HEAL TB Annual Report PY1

HEAL TB

July 15, 2011 – July 14, 2012

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MSH/HEAL TB

Annual Project Report

July 15, 2011 – July 14, 2012

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Acronyms

ALERT	All Africa Leprosy, TB, Rehabilitation, Research and Training Centre
AFB	acid-fast bacillus
AIDS	acquired immune deficiency syndrome
ART	antiretroviral therapy
CDC	Centers for Disease Control and Prevention
DOT	directly observed treatment
DOTS	directly observed treatment, short course
DST	drug sensitivity testing
EHNRI	Ethiopian Health and Nutrition Research Institute
EQA	external quality assurance
FMOH	Federal Ministry of Health
GF	Global Fund
HDA	Health Development Army
HEAL TB	Help Ethiopia Address the Low TB Performance Project
HEW	health extension worker
HF	health facility
HIV	human immunodeficiency virus
HMIS	health management information system(s)
IC	infection control
IEC	information education and communication
IFRR	Internal Facility Report and Resupply Form
IPLS	Integrated Pharmaceutical Logistics System
KAPTLD	Kenya Association for the Prevention of Tuberculosis and Lung Disease
MDR-TB	Multidrug resistant tuberculosis

MDT	Multi-Disciplinary Team
MOST	Management and Organizational Sustainability Tool
MOU	Memorandum of Understanding
MSH	Management Sciences for Health
OPD	outpatient department
PATH	The Program for Appropriate Technology in Health
PEPFAR	President's Emergency Plan for AIDS Relief
PFSA	Pharmaceutical Fund Supply Agency
RDQA	Routine Data Quality Assurance
RHB	Regional Health Bureau
RRF	Requisition and Reporting Form
RRL	Regional Reference Laboratory
SOP	standard operating procedure
TB	tuberculosis
TB CAP	Tuberculosis Control Assistance Program
TB CARE I	Tuberculosis CARE I Project
TB DSM	Tuberculosis Drug Supply Management
USAID	US Agency for International Development
USG	United States Government
WHO	World Health Organization
ZHD	zonal health departments

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Acknowledgements

This report was developed in October 2012 by the Help Ethiopian Address Low Tuberculosis Performance (HEAL TB) Project, which is funded by the United States President's Emergency Plan for AIDS Relief (PEPFAR) and the United States Agency for International Development (USAID) and implemented by Management Sciences for Health (MSH) under Cooperative Agreement No. AID-663-A-11-00011. The views expressed in this publication are the responsibility of HEAL TB and do not necessarily reflect the views of PEPFAR, USAID, or the United States Government.

General Information

Program/Project title	Help Ethiopian Address Low Tuberculosis Performance (HEAL TB) Project
Prime partner	Management Sciences for Health
Cooperative agreement (contract) number	AID-663-A-11-00011
Program/project start date	July 15,2011
Program/Project end date	July 14, 2016
Life of Project budget	$41,996,319.00
Reporting period	Year 1 (July 15, 2011- July 14, 2012)

Background and Introduction

The PEPFAR-funded, USAID-implemented Help Ethiopia Address the Low TB Performance (HEAL TB) Project is implemented by Management Sciences for Health (MSH) in partnership with the Program for Appropriate Technology in Health (PATH), the All Africa Leprosy, TB, Rehabilitation, Research and Training Centre (ALERT), the Kenya Association for the Prevention of Tuberculosis and Lung Disease (KAPTLD), and the Global Fund (GF). HEAL TB supports a comprehensive package of tuberculosis (TB) interventions to provide quality directly observed treatment, short course (DOTS), strengthen referral linkages to the community, and assist the Federal Ministry of Health (FMOH) in implementing comprehensive TB project in ten zones of the Amhara and Oromia regions. HEAL TB collaborates with Ethiopian universities and other local institutions and helps the regional health bureaus (RHBs), zonal health departments (ZHDs), and woreda (district) primary health care units take ownership of TB, TB/HIV, and multidrug-resistant TB (MDR-TB) program management. The project is helping to strengthen Ethiopia's health system by supporting woreda planning and improved drug supply management and infection control.

Going forward, HEAL TB will use health extension workers (HEWs) to increase case detection, to decentralize DOTS to health posts, and to expand DOTS to more health facilities in rural and urban areas. MSH and HEAL TB collaborators will offer expertise in TB, health systems strengthening, and successful program experience at all levels in Ethiopia. HEAL TB will also use its local and regional partnerships and country-operating platform to rapidly and cost-effectively scale up TB control.

HEAL-TB, working in the high-TB prevalence regions of Amhara and Oromia, continues to build on existing partnerships and working relationships with the FMOH, the Ethiopian Health and Nutrition Research Institute (EHNRI) and other agencies, RHBs, ZHDs, the nonprofit and private sectors, and civil society.

Summary of Key Accomplishments and Successes

With the advantage of a strong MSH presence in Ethiopia, HEAL TB's start-up occurred quickly. By the third quarter, the HEAL TB team had conducted a baseline assessment and had already begun implementing the findings of the baseline assessment. After the baseline survey, gaps were identified and measures taken to address the majority of these gaps. In all but a few specific areas, like MDR TB treatment initiation and HEWs training, the MSH-led HEAL TB team achieved all of their indicators. In the first year, HEAL TB:

- Trained nearly 2,500 health workers, including mangers, clinicians, lab and pharmacy professionals in the first year;
- Brought 35,415 new TB patients to treatment;
- Expanded the number of health facilities capable of providing TB diagnosis and treatment from 484 to 691;
- Furnished 350 health facilities with cupboards and tables;
- Developed quality-assurance implementation guidelines with EHNRI and Regional Reference Laboratories (RRLs); and
- Provided registers, reporting formats, and Information an Education and Communication (IEC)materials to health facilities and health posts.

In the 10 zones of the project area, during this reporting period, there was a 5% increase in smear-positive tuberculosis case and an 8.6 % increase in all forms of tuberculosis cases as compared to the third quarter of this year. Also, the cure rate increased from 75% to 77% and the treatment success rate is above 90% during the period. HEAL TB supported the RRF in producing implementation guidelines, training laboratory professionals, supplying registers, and providing onsite mentorship.

At the end of the first program year, 353 health facilities participated in external quality assurance evaluation. This was the first time Ethiopia had enrolled such huge number of health facilities in acid-fast bacillus (AFB) external quality assurance. Nearly 90% of the 353 microscopic centers had a concordance rate greater than or equal to 95%.

Drug management, data quality

HEAL TB helped reduce stock-outs of drugs (adult preparations) from 22% to 1.4% during the project's first year. Data quality also improved: only 68.8% of the health facilities were able to produce completely accurate smear-positive cases before the project intervened but at the end of the first project year, 82.1% of health facilities could do so.

Community level challenges

HEAL TB encountered obstacles at the community level. Lack of training and a mechanism to register and collect data hindered progress. The training for HEWs could not be given as planned

because the HEWs were busy in the year with other trainings, and so the FMOH did not rant HEAL TB permission to hold the trainings. Even with these drawbacks HEAL TB's community officers supported the health centers and woredas that were responsible for supervising HEWs.

During the first project year, HEWs referred 5,786 patients from 812 health posts to TB clinics for testing, and 255 (4.3%) of these TB suspects were diagnosed with TB. In the second project year, HEAL TB plans to train HEWs on TB referral and diagnosis and expects to see these numbers increase.

The project was also able to register 300 MDR TB suspects and send their sputum samples to drug-sensitivity testing sites. HEAL TB is also working with the RHBs to establish ambulatory treatment centers to accommodate patients with positive MDR TB.

Achievements by Technical Area

Phase I of project start up

The HEAL TB project started on July 15, 2011 and the project director reported on August 1, 2011. In August, preliminary human resource requirements were revised, regional and sub-regional offices were designed, and job descriptions were developed for each project position. The positions were subsequently advertised and recruitment was nearly completed by mid-September 2011. Currently, the project has 98 personnel in the central and regional offices.

Getting the approval of zones during the proposal phase

In August 2011, HEAL TB officially requested the Amhara and Oromia RHBs to approve the 10 project zones proposed during the proposal. The two RHBs approved all the proposed zones except two: West Showa in Oromia, and West Gojam in Amhara. The reason given by the Oromia RHB to change the West Showa zone to East Wollega was that West Showa had been supported by the USAID-funded Tuberculosis Control Assistance Program (TB CAP) and has greater capacity than East Wollega. The second reason is that there is a sub-Regional Reference Lab at Nekempt, and it will be an opportunity for the lab to cover the zone and for the lab's capacity to be strengthened. In Amhara, the RHB requested to change the West Gojam zone to North Wollo for the reason that North Wollo needs more support than West Gojam.

The changes were accepted after consulting USAID; the implementation zones in the two regions are:

S/No	Amhara Region HEAL TB support zones	Oromia Region HEAL TB support zones
1	East Gojam	East Harrarge
2	North Gondar	West Harrarge
3	South Gondar	Arsi
4	North Wollo	Jimma
5	South Wollo	East Wollega

In the 10 zones, 691 health facilities have been supported. According to the initial proposal, the number of health facilities allocated for Oromia was 248 and for Amhara, 443. Following a request by the Oromia Region, 343 health facilities were allocated to Oromia and 348, to Amhara.

The locations of the regional and sub-regional offices were then determined. The West Amhara office was located in Baherdar and was given the responsibility for supporting East Gojam, and North and South Gondar. The East Amhara office was located in Dessie to oversee North and South Wollo. In Oromia office was located in Addis Ababa office, among the central offices building, to oversee Jimma and East Wollega. The office responsible for East and West Harrage,

and Arsi was established in Adama. The Bahrdar and Oromia (Addis Ababa) offices were given the added responsibility to liaise with the RHBs and RRLs. All of the offices were opened in the second quarter, fully staffed, and functional. In Amhara, both in Dessie and Baher dar, the offices are shared with other MSH projects.

Project launching and partnership

The HEAL TB senior team held repeated meetings with the FMOH, RHBs, and RRLs at the office level to discuss the project start-up and the project's mandate to support the government. All offices have accepted the project in a very positive way, and workshops were also conducted at national and zonal levels:

i. National Project Launching and Annual Plan Preparation

The first project launch and discussion of the strategies of HEAL TB project was held from October 3-5, 2011 at the Global Hotel. The participants were from USAID, the FMOH, EHNRI, RHBs, and RRLs, partners, and the HEAL TB team. In the workshop, a detailed presentation of the project's technical areas, objectives, and strategies were presented. Participants and partners gave many important inputs. While there was full acceptance of MSH's objectives and strategies in all areas, there was some concern about health extension workers' slide sputum smear making and the deployment of TB monitors. After some discussion with the FMOH, HEAL TB was told to relieve health extension workers of that responsibility. Prior to the project award, HEAL TB had recommended that TB monitors be deployed at a ratio of 1 per 20 households to support an overburdened health extension worker cadre. The FMOH did not approve HEAL TB's recommendation but subsequently approved the deployment of new Health Development Armies (HDAs) at a ratio of 1 per 5 households. The TB monitors and Health Development Army tasks are similar.

ii. Zonal and Woreda Level Launching

In each of the 193 woredas, TB focal persons, health extension worker supervisors, and a lab professional participated in a three-day workshop to launch the project. At the zonal level, the head of the zone and TB focal persons participated; the HEAL TB team, and the RHBs and zonal level TB experts launch the presentation. All told, 561 health workers participated.

iii. Official Launching for High Level Officials of the Government and Partners.

An official project launch was conducted on October 20, 2011 at Dessalegn Hotel. The Agrarian Directorate Director from the FMOH, the USAID Deputy Mission Director, USAID high officials, RHB heads and deputies, and partner representatives were in attendance. A welcoming address was given by the MSH Country Director, followed by a keynote address given by the USAID Deputy Mission Director and opening speech by the FMOH Agrarian Director. The HEAL TB team gave an overview of the HEAL TB project.

Baseline assessment

A baseline assessment of 687 health facilities including (23 hospitals and 664 health centers) found that:

- Nearly 24 million people live in the HEAL TB supported zones;
- Nearly two-thirds of the health facilities were providing diagnostic services and 95% were providing TB treatment;
- Only 912 (21%) health posts were providing treatment for tuberculosis, based on the information from the district health offices;
- The overall Case Notification Rate (all forms) was 163/100000, with slightly higher rate for Oromia (182/100,000) than Amhara (144.5/100,000);
- The Case Detection Rate (all forms) was 62.5% for the project area, including Oromia (69.7%) and Amhara (55.4%);
- The overall Treatment Success Rate was 85%, with a cure rate of 53%;
- Hospitals' desired treatment outcomes for tuberculosis were lower than expected. One explanation may be that nearly 17 percent of cases were transferred out of the hospitals to health centers.

Contact screening of TB patients and isoniazid preventive therapy is nearly absent from all the health facilities. Majority of the health facilities did not use any kind of job aides to improve their performance. Also, while the majority of facilities reported having a defaulter tracing mechanism. the level of contact tracing was minimal. Only 21% of the health facilities had experienced external quality assurance activities in the past, although only once. The smear positivity rate was only calculated for 186 facilities with more than 20% of the facilities having a rate of <2.5%.

Design and implementation of mentoring checklist and standard of care

HEAL TB team developed mentoring guideline for different technical areas. These guidelines were reviewed and shared with the mentoring teams for their feedback. The guidelines are used to lead the team in implementing the project in their respective areas. Standard of Care was also developed using the international standard of TB care, national TB guidelines, and external quality assurance guidelines developed by the FMOH and EHNRI. A user-friendly performance-monitoring tool was developed to assist the mentoring team's provision of technical support at facility level.

Accomplishments and successes during reporting period with an explanation to under- or over-performance

Technical Area 1: Strengthening and Expanding DOTS

- ✓ ***In the first year, 35,415 of new TB cases (all forms) were diagnosed and put on treatment.***

An improvement in case finding was noted since the project started its implementation at facility level in January 2012. During the quarter ended June 2012, there was a 5 % increment in case finding of smear positive tuberculosis case (See Figure 1) from the previous quarter. An 8.6 % increment was also observed in the most recent quarter for all forms of tuberculosis cases (Figure 2). The overall case notification rate for all forms of TB cases has not increased in year 2004 Ethiopian Fiscal Year. It remains the same 147/100,000 per year. For unknown reason, when HEAL TB started its support, the number of new cases had begun declining from the previous year. After HEAL TB's involvement, it began to return to the previous year's level. In the coming year with the expansion of the community TB component, improved diagnostic, and screening capacity, HEAL TB expects to increase the case finding. It should be noted that the delay in health extension worker training also held back progress in case notification.

Figure 1: The number of smear positive tuberculosis cases rose in Amhara, but fell in Oromia since January 2012.

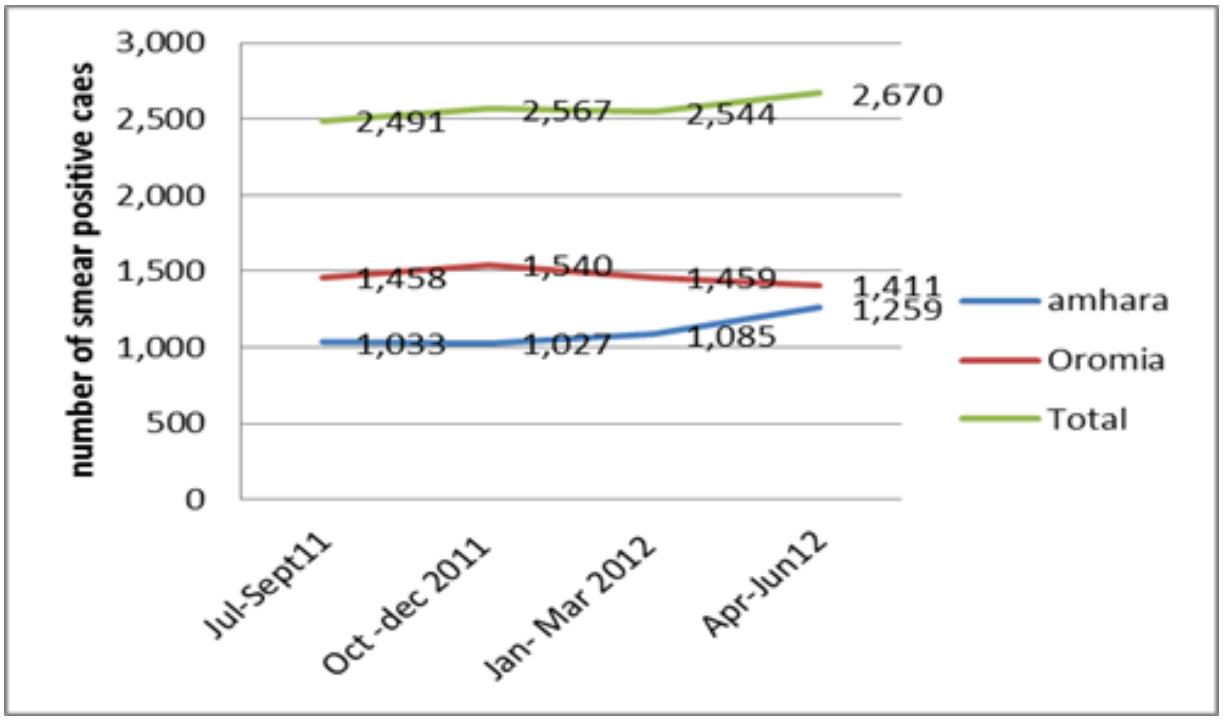
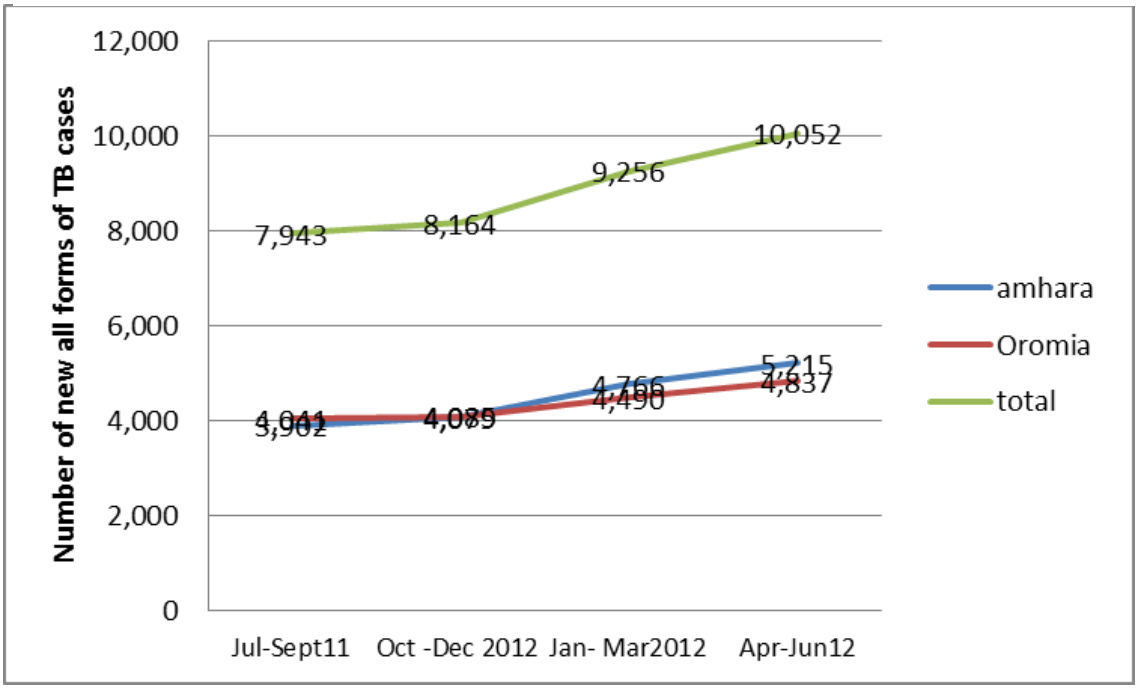


Figure 2: Case finding (all forms) of tuberculosis has risen sharply since October 2012.

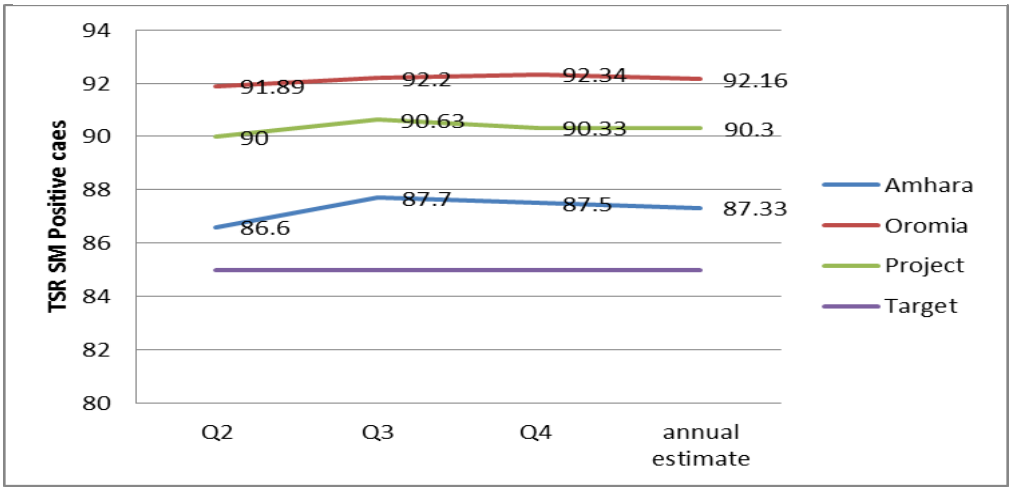


HEAL TB has implemented different activities that help to improve the case notification rate in the long run. HEAL TB implemented case-finding standard operating procedures that are adopted from TB CAP (detailed information is available in Technical Area 1.3), and the majority of health facilities have started implementing the case-detection standard operating procedures.

- ✓ ***In the first year, the treatment success rate reached 90%***

The estimated treatment success rate at baseline was 85% and by the end of HEAL TB's project year it reached 90%. The treatment success rate for supported zones in Oromia was 92.1%, and in Amhara, 87.3 % (Figure 3).

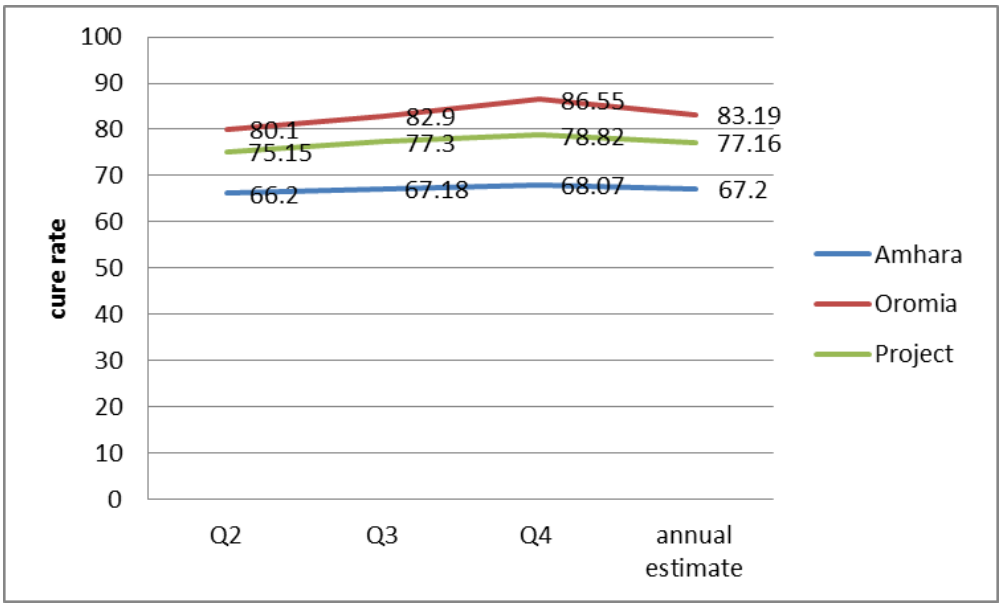
Figure 3: The treatment success rate has improved in the three regions, particularly in Amhara.



- ✓ ***Cure Rate of Smear Positive in 2011/12 reached 77 %***

The cure rate—higher than the target set for the project—rose from 66% at the beginning of the project to 77% by the end of the first year. Again, Oromia outperformed Amhara (Figure 4).

Figure 4: The cure rate in the project area was better than anticipated for 2011/12)



- ✓ ***Training for health managers***

During the proposal stage of the HEAL TB, there was a plan to train woreda- and zonal-level TB managers on MSH's capacity-building Management and Organizational Sustainability Tool (MOST for TB). In the previous years it was implemented by the USAID-funded TB CARE I project in Ethiopia, but this year the FMOH did not give approval because comprehensive project-management training is soon to be implemented by ALERT. HEAL TB will support program management training initiated by the FMOH in collaboration with ALERT. The regional teams are building the capacity of the TB program managers through mentoring, review meetings, and annual plan preparations.

- ✓ ***HEAL TB team was an active participated in National Technical Working Groups and Regional Taskforces.***

HEAL TB is a permanent member of the FMoH national Technical Working Groups. It actively participated in the preparation of the comprehensive TB, Leprosy and TB/HIV manual, MDR TB national strategy, and HEAL MDR TB training manual development. HEAL TB also participated in a new innovative medical curriculum consultative meeting organized by the FMOH.

The Amhara regional team facilitated the establishment of MDR TB technical working group and participated in the monthly meeting. In Amhara, the regional team also actively participates in regular TB/HIV technical meetings. In Oromia, HEAL TB's regional team also actively participates in the joint supportive supervisions organized by the RHBs.

HEAL TB also provided technical and financial support in the revision of guidelines and the training materials for comprehensive tuberculosis, leprosy, TB/HIV, and MDR TB reduction and control programs.

- ✓ ***HEAL TB supported annual World TB Day*.**

The national annual TB day celebration and TB Research Advisory Committee conference were organized in Tigray Regional State's Mekele town. HEAL TB has contributed both financially and technically to the conduct of these two events. HEAL TB supported the publication of the annual TB bulletin and provided also resources to the Annual World TB day in both the Amhara and Oromia regions.

HEAL TB sponsored the Ethiopian Medical Students Association events to create awareness among high school students and the higher education community at Black Lion teaching Hospital in Addis Ababa. The events where held as part of a three day event from March 29 to March 31, 2012 and reached more than 700 high school students and around 475 medical students.

Figure 5: Oromia Region Health Bureau Head Shallo Daba (left), and HEAL TB Program Director, Dr. Muluken Melese (Right) addressing the crowd during World TB Day Observance in Adama, March 31, 2012. In addition, HEAL TB produced Amharic scripts for radio spots broadcast at the Amhara regional FM radio station. The spots were broadcasted in connection with the World TB Day observance in Bahir dar. Photo: Hilina Abebe.

- ✓ ***HEAL TB supported woreda-based planning in 163 woredas***

As part of support for the TB program management, Heal TB provided technical and financial assistance to the woreda-based planning in 163 out of the 187 functional woredas. Heal TB team recorded the status of TB program implementation in the country, to help the planning team of the woreda health offices to give adequate attention to improve TB control in their respective woredas.

- ✓ ***HEAL TB supported review meetings in two zones of Amhara implementation sites***

Supported TB control program Review meeting for two zones (North Wollo and South Wollo) where a total of 100 TB program managers, regional officials and partners attended the meeting (42 and 58 TB program managers respectively). During the meeting, TB control program achievements, program challenges, strengths, opportunities and solutions were thoroughly discussed. In addition, The central and regional team also participated annual review meeting of Gondar University hospital MDR TB review meeting.

Figure 1: HEAL TB is actively involved in woreda-based planning.

1.2: Improving laboratory capacity

- ✓ ***1,071 lab professionals were trained on AFB microscopy and external quality assurance.***

HEAL TB provided training of trainers for regional and hospital laboratory professionals. The training was then cascaded to the microscopy units. At the end of the first year, 1,071 (91% of the target), laboratory professionals were trained on AFB smear microscopy and external quality assurance (EQA). The remaining 9% is reserved for LED microscopy training to be conducted when the regents in the process of purchase arrives in the country.

- ✓ ***484 health facilities were capacitated to improve AFB microscopy and EQA.***

All heath facilities providing diagnostic services were visited during the reporting period. At the end of the year, 484 health facilities were providing diagnostic services. Additionally, non-diagnostic health centers without AFB microscopy were collecting slide smears and forwarding

them to the nearest diagnostic health facilities, as shown in the success story below. This system has alleviated patients of the burden of traveling long distances and waiting days to give sputum for smear microscopy.

Figure 2: HEAL TB staff supporting health staffs preparing a slide drying rack with local available material.

Case Study: Sample Transportation System Enables Non-Diagnostic Health Centers To Diagnose TB

Twenty-two-year-old Melkamu Belete was suffering from tuberculosis but was misdiagnosed and left without proper treatment for six months. Melkamu had made four visits to health facilities to be treated for a cough, fever, and loss of appetite. The health care staff did not test him for tuberculosis, but instead, sent him home with antibiotics that did not heal him. Despite worsening symptoms, Melkamu eventually gave up and stopped seeking medical advice.

Eventually, Melkamu's younger sister, Yelemset, began complaining of similar symptoms. With the help of relatives, Yelemset made a long trip to the Kuy Health Center where she was diagnosed with pulmonary tuberculosis. After placing Yelemset on tuberculosis medication, the health care team at Kuy Health Center notified the staff at their partner facility, Gerems Health Center, where Yelemset was being treated for tuberculosis, to contact Melkamu and refer him. Although Gerems Health Center does not have the capacity to test sputum samples for tuberculosis, after learning that Yalemset had tuberculosis, a health care worker from Gerems

Figure 3: Staff from a medical team at Gerems Health Center trained by HEAL TB to identify TB suspects in their community. Photo: Courtesy, Dr. Kassahun Melkieneh, HEAL TB.

immediately visited Yelemset's home and screened her family members for TB. The health worker collected a sputum sample from Melkamu and transported it to the Kuy Health Center where it was tested and shown to be TB positive. The health worker immediately contacted Melkamu and set up an appointment with him to begin TB treatment. Gerems Health Center is among the 15 non-diagnostic health facilities in East Gojam Zone that have been engaged in sputum sample collection and transportation for the last five months. The intervention is supported by HEAL TB. The sample collection and transportation initiative began in April 2012 and allows health facilities without microscopes to send sputum to facilities with microscopes for testing. This system will stay in place until standard microscopes can be supplied to all facilities. For Melkamu and other highly infectious and critically ill TB patients who cannot afford transportation to a diagnostic facility, the sputum sample transport system is a low–cost, yet life-saving, intervention.

Today, Melkamu's health condition has improved significantly. He said, "I was desperate and about to stop going to school [because I was so ill]. I am glad that I started treatment. I am now strictly following my medication," said Melkamu.

HEAL TB also trained three health workers from Gerems Health Center on screening outpatient visitors and tracing TB suspects through home visits for improved TB detection. These health workers now conduct door-to-door visits in the surrounding communities and refer residents with TB symptoms to the Gerems Health Center where their sputum samples are collected. Health workers transport these samples to the diagnostic Kuy Health Center for TB testing.

Figure 4: Staff from a medical team at Gerems Health Center who were trained by HEAL TB to identify TB suspects in their community. Photo: Dr. Kassahun Melkieneh (HEAL TB project.

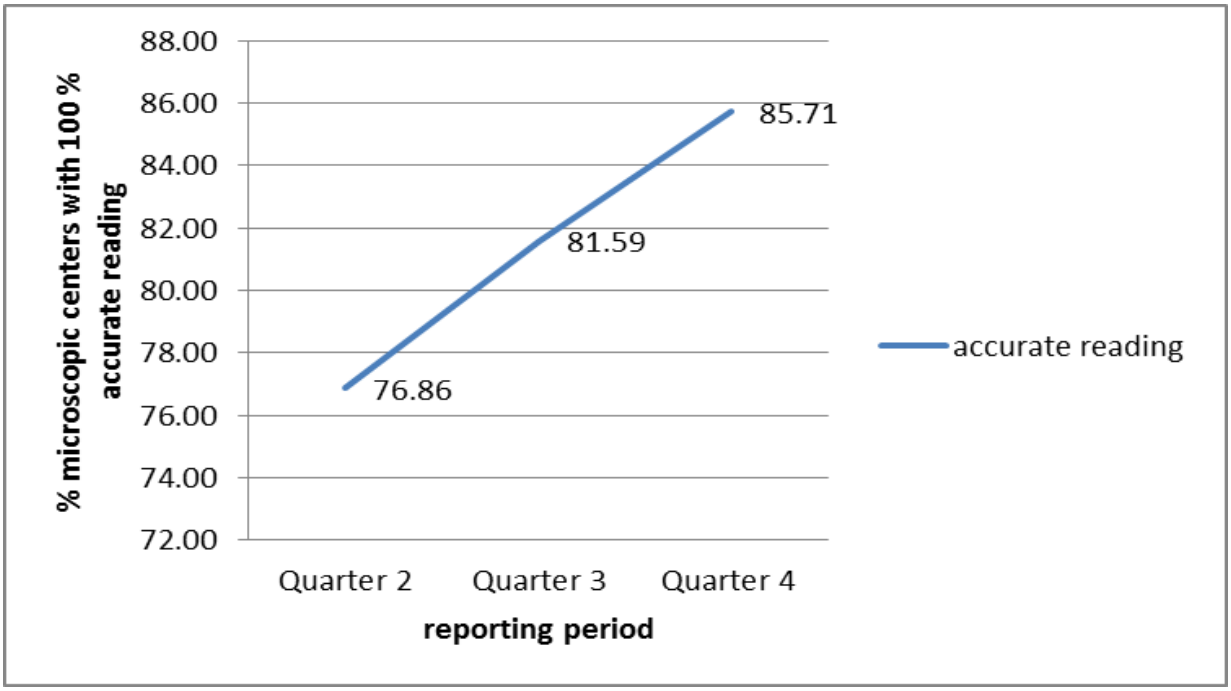
Since the transportation initiative started in April 2012, HEAL TB has provided clinical TB training for nearly 300 health care providers in East Gojam Zone of Amhara. Fifty-eight of these health care providers were from 15 non-diagnostic health centers. As a result, over 10,000 clients have been screened for TB at health facilities and through home visits. The HEAL TB

mentoring team is continuing to visit health centers on a quarterly basis to improve TB screening for all clients visiting the facilities.

The procurement of new microscopes was delayed because Olympus had stopped manufacturing for some time. In the last quarter of the project year, 188 microscopes were purchased and delivered to Ethiopia. They are now being distributed. The rest of 204 non-diagnostic health facilities will have diagnostic capacity in the first quarter of the second year.

The laboratory mentors applied a standard-of-care tool to improve the quality of tuberculosis-related laboratory services in the facility. All 484 health facilities were visited at least three times during the project implementation. The mentoring team always assessed the status of lab performance using standard-of-lab services indicators. Based on the results, the team provided on-the-job training to the lab personnel in the facility. The supported facilities have improved the key standard-of-care indicators. Nearly 85% of the microscopic centers have 100% reading accuracy level in the onsite quality assurance during the last quarter from a baseline of 76% (Figure 10a). Quality of reagent and quality of sputum by patients are some of the factors that affect quality of microscopic services. The improvement in quality of lab services could be related to the regular support provided by mentors and the in-service training.

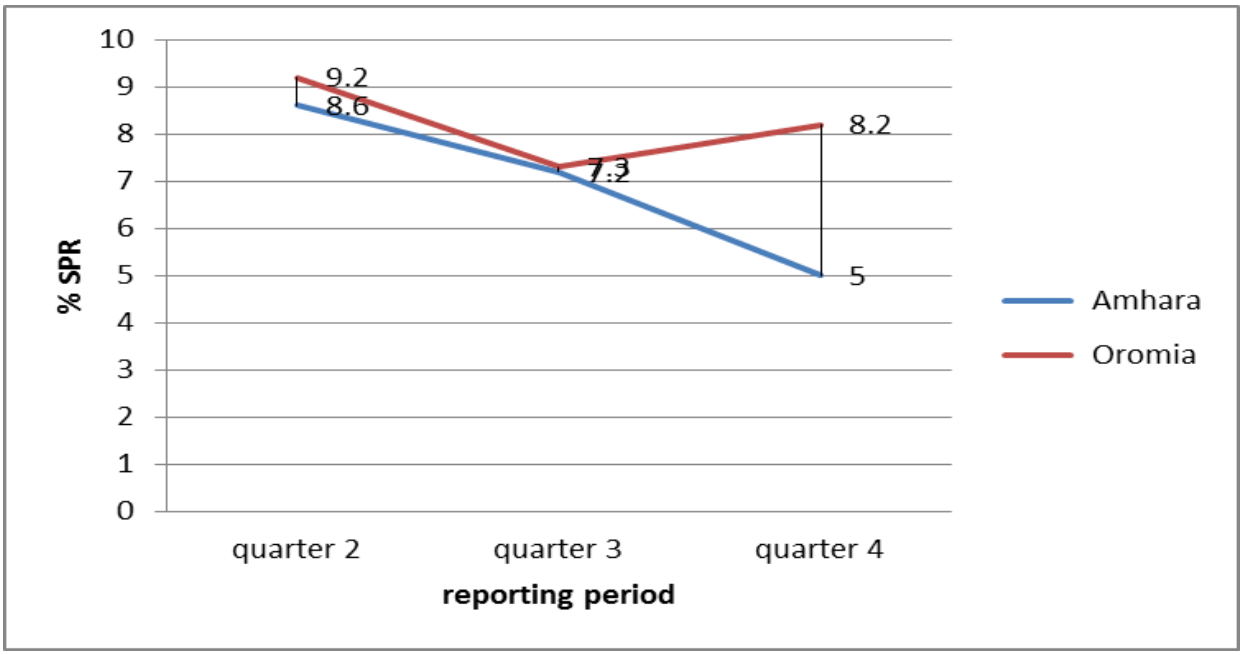
Figure 10a: The onsite lab mentors reading with 100 % concordance rate (on site supervision)



As shown in Figure 10b, the smear positivity rate has shown a decline in both regions, although there was improvement in Oromia in the last quarter. The reasons could be attributed to increased number of tuberculosis suspects examined at health facilities or that the quality of screening might be poor. A campaign was undertaken in South Wollo to improve case detection,

which increased the number of suspects—an encouraging first step. Caution will be taken to improve the quality of screening at different levels in the coming year.

Figure 10b: Trend in smear positivity rate by region HEAL TB project site



- ✓ ***Two regional workshops were conducted to develop external quality assurance implementation guideline***

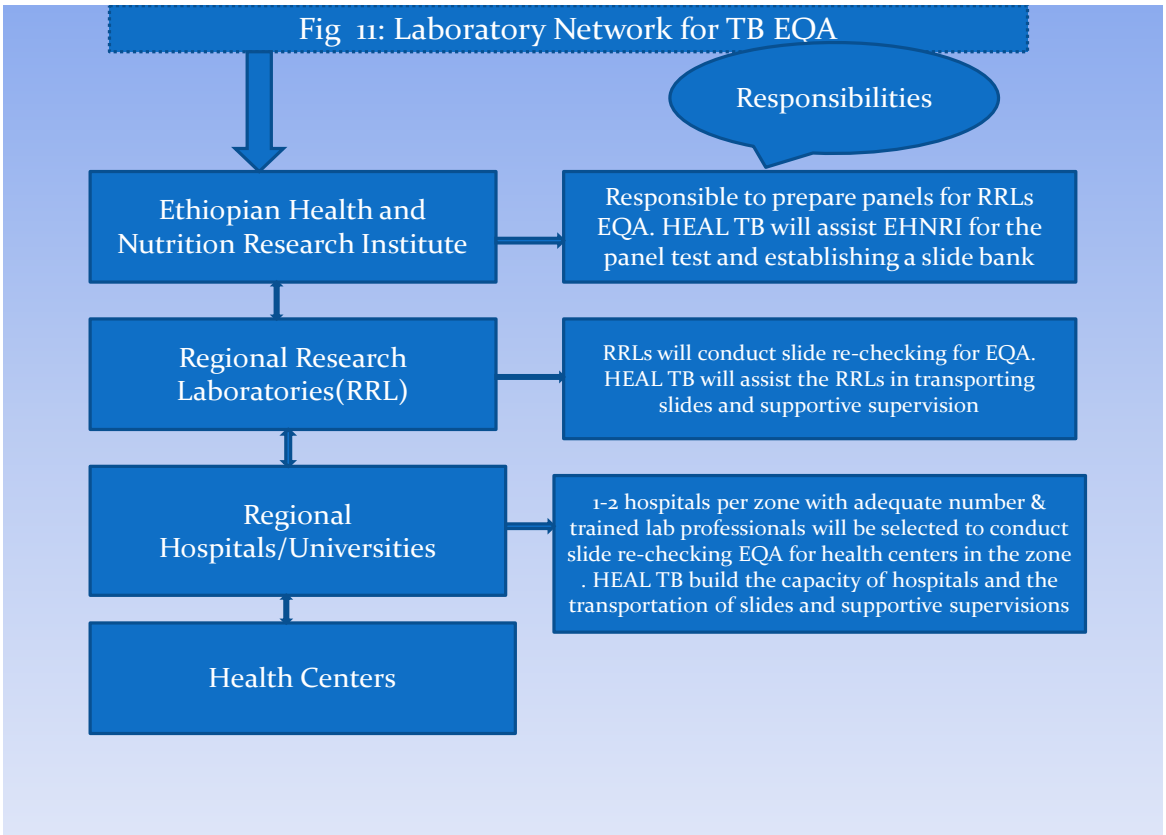
Two regional workshops were conducted to develop an external quality assurance implementation guideline and standard operating procedures. The two RHBs also agreed that the woreda tuberculosis focal persons should randomize slides in their catchment hospitals and health centers, and transport them to the nearest EQA center. The regions have started expanding and implementing external quality assurance to all health facilities supported by HEAL TB. According to the national plan, RRFs (assessed using panels prepared by the Ethiopian Health and Nutrition Research Institute) will conduct the health centers' blinded rechecking. Figure 11 shows the decentralized model of the national external quality assurance system.

- ✓ ***Thirty-seven facilities started to function as an external quality assurance center***

For the first time in the countries lab system history, thirty-seven health facilities and regional laboratories are currently serving as external quality evaluation centers in Amhara and Oromia Regions. Twenty-three hospitals, 10 big health centers in Amhara case and four RRLs have the capacity to do external quality evaluations.

To facilitate the blinded rechecking a total of 277 TB focal persons were trained on slides selection (randomization) and transportation to higher-level external quality assurance centers. In the last quarter, slides for blinded rechecking were collected from 353 health facilities and were re-read at the external quality assurance centers. Three hundred nineteen (90%) of the health facilities had a concordance rate of 95% or greater. Facilities with high level of discordance will be targeted for onsite supervision in the following months.

Figure 11: This decentralized model was tested for the first time with HEAL TB support.



The false-positivity rate was higher than the internal standard set by the project. The high false positive cases were attributed to precipitate of carbol-fushcin. In addition to this, low false negativity rate was observed as compared to false positives. Some constraints in compiling results of blinded rechecking were also observed. Since majority of the external quality assurance centers were new, there have been delays in reporting and provision of feedback. The new external quality assurance centers will be provided with computers and other supports to improve their capacity of handling this service.

Table 1: Summary of EQA performance in Q4 in the HEAL TB supported zones

	Indicators	April -July 2012
1	Total number of slides collected for EQA collected	13,354
2	Number of positive slides	912
3	Percent agreement of positive slides	92.4
4	% disagreement of positive slides	7.6
5	Target	<1%
6	Number of negative slides	12,442
7	% agreement of Negative slides	99.47
8	% disagreement of negative slides	0.53
9	Target	<0.5%
10	Health facilities (HFs) with >95% concordant result	319 (90.3%)
11	Target (Performance Monitoring Plan)	70%

✓ *Essential supplies purchased*

The following items were purchased from international suppliers and distributed to health facilities.

- 188 light microscopes;
- 2,234 slide boxes;
- 90 starter kits;
- 60 kilograms of each potassium permanganate and auramine O for LED microscopes;
- 30,000 plastic bottles for AFB reagents distribution purchased and provided for the two regions.

Based on the baseline assessment and inputs from regional teams, 335 tables for smear preparation were purchased. For EQA centers, 33 shelves, computers, and printers were purchased (see Table 2).

Table 2: Summary table of major items procured and distributed

	Items	Quantity procured
1	Microscope	188
2	Slides boxes	2,234
3	Starter kits	90
4	Auramine	60 kms
5	Potassium permanganate	60 kms
6	Requisition and Reporting Form (RRF) – HC	1,245 pads
7	RRF – hospitals	250
8	Internal Facility Report and Resupply Form (IFF)	1,382 Pads
9	Cupboards	365
10	Tables (for smear preparation)	335
11	Bottles (for reagents)	30,000

- ✓ ***Improve TB lab management system and ordering of lab reagents***

To improve the laboratory management and ordering of laboratory reagents HEAL TB team had a series of discussion with the Pharmaceutical Fund Supply Agency (PFSA). The following issues were discussed during these sessions:

- Consumption based reagent supply;
- Quality control of the reagents; and
- Distribution of reagents.

From these discussions, it was agreed that HEAL TB will support the purchase of reagent preparation machine and other equipment's, while PFSA provided the specification for the machine. Accordingly HEAL TB has included budget for the purchase for year II.

- ✓ ***HEAL TB collaborated with other partners to ensure regional labs are monitored by the partnership with EHNRI, RHBs, and the RRLs***

Heal TB is an active member of the EHNRI and regional lab technical working groups to produce standard operating procedures, guidelines, and design implementation modalities. The

national external quality assurance guidelines were revised, standard operating procedures for LED microscope were developed, and teaching materials were incorporated in the AFB training module. National support was also provided by providing training of trainers to 22 laboratory professionals on the operation of LED microscopy.

1.3: Ensuring that standard TB regimens are administered correctly

- ✓ ***The annual target of building the capacity of 691 health facilities to provide treatment has been achieved***

HEAL TB conducted a baseline assessment of the 691 health facilities selected by the RHBs for HEAL TB support in the 10 zones. The major gaps, as indicted above in the baseline summary, were identified as: human resources training, especially with the new DOTs region change; furniture, equipment and registers; and IEC/BCC materials for monitoring and reporting. The other major gap was on screening practice for new cases and suspects, as well as on the referral linkage between the health facilities and the health posts.

Following the assessment, the standard operating procedures piloted by TB CAP (to systematically improve case notification in the intervention facilities) were copied and distributed to all health facilities. The HEAL TB team also designed standard-of-care indicators that guide the implementation of standard operating procedures and national TB guidelines. TB case detection standard operating procedures were implemented in 691 health facilities, World Health Organization (WHO) TB screening tools were printed, and 5,000 copies were distributed. TB diagnostic algorithm was printed, and 5,000 copies are distributed.

Criteria to select the DOTS Learning Centers was set. The criteria are based on the best performing in terms of TB operational indicators, commitment of personnel, good recording and reporting systems, and good referral linkages. Selection criteria was established in the first program year in consultation with the RHBs. Criteria for selection of model DOTS centers were developed, but in the first year there were no health facilities fulfilling the criteria developed.

HEAL TB has started to implement a contact-tracing matrix in some pilot health facilities and health posts although its use is not universal yet. The implementation was delayed because the FMOH did not allow introduction of the matrix. As shown in the case story below, good results are registered in some areas that started using the matrix and its use will be expanded in the second program year. The Multi-Disciplinary Team (MDT)meeting at the HF level has started to discuss the contact tracing and screening as one of the agenda

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Success Story

Simple Family Matrix Improves TB Case Detection

Silenat Yihune, 40, lives in one of the remote parts of Huletejuenesie District, in the East Gojam Zone of Amhara region, where health care service is difficult to access. Silenat has suffered from cough and chest pain for nine months. She also had low-grade fever and significant weight loss. Despite the worsening symptoms, Silenat could not visit a health center, as she did not have enough money. Seven months later, her husband Yirga started to have similar symptoms. One day, on his way to a local market, he visited Keraniyo Health Center. There, he was diagnosed with TB.

Keraniyo Health Center is one of the 348 health facilities in Amhara region supported by HEAL TB. One of the areas in which the HEAL TB project supports Keraniyo Health Center is strengthening its TB suspect identification strategy through the contact screening family matrix.

Figure 12: Silenat with her 3-year-old child, Tadesse (left), her husband (center) and a TB focal person at Keraniyo Health Center. Photo Credit: Dr. Abel Helebo (HEAL TB staff)

In February 2011, HEAL TB initiated the family matrix system in which its' mentors provided guidance in the preparation of the tool by involving the district health office. The system enables close family contacts of a TB patient to be prioritized and screened for TB.

Tadesse, a TB focal person at Keraniyo Health Center, enrolled Silenat's husband Yirga in the facility's TB care unit and registered all of his family members on the family matrix. He advised Yirga to bring all of his family for TB screening free of expense. Silenat and her three year old daughter had similar symptoms suggestive of TB. Silenat was diagnosed to have TB at the health center's laboratory by a smear microscopy and was started on anti TB drugs.

Now, two months later, Silenat has a good appetite and gained more than four kilograms of weight. She had a follow up test at the second month and has become negative for the tubercle

bacilli. Silenat is grateful for the services she has received. “If it wasn’t for the effort of Tadesse and the health team, I would have continued to suffer. I cannot imagine what could have happened if I stayed home and did not seek treatment. I am happy now that I can be there for my children,” said Silenat.

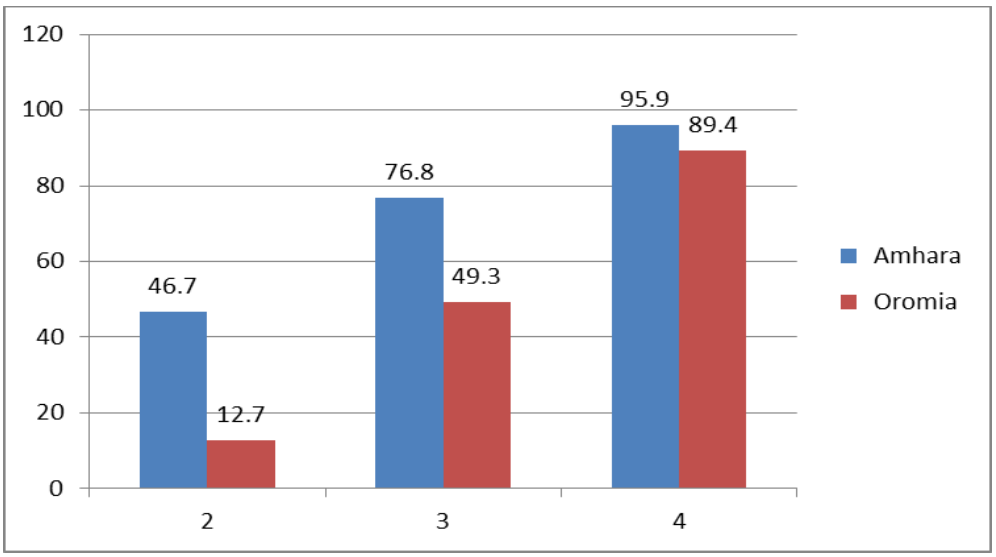
Now Silenat’s worry is about her three year old child who cannot produce sputum which is needed to make the TB diagnosis. Lack of a nearby TB diagnostic HF makes the diagnosis of TB in children a big challenge.

Despite limited resources and challenges such as shortage of microscopes and x-rays, lack of facilities with radiology and pathology, a simple and low-cost TB case finding mechanisms such as the family matrix at TB room are producing a positive impact.

Since February 2012, 24 people have been screening for TB at Keraniyo Health Center through the family matrix. Tadesse and ten other tuberculosis focal persons in the district also received hands-on training from HEAL TB mentors on comprehensive care for TB patients and patients co-infected with TB and HIV, enabling them to provide a standard quality of care for TB patients like Silenat and her family members.

The percentage of health facilities implementing the standard operating procedures (SOPs) has improved over the implementation period. In the fourth quarter 96% of HFs in Amhara and 89% in Oromia reported that they do practice TB screening (Figure 13).

Figure 13: Percentage of health facilities implementing the SOP by region.



The proportion of patients routinely screened, irrespective of their chief complaints, has reached 55.2% in the project facilities; its practice was nearly non-existent at baseline (Figure 14). The proportion of suspects to all outpatient department (OPD) visitors in the OPD has increased from 0.3% in the second quarter to 2% in the fourth quarter (Figure 15).

Figure 14: Percentage of OPD visitors screened for TB

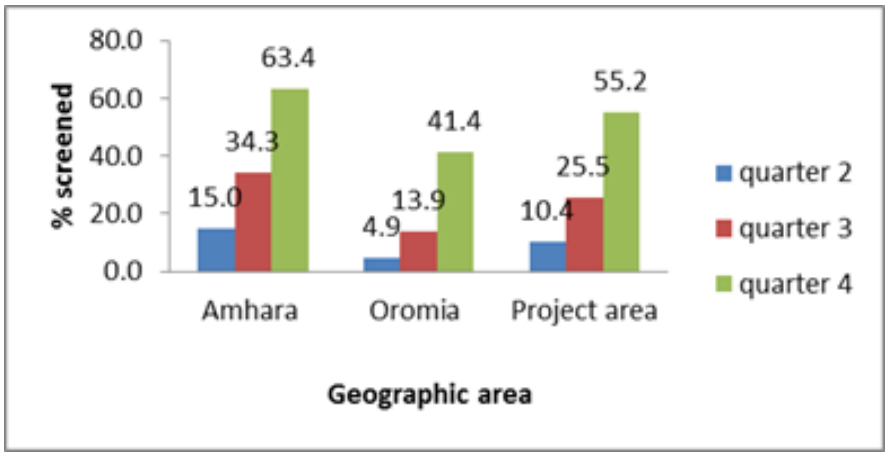
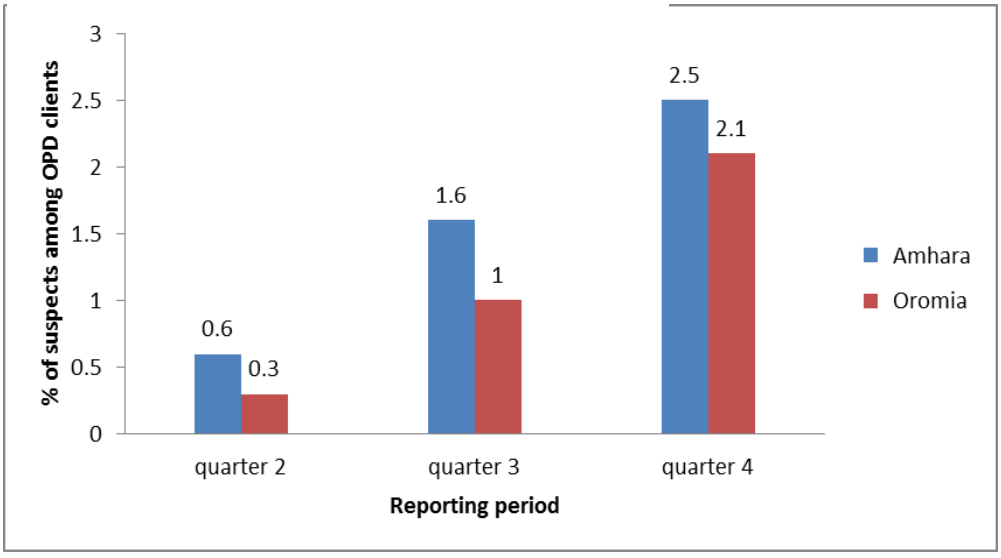


Figure 15 Proportion suspects identified



Figures 16 and 17 show improvement in microbiological follow-up during the implementation period. The percentage of patients not examined at the end of an intensive period has declined by nearly 10 percent. Higher proportions of smear positive patients were examined in Amhara (91.2 %) than Oromia (88.4%). Higher level of smear conversion was noted in Oromia (84.3%) than Amhara (75%). There have been improvements in smear conversion in project area with the overall rate reaching 79.7%, which is line with the global target.

Figure 16: Smear positive cases not checked for sputum conversion by region in HEAL TB supported HFs

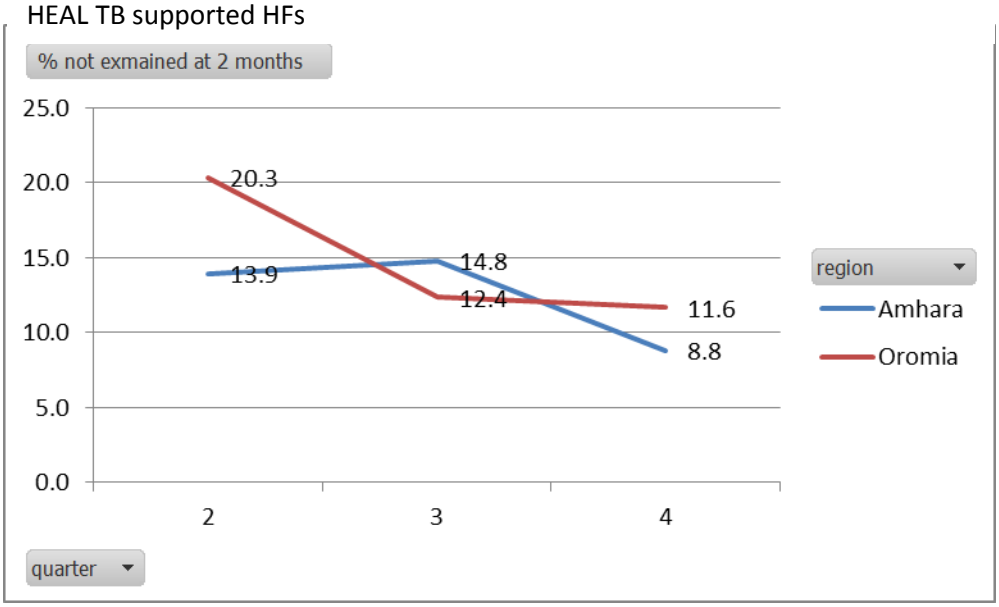
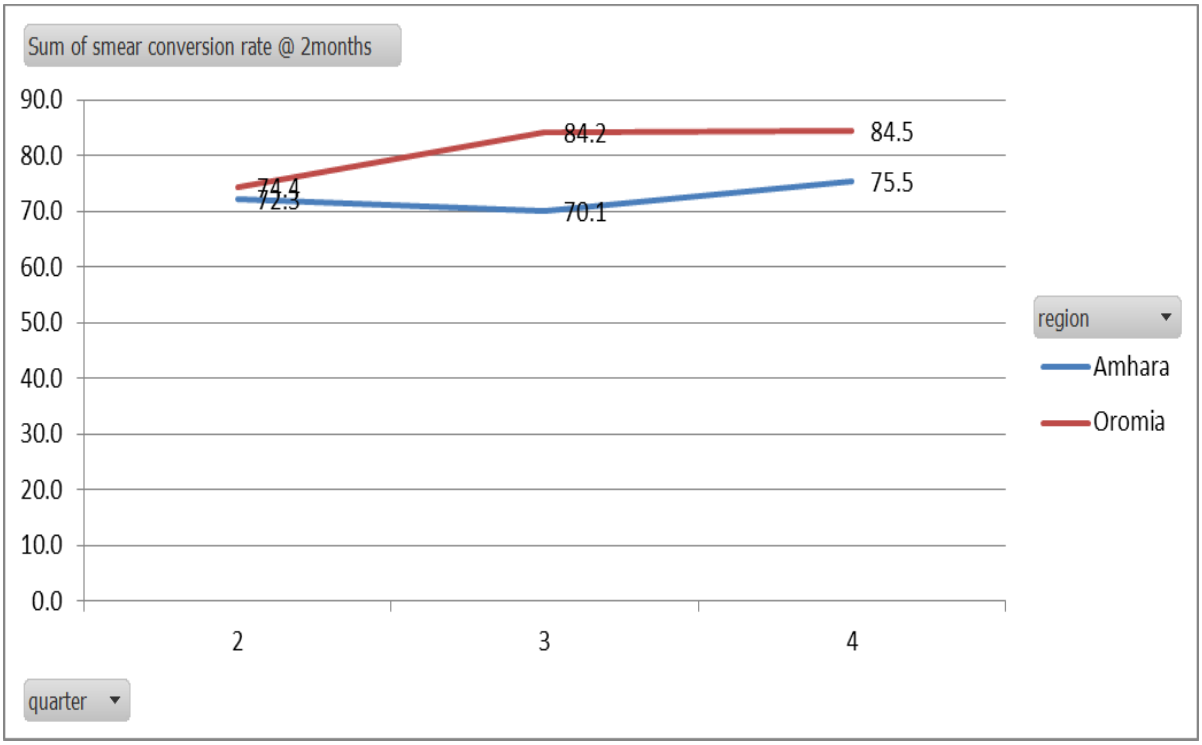


Figure 17: Trend in smear conversation rate at end of intensive period by region in Heal TB project sites.



- ✓ ***1,053 health workers were trained on comprehensive TB, leprosy, and TB/ HIV prevention, treatment and care***

Of the 1,180 health workers planned to be trained on the national comprehensive TB, leprosy, and TB/HIV, 1,053 (89.2%) health workers in 691 health facilities were trained. Among these, 61 of the trainees were trained to train others by HEAL TB's sub-awardee ALERT. Seventy-four new graduating classes of nurses at Jimma University received pre-deployment training on the comprehensive tuberculosis, leprosy, TB/HIV, and MDR TB.

The training of health workers was delayed until the fourth quarter because the national training manual was not finalized. The delay has hindered achievement in case notification.

Mentorship: The 691 TB treatment providing health facilities were also visited quarterly for one day. The purpose of the mentorship was to build the capacity of health workers in screening, diagnosis, DOTS administration, patient clinical and lab follow-ups, registration, and reporting. As can be seen in the success stories above, the mentors assisted in planning contact screening practices, which is also extended to the health extension workers. As shown in the next success story, health workers have expressed their satisfaction with the mentorship support they received in the year.

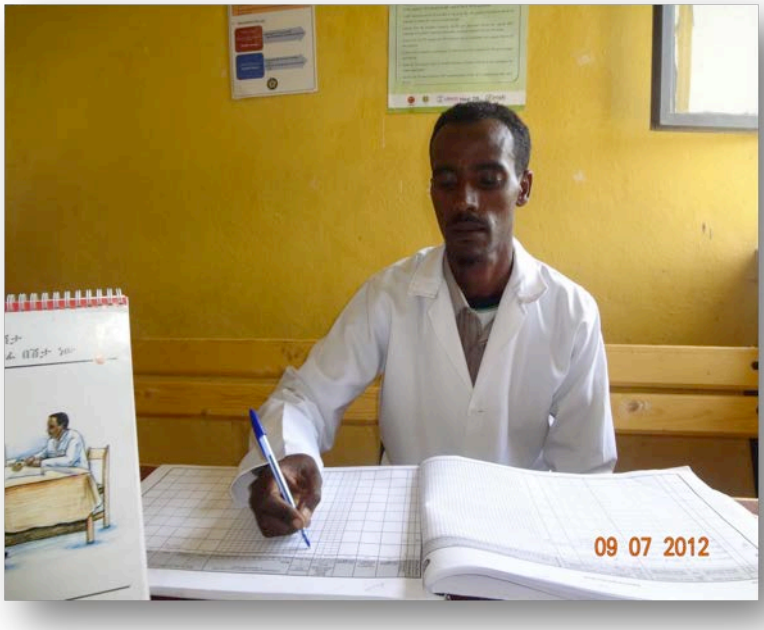
Success Story

Improving TB Care through Staff Training and Mentorship in South Wollo

"I was once a TB patient myself and suffered from the infection," recalls Sileshi Idiris, a clinical nurse and the sole TB focal person at Fito Health Center. "I was stigmatized by the community due to my illness and couldn't receive appropriate treatment from the health facility I attended. My own suffering encouraged me to serve the community so I could protect more people from being infected by TB."

Despite his enthusiasm to work as a TB focal person and help those affected by the infection, Sleshi initially lacked the knowledge and skills to properly care for TB patients. Sleshi needed clinical skills training and guidance on how to comply with Ethiopia's national TB control guidelines. "I had only had eight months of practical experience in a clinical setting before I was assigned to the TB Unit at Fito Health Center. When I began at Fito, I had difficulty handling TB patients and was unable to consult senior staff for guidance [because they had also been newly assigned to Fito and lacked the skills themselves]. I also was not familiar with the TB Unit's recording and reporting procedures," said Sleshi.

Figure 18: Sileshi Idris recording TB data at Fito Health Center. Photo: Kelem Kebede (HEALTB Project, Dessie)



Without proper training, Sleshi found it challenging to prescribe the correct combination of drugs and place TB patients on an appropriate treatment regimen. He also had difficulty following up on TB patients who came to the health center from remote areas.

Fortunately, in December 2011, Fito Health Center began receiving mentorship support from the USAID-funded project, Help Ethiopia Address Low TB Performance (HEAL TB), which is led by Management Sciences for Health (MSH). HEAL TB's mentorship support aims to improve the capacity of health workers to properly diagnose TB and accurately prescribe treatment regimens. The project currently supports 691 health facilities in the regional states of Amhara and Oromia.

Sileshi is among the 85 TB focal persons in South Wollo Zone who have received hands-on training from HEAL TB mentors on comprehensive care for TB patients and patients co-infected by TB and HIV, using the national TB guidelines. In addition to attending HEAL TB's quarterly training workshops, Sleshi is also able to call his HEAL TB mentors whenever he has a question or needs further clinical support.

Before HEAL TB's intervention, TB services at Fito Health Center were not provided independent of other clinical services and the staff did not maintain adequate TB records or complete reports using the TB Unit's register. In addition, the health care staff rarely screened out-patients for TB, did not trace or register TB suspects, and infrequently followed up on smear positive patients.

Today, after nine months of support from HEAL TB, there is now a complete TB Unit record at Fito Health Center. Screening of out-patients has reached 91.9 percent from a baseline of just 2.1 percent and Fito's health care teams are also conducting regular and thorough follow up with all TB patients. Furthermore, the HEAL TB technical team has developed and provided the Fito Health Center with tracing and suspect registration forms that are used to contact an infected patient's household members so they can be offered TB screening and testing services. HEAL TB has also established a separate waiting room and treatment area for TB patients, which is adequately ventilated to prevent TB transmission among patients, visitors, and staff. The project team is now helping Fito to furnish this area with tables, chairs, and lockable cupboards to store anti-TB drugs.

Sileshi is pleased to report that HEAL TB's trainings, mentorship, and operations support have helped him to serve his patients more efficiently and effectively. "I have made significant improvement in properly recording and documenting TB cases according to the national guidelines. HEAL TB's mentorship program has enabled me to strictly adhere to TB care standards," he said.

Kelem Kebede has a Bachelor of Science and Master of Science in Public Health from Gonder University, Ethiopia. Kelem has been working in the Help Ethiopia Address Low Tuberculosis (HEAL TB) project led by MSH as a TB clinical Officer since March 1, 2012.

1.4: Managing drug supplies

Mentorship: Drug supply management Standard of Care (SOC)indicators and mentoring guideline was also developed as part of the comprehensive mentoring tool. The indicators were used to assess the status of TB drugs availability in the health facilities, which guides to provide timely action. The stock status for selected tracer anti-TB drugs of HEAL TB supported health facilities was remarkably reduced from the time of the baseline assessment. Only 1.4% service delivery points reported stock-outs of (adult preparation) during the fourth quarter (Figure 17).

Improvement in implementation of the Integrated Pharmaceutical Logistic System (IPLS) was also noted. In the 4th quarter only 11% of the health facilities reported unavailability of bin cards while it was 30% in the second quarter. Nearly 57% of the facilities update bin cards from a figure of 22.47% at baseline. This was made possible due to the continuous mentorship support given on Tuberculosis Drug Supply Management(TB DSM). Selected IPLS/TB DSM indicators in the standard of care were analyzed based on the drug supply management mentorship guideline on a quarterly basis as part of the integrated mentorship process model. Follow up was done on the status of actions undertaken as interventions in order to address the critical gaps.

Figure 19: Trend in stock out rate of adult preparation in HEAL TB supported HFs

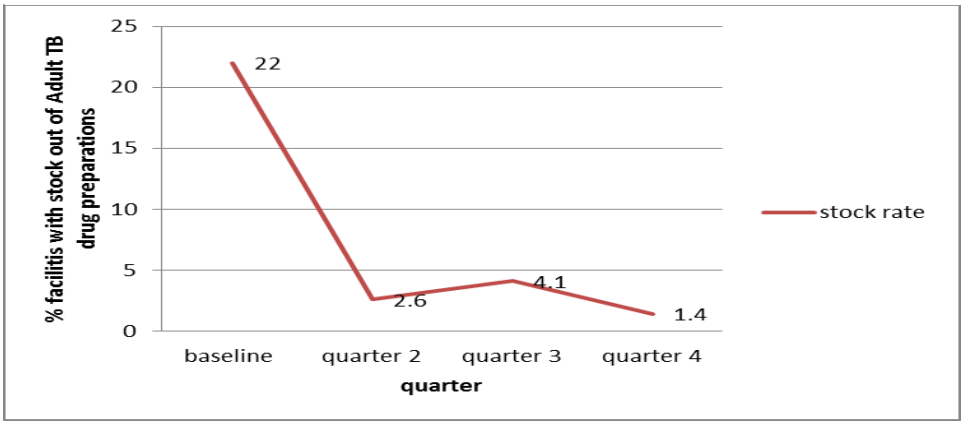


Table 3: Bin Card Availability in HEAL TB supported HFs

Bin-card status	Quarter 2	Quarter 3	Quarter 4
No bin card	151(30.5%)	103 (16.2%)	51 (11.9%)
Bin Card not updated	232(47%)	266 (42%)	134 (31%)
HFs visited in the quarter	494	633	433

Training: The plan to train pharmacy professionals on the IPLS and anti-TB Drug Supply Management was planned for 240 pharmacy professionals but because of the demand 325 (135%) were trained for six days.

Coordination with central level partners on drug supply management:

- Developed an Memorandum of Understanding (MOU) between HEAL TB and PFSA
- Participated in the PFSA led national workshop on facility specific drug list development and quantification for hospitals and health centers in Oromia region.
- Participated in the monthly national logistics TWG. Participated in the IPLS orientation workshop for PEPFAR and (other USAID partners) organized by USAID – Ethiopia mission.

Supplies: Based on discussion with PFSA, other implementing partners and HEAL TB's findings in the baseline assessment, there were critical gaps in the availability of IPLS recording and reporting tools. Hence HEAL TB printed 1,382 pads of IFRR and 2932 pads of RRF for all HELl TB supported health facilities. These pads are distributed to HFs in the two regions.

Furniture: one hundred ninety two health facilities in Amhara and 163 health facilities on Oromia reported that they didn't have shelves at their TB units for keeping registers. By the same token, 245 health facilities from Amhara and 200 health facilities from Oromia reported

that they do not have a lockable cupboard for anti-TB drug storage at their TB units. The numbers of health facilities that had neither shelves nor lockable cupboard were 192 and 163 from Amhara and Oromia regions, respectively. HEAL TB in response has procured 355 lockable cupboards (192 for Amhara and 163 for Oromia). The lockable cupboards are now being distributed to the health facilities.

1.5: Recording and reporting

Mentorship/Baseline Assessment: The quality and timely reporting is an issue and partly the low performance reported can be due to these issues. HEAL TB's baseline assessment at the beginning of the year also identified the existing gaps in recording and reporting in the tuberculosis program. To deal with this challenge, data quality indicators were developed and were part of standards-of-care indicators of the mentors. In addition to this, Routine Data Quality Assurance (RDQA) tools were adopted to improve the recording and reporting issues at different level. According to data generated from HEAL TB's standards of care indicators in the fourth quarter, nearly 82% of the health facilities had data accuracy level of 100**%** for smear positive cases registered. A marked improvement was noted during these periods. The level of under-reporting was nearly 5% and over-reporting was higher at the beginning but has since declined. A high level of over-reporting of cured patients was noted during the second quarter; this has declined over the subsequent quarters. (See Figures 20, 21, and 22).

Figure 20: Trend in improvement of level of data accuracy (smear positive cases)

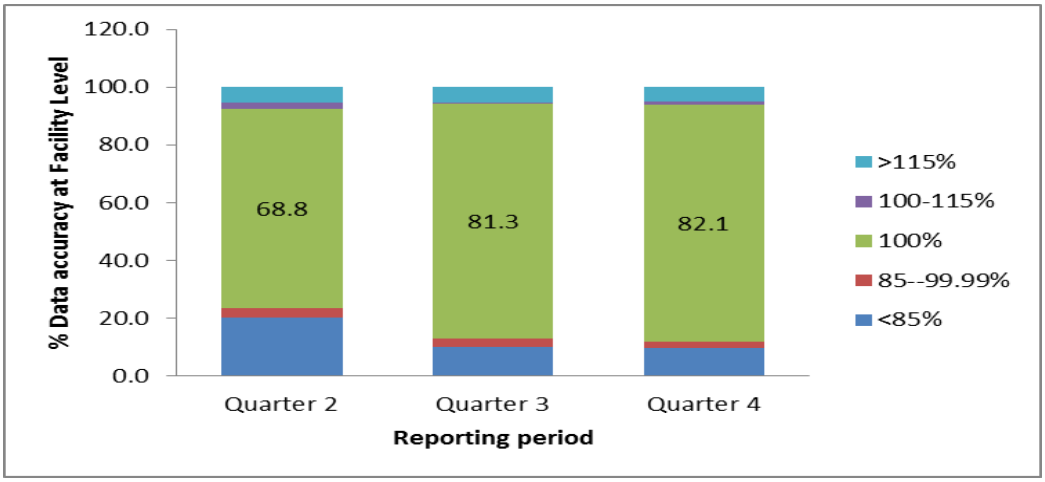


Figure 21: Trend in improvement of data accuracy of reported HIV tested individuals

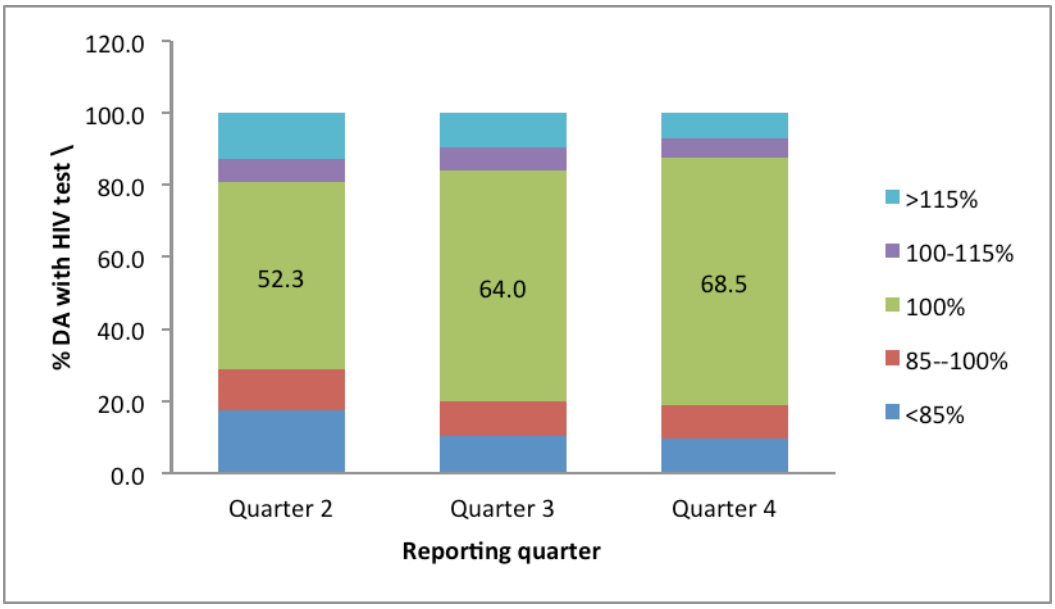
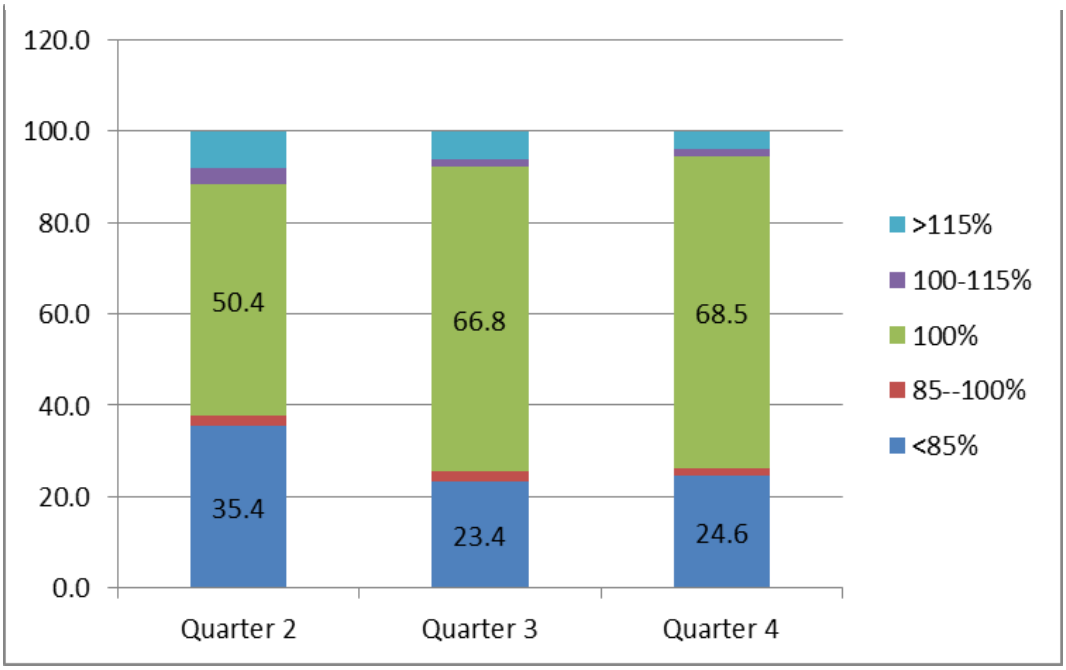
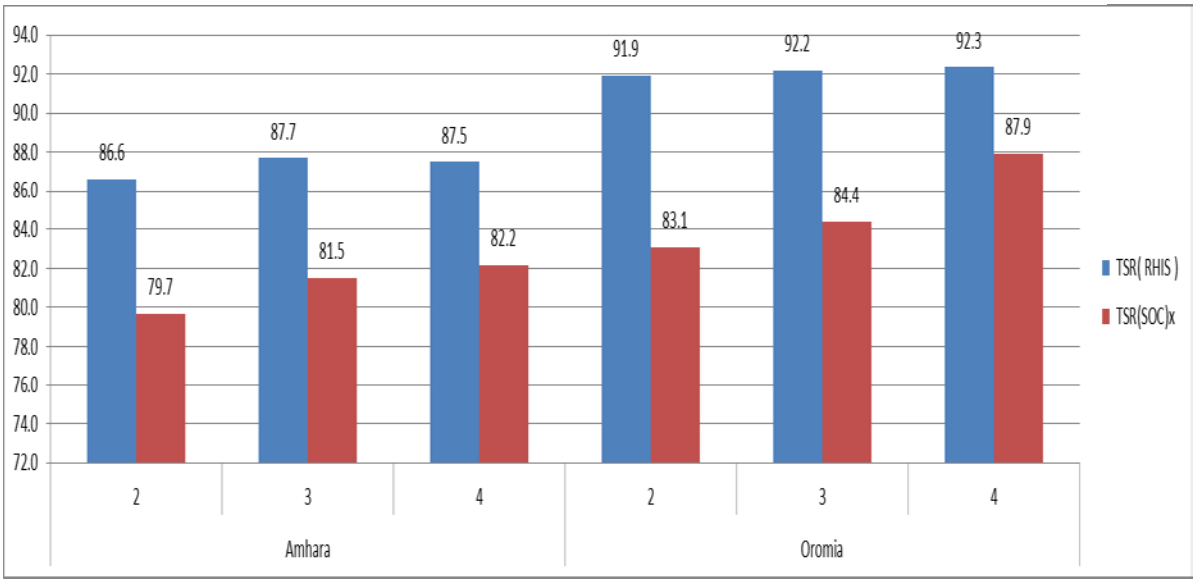


Figure 22: Trend in data accuracy of cured patients reported from health facilities.
(NB: The data accuracy rate is calculated as follows = Re-counted/reported.)



The following figure illustrates the difference in estimates of indicators used for program monitoring purpose. The narrowing of differences over the three quarters be related to improvement in reporting and recording at facility level. HEAL TB started implementing RDQA tool to improve the data quality at district and zonal level. (See Figure 23.)

Figure 23: Comparison treatment success rate of different data sources by region



Training: There is no separate training for recording and reporting but it is part of the laboratory, clinical and Health Extension Workers training. All told, 2,444 professionals were trained in recording and reporting. The health extension workers' training was not done since it is on hold by the FMOH.

Registers and Reporting Formats*:* A critical shortage of lab and clinical registers, and reporting formats were reported during the baseline assessment. The identified materials printed in enough copies and distributed to all health facilities. Through the supervision of the facilities it was learned that there has been improvement in the documentation. A case an example was the lab EQA was not a practice for health facilities, they were not registering properly, label and store slides when we start the project. With this effort we were able to conduct EQA for 353 HFs by the end of the year.

1.6: Improving community TB care

- ✓ ***Knowledge Attitude and Practice(KAP) survey was conducted***

As per the plan a KAP survey has been conducted in the last quarter of the year. A research protocol was and got Ethical clearance from EHNRI and PATH's institutional review board. EHNRI is a co-investigator of the survey. The major preliminary result is presented below and the final will be submitted separately

Knowledge Attitude and Practice of the community on TB was planned to be assessed in the project area to understand the knowledge, Attitude and Practice of the community and based on the identified KAP gaps on TB to design socio culturally fit BCC strategies. In this regard, with

full support of the FMOH, PATH together with MSH has conducted the assessment after IRB approval was secured from EHNRI. Preliminary result has shown that, from 1,920 study subjects most of them, 95.8 % urban and 93% rural have heard about tuberculosis from different sources of information. There are differences in indicating the TB symptoms between urban and rural, male and female, the five zones of Amhara and Oromia. There is wide range of difference between the five zones of Amhara and Oromia regions in indicating the major symptom of TB, which is cough that lasts two weeks and above. Respondents from five zones of Amhara region (14.1%) on the other hand residents from the five zones of Oromia region (26.7%) have indicated cough of 2 weeks and more is the symptoms of TB.

The study subjects were asked about the cost for TB treatment. Only 31.5% knew TB treatment is free in Ethiopia (45.2% urban, 26.8% rural), with lower knowledge in Amhara Region (26.3%) than in Oromia Region (36.1%). More than double the proportion of respondents in rural areas thought that TB treatment was expensive compared to those in urban areas (29.4% rural versus 11.8% urban). Overall more women than men and more respondents in Amhara than in Oromia said they "did not know" how much TB treatment cost (15% males, 24% female), (urban 17.8%, rural 17.8%; 25.2% Amhara, 14.3% Oromia).

The majority of TB patients interviewed through in-depth interview reported having had symptoms for about one month before seeking care, with one patient reporting being sick for a year and another for over five years. Generally, delay in seeking care was primarily because the respondents didn't think they were sick with TB, or suspected they had another illness such as the common cold, malaria, or hepatitis. Almost all of the TB patients interviewed said that the reason for their delay in seeking screening was lack of awareness about TB, which health care workers also confirmed. (The full report will be submitted in the second year.)

One of the major strategies of the project at the design phase was to train HEWs on TB suspect screening, collect sputum samples, make smear and transport slides for AFB, decentralizing DOTs to the community and community education. During the year one planning stage FMOH was consulted and the slide smear making did not get approval as the HEWs are busy with many other activities. The other activities were approved, but the HEWs were busy with other refresher trainings in the year and MSH was not able to train. The other main strategy was to have TB monitors that will be an assistant to HEWs. The plan was to select one volunteer villager for 20 neighboring households. This strategy was not also accepted since the government had a similar strategy of deploying Health Development Armies per 5 households. Both were not fully implemented in the first year and HEAL TB's achievement was affected heavily.

- ✓ ***About six types of IEC materials which were developed by TB CARE I were distributed to HEAL TB project areas***

Mapping of existing IEC/BCC materials was done at baseline and based on these identified gaps six types of IEC/BCC materials originally prepared by TB CARE I re-printed and distributed.

- ✓ ***5,876 TB suspects referred and reached health centers***

Even though HEAL TB's community officers were working with health centers to support HEWs in TB prevention, care and treatment, MSH could not collect the report from HEWs since there is no reporting nor registration mechanism. This will be alleviated once the training for HEWs is provided in the second year. In the current year out of 4452 health posts in the project area only 812 were able to screen suspects.

HEAL TB was able to collect a few results from HEWs and a total of 5,786 patients were referred to and reached the TB clinics of health centers in 812 health posts. But only 255 (4.3%) suspects were diagnosed as TB cases. Six hundred forty-five (645) patients were also referred from health facilities to health posts to continue their treatment (Table 3). The tracking system of this activity was started since April 2012 and the achievement was nearly 16% of the annual target. The annual target was set assuming that all HEW would be trained at the beginning of the project.

Figure 25: Adirkay Woreda Helath Office Annual Review Meeting and HEW orientation on key community TB activities.

Technical Area 2: Strengthening MDR Suspect Identification and Treatment

The annual target of the project was to enroll 55 patients identified in the project area to the treatment centers. But there were no treatment centers in the project areas and the only available treatment centers catchment HEAL TB had no plan to support outside of their catchment and there were serving at their maximum capacity. The expansion plan of the government for new ambulatory and inpatient hospitals strategy is completed in the 3rd quarter and HEAL TB with the guidance of USAID has revisited its plan to support for MDR TB centers. The regional laboratories who was supposed to do culture and drug sensitivity testes are still on the validation phase and that also affected to send samples of suspects registered in HEAL TB's project areas.

- ✓ ***A total of 208 MDR suspects were registered in the first year***

In the 691 health facilities supported by HEAL TB 208 (95 in Amhara and 113 in Oromia), MDR TB suspects were registered. The registration was done by TB focal persons. HEAL TB provided on-site training on suspects' definition to health workers who had a responsibility of diagnosing and treating TB. HEAL TB also prepared a registration format to collect list of MDR suspect from the 691 HF registers. The registered list was shared with the RRLs, which are responsible for collecting samples.

- ✓ ***HEAL TB facilitated the transportation samples for 178 new suspects and 122 follow up cases in Amhara and Oromia Regions(Note the suspects were from all the Region, but the above 208 is only in HEAL TB supported Health facilities)***

In the last quarter of the year the Baher dar and Adama RRLs were in validation stage for culture and sensitivity. Using this opportunity HEAL TB supported the RRLs to collect 300 MDR TB suspects sputum for culture and sensitivity. The result will be ready in the next 8 weeks or so.

There is no mechanism for Health facilities to transport samples TB facilitated the transportation of sputum samples for MDR TB suspects to the two regional laboratories. HEAL TB is working with EHNRI and regional laboratories on establishment of a feasible and sustainable sample transportation mechanism.

- ✓ ***Four hospitals were assessed for their readiness and potential renovation in Amhara and Oromia regions***

Assessment for readiness of hospitals for MDR TB treatment and possible renovation was carried out in four hospitals (2 in Amhara and 2 in Oromia). Design work for renovation for Jimma and Nekempt hospital is completed. The design work for Boru Meda and Debra Markos is in progress. The delays in the later were due to delay in the selection process by the Amhara RHB. Nekempt hospital renovation is contracted out and the renovation will start very soon.

HEAL TB is working with the RHB and other partners to start treatment in the ambulatory centers in a soon as possible.

- ✓ ***HEAL TB facilitated the establishment TWG at regional level***

HEAL TB facilitated the establishment of MDR TB Task Forces in Amhara and Oromia RHBs. The regional task forces are working to produce an implementation plan but delayed because of the engagement of many partners with other schedules.

Technical Area 3: Conducting TB/HIV Collaborative Activities

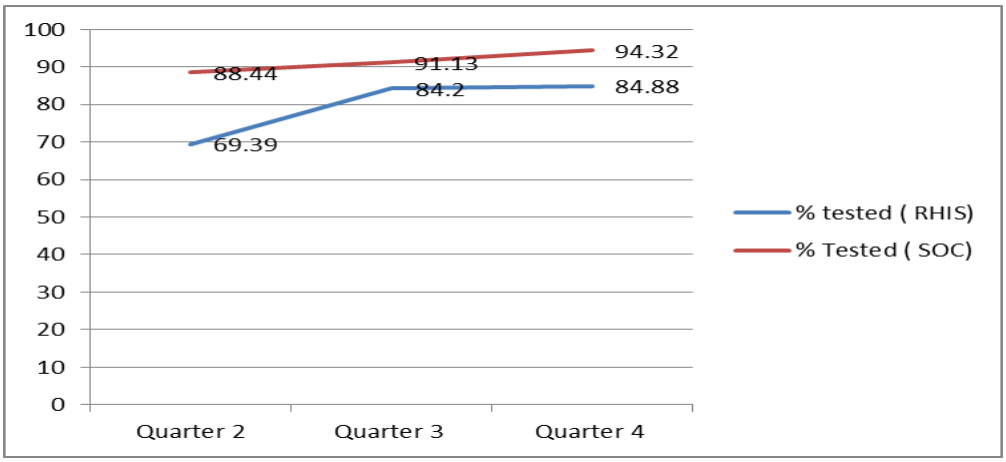
As part of the comprehensive tuberculosis, leprosy, and TB/HIV training 1,052 health workers are trained also in TB/HIV in the 691 health facilities. All the 691 health facilities provide HIV testing services although only 159 provide antiretroviral therapy (ART) services. The rest refer TB/HIV co-infected patients to the nearest HF providing ART.

HEAL TB's mentorship team also mentors on TB and HIV co-infection, but not the ART clinics to avoid duplication with PEPFAR implementing partners.

- ✓ ***More than 85% of newly registered tuberculosis cases had records /evidence of HIV test is provided.***

The proportion of TB patients tested for HIV has reached 94.3% in the last quarter of the year. As shown in Figure 26 there is under reporting of the routine data that comes through the health management information system (HMIS). The mentors' data shows a higher figure and HEAL TB is working to improve the data quality.

Figure 26: Trend in percentage of TB patients tested for HIV over 3 quarters.



Technical Area 4: Improving Health Systems

4.1: Improving infection control

Nearly 60 (8.9%) health facilities reported presence of an infection control (IC) plan, although the on-site orientation and demonstrations was given to all health facilities. HEAL TB prepared a sample TB IC plan and distributed to all health facilities and the clinical officers also use the sample to support the health facilities to prepare their own plan and implement. Health facilities are supported to establish TB IC committees (**integrated with MDT team**), have regular meeting and discuss TB IC as the critical component of the service and assist them to develop their TB IC plan. Figure 23 illustrates the changes that are taking place in terms of commitment and improving the work place and prevention of infection within the health facilities in HEAL TB-supported health facilities.

Figure 27: Woinwuha Health center TB clinic (before and after HEAL TB support of the pharmacies)

4.2: Supporting the Global Fund Secretariat

Based on the guidance given by USAID, HEAL TB reached an agreement with the Ethiopian Public Health Association to pay the salaries and running costs of the GF Secretariat office. The secretariat is responsible for execution and facilitation of the decisions of the GF's advisory body.

Operational Research: HEAL TB signed two MOUs on research grant for graduate students with two universities (Addis Ababa and Gondar). Three proposals from Addis Ababa University that met the selection criteria were granted research funds and the three of them are completed. The researchers the articles are drafted for publications.

HEAL TB also submitted three abstract to International Union against Tuberculosis and Lung Disease annual conference and two of them were accepted. The titles of these abstracts are listed as follows:

- *A Case for Decentralization: Health centers surpass hospitals in Tuberculosis Outcomes within two Ethiopian Regions* (Abstract)
- *The Integrated Pharmaceuticals Logistics System (IPLS) Reduces Drug Stock Outs in Ethiopia's Amhara and Oromia Regions* (Abstract)
- *Predictors of mortality in TB-HIV co-infected patients in Ethiopia: A retrospective cohort study* (Abstract: Not accepted)

Figure 28: Motorbikes purchased to strengthen the health system in HEAL TB project

Motorbikes for Woredas: Fifty motorbikes are purchased and imported to be donated to 50 woredas with road access problems. HEAL TB is waiting to receive the microscopes and other purchases to prepare one handover ceremony to RHBs. Once MSH receives all requested purchases in the country, it will solicit the assistance of the USAID Communications Office for the ceremony.

Cross Cutting Areas

Gender Based Strategy for TB: The KAPTLD team has conducted the first exploratory visit followed by a workshop involving experts from RHBs, sampled zones, woredas, and HEWs. The purpose of the workshop was to receive first-hand information on gender and TB that can serve as a basis for strategy development. The strategy development is in process and will be implemented in the second year.

Partnership and coordination

As it was described above, in the first quarter of the project year a project launch was conducted for the FMOH, RHBs, RRLs and partners. The launch was followed by the annual plan preparation which involved the FMOH, RRBs and RRLs. The annual plan was then submitted to the FMOH for final comments and based on the feedback received, it was finalized. The annual plan was also presented to the RHB teams, ZHDs and woreda health offices, whose comments were incorporated. Based on the plan, joint quarterly implementation plans were prepared and implemented in most areas together. The HEAL TB team also discussed its plans with all HFs.

HEAL TB held many coordination meetings to prepare standard operation plans for lab, MDR TB and the trainings. All the trainings conducted were in close collaboration with RHBs and ZHDs. At the woreda level, the woreda TB focal persons and ZHDs were fully involved in supervising health facilities. Woreda TB focal persons supervise every HF in their catchment area, and randomize slides for EQA, while HEAL TB trained them on the SOCs developed.

HEAL TB has also participated in the RHB-organized joint supportive supervisions and participates in every review meeting.

A coordination forum is established between TB CARE I, Abt Associates and HEAL TB, led by USAID. In the forum, communication issues that affect the TB projects are discussed and coordination of projects with the government is also discussed.

HEAL TB has met all PEPFAR project implementers, in particular ENHAT-CS to coordinate its activities in Amhara Region. Similar discussions have been initiated by CDC partners, but need higher-level alignment of projects in order to bear fruit.

Technical Assistance

Name of Person Provided TA	Date/Duration	Type of TA	Remarks
Dr. Pedro G. Suarez	October, 2011	Assist in the start –up of the project and prepare the annual plan	
Dr. Pedro G. Suarez	February 29- March 8, 20122	Progress review of the HEAL TB project	
Dr.Pedro G. Suarez	June 11-28, 2012	Project progress review and second year plan and budget preparation	
Yen Lim	January 5-12, 2012	To provide training and guidance to project staff on the HEAL TB Cooperative Agreement, Contracts, assistance in agreement compliance, training on OM Circulars A122, A110 and A133, conducting a session on procurement integrity, Code of Conduct and Ethics and Anti-fraud laws and regulations.	
Dr. Eliud Wandwalo	June 11-28, 2012	Project progress review and second year plan and budget preparation	
Mr. Christopher Welch	June 11 – 28, 2012	Project progress review and second year plan and budget preparation	

Publications and Reports

Full Title	Name of authors	Date of publication	Web sites if available
Baseline Assessment report	HEAL TB	April 2012	In process of printing
Predictors of mortality in TB-HIV co-infected patients in Ethiopia: A retrospective cohort study	Balewgeze Sileshi		In process for publication
Determinants of multidrug-resistant Tuberculosis in patients who had taken first-line anti-Tuberculosis treatment in Addis Ababa: A case control study	Selamawit Hirpa		In preparation
Determinants of factors associated with the occurrence of Tuberculosis among people living with HIV after ART initiation in Addis Ababa, Ethiopia. A Case Control Study.			In preparation
Case for Decentralization: Health centers surpass hospitals in Tuberculosis Outcomes within two Ethiopian Regions(Abstract)	B Girma , K. Yewulsew , B Tibebu, H. Ameha, M Fekade Sellassie M. Melese, P.G. Suarez		Abstract accepted for the Union Conference poster presentation
The Integrated Pharmaceuticals Logistics System (IPLS)Reduces Drug Stock Outs in Ethiopia's Amhara and Oromia Regions(Abstract)	M. Legesse, M. Melese, F. Mikru, B. Girma, A. Hadgu,T. Benyam,Y. Kassie, P.G.Suarez		Abstract accepted for the Union Conference poster presentation

International Travel

None

Monitoring Visits

Description of SS	Monitoring team	Dates	Sites visited	Key recommendations
None				

Major Constraints/Challenges and Actions to Overcome Them

IR 1.1 Improved capacity of health mangers to administer TB programs

- The MOST TB training was not approved by the FMOH, and there is no new training curriculum for TB program managers. Most of the TB program managers are new and do not have experience with the TB program.
- The RHBs, ZHDs, and woredas have few adequately trained professionals, and they are overwhelmed with their workload.
- Program coordinators at different levels are newly assigned and lack experience
- A considerable proportion of regional and zonal TB coordinators and woreda TB officers are not trained on the National TB Guidelines

Action taken

- A Project Management Training Guideline and modules will be developed in the coming years in collaboration with the FMOH

IR 1.2 Improving Laboratory Capacity

- More than a third of the HFs had no microscopes
- There was no QA system in any of the HFs

Actions taken

- Microscopes were purchased and distributed
- A QA system design by EHNRI has been implemented in the HFs supported by HEAL TB; still other HFs, even some which had microscopes, registers and health workers, were also trained. HEAL TB supplied microscopes, reagents, slide boxes, and registers, and has trained the lab professionals. Finally, all HFs supported by HEAL TB will have quality control measures in the second year.

IR 1.3 Ensuring That Standard TB Regimens are Administered Correctly

- There were delays in the finalization of National TB Guideline and training materials
- Training of clinicians was delayed until the end of the project year
- TB National Guidelines are not widely available in HFs
- DOT practice was unsatisfactory
- Triage is often not properly implemented

Actions taken

- HEAL TB supported the finalization of the training module.
- After finalization of the national training module, clinical officers were trained in 691 HFs

- Mentoring teams are providing continuous support to improve DOT practice. A rapid assessment is planned to explore the factors affecting DOT practice in the project area.

IR 1.5: Recording and Reporting

- HMIS has not been fully implemented in the project area.
- Data quality (accuracy and completeness) is low
- Use of parallel systems and standards of data collection and reporting
- Poor data recording and reporting
- The existing system doesn't track the AFB service (no system for reporting at different levels)

Actions taken

- HEAL TB supported the printing and distribution of recording and reporting materials as per the RHBs' request
- HEAL TB's mentors provided on-site support in recording and reporting. The reporting quality has improved, although there is still room for improvement.

IR 1.6: Improving Community TB Care

- Delays in training of HEWs
- Absence of a standard national recording and reporting format for community TB intervention
- The case notification could have been better if HEWs were better trained.

Action Taken

- HEAL TB is working closely with the FMOH to accelerate HEW training; training was slated to begin early in the second project year.

Technical areas to strengthen MDR suspect identification and treatment

- There was a clear strategy for MDR TB patient management when the program began, but later in the year the ambulatory model was designed as the existing MDR hospitals were unable to address the country's need.
- Delays in regional labs' culture and drug sensitivity testing (DST), which also affected sample collection for suspects registered in HEAL TB's project area and all the regions.
- Absence of regional implementation guidelines for MDR TB

Actions taken:

- The ambulatory model of treatment initiation was designed by the FMOH and HEAL TB, and is going to assist the implementation in the second year;
- HEAL TB is going to renovate old buildings in four hospitals that will serve as in-patient facilities. It will also equip and furnish the buildings;
- Active suspect identification and sample transportation started as the culture facilities became ready at the end of the project year; and
- HEAL TB is assisting the RHBs to integrate MDR TB management in the health care system.

Data Quality Issues

Despite improvements in data quality, problems remain. Please see IR 1.5 above for more details.

Major Activities Planned for second Year

- HEWs Training of Trainers
- Assist the FMOH in training HEWs in HEAL TB's project areas
- Initiate MDR TB treatment in 4 ambulatory centers and a number of follow-up centers
- Continue supporting identification of MDR suspects, and send samples for culture and DST
- Train 240 lab professionals in LED microscopy
- Conduct EQA in all HFs supported by HEAL TB
- Facilitate the purchase, and produce standards for a mass AFB reagent system with PFSA
- Assist PFSA in implementing TB drug kits
- Initiate the first biomedical engineering activity with the 2 RHBs and EHNRI
- Identify model DOTS centers and establish a system of supporting catchment HFs
- Conduct operational research
- Strengthen joint supervision and mentorship with woreda health offices
- Conduct semi-annual zonal level review meetings
- Pilot Genexpert in two sites

Environmental Compliance

Environmental issues related to HEAL TB were identified. Monitoring indicators were developed.

Financial Accomplishment

The current period's expenditure including accruals is $4,633,607. This accounts 11% of the total project budget or 83% of the current obligated balance. The monthly burn rate of the last quarter of the current reporting period is $673,040. Based on this burn rate the current obligated balance will take the project for only 1.4 months.

Life of project budget (a)	Obligated to date (b)	Expenditure to date (Accrual + Disbursement) (c)	Remaining balance (d)=(b)-(c)	Remark
$41,996,319	$ 5,584,000	$4,633,607	$950,393	$37,362,712

Issues Requiring the Attention of USAID Management

- The current modality of in-service training is expensive. Furthermore, there is no motivation for the trainee to gain new knowledge, and no clear career path for him/her with the new knowledge gained. A mechanism should be designed with the government in order to have a sustainable, cost effective, cost- and time-efficient strategy.

- There are no standard per diems or incentive systems among USG-supported organizations. As a result, unhealthy competition and different treatment practices are observed among health workers on the government side.

Data Sharing with the Host Government

Most of the data for this report came from the FMOH HMIS system and the rest are collected through HEAL TB's system. This report excluding the finance part and areas that are only relevant to MSH and USAID, will be submitted to FMoH, and RHBs.

Annex 1. HEAL-TB Performance Monitoring Plan

Serial #	Indicator	TARGET	Achievement			
		Year 1	Q2	Q3	Q4	YEAR 1
TECHNICAL AREA 1: STRENGTHENING AND EXPANSION OF DOTS (IMPROVED CASE DETECTION RATE AND TREATMENT SUCCESS RATE)						
Result 1 (Expected Outcome 1): HEAL TB performance shall assist the regional/zonal TB programs to reach a minimum case detection rate of 70% and treatment success rate of 85% of detected cases in the respective zones within two years.						
Technical Area 1.1: Political Commitment		**Year 1**	Q2	Q3	Q4	YEAR 1
1.1.1	Number of people covered by USG-supported health financing arrangements	23.5 million	23.5 million	23.5 million	23.5 million	23.5 million
1.1.2	Number of woreda annual operational planning meetings conducted	193	0	163	0	163
Technical Area 1.2: Strengthening Laboratory Services and Systems		**YEAR 1 TARGET**				
1.2.1	Total number of HFs capacitated to provide TB microscopy diagnosis	691	445	465	484	484
1.2.2	Number of laboratory professionals trained in AFB microscopy, Internal and External Quality Assurance	1,180	744	53	274	1071
1.2.3	Percent of USG-supported laboratories performing TB microscopy with over 95% correct microscopy results	70	99	96	90	90
1.2.4	TB microscopy laboratory coverage in USG-supported areas	90	65	67	70	70
1.2.5	TB laboratory quality assurance for smear microscopy in USG-supported areas	691	0	192	353	353

1.2.6	Number of health posts that collected sputum smear from TB suspects and sent to HFs (dependent on FMOH approval)	3,380	not approved by FMOH			
	Technical Area 1.3. Ensuring that Standard TB Regimens are Administered Correctly	**Year 1**	Q2	Q3	Q4	YEAR 1
1.3.1	Number of Health Centers and Hospitals providing DOT (treatment)	691	656	691	691`	691
1.3.2	Number of health care workers trained on DOTs with USG funding	1,180	29	0	1023	1052
1.3.3	Number of medical and para-medical practitioners trained (HWs and HEWs)	3,380	0	0		0
1.3.4	Number of Health Posts able to screen for TB	3,380[1]				
1.3.6	Case notification rate of new sputum smear positive pulmonary TB cases per 100,000 population in USG-supported areas	82				44.6
1.3.7	Percent of the estimated number of new smear-positive pulmonary TB cases that were detected under DOTs (i.e., case detection rate)	50	*estimated incidence rate for Ethiopia is not available to calculate the case detection*			
1.3.8	Percent of the registered new smear-positive pulmonary TB cases that were cured and completed treatment under DOTs (i.e., treatment success rate) in USG-supported areas	90	90	90	90	90.3
	Technical Area 1.4. Drug Supply Management	**Year 1**	Q2	Q3	Q4	YEAR 1
1.4.1	Value of pharmaceuticals and health commodities purchased by USG-assisted governmental entities through competitive tenders*	TBD	NA	NA		NA
1.4.2	USG-assisted service delivery points experiencing stock-outs of specific trace drugs(%)(Adult Preparation)	0	2.1	4.1	1.4	
1.4.3	Number of pharmacy professionals trained on IPLS	240	0	57	268	325
1.4.4	Number of HFs practicing TB Drug Kits(Requires FMOH approval)	60[2]	0	0		0

[1] The reporting mechanism is not established and we are working with FMoH to train and establish the system
[2] The piloting is stopped because the country is importing TB drug kits and determine to go directly to the implementation rather than piloting

Technical Area 1.5: Recording and Reporting		**Year 1**	Q2	Q3	Q4	YEAR 1
1.5.1	Number of people trained in monitoring and evaluation (health workers)	2,360	769	110	1565	2444
1.5.2	Number of HEWs trained in monitoring and evaluation (para-medics)	3,380	0	0	0	0
1.5.3	Number of Regional annual reports, disaggregated by zone, woreda and HF, developed	2[3]	0	0	0	0
Technical Area 1.6: Strengthened Referral Linkage						
1.6.1	Number of TB suspects referred to health facilities from HEWs	32,800				5876
1.6.2	Number of health posts providing DOT for TB patients (%)	1,500				14.10%
1.6.3	Number of TB patients referred to health posts for community DOTS from hospitals, health centers and private health facilities	4,000				645
Technical Area 1.7: Improving Community TB Care						
1.7.1	Number of para-medical practitioners trained in evidence-based clinical guidelines (HEWs)	3,380[4]				0
1.7.2	Number of para-medical practitioners trained in evidence-based clinical guidelines (Community DOTS supporters)	76,800				0
1.7.3	Number of Health Posts screening for TB	3,380				
Technical Area 1.8: Engaging Private Health Sector in DOTs (Public Private Mix-DOTS)						
1.8.1	Number of TB cases reported to the National TB Program by USG-assisted non-MOH sector¥	TBD	0	0		0
TECHNICAL AREA 2: RESPONSE TO EMERGENCE OF MDR-TB						

[3] It will be implemented in the first quarter of the second year since the Ethiopian fiscal year ends in July 7.
[4] The HEWs training was delayed because the FMoH told us to hold until the other refresher trainings schedules completed

Result 2 (Expected Outcome 2): Identify re-treatment failures, expedite sputum for culture and DST and map location of MDR-TB cases			Q2	Q3	Q4	YEAR 1
2.0.1	Number of MDR-TB cases on treatment with USG support	50	0	0	0	0
2.0.2	Number of samples for Culture or DST sent to the Regional labs and/or EHNRI	55	0	0	300	300
TECHNICAL AREA 3: TB/HIV COLLABORATION						
Result 3 (Expected Outcome 3): Improved the TB/HIV Collaborative Activities		**YEAR 1 TARGET**	Q2	Q3	Q4	YEAR 1
3.0.1	Percent of all registered TB patients who are tested for HIV through USG-supported programs	70	70	89	90	89
3.0.2	Number of people trained in TB/HIV	1180	29	0	1023	1052
TECHNICAL AREA 4: HEALTH SYSTEM STRENGTHENING						
Result 4 (Expected Outcome 4): Health Systems are Improved						
4.0.1	Number of baseline or feasibility studies	1	0	1	0	1
4.0.2	Number of information gathering or research activities	TBD	0	2	1	2
Technical area 4.1 Improving Infection Control						
4.1.1	Number of healthcare facilities with TB IC plans implemented	23	60	60		60
Technical area 4.2 Capacity Building of Health Care Providers			No target			
Technical area 4.3 Support proper TB and TB/HIV planning						167
Technical area 4.4 Support implementation of GF TB grants in the Region			No target			