the national PMTCT standards. This percentage was lower than the expected target of 85% due to issues beyond the CPMTCT project's control such as lack of power and running water. Nonetheless, most (80%) facilities met standards in service availability. Sixty-five percent of health facilities achieved an average score of 75% or above for laboratory quality assurance procedures. The least likely criteria to be met were eye protection (14%) and running water (32%). Only 14% of the health facilities were found to meet the required 75% of the standard for equipment, drugs, and supplies on the day of the visit. Over four-fifths (87%) of health centers fully met the standard for job aides and guidelines, which require that facilities have guidelines, standard operating procedures, protocols, and essential job aides for MNCH/PMTCT that are up-to-date and in line with national PMTCT requirements. Only 60% of health centers fully comply with infection prevention standards. The major gap in infection prevention procedures was the lack of sufficient supplies for hand washing (18%).

Via direct observation of client-provider interactions, 63% of health centers scored 75% or higher for provider competence. During the Year IV quality of care assessment, 115 FANC clients were observed receiving services, of whom 77% received care meeting the quality standard for rapport building and ANC counseling. Overall, providers also met the posttest counseling criteria 78% of the time. The counseling subjects for which providers most commonly did not meet the standard were family planning, postnatal care, and exclusive breastfeeding.

Respondents overwhelmingly (94%) reported that they found the JSS checklist helpful. Particularly valued elements of JSS included: early identification of service delivery and other gaps; utilization of action plans; clarifying the roles and responsibilities of individual staff; and self-assessments serving as added motivation for staff.

In its QOC report, the project listed a number of recommendations for increasing attention to quality of care, including improvements in infrastructure, equipment, and supplies; trained personnel; supervision systems; and interpersonal communication. As part of the project's sustainability strategy, project staff also provided mentoring to health center managers and health care providers after they received PQI/SS training. Managers and providers were mentored and encouraged to apply self-assessments using checklists to sustain improvements in quality of care. The PHCU meetings supported by the project also played a significant role in improving and sustaining performance indicators and quality of care.

RECOMMENDATIONS AND CONCLUSION

Implementation of National CPMTCT Policies and Guidelines

Despite a rapidly moving landscape with regard to MNCH/PMTCT policies, protocols, and guidelines over the project's five-year period, the project excelled in supporting the FMOH to ensure that, within the sites that the project supported, quality integrated services were provided according to the most recent policies. This was achieved by seconding a technical advisor to the FMOH and through participating in technical working groups at the national and regional levels as well as effectively coordinating the rollout of new policies to each CPMTCT-supported health facility. In future, the FMOH is advised to appoint a person to provide the technical expertise to translate new policies, guidelines, or strategies into action plans that can be implemented at the regional and *woreda* levels.

Access to Services

The project succeeded in expanding PMTCT services to remote areas within the five project regions well beyond what was originally planned. This was not without its challenges. Most importantly, the fact that many of the sites supported are located in low HIV prevalence areas means that the sites did not yield a high number of HIV-positive pregnant women. By adjusting its strategy to provide stronger support to facilities in higher prevalence sites and providing more focused community mobilization activities, the project significantly increased the number of people counseled and tested and the number of women attending FANC, resulting in more HIV-positive women enrolled in PMTCT services. Sites in lower prevalence areas still benefited from the MNCH and BEmONC training and supervision that the project provided. The regions should continue this model as they continue to expand services to new sites.

Capacity Building

Building the capacity of staff in MNCH/PMTCT at all levels of the health system was an ongoing need throughout the life of the project. Large investments were made in training in the areas of management and leadership, MNCH/PMTCT and BEmONC clinical skills, community mobilization and demand creation, and quality assurance. The project's approaches to capacity building were effective due to the consistent, reliable supportive supervision and mentoring that trainees received after training courses. Moving forward, the RHBs are encouraged to continue the quality improvement model of training followed by supportive supervision, which addresses gaps and problems and provides retraining as needed. The challenge to be addressed, however, is the high turnover of staff at all levels but especially at the facility level, which resulted in many more trainings than the project had originally anticipated. The FMOH would be wise to address this HRH issue with a retention strategy so that time and resources invested in people are not so easily lost.

Integrated Services

The CPMTCT project proved that it is possible to implement an integrated approach through a vertical program. The project demonstrated that PMTCT services cannot, and should not, stand

apart from MNCH and BEmONC services. Every pregnant woman who attends ANC should know about PMTCT services and every pregnant woman who tests positive should be able to access PMTCT services. The biggest challenge to integrated services is ensuring that each health facility has a consistent supply of medicine and equipment to provide the services. Despite the project's many advocacy efforts to prevent stock outs from occurring, this remained a problem at most facilities throughout the life of the project. The FMOH should note this as a key problem to address, even if the problem has to some extent been reduced as a result of the CPMTCT project's intervention.

Mother Support Groups

MSGs attached to a health facility that has PMTCT services have proven to be a critical component of a successful PMTCT program. The MSGs that were established at a *woreda* or *kebele* office didn't have the same success, however. The FMOH and RHBs are, therefore, encouraged to continue the MSG program and to support all aspects of it, particularly the need for ongoing training and support of the site coordinators and mother mentors.

Community Mobilization

The need for community involvement in introducing new services cannot be underestimated. The CPMTCT project trained community and religious leaders in MNCH/PMTCT and worked through existing community networks (such as religious networks). Project results show the ability of these leaders to influence community members to understand the benefits of using health services and address the many myths and misconceptions that people have about health facilities and the services they provide. RHBs, health facility heads, and CSOs should continue the work with these groups that the CPMTCT project set in motion.

Respectful Maternity Care

The need for respectful maternity care was identified during the gender assessment that the project carried out during its third year. If the RHBs want to maintain the increase in the number of women coming to a health facility during labor and delivery, ensuring that every woman is treated with dignity and respect has to be a priority. Although the project incorporated this subject into all its MNCH/PMTCT and BEmONC training materials, the impetus for shifting attitudes and behavior of health care providers on the job will need to come from health center management as well as *woreda* health offices when they provide supportive supervision.

Male Involvement

The gains that the project made in getting men to get tested and involving them in MNCH/PMTCT services need to continue using strategies such as community and religious leaders acting as role models for men to get tested. Men's expressed interest in getting tested as a couple and supporting their partner to use MNCH/PMTCT services should be supported by a national policy that will establish an enabling environment for men to achieve this.

Primary Health Care Unit Meetings

Regular PHCU meetings should continue. These meetings are an important forum for facility and community members to review progress, address problems, and establish ways to improve and strengthen services, referrals, and community mobilization efforts. The CPMTCT project has laid a foundation by providing guidelines and building staff capacity to continue PHCU meetings. The RHBs, zones, and *woreda* offices should keep emphasizing the importance of the discussions that take place in PHCU meetings in order to sustain them. Technical and financial support will be required.

Conclusion

The CPMTCT project's success lay in its strong partnership with the five regional health bureaus, the Federal Ministry of Health's commitment to improving and expanding MNCH/PMTCT services, and an enabling environment of progressive PMTCT strategies, policies, and guidelines. Despite the challenges that were beyond the reach of the project, 519 health centers now offer MNCH/PMTCT services for women and their infants, and capacity at all levels has been built to ensure that these services continue. If the above recommendations are taken into account, Ethiopia has a very strong platform on which to build and expand MNCH/PMTCT services throughout the country.

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