

Tuberculosis Control in Southern Malawi

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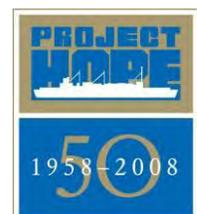


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Executive Summary

Introduction

Malawi has experienced a dramatic rise in reported tuberculosis cases in the last 10 years as high HIV prevalence has triggered the outbreak of new TB cases among those long ago or newly infected with *M. Tuberculosis*. WHO reported TB/HIV co-infection rates of 50% in 2005, one of the highest in the world, and studies have shown even higher rates. Case detection rate in Malawi is very low at 39%, far beneath the WHO global target of 70%, and is likely lower in our project districts, Mulanje and Phalombe. Malawi's treatment success rate is reported to be 71%; however, it is accompanied by a high case fatality rate of 16%. In Mulanje and Phalombe, treatment success rate is reported at 77%; again accompanied by an even higher case fatality rate of 19%.

Overview of Activities and Approaches

The overall goal of the program is to reduce morbidity and mortality due to TB and TB cases with HIV co-infection in the Mulanje and Phalombe. Strategic objectives include improving treatment outcomes of TB cases and TB cases with HIV co-infection and increasing case detection of TB, including among people with HIV co-infection. In particular, we seek to decrease the high case fatality rate.

Summary of Accomplishments

During the first year of activity, Project HOPE has established strong and practical working relationships with the national and local NTP, local partners, and the community, thus ensuring effective collaborations at the health systems and community level for the remaining project years. Accomplishments to date have included the baseline surveys (community and health facility) and the Laboratory Assessment that have illuminated the strengths and weaknesses of the Malawi TB system, the devastating impact of the HIV epidemic, and potential obstacles to effective TB and TB/HIV diagnosis and treatment that will have to be overcome. Additional accomplishments include the writing of the DIP and partner relationship building and buy-in, including informed feedback from the NTP, USAID, and the community. The first TB health worker training took place this year, and existing microscopists in the microscopy laboratories in Mulanje and Phalombe received refresher training and, more importantly, they are being continually mentored and supervised in collaboration with the NTP Zonal and District TB Officers. We are also working closely with the NTP to update and improve their official training manuals and materials so that they are up to date with WHO's current recommendations and other international standards, and we are sharing our project methods and practices with other partners active in TB and TB/HIV diagnosis and control in Malawi such as the TB-CAP program and the REACH Trust.

Major Challenges

Major challenges experienced to date include buy-in from local partners on to changes in DIP, who were particularly disappointed in the delay in opening new labs; however, after speaking to our team at length decided that the approach of waiting for proven improvements in existing laboratories and then using the existing laboratories to help train and mentor new microscopists would enhance sustainability of the training program as well as create a better functioning system for Malawi. Another challenge faced is that the baseline survey and lab assessment results showed a system that is weaker than expected in regards to microscopy and laboratory expertise, basic infrastructure, recording and reporting, and supervision and mentoring. A less

than satisfactory performance by our Program Manager has also provided a challenge and we determined this year that we needed to replace him. The project has required more start up effort in terms of staff time, supplies, and staff travel time than anticipated so the project has overspent in the first year, causing difficulties and the need to plan accordingly in future years.

Activities Planned for Next Year

Activities for Year 2 of the program will concentrate on training with completed curricula that reflect WHO and international standards with mentoring & supervision following training. In particular, training of TB health workers and supervisors will be completed, and training of HIV health care workers will begin. HSAs will be trained throughout the year. Supervisory visits and mentoring will follow each training activity and will continue throughout the year. Roll out of new laboratories will be piloted after proven improvements in existing laboratories. The symptom screening and referral process at VCT centers and through traditional healers and pharmacist/drug sellers will begin, and the community IEC campaign will begin following proven improvements in existing and new laboratories.

Program Strategy

The overall goal of the program is to reduce morbidity and mortality due to TB and TB cases with HIV co-infection in the Mulanje and Phalombe Districts. Strategic objectives and intermediate results include:

Strategic Objective 1: Improve treatment outcomes of TB cases and TB cases with HIV co-infection in Mulanje and Phalombe

1. Increase smear conversion of new SS+ TB cases and successful treatment completion among all TB cases, including those co-infected with HIV
2. Improve the quality of case management of TB and TB with HIV co-infection
3. Increase access to quality care, treatment, and case management of TB cases and TB cases with HIV co-infection
4. Improve policy environment for improved case management of TB and TB with HIV co-infection

Strategic Objective 2: Increase case detection of TB, including among people with HIV co-infection in Mulanje and Phalombe.

1. Increase community care seeking behaviours
2. Improve quality diagnosis of TB
3. Increase access to TB diagnosis
4. Improve policy environment for improved diagnosis of TB, HIV, and TB with HIV co-infection

Main Accomplishments

See chart on next page for main accomplishments by indicator, in our results framework format, followed by a more detailed description of activities.

Strategic Objective 1: Improve treatment outcomes of TB cases and TB cases with HIV co-infection in Mulanje and Phalombe

Intermediate Result	Key Activities (as outlined in the DIP)	Status of Activities	Comments
Knowledge Increase smear conversion of new SS+ TB cases and successful treatment completion among all TB cases, including those co-infected with HIV	Train/retrain and support health care practitioners, especially HSAs, to train, mentor, and supervise guardians in treatment adherence for TB and TB with HIV co-infection.	Activities scheduled for Year 2.	We will particularly be seeking to decrease TB related deaths, and maintain or increase treatment success. Linkages to VCT centers and HIV treatment centers and collaboration between TB and HIV caregivers will be pursued to this end.
Quality Improve the quality of case management of TB and TB with HIV co-infection	Train/retrain and mentor health care personnel: <ul style="list-style-type: none"> • to fully implement DOTS protocols, including recording & reporting • to be effective counselors advocating for TB and ARV treatment completion • to be aware of life-long risk and diagnostic difficulties of TB re-infection 	20 TB health care workers trained to date including: <ul style="list-style-type: none"> • 10 nurses • 7 Medical Assistants • 3 Clinical Officers Training of 130 additional health care workers scheduled for Year 2 & 3.	Basic information on TB/HIV co-infection is not yet included in the NTP's training manual, and the manuals still contain information on the old TB treatment regimes. We are working closely with NTP and partners (see policy section in chart) to bring these sections in the NTP's manual into compliance with international standards.
Access Increase access to quality care, treatment, and case management of TB cases and TB cases with HIV co-infection	A. Provide TA for better integration of VCT into the TB system B. Provide TA for strengthening the existing referral system between clinical and testing services for TB and HIV	A. This has been emphasized during supportive supervision and regularly discussed during partner meetings. During the year, 4 week-long sessions of supportive supervision have been conducted and two 3-day long Zonal Quarterly supervision. B. This has also been covered in discussions during the supportive supervisory visits. There are plans by	DCT is conducted on all TB patients during the intensive phase of treatment. All TB/HIV co-infected patients are started on CPT. Not all eligible TB/HIV co-infected patients get

Intermediate Result	Key Activities (as outlined in the DIP)	Status of Activities	Comments
		Project HOPE in collaboration with Mulanje and Phalombe DHOs to establish community based sputum collection points and 2 sites have been proposed for each of the districts. The model is being adapted from the Reach Trust Mtsiriza Model in Lilongwe.	started on ARVs in a timely manner. Reduction of wait times and increases in access to antiretroviral therapy with NTP and MOH staff are high priorities.
<p>Policy Improve policy environment for improved case management of TB and TB with HIV co-infection</p>	<p>A. Work with NTP to update/improve training manuals and curricula</p> <p>B. Establish coordinating committees for case management</p> <ul style="list-style-type: none"> • support quarterly cohort analysis of SS conversion and treatment outcome indicators at both the health centre and district level <p>C. Enhance QA program in collaboration with local health authorities including:</p> <ul style="list-style-type: none"> • improved supervision & support of TB clinical staff & HSAs 	<p>A. We are working with the Training Officer at the NTP and other partners such as TBCAP. We expect to finalize changes in the next 1-2 months.</p> <p>Scheduled for the first Quarter of the 2nd year, following health worker training sessions.</p> <p>2 sessions of 3-day Zonal quarterly supportive supervisory visits were conducted, 3 quarters analyzed.</p> <p>C. 4 sessions of supportive supervision (2 each district) conducted.</p>	<p>Some activities planned with the NTP have been delayed due to late approval of Government funding by Parliament.</p> <p>Supportive supervision is conducted in almost all the health facilities. Major problems identified to date are record keeping and documentation.</p>

Strategic Objective 2: Increase case detection of TB, including among people with HIV co-infection in Mulanje and Phalombe.

Intermediate Result	Key Activities (as outlined in the DIP)	Status of Activities	Comments
Knowledge Increase community care seeking behaviours	Conduct a community education campaign to: <ul style="list-style-type: none"> • increase recognition of TB symptoms • increase recognition of the importance of VCT and early TB diagnosis • increase knowledge of the interaction between HIV and TB infection • increase behaviors related to the prevention of HIV 	The community education campaign is scheduled for Year 2. Preparatory work to date has included: 173 Community leaders, including Traditional Leaders, Village Headmen, Religious Leaders, and CBO representatives have been oriented to the project and to TB and TB/HIV co-infection.	Excellent progress with improving community awareness and responsiveness to the program objectives has been achieved.
Quality Improve quality diagnosis of TB	A. Train/retrain and mentor all health staff to recognize TB symptoms and refer suspected cases for testing, repeatedly among people living with HIV B. Train/retrain and mentor microscopists in sputum microscopy technology and record keeping C. Enhance microscopy lab QA program in collaboration with local health authorities	A. 20 TB health care workers trained to date including: <ul style="list-style-type: none"> • 10 nurses • 7 Medical Assistants • 3 Clinical Officers Training of 130 additional health care workers scheduled for Year 2 and 3. B. Informal training conducted as part of the laboratory assessment included 33 participants (15 Mulanje, 10 Phalombe, 3 TB Zonal Office, 2 USAID, & 3 CHSU). Dissemination of results meeting included 26 participants. Microscopists Refresher Training included 10 participants (8 microscopists and 2 lab technicians). C. Following the Microscopists refresher training, supportive supervision was planned for 2 weeks after training and monthly sessions thereafter.	Initial supportive supervision after Microscopists refresher training was delayed by two weeks. The tools to be used are the set standards by WHO that were shared by Dr. Maria Joncevska as a pilot and subject to review after the first session. An important obstacle to this objective is the relatively poor quality of training, mentoring and monitoring, and infrastructure in TB sputum laboratories in Mulanje and Phalombe at baseline, as identified in the baseline survey.

Intermediate Result	Key Activities (as outlined in the DIP)	Status of Activities	Comments
<p>Access Increase access to TB diagnosis</p>	<p>A. Equip new labs for sputum microscopy and support qualified staffing via training</p> <p>B. Advocate for client-friendly services (i.e., appropriate hours and confidentiality)</p> <p>C. Implement/improve TB symptom screening and referral by:</p> <ul style="list-style-type: none"> • VCT/HIV clinical care providers • traditional healers shop keepers • HIV patients (repeated self-referral) • Household contacts of SS+ TB cases 	<p>A. Activity planned after proven improvements in existing labs, currently scheduled to begin in Year 2. Will start with 3 sites in Phalombe and 2 Mulanje.</p> <p>B. This is covered in the health worker training sessions and during supportive supervision and is an ongoing process.</p> <p>C. Symptom screening and referral activities are planned for Year 2.</p>	<p>Microscopists for the 3 sites in Phalombe have been trained by the DHO using the NTP curriculum. Our project has furnished the three sites. We will supervise and monitor the performance of the microscopists. If during the supervision, gaps in their training and performance are identified, Project HOPE will include them during initial microscopist training. The zone laboratory supervisor will also supervise them and see what he can recommend. The microscopists in the proposed 2 sites in Mulanje have attended Project HOPE's refresher training.</p>
<p>Policy Improve policy environment for improved diagnosis of TB, HIV, and TB with HIV co-infection</p>	<p>A. Work with NTP to update/improve training manuals and curricula</p> <p>B. Work with NTP to correctly implement WHO TB guidelines including reporting forms</p> <p>C. Enhance QA program in collaboration with local health care authorities</p> <ul style="list-style-type: none"> • Quarterly analysis of TB07 by clinical and laboratory staff, microscopy QA 	<p>A. Training manuals and curricula will be finalized in Year 2.</p> <p>B. This is an ongoing effort throughout the project. All the sites have been provided with the new WHO forms.</p> <p>C. Quality Assurance enhancement efforts have already begun during quarterly cohort analysis sessions with Health Facility in-charges.</p>	<p>To be introduced in Phalombe as it has only been started in Mulanje</p>

Accomplishments (continued)

Partnerships

The Malawi NTP is building on its internationally recognized leadership in TB control with its leadership in the national response to the growing problem of TB/HIV co-infection by its active participation in the international STOP-TB program and its efforts to ensure linkages and collaboration at all levels of government between the TB and HIV care systems. USAID is providing critical support for the Project HOPE program in Mulanje and Phalombe and the TB-CAP program in the Southern Zone of Malawi. Project HOPE Malawi has taken steps to establish linkages with the NTP and the national and zonal level, as well as to coordinate and share current practices with the TB CAP program and the REACH Trust. As a recent example, last month staff participated in a meeting in Blantyre with TB-CAP and the NTP to revise the protocol for handling chronic cough in hospitals in order to improve case detection for TB. The current system is uncoordinated, and Project HOPE is working with TB-CAP to standardize the process from community to hospital.

At the same time, progress has been made to increase TB and TB/HIV awareness at the community level. For example, collaboration with National Women's Lobby and Rights Group (see below) will ensure the inclusion of TB/HIV awareness in their program in the context of both public health and human rights. Similarly, the collaboration will enable ongoing feedback on gender and human rights issues in the project's community education and outreach activities. Local participation in national TB awareness campaigns such as World TB day will also increase the linkage between project activities and TB awareness in communities in Mulanje and Phalombe.

Project HOPE is actively partnering with the National TB Programme (national and zonal level), District Health Offices (DHOs) of Phalombe and Mulanje, and other organizations, including CBOs and NGOs that are working on TB and/or HIV. The DHOs are very helpful to the project in providing supervision of TB health facility staff, collaborating on standards and guidelines, providing both staff and access to staff, program data and monitoring, and also provision of supplies and equipment. MOUs have been signed with each office to clarify roles and collaborative efforts. In addition, MOUs have been signed with the CHAM institutions, as these private institutions also play a critical role in TB control in these districts and throughout the country. Project HOPE is also partnering with organizations working directly on HIV such as the District Assembly through the District AIDS Coordinators and the District AIDS Coordinating Committees. These partners are essential in facilitating training of staff in TB/HIV co-infection and in supporting the referral system between the two health groups.

Mulanje District Health Management Team

Upon inception of the TB Control Project, Project HOPE met the Mulanje District Health Management Team (DHMT) on 13th of November 2006. The objectives for the meeting were to brief DHMT members on the project, to report on accomplishments to date, and to spell out the timeline. It was encouraging to note that the DHMT members welcomed the TB project positively.

District Assemblies

Project HOPE met the District Assemblies for Phalombe and Mulanje on 11th and 18th of November 2006 respectively. The District Assemblies are comprised of heads of government departments and sections, members of parliament, chiefs, representatives of various NGOs operating in the districts and some hospital staff. The meetings were chaired by the Chief Executive of the District (The District Commissioner). The aim of this meeting was to create awareness on TB/HIV co-infection among the members of the assemblies and also to introduce the TB Control Project in Southern Malawi and seek their endorsement so that the activities could commence in the districts of Phalombe and Mulanje.

TB Control Partners Strategic Meeting

Project HOPE held a meeting at the National Bank Training Centre in Blantyre involving the National TB programme team, TB South Eastern Zone Officer and District Health Officers for Phalombe and Mulanje. The purpose of the meeting was to share some TB/HIV experiences so that the TB project can learn from them and map out the way forward. The guest of honour at this meeting was Dr. Felix Salaniponi, the National TB Control Programme Director who updated the audience on the current TB/HIV status in Malawi. Other main speakers were; DHOs from Mulanje and Phalombe District, Dr. Frank Chimbwandira and Mr. Raphael Piringu respectively and South Eastern Zone TB Officer Mr. Upindi and he presented on their various DIPs. Timothy Kachule from Project HOPE gave a presentation on the TB Control Project in Southern Malawi.

Zonal Quarterly TB Meeting

The Zonal Quarterly TB Meeting was conducted in August 2007 in Zomba, and organized by the NTP. In attendance were NTP team, MOH partners from south eastern zone (Zomba, Mulanje, Phalombe, Mangochi, Liwonde and Balaka), the Project HOPE team and the TB CAP (MSH and FHI) team. The aim of this meeting was to review performance in the previous quarter in terms of accomplishments and challenges and come up with recommendations where necessary.



Zonal Quarterly Private Practitioners Meeting

The Zonal Quarterly Private Practitioners Meeting was conducted in August 2007 in Zomba following the Zonal Quarterly meeting and it was organized by NTP. Private medical practitioners in the South Eastern Zone attended the meetings together with MOH partners, the Project HOPE team and the TB CAP team. The purpose of the meeting was to orient the private practitioners in TB control strategies so that they can choose the level to operate. This will help

to increase case detection and also improve treatment outcome. An agreement was made that zonal staff will incorporate private practitioners during quarterly supportive supervisions.

Multi Drug Resistance (MDR) TB Meeting

Patrick Chipungu, our Programme Manager, attended this meeting in Liwonde in August 2007. The meeting was organized by NTP with the aim of strategizing way forward in an attempt to overcome the problem of MDR-TB. Currently, Malawi has registered 72 MDR-TB patients since the year 2000. However, due to the presence of only a single national reference lab performing culture and sensitivity, under-recognition of drug resistance and MDR TB is likely. Mulanje District has registered one MDR-TB patient from Chapweteka Village, T/A Nkando who is currently awaiting treatment. Members were notified that MDR-TB drugs are now in-country and that they can start accessing the drugs for their patients.

District Executive Committee (DEC) Meeting

Thandiwe Kamanga and Elizabeth Kapyepye, our Project HOPE team trainers, attended the DEC meetings in Phalombe and Mulanje in September 2007. The meetings were organized by the National Women's Lobby and Rights Group (NWLRG) who intends to start a "Tiuzane" project. This is a Gender, HIV/AIDS and Human Rights project that is designed to primarily build capacity of non-governmental organizations (CBOs) which will in turn continuously raise the awareness of traditional leaders and other community leaders on issues of Gender, HIV/AIDS and Human Rights. The project will enhance gender mainstreaming in all the CBOs, traditional leaders and other community leaders in all their policy and planned programmes. It also aims at presenting HIV/AIDS issues not only as health challenges but as human rights issues as well and the negative implications HIV/AIDS may have on gender equality and equity. Their target districts are Zomba, Mulanje and Phalombe and they intend to start the project in October or November 2007 with funding from National AIDS Commission (NAC). During these meetings, Project HOPE appraised DEC members on our project activities.

Thandi attended another DEC meeting in Mulanje, also during the month of September organized by Malawi Economic Justice Network (MEJN) – Mulanje Chapter. This meeting was a follow up following a budget training course that the Chapter members underwent late last year. During the training, members covered a number of issues including budget formulation, implementation, monitoring and evaluation and key players in whole budget process. In order to determine if the chapter members can be able to transfer the acquired knowledge into action, the chapter carried out a Budget Tracking Exercise in Mulanje and they looked at health sector. During this meeting they were disseminating the results. They prioritized health sector bearing in mind that it is only a healthy person that can actively participate in the economic activities that can translate into economic growth of the country. DEC members were again appraised on Project HOPE interventions.

National TB Events

Timothy Kachule and Patrick Chipungu, our Country Representative and Programme Manager, respectively, represented Project HOPE during commemoration of World TB day held in Karonga on 24th March 2007. This year's theme was "*TB anywhere is TB everywhere*".

From Karonga, they proceeded to Lilongwe where the Government of Malawi through the Minister of Health, Honorable Marjorie Ngaunje, declared TB as an emergency in Malawi. This occasion was held on 27th March 2007 at Capital Hotel in Lilongwe. Among the dignitaries were

the UN Secretary General Special Envoy on TB and former President of Portugal Jorge Sampaio, Dr Luís Gomes Sambo, WHO Regional Director for Africa, and Ministers of Health from the SADC region. The government of Malawi has called for urgent and extraordinary actions to halt the spread of TB and deaths from the disease. Declaration of TB as an emergency follows resolutions made by Health Ministers in Maputo in August 2005 when TB was declared as an emergency in Africa.

It was declared an emergency because although Africa contributes about 11% of the world's population, it contributes about 25% of the world's TB burden. While the incidence of TB is on the decline in the other WHO regions, the incidence in Africa is increasing; and in Malawi it has increased fourfold. During this function, the guest of honor, the Minister of Health, unveiled the 5-year strategic plan, which will guide TB control in Malawi and address the emergency response.



Staff Capacity Building

Visit to a model village - Mtsiriza

Project HOPE, involving MOH partners from Mulanje and Phalombe DHOs, organized a two-day visit to Mtsiriza village in February 2007, where REACH TRUST has a community based TB control project. The objectives of the visit were to:

- Familiarize our project team with Mtsiriza project activities;
- Orient staff on project Monitoring and Evaluation;
- Learn about project structures from the volunteers to referral facility and the relationship with each other;
- Understand the project collaboration with stakeholders and linkages;
- Learn about their project sustainability plan; and
- Establish a working relationship with REACH TRUST implementers of Mtsiriza project.

Lessons learned

- Community involvement increases community member knowledge and greatly assists TB Control efforts. It also promotes program ownership.
- Involvement of other stakeholders (multi-sectoral approach) is important for the sustainability of a program.

- Bringing TB services close to the community facilitates early TB case detection and community participation as well as ownership.
- Including some of the community activities in our DIP e.g. orientation/ training of shop owners and volunteers will likely contribute to better sustainability of TB control.
- Developing and maintaining good collaboration and relationships with local partners is critical to the program's success and sustainability.

Way forward

- Apply the key lessons learned and replicable elements of the Mtsiliza program to Mulanje and Phalombe.



TB Management Training

Patrick, Elizabeth, Irene and Thandi attended a TB Management training for District TB Coordinators held in Salima in March 2007. The training was organized by the Ministry of Health (MOH) through the National TB Programme, at Kambiri Lodge. Participants from the MOH (including CHAM) were drawn from all parts of Malawi and were those currently involved in TB activities/services in their respective institutions. Project HOPE staff joined in as partners and in trying to strengthen the collaboration, Project HOPE assisted in printing of all the manuals used during the training.

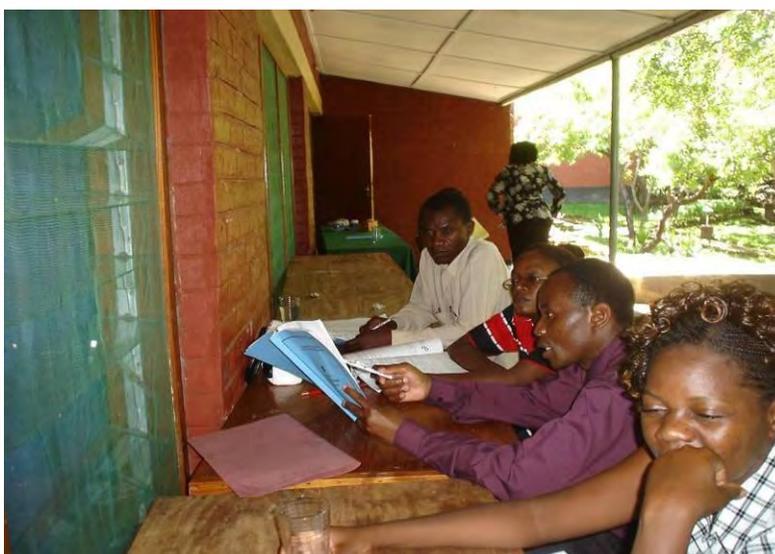
The training course was designed for District TB coordinators and it sought to teach the skills and knowledge needed to plan, supervise, implement, monitor and evaluate the activities of a District TB control program. Specifically, the training equipped participants with skills for:

- Conducting Supervisory Visits for TB control
- Providing Training for TB Control
- Managing Drugs and Supplies for TB Control
- Ensuring Laboratory Support for TB Control
- Monitoring and Evaluating TB Control Services
- Advocacy and Collaboration for TB Control
- Developing the District Plan of Action for TB Control

The training involved an intensive reading of modules that were provided. There were 14 modules in total and each module had its own objectives. The course also covered information about the new changes in the TB system, including the fixed dose combination, basic TB information, use of registers, and the use of data for monitoring & supervision. One day was set aside for a field visit at Salima District Hospital. Participants broke into groups and looked at the following:

- Case finding for the fourth quarter of 2006
- Laboratory Register to determine pick-up-rate (fourth quarter 2006)
- Conversion rate at two months (fourth quarter 2005)
- Treatment Outcomes (fourth quarter 2005)
- Treatment Outcomes at five months
- Pharmacy to check drug levels and expiry dates and then link with number of TB patients

The TB management training course is very commendable because it helped the Project HOPE technical team to attain necessary knowledge and skills on how to conduct supportive supervision in TB management. The training also provided an important opportunity to observe current TB management training with existing curricular materials in order to identify opportunities for improvement of the training methodology and to identify out of date elements in the training curricular materials.



Group Discussions

Community Leaders Orientation

In collaboration with partners from the Mulanje and Phalombe DHOs, Project HOPE organized a one-day briefing for local leaders and other influential leaders in these two districts. The aim of the activity was to orient the leaders on recognition of TB symptoms, increase recognition of the importance of early TB diagnosis and VCT, increase knowledge related to the prevention of TB and to create understanding of what Project HOPE is doing regarding TB control activities and to identify ways of complementing these efforts. This activity took place from 25th to 26th April 2007 in Mulanje and 2nd to 3rd May 2007 in Phalombe. All TAs in both districts were oriented together with their Group Village Headmen (GVH) and other influential leaders like politicians, religious leaders and CBO.

The content covered during these debriefing meetings was as follows:

- Overview of TB/HIV Control Programme

- Definition of TB
- Signs and symptoms of TB
- Whether tuberculosis (TB) can be cured or not
- Transmission of TB
- Identification of potentially exposed individuals
- Prevention of TB
- TB control services free of charge?
- The role of Community leaders in TB/HIV Control

It was pleasing to observe that the local leaders have adequate knowledge as to what the signs and symptoms of TB are and the need for early medical attention. However, some myths and misconceptions were noted that can hinder early care seeking behavior as well as drug compliance, which were subsequently dispelled during the meeting. For example, some people believed that when one has TB and is on treatment, one should be completely isolated i.e. use one's own utensils and sleep in a separate room. This promotes stigma against TB patients and can negatively affect the health seeking behavior among people with signs and symptoms of TB.

At the end of each session, community leaders were able to identify their roles and map out the way forward as follows:

- Take lead in identifying chronic coughers in their villages and refer them to hospital.
- Conduct meetings in their respective catchment areas and brief community members on TB/HIV control and stress the need for early care seeking behavior.
- Strengthen their collaboration with HSAs for better follow-up of patients.
- Expel myths and misconceptions among community members.

Microscopists Refresher Training

One of our two main project objectives is to increase case detection by increasing the number and quality of sputum microscopy sites in the two districts of Mulanje and Phalombe. One of the recommendations of our laboratory assessment was to improve the quality of services in the three existing laboratories prior to opening new laboratories. In an effort to enhance project sustainability, the well-functioning laboratories will then serve as models and potential training centers to the new laboratories. The first part of this effort was the Refresher Training. The Refresher Training for Microscopists was conducted from 17th – 21st September 2007. The objective of the training was to equip the existing microscopists with the knowledge, skills, and accuracy of standardized techniques and procedures used in smear microscopy.

Specifically, the refresher training was conducted to help the microscopists:

- Standardize sputum smear preparation for microscopy.
- Standardize reagents, slide preparation and quality control.
- Understand the concepts of quality control in TB microscopy.
- Standardize scoring, recording and reporting of sputum smear positive results.
- Improve skills in scoring, recording reporting of sputum smear microscopy results and interpretation of laboratory findings.



The following topics were covered during the refresher training:

- Background and objectives
- Epidemiology of Tuberculosis (TB)
- Tuberculosis (TB)
- Characteristics of Tubercle bacilli
- Laboratory safety
- Sample collection
- Smearing and fixing
- Microscopy Laboratory set up
- Preparation of ZN reagents
- ZN Staining technique
- Microscope and Microscopy
- AFB grading and reporting
- Quality Assurance and Control
- Monthly data Management.

Of the above mentioned topics, AFB Grading and Reporting and Quality Assurance and Control were the topics that the participants appreciated most, even saying that the training in these topics was an eye opener for them.

Eight practicing microscopists drawn from active AFB Microscopy sites were targeted during this refresher training. These AFB Microscopy sites are Holy Family Mission Hospital in Phalombe, Mulanje Mission Hospital, Mulanje District Hospital, Lujeri Tea Estate Clinic, Chonde Health Centre and Thuchila Health Centre in Mulanje. The latter two, Chonde H/C and

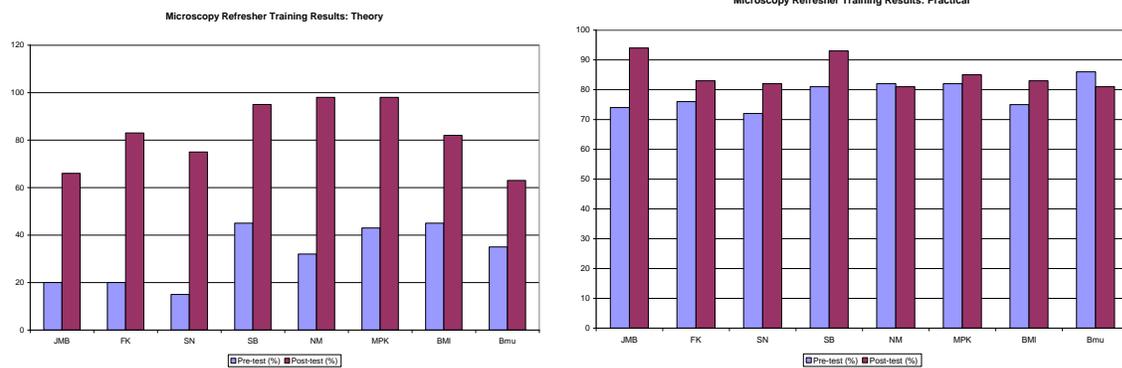
Thuchira H/C only do fixing and smearing then take the slides to Mulanje District Hospital for microscopy.



The training was segmented into two phases, theoretical and practical sessions. At commencement of the training, participants took a theoretical and practical pre-test, so as to assess their beginning knowledge and capabilities. This helped the facilitators to determine problem areas to stress. Practically, participants were assessed in Personal Protective Equipment (PPE), labeling, smearing, air drying, fixing and staining. In general, participants did very well in the practical pre-test with the highest scoring 86% and the lowest 72%. The assessment of theoretical knowledge revealed different results; participants performed poorly with the highest scoring 45% and the lowest 15%. On the last day, participants' knowledge change was evaluated using the same tool as a post-test. Trainees showed large gains in theoretical knowledge from pre to post-test, from a low post-test score of 63% to a high of 98%. Although most participants also showed increases in the practical post-test as well, from a low of 81% to a high of 94%, changes were not as great as on the theoretical side due to high baseline levels. The table and charts below illustrate how the participants performed.

Name	Theory		Practical	
	Pre-test (%)	Post-test (%)	Pre-test (%)	Post-test (%)
JB	20	66	74	94
FK	20	83	76	83
SN	15	75	72	82
SB	45	95	81	93
NM	32	98	82	81
MK	43	98	82	85
BMI	45	82	75	83
BMu	35	63	86	81

Pre- and Post-Test Results



Facilitators used a variety of different methods of teaching, including participatory methods, like brainstorming, discussions, demonstrations, lecturing and practical sessions to facilitate knowledge transfer by the participants who actively participated in the training. In attendance to the training were the Laboratory Zone Supervisor – Mr. Balala and the Southeast Zone TB Officer – Mr. Upindi. These two played a supervisory role in making sure the training was conducted in accordance to NTP’s guidelines for uniformity.

Successes

- Teaching and training materials were readily available
- Achieved planned activities
- Individual improvement in theoretical knowledge and practical application
- Adequate practical exposure

Challenges

There were a lot of disturbances to both participants and facilitators since the training took place within Mulanje District Hospital premises.

Below is a list of the shortfalls encountered in the TB microscopy skills during practical sessions:

- Improperly collected sputum samples
- Wrongly or incomplete specimen pot labeling
- Uncategorized patients
- Incomplete patient data
- Lid not properly closed
- Patient improvising sputum pots
- Sputum type not indicated
- No QC records
- Poor smear preparation

Recommendations for Future Trainings/Lessons Learned

- Training should not be hospital based due to the interruptions.
- The two microscopists from Thuchira and Chonde Health Centres should have weekly visits to Mulanje District Hospital to master their skills before they work independently for the first 2 months then fortnightly. Project HOPE will provide transport and meals for the two during the stated period.

Way Forward

- Initiate Performance Improvement Approach
- Conduct fortnightly blind QC program
- Conduct supportive supervision fortnightly for the first 2 months then monthly
- Conduct quarterly TB laboratory peer review

Health Worker Training

Project HOPE conducted a week long TB health worker training from 25th – 30th September 2007 in Mulanje at Chitakale Teachers Development Centre (TDC). This training targeted health care workers who are responsible for detecting and managing patients with TB. The training objectives were to teach skills and knowledge that health care workers specifically need to detect pulmonary TB cases, manage drug therapy for TB patients, inform patients about TB, and monitor success of TB case detection and treatment at the health facility level.

A total of 20 participants, 10 from each district, were drawn from different health facilities in Mulanje and Phalombe comprising of nurses, clinical officers and medical assistants. Table below depicts cumulative numbers of health care workers trained according to cadre per district.

Cadre	Total Trained		Grand Total
	Mulanje	Phalombe	
General Nurses	3	5	8
ART Nurses	1	1	2
Clinical Officers	2	1	3
Medical Assistants	4	3	7
TOTAL	10	10	20

Topics covered during the training included:

- TB epidemiology
- Basic Knowledge of TB and TB/HIV co-infection
- Detecting Cases of TB
- Treating TB patients
- Informing patients about TB
- Ensuring continuation of TB treatment
- Managing drugs and supplies.

This content was covered through a variety of didactic and participatory methodologies, including discussions, lecturing, brain storming, role plays, group/individual exercises and practical field sessions. The training manual used was adapted from the NTP training manual.

Following the training, the trainees acknowledged that they had learned some new things and updated their knowledge base and they were ready to start implementing the procedures taught immediately. This was also noted through their performance in the pre and post-test results.

In order for them to effectively implement these procedures, there is need for continued:

- supplies to do sputum collection (containers, labels),
- access to laboratory services for testing sputum for TB,

- adequate supplies of anti-TB drugs, and
- supply of standard TB forms and registers.

Participants participated in a practical exercise during which they were grouped into two and went to Thuchira and Chonde Health Centres. They were assigned to:

- Review identification of TB suspects at the OPD: thus observe activities in the health centre and ask health workers about the usual practice
- Review chronic cough register
- Review TB treatment cards
- Review sputum collection if TB suspect or patient is available
- Observe TB treatment is available
- Review how patients are informed about TB and its Treatment (if patient is present)
- Review management of drugs and other supplies for TB
- Ask about supervising and re-supplying guardians with drugs (if guardians are used)

Challenges faced included inability to find TB suspects and TB patients during field visits hence not able to tackle assignments **a, d, e, f** and **h** as outlined above. A major problem identified during field visit was poor documentation. Information was missing in the chronic cough registers. For instance, when recording sputum results, the majority only indicated the results without including dates and serial numbers. This makes follow-up of patients difficult. Further to that, it was observed that most of the TB suspects are not recorded in the H/C TB registers. Upon comparing names of patients in the chronic cough register and Health Centre TB register, they could not match. Other names were missing in the TB register and vice versa.

Another observation is that basic information on TB/HIV co-infection is not included in the NTP training manual. Similarly, under treatment, the training manual contains information on old treatment regimes. Information on new treatment regimes (FDCs) was written separately for presentation. Additionally, assignment questions and answers to some exercises are not separated so participants just copy down without thinking.

Some of the recommendations made during the training include:

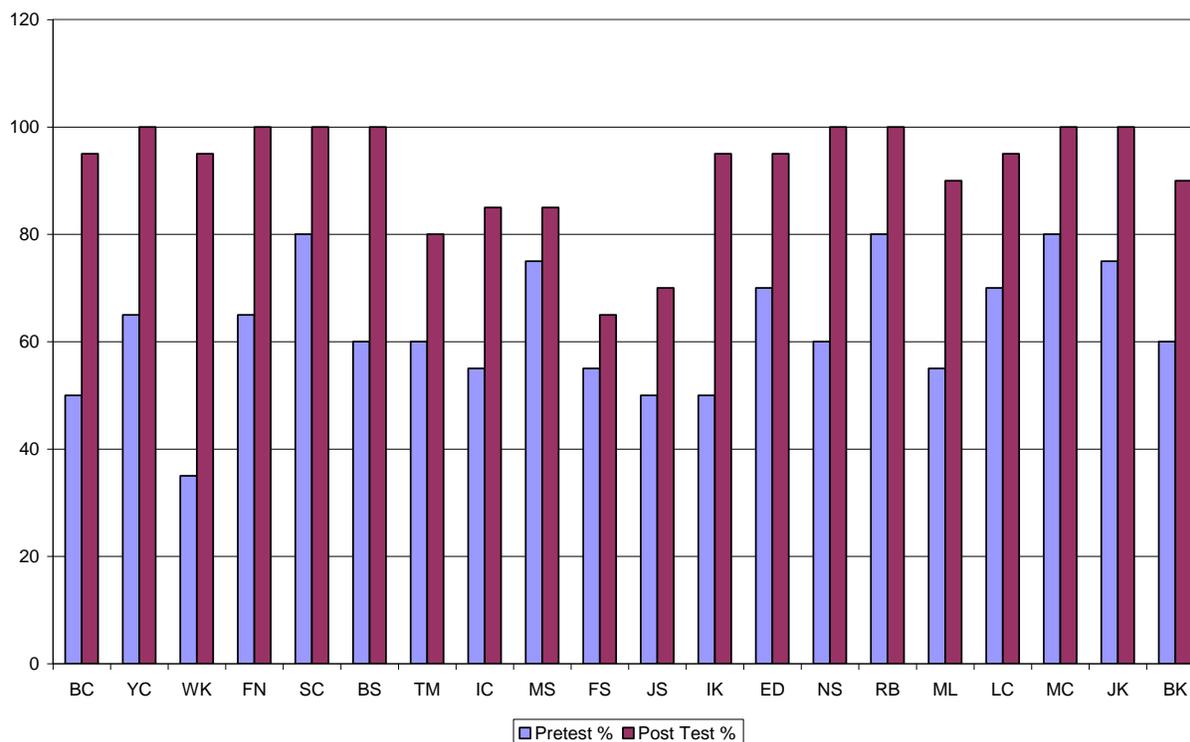
- Revisit the training manual and make some amendments in concurrence with NTP and other partners like MOH and TB CAP for uniformity.
- Make a separate answer sheet or answers should come at the end of training manual as part of annexes.
- Follow-up for these health workers after 3 – 4 weeks.
- Add information of basic facts about TB/HIV co-infection in the manual.

The table and graph below shows the increase of knowledge from pre- to post-test.

Initials	Pretest %	Post Test %
1. BC	50	95
2. YC	65	100
3. WK	35	95
4. FN	65	100
5. SC	80	100

6. BS	60	100
7. TM	60	80
8. IC	55	85
9. MS	75	85
10. FS	55	65
11. JS	50	70
12. IK	50	95
13. ED	70	95
14. NS	60	100
15. RB	80	100
16. ML	55	90
17. LC	70	95
18. MC	80	100
19. JK	75	100
20. BK	60	90

Health Worker Training Results



Monthly Supportive Supervision Visits by Project HOPE Team and MOH Partners

The monthly supportive supervision was conducted in April 2007 (Phalombe), June 2007 (Mulanje) and in August 2007 (both districts). The activity aimed at supporting the TB focal personnel to effectively carry out their duties in an attempt to increase case finding and reduce

morbidity and mortality due to TB and TB/HIV co-infection. Ten and thirteen health facilities were supervised in Phalombe and Mulanje, respectively. The findings in all the health facilities supervised are similar, the major challenges being documentation and record keeping.

During the visits TB treatment cards and TB registers were reviewed, according to the supervisory checklist adapted from the NTP. Availability of drugs and supplies was also assessed, as was the work environment. The supervising team also interacted with some TB patients in other health facilities to determine whether they were told what they are suffering from and whether they know duration of their treatment. It was pleasing to note that majority of the patients knew what they are suffering from.

Major findings for the health facilities visited

- **Poor documentation:** There was a lot of missing data in the Chronic Cough Registers, especially recording of sputum results. Some other health centres do not have chronic cough registers, while others have them, but do not use them. On most of the treatment cards, treatment outcome was not indicated. Additionally follow-up sputum results were not recorded on some of the treatment cards. Worse still, some of the patients are not undergoing smear examination at 2 and 4 months making it impossible to determine sputum conversion and therefore treatment outcome. For patients who have completed treatment, the information on the TB treatment card was not sufficient to determine treatment outcome and again, DOT options were not indicated on treatment cards.
- In some health facilities, useful documents for patients were missing critical information. The TB registers had a lot of gaps and information in them was not properly recorded. Additionally, a mismatch of data in the Health Centre TB registers and Chronic Cough Registers at the Health Centre level was noted which should not be the case. A similar mismatch of information between health centre registers and district level registers was also noted. Generally, most HSAs are not conversant with TB registers in terms of recording of patients. In some health centres, it was observed that treatment was incorrectly indicated on treatment cards upon dispensing. Similarly, some patients with chronic cough were not registered in chronic cough register despite giving them sputum containers and referring them for microscopy service.
- **Communication:** Communication difficulties exist between District Hospitals/Mission Hospitals and Health Centres resulting in delays in getting sputum results, especially in Phalombe where wireless messages in most of the health centres including Holy Family Mission Hospital, the only microscopy centre, are not in good working condition.
- **Knowledge gaps:** Lack of knowledge in TB management was observed in most of the HSAs. In most of the health facilities visited, a lot of HSAs have low knowledge in TB management and its terminologies. For example, some HSAs cannot differentiate between ‘cured’ and ‘treatment completed’ in the context of TB. Additionally, the majority of the HSAs are not familiar with drug auditing and recording in drug books.
- **Inadequate health education sessions:** There was no evidence in other health facilities that health education on TB is being given to patients. They do not have a proper schedule for health education sessions and not even a guide. In some health facilities, the schedule pasted on the board did not indicate any topic, only indicated dates.

- **Irregular/poor follow-up of patients:** Some patients are not coming back for their drug supply, but no initiative has been taken to find the patients. Others did not submit follow-up sputum specimens, but have not yet been followed-up.
- **Poor record keeping** was observed in some health centres. Others mix treatment cards with other documents hence difficult to trace.
- **Untimely ordering of supplies.**

Possible Reasons for the Problems:

- Poor documentation is most likely due to negligence and lack of or inadequate orientation and training. Lack of regular supportive supervision by District TB officers also contributes to this problem.
- Knowledge gap in basic TB issues due to lack of or inadequate orientation and training.
- Communication problems due to breakdown of a wireless message (Motorola) at HFH (the only microscopic centre) and lack of initiative by staff to consider other possible effective means of communication to get the intended feedback.
- Poor follow-up of patients due to mobility problems i.e. inadequate motor-bikes and inadequate provision of fuel by DHOs. Poor coordination amongst HSAs also contributes to poor follow-up of patients, poor record keeping and untimely ordering of supplies.
- Inadequate health education sessions due to lack of seriousness by staff.

Actions and Recommendations:

- Continue monthly supervision visits to improve on documentation and the importance of good reporting and record keeping. Continue to support the District TB Officers to conduct regular supervisory visits with support from Project HOPE
- There is need for proper orientation and training of all HSAs on management of TB, including aspects of data recording and reporting.
- On-the-job orientation on drug auditing and how to fill the registers was done and trainees were advised to make sure the information matches. However, there is need for full orientation and training in TB-related matters.
- There is a need to intensify TB quarterly evaluation meetings involving both health centre TB focal personnel and TB key people at district level. This can help rectify records at health centre level and district level so that information does match.
- Intensify monthly supportive supervisory visits.
- There is need to repair the wireless message appliances (Motorola at HFH) to facilitate communication. Additionally, staff should be able to take advantage of ambulances when ferrying patients from one health facility to another by sending the driver to deliver some sputum results to promote efficiency.
- Staff was encouraged to have a schedule for health education and strictly follow it. On the same note, Project HOPE will provide guidelines for health education on TB.

Challenges:

- Some TB patients resist DCT.
- It takes time for HIV-positive TB patients to start ARVs after undergoing DCT as they are not immediately started on ARVs after being identified as HIV-positive.
- Some TB patients take all their TB treatment documents to their homes instead of delivering them to their nearest health centres as advised, so it takes time to trace them. HSAs and

guardians will be trained to support the delivery of TB documentation to the nearest health centers.

- Communication is a big problem because wireless messages in most of the health centres including Holy Family Mission Hospital are not working. This affects urgent notification of sputum results, more especially smear positive results.
- Most data in registers is inconsistent hence poor quality.
- In Mulanje, some TB patients discharged from Thyolo district hospital do not take with them RH for continuation phase. The HCW, HSA, and guardian training will address the need for patients to receive their continuation phase TB medications.

Lessons Learned:

- There is evidence of knowledge gap amongst HSAs pertaining to TB issues and there is need for immediate orientation and training of all HSAs.
- The way health workers communicate to patients contribute greatly (thus positively or negatively) towards drug compliance, and therefore treatment outcome.

Quarterly Supportive Supervision by Zone Supervisor

Two sessions of quarterly supportive supervisory visits were conducted during the second quarter (April – June) 2007 and third quarter (July – September) 2007 in both districts of Mulanje and Phalombe. The Zone Supervisors concentrate on the following major district health facilities: Mulanje District Hospital, Mulanje Mission Hospital and Holy Family Mission Hospital in Phalombe. During the first session of supervisory visit, the supervisory team analyzed 4th quarter 2005, while second session they analyzed two quarters, thus first quarter 2006 and second quarter 2007. See charts on the following pages for data from the visits. Corresponding actions taken/recommendations are highlighted below according to health facility. The activity was funded by Project HOPE. Composition of supervisors includes: Mr. Upindi, Zone TB Supervisor South-Eastern Zone, Mr. Balala, Zone Lab Supervisor South-Eastern Zone, and the Project HOPE Team.

Mulanje Mission Hospital Action/Recommendations

- The hospital was commended for reaching the targets on new suspects submitting recommended smears and for the pickup rate and having many patients benefiting from community/guardian based treatment, in line with TB decentralization. They were encouraged to always indicate DOT options on all patients since this was missing on some cards. They were advised to work extra hard in order to reach the target on new smear positive PTB patients started on treatment which was less by 11% in 4th Quarter 2005. As such, the hospital was advised to intensify health education so that health seeking behavior improves on smear positive patients.
- The hospital was advised to trace the smear positive TB suspects who are at large so that they can begin treatment since such patients are a source of infection in the community.
- The hospital was strongly advised to check sputum on all adult smear negative patients before they are put on TB treatment in concurrence to NTP guidelines. This was less than target in 4th Quarter 2005 and 1st Quarter 2006.
- In all quarters, the high death rates affected treatment outcomes. The medical superintendent was encouraged to discuss this with the clinicians. Project HOPE and the NTP will participate in these discussions.

- During the 1st quarter 2006, the hospital reached target on cure rate of new smear positive PTB. They were encouraged to continue. However, positive treatment outcomes were affected by the high death rate. HIV/AIDS could be responsible for these high death rates though this is not evidence based. There is need to do research to confirm this.
- The hospital was commended for sending sputum to CRL for culture and sensitivity as this is the appropriate way of monitoring MDR-TB.

Mulanje District Hospital Action/Recommendations

- The hospital was commended for reaching the targets on new suspects submitting recommended smears (3 smears) and for the pick-up rate. However, they were advised to trace the smear positive cases that were still at large as these are a source of infection in the community.
- Since records showed very few patients benefiting from guardian/community based treatment, the hospital was advised to consider putting more patients on guardian/community based treatment to promote TB decentralization and ease work at health centers and hospitals. Additionally, this may affect treatment compliance since it becomes costly on patient's/guardian's part frequenting the health facility almost daily for drug supply. It was agreed that the hospital and Project HOPE will jointly look into this issue. They were advised to intensify health education so that more patients benefit from guardian/community based treatment.
- The hospital was commended for reaching targets on smear positive ratio and for having smear positive patients with a cough of less than two months before a diagnosis was made. However, they were advised to always remember to re-check sputum for all adult smear negative patients before commencing them on TB treatment.
- Similarly to Mulanje Mission Hospital, the cure rates at Mulanje District Hospital have been affected by the high death rates. They were advised to discuss this problem at district level and explore possible contributing factors to these high death rates and act accordingly. They were also advised to take appropriate action on the negative parameters like high default and transfer out rates to improve their treatment outcome.
- The TB officers were advised to always make sure that all anti-TB drugs are displayed on shelves as this allows for easy auditing.
- The hospital was encouraged for sending specimens to CRL for culture and sensitivity for all relapse smear positive PTB patients to better monitor MDR-TB.

Holy Family Hospital Phalombe Action/Recommendations

- Just like the other two hospitals, positive treatment outcomes at Holy Family Mission Hospital have been affected by the high death rates. They were advised to discuss this problem at district level and explore possible contributing factors to these high death rates and act accordingly. However, they were commended for reaching the target on relapse smear positive cases.
- The treatment completion rates for both smear negative PTB and Extra-pulmonary TB cases were not favorable due to the high death rates and they did not reach targets. They were advised to explore further, and Project HOPE will collaborate with them on this critical aspect of low treatment success rates.
- The hospital was commended for reaching the targets on new suspects submitting recommended smears (3 smears) and for the pick-up rate in 4th Quarter 2005 and 2nd Quarter

2007. However, the TB Officers were advised to trace the smear positive PTB patients that were still at large as these are a source of infection to the community.

- There were just below 50% of TB patients are under guardian/community based treatment in 4th Quarter 2005 and 1st quarter 2006, defeating the essence of TB decentralization. The TB officers were advised to intensify IEC on DOT options especially on Community/Guardian Based Treatment to ease pressure on hospital and health centers. The Project HOPE TB project will assist with this effort. In 2nd Quarter 2007, there was an improvement because 94% of the TB patients were put under guardian/community based treatment and they were encouraged to keep it up.
- The hospital was commended for reaching the targets on smear positive ratio, Smear positive patients having a cough of less than two months, adult smear negative PTB patients having sputum checked before being started on treatment and for the good drug consumption. They were encouraged to continue. However in 1st Quarter 2006, the hospital did not reach target on smear positive ratio which was less by 14%.
- The hospital was commended for sending sputum to CRL for culture and sensitivity on all relapse smear positive PTB patients. They were encouraged to continue to better monitor MDR-TB.

Mulanje Mission Hospital: Quarterly Supportive Supervision Visits

	4th Quarter 2005			1st Quarter 2006			2nd Quarter 2007		
	Numerator	Denominator	%	Numerator	Denominator	%	Numerator	Denominator	%
Smear positive ratio (target 40%)	31	62	50%	30	61	49%	24	53	45%
Registered patients	79		99%	83		100%	69		100%
Community/guardian treatment	76		96%	82		99%	67		97%
Health Centre Based Treatment	1		1%	0		0%	0		0%
Hospital Based Treatment	1		1%	1		1%	2		3%
No DOT option indicated	0		0%	0		0%	0		0%
Cough of less than 2 months before diagnosis made (target 70%)	16	27	59%	NR	NR	NR	NR	NR	NR
Adult smear negative PTB patients were started on treatment after checking sputum (target 85%)	18	25	72%	15	24	63%	23	26	88%
Laboratory Register									
Patients examined	270			357			335		
New TB suspects	227		84%	313		88%	289		86%
New suspects with recommended smears (target 90%)	227		100%	313		100%	285		99%
New suspects with positive smears (target 10-20%)	31		14%	38		12%	28		10%
Started on TB treatment (target 95%)	26		84%	35		92%	23		82%
At large	5		16%	1		3%	5		18%
Died before treatment	0		0%	2		5%	0		0%

Pharmacy

Expected to use tablets of Rifinah	10,779		
Issues from pharmacy tablets of Rifinah	11,000		

NR		
NR		

NR		
NR		

Treatment outcomes of SS+:

Cases	20		100%
Cured (target 75%)	12		60%
Treatment completed	0		0%
Died	5		25%
Defaulters	3		15%
Transferred out	0		0%

19		100%
15		79%
1		5%
3		16%
0		0%
0		0%

35		100%
25		71%
2		6%
4		11%
1		3%
3		9%

Treatment outcomes of Relapse SS+:

Cases	3		100%
Cured (target 75%)	1		33%
Died	2		67%

5		100%
3		60%
2		40%

1		100%
0		0%
1		100%

Treatment outcomes of SS-:

Cases	28		100%
Cured (target 70%)	11		39%
Treatment completed	0		0%
Died	12		43%
Defaulters	4		14%
Transfer out	1		4%

61		100%
44		72%
0		0%
17		28%
0		0%
0		0%

33		100%
0		0%
12		36%
11		33%
10		30%
0		0%

Treatment outcomes of EP:

Cases	13		238%
Cured (target 70%)	12		92%
Treatment completed	0		0%
Died	14		108%
Defaulters	5		38%

16		100%
12		75%
0		0%
4		25%
0		0%

14		100%
0		0%
5		36%
4		29%
5		36%

Mulanje District Hospital: Quarterly Supportive Supervision Visits

	4 th Quarter 2005			1st Quarter 2006			2nd Quarter 2007		
	Numerator	Denominator	%	Numerator	Denominator	%	Numerator	Denominator	%
Smear positive ratio (target 40%)	58	111	52%	63	124	51%	51	101	50%
Registered patients	193		103%	150		100%	123		100%
Community/guardian treatment	3		2%	95		63%	1		1%
Health Centre Based Treatment	160		83%	35		23%	82		67%
Hospital Based Treatment	33		17%	20		13%	39		32%
No DOT option indicated	3		2%	0		0%	1		1%
Cough of less than 2 months before diagnosis made (target 70%)	48	49	98%	NR	NR	NR	NR	NR	NR
Adult smear negative PTB patients were started on treatment after checking sputum (target 85%)	38	48	79%	6	6	100%	6	7	86%
Laboratory Register									
Patients examined	542			802			693		
New TB suspects	372		69%	646		81%	540		78%
New suspects with recommended smears (target 90%)	371		100%	646		100%	540		100%
New suspects with positive smears (target 10-20%)	58		16%	73		11%	67		12%
Started on TB treatment (target 95%)	52		90%	60		82%	55		82%
At large	2		3%	9		12%	6		9%
Died before treatment	4		7%	4		5%	8		12%

Pharmacy

Expected to use tablets of Rifinah	NR		
Issues from pharmacy tablets of Rifinah	NR		

NR		
NR		

NR		
NR		

Treatment outcomes of SS+:

Cases	80		100%
Cured (target 75%)	57		71%
Treatment completed	0		0%
Died	19		24%
Failed	1		1%
Defaulters	2		3%
Transferred out	1		1%

53		102%
41		77%
0		0%
8		15%
1		2%
2		5%
1		2%

51		100%
37		73%
0		0%
11		22%
3		6%
0		0%
0		0%

Treatment outcomes of Relapse SS+:

Cases	6		100%
Cured (target 75%)	4		67%
Treatment completed	0		0%
Died	2		33%
Transferred out	0		0%

8		100%
4		50%
1		13%
3		38%
0		0%

7		100%
5		71%
0		0%
1		14%
1		14%

Treatment outcomes of SS-:

Cases	60		100%
Cured (target 70%)	0		0%
Treatment completed	45		75%
Died	15		25%

50		100%
39		78%
0		0%
11		22%

52		100%
0		0%
39		75%
13		25%

Treatment outcomes of EP:

Cases	28		100%
Cured (target 70%)	0		0%
Treatment completed	23		82%
Died	5		18%

18		100%
0		0%
12		67%
6		33%

20		100%
0		0%
17		85%
3		15%

Holy Family Hospital Phalombe: Quarterly Supportive Supervision Visits

	4 th Quarter 2005			1st Quarter 2006			2nd Quarter 2007		
	Numerator	Denominator	%	Numerator	Denominator	%	Numerator	Denominator	%
Smear positive ratio (target 40%)	42	78	54%	28	110	25%	35	84	42%
Registered patients	98		100%	139		100%	104		100%
Community/guardian treatment	46		47%	137		99%	98		94%
Health Centre Based Treatment	36		37%	0		0%	4		4%
Hospital Based Treatment	15		15%	1		1%	2		2%
No DOT option indicated	1		1%	1		1%	0		0%
Cough of less than 2 months before diagnosis made (target 70%)	29	37	78%	NR	NR	NR	NR	NR	NR
Adult smear negative PTB patients were started on treatment after checking sputum (target 85%)	28	31	90%	6	6	100%	4	4	100%
Laboratory Register									
Patients examined	351			512			420		
New TB suspects	270		77%	430		84%	346		82%
New suspects with recommended smears (target 90%)	267		99%	430		100%	341		99%
New suspects with positive smears (target 10-20%)	42		16%	33		8%	43		12%
Started on TB treatment (target 95%)	33		79%	31		94%	40		93%
At large	5		12%	0		0%	0		0%
Died before treatment	4		10%	2		6%	3		7%

Pharmacy

Expected to use tablets of Rifinah	15,390		
Issues from pharmacy tablets of Rifinah	10,000		

NR		
NR		

NR		
NR		

Treatment outcomes of SS+:

Cases	27		100%
Cured (target 75%)	20		74%
Treatment completed	0		0%
Died	7		26%
Failed	0		0%

24		100%
16		67%
0		0%
7		29%
1		4%

35		100%
25		71%
0		0%
10		29%
0		0%

Treatment outcomes of Relapse SS+:

Cases	4		100%
Cured (target 75%)	3		75%
Died	1		25%
Transferred out	0		0%

4		100%
4		100%
0		0%
0		0%

6		100%
2		33%
3		50%
1		17%

Treatment outcomes of SS-:

Cases	37		100%
Treatment completed	21		57%
Died	15		41%
Defaulters	1		3%

45		100%
30		67%
15		33%
0		0%

38		100%
28		74%
10		26%
0		0%

Treatment outcomes of EP:

Cases	26		100%
Cured (target 70%)	0		0%
Treatment completed	17		65%
Died	8		31%
Defaulters	1		4%

14		100%
0		0%
11		79%
3		21%
0		0%

20		100%
0		0%
13		65%
7		35%
0		0%

Semi-Annual Review Meetings

This activity took place on 7th May 2007 in Mulanje and 11th May 2007 in Phalombe. A total of 32 participants from some health facilities attended in Mulanje and 20 participants attended in Phalombe. In attendance were The DHOs or their representatives, Medical Officers from CHAM institutions, Matrons from both Districts and CHAM institutions, Ward in-charges especially from medical wards and TB wards, Laboratory Technicians, Pharmacy, X-ray, DEHOs', TB focal persons and Health Centre in-charges. During these meetings, Project HOPE gave an overview of their achievements since inception of the programme in October 2007 as per table below.

The objective of this meeting was to initiate quarterly review meetings where TB control activities will be discussed. During the meeting, the Project Manager urged focal persons from various health institutions represented to take advantage of such forums and make their presentations including challenges so as to learn from each other.

Total Activities Done in the 1st Six Months of TB/HIV Control in the Southern Malawi from October 2006 to March 2007

ACTIVITY	NO. OF SESSIONS (Mulanje)	NO. OF SESSIONS (Phalombe)	TOTAL NO. OF SESSIONS DONE
De-briefing of DHMT	1	1	2
De-briefing of Assembly	1	1	2
Health workers de-briefing (comprised of coordinators of various programs & Health Centre In-charges)	1	1	2
Stakeholder's meeting at national level			1
Community Baseline Survey			1
Health Facility Assessment			1
Educational visit to Mtsiriza village in LL			1
DIP meeting in Mangochi			1
TB Management training course for District TB Officers in Salima			1

Dissemination of Baseline Survey findings, Health Facility Assessment results and DIP were done during these meetings. An observation was made by participants in Phalombe during presentation of healthy facility assessment results that no recommendation was made on accidental needle prick management despite knowledge gap amongst health care workers. There is need for health care workers orientation in Post Exposure Prophylaxis (PEP) to address the knowledge gap.

In both districts, participants expressed concern over delay in opening new microscopy sites by Project HOPE as one of the priority activities in increasing case detection. An explanation was made that there is need to renovate the sites first and ensure security before microscopist

trainings and actual opening of sites. On top of that, as far as quality is concerned, there is need to improve quality in the practicing microscopists before training more for quality assurance.

Curricula Development

Because of the challenges noted in the TB system, we focused initially on developing the health worker and HSA training manuals. The health worker training manual was developed and piloted in April and June. Based on these experiences we will make modifications in the curriculum and method. A small committee of key people from the NTP, TB CAP, District health officials and Project HOPE will finalize the curriculum in the second year of the project. Information from the recently updated TB guidelines will be incorporated. A draft microscopist training manual has also been developed and was piloted this summer. In the second year it will undergo the same technical review as the other curricula. The goal is to develop a participant and trainer manual for training HSA, health workers, microscopists and community advocates.

Microscope Donations

Five microscopes were donated to the project by Project HOPE UK. One microscope in April 2007 was donated to Holy Family Mission Hospital in Phalombe to facilitate microscopy services following a request by the Medical Officer at the DIP meeting in Mangochi. The request was echoed at the quarterly review meeting at Nambiro in Phalombe where it was noted that there was only one old microscope at Holy Family Mission Hospital used for all general wards and outpatient diagnostic services meaning TB microscopy was not given preference. Being the only microscopy site in Phalombe district, lack of a good additional microscope negatively affected TB diagnostic services.

Another microscope was donated in July 2007 to Lujeri Health Centre in Mulanje to facilitate microscopy services following a recommendation by Marija, the laboratory Specialist who conducted a laboratory assessment in Mulanje and Phalombe. According to her findings, microscopes in Mulanje Mission Hospital (4 years old) and Lujeri Estate Clinic (about 20 years old) were not providing a clear view, most likely due to colonization of ocular lenses with fungus.

Challenges

One of the challenges met during the first year of implementing this project is the lengthy process of developing training curricula for the various cadres of people to be trained in this project. In developing the various curricula, training materials and clinical tools we are coordinating the efforts of many from the NTP, District health officials, Project HOPE field and HQ offices and TB CAP partners. By making this an inclusive process it has required more time, patience and organization. As noted, the TB system has tremendous challenges. We chose to focus initially on developing the health worker training curricula and early in the second year to focus on developing the materials and training guides for microscopists, community advocates, and other health workers. The NTP modified their treatment guidelines this summer in accordance with international guidelines to include fixed dose combination therapy and changes in treatment duration. The NTP produced a guidebook that had some inconsistencies and did not include the new treatment regimens. We used this guideline as much as possible and developed additional chapters with the updated information. These new training materials were piloted and modifications will be made in the second year of the project. A microscopist training guide was developed by the District with technical support from Project HOPE. Because of some

requirements by the NTP, the microscopist training was held prior to a final draft being developed. Some inadequacies in the curriculum and training method were identified and will be modified. Trainees were provided additional support during the mentoring period. The goal is to develop participant and trainer manuals for HSAs, health workers, community advocates and microscopists.

An additional complication was that it has taken long for The National TB Control Programme to make changes as it works within the National Framework which depends mainly on government funding to finalize changes in the systems. Government funding in Malawi depends on Parliament's approval and this was delayed due to the current political tension in the country thereby paralyzing government's budget plans.

Another challenge has been difficulty in hiring personnel that have been working on TB hands on as those currently in the TB system are well motivated not to leave their current positions.

Other commitments of our partners have greatly contributed to delays in doing some planned activities. A number of times partners have been out attending other meetings, affecting progress of our program activities. For better sustainability, it is necessary to work together with our NTP partners and we will continue to do so and coordinate timelines accordingly.

Poor documentation and recording and reporting TB information at the health facilities has created difficulties in understanding the extent/severity of current problems. To partly address this, Project HOPE with District TB Officers and District TB Focal personnel during supportive supervisory visits conduct on-the-job training on TB issues to HSAs and ask them to amend registers as needed. The team follows up recommendations made during the next supervisory visit.

Technical Assistance

Due to recent personnel changes, Project HOPE Malawi will be seeking technical assistance from the NTP and other partners in Malawi in the recruitment of a Program Manager with experience in the management and implementation of TB control programs in Malawi and/or Southern Africa.

Local obstacles to TB control and HIV prevention and treatment are being addressed by the NTP, the project partners, and Project HOPE in a proactive and collaborative manner. While limitations in human resources and the physical health infrastructure present significant obstacles, the will and resources appear to be in place to address them and meet the objectives of the project, i.e. to make substantial gains in decreasing case fatalities and increasing case detection.

Additional technical assistance will be sought regarding laboratory expertise and monitoring and evaluation from Project HOPE's TB experts in the Central Asian Republics.

Changes from DIP

No substantial changes have taken place since our last version of the DIP was submitted on October 12, 2007 in regards to Project Objectives and Indicators, Intervention Mix (including LOE), Specific Activities, Location of Project, Number of Beneficiaries, and Local Partner.

Substantial changes have been made to the budget, as discussed with Jill Boezwinkle, CTO, on October 22nd. A revised budget will be submitted. Changes are described in the Management section below.

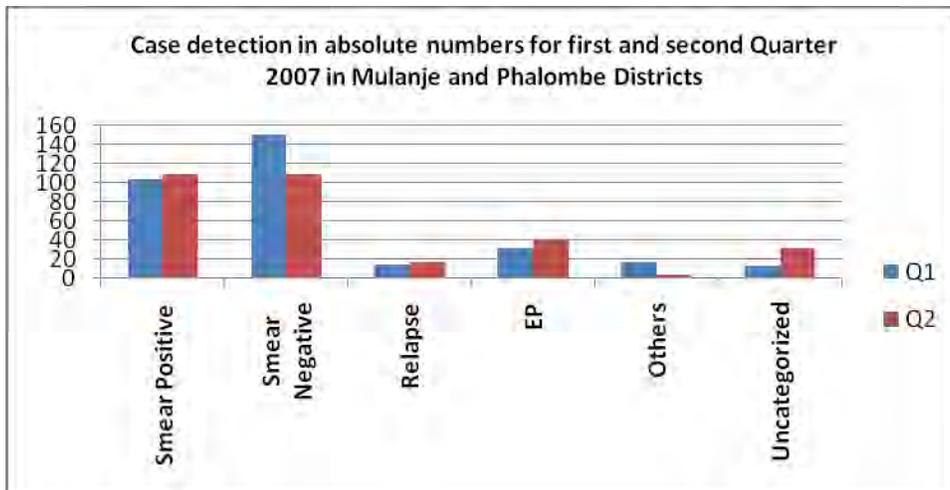
Monitoring

The project monitoring plan is crucial to this project, as it helps the team see exactly where the problems in the health system are and identifies improvements and areas that still need improvements. Data is collected at the district level through the Chronic Cough Registers, the TB 07 and TB 08 forms, and through the mentoring and supervisory visits conducted in tandem with our local partners. These visits are an opportunity for on-the-job training, mentoring, and monitoring progress and are critical to our program's success as well as sustainability following the end of our program. An Access database and Excel spreadsheets are being developed to streamline the continual collection of data and monitoring reports needed throughout the program. These tools will be finalized in Year 2. Training registries are also used to document participation in training programs. Results of our monitoring to date are as follows. Although it is too early in the program to credit many general improvements in case detection treatment success to our program, our training and mentoring and supervision can have a rapid impact and it is important to continue to collect this information to be aware of any important changes in our districts and to continue to help guide which pieces of training are most crucial and need to be emphasized or reinforced.

Absolute and Percent of Case Detection in Mulanje and Phalombe Districts

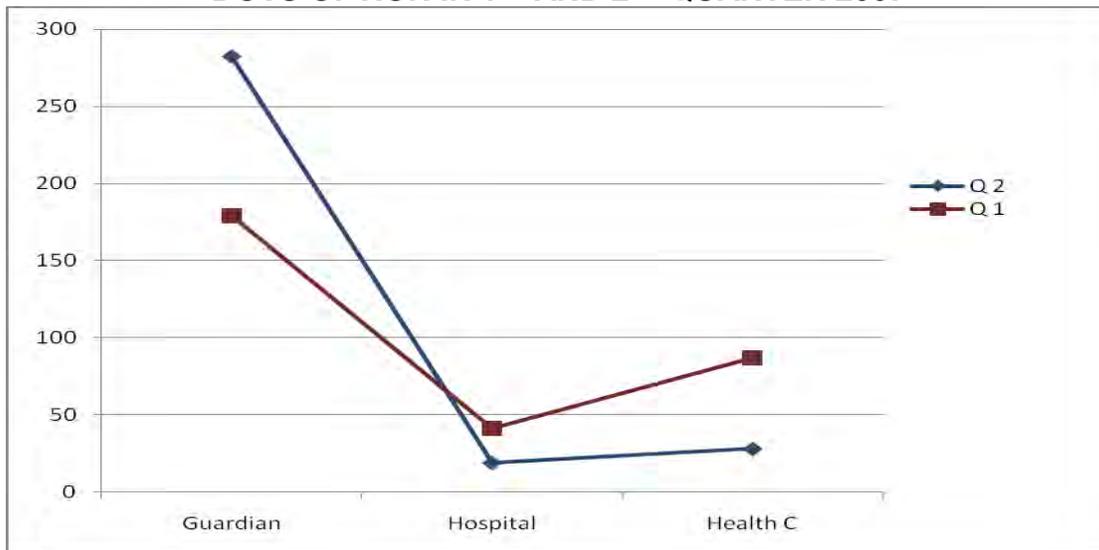
	Q1-07	%	Q2-07	%
New S+	104	31	109	35
New S-	151	45	109	35
Relapse	15	5	17	6
Other S+	17	5	4	1
EP	32	10	40	13
Uncategorized	13	4	32	10
Total		100	311	100

10% and 4% of the patients in the 1st and 2nd quarter respectively were not categorized in the District TB Register. It is critical to determine whether a patient has previously been treated for TB. Previously treated patients may have acquired drug resistance (either MDR or XDR) and need a different treatment regimen from new patients. There is a need to be vigilantly watchful against the advent of XDR TB which is in neighboring South Africa.



Equal numbers of smear positive and negatives patients in the 1st quarter and slight difference in second quarter shows that not many of the smear negatives patients are put on TB treatment especially in the face of HIV/AIDS where smear negatives are on the increase. People with TB are not detected despite patients' repeated attendance at Peripheral Health Facilities. Health workers fail to consider TB even when symptoms persist, where sputum is registered examination of sputum is delayed or not performed at all hence absent sputum results in the TB Registers.

DOTS OPTION IN 1ST AND 2ND QUARTER 2007

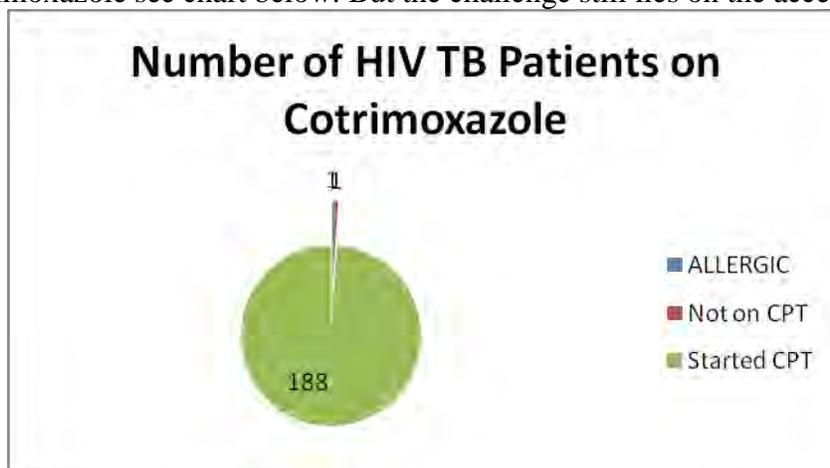


There is intensified IEC on DOT options especially on Community/Guardian Based Treatment. However, there is poor documentation defeating the essence of TB decentralization. As most guardians are not given DOTS monitoring forms to fill at home. There is need to have evidence that these patients are monitored properly at home.

Absolute Values for TB patients offered DCT and on Cotrimoxazole treatment in Mulanje and Phalombe Districts

DCT Offer	Not Done	HIV-negative	HIV-positive	Total
Yes	12	51	174	229
No	1	10	20	31
Total	13	61	194	260

Most patients go for DCT within the first two weeks of intensive phase of TB treatment and are placed on co-trimoxazole see chart below. But the challenge still lies on the access to ARV.



Almost all TB/HIV co-infected patients are on Co-trimoxazole prophylaxis but the major challenge lies on the accessibility to ARV. There is need to visit MSF in neighboring Thyolo District to see how they are addressing this problem.

Supervisory Checklist Design

A supervisory checklist for Health Facilities was designed to help District Health and Project HOPE technical Teams focus on major issues during supervision and also help to standardize the practices (see Appendix A).

Data collection was done using the MOH forms so that the health facility personnel should be familiar with what is currently used by NTP and also for sustainability purpose.

Sustainability Plan

Throughout the program, Project HOPE is working side by side with our local partners to increase capacity at the local level to ensure sustainability. Our primary partner in this endeavour is the National TB Programme, particularly the Mulanje District Health Office and the Phalombe District Health Office, the DHMTs for Mulanje and Phalombe, and the South East Zonal Health Office. Memorandums of Understanding have been signed as continued collaboration is necessary throughout the project. Each district has assigned a focal point person to be the primary contact who will work with Project HOPE staff. These efforts are crucial to project sustainability. Project HOPE will be providing technical assistance throughout the project to increase the district and national capacity to better detect and manage TB cases and TB cases with HIV co-infection patients, and to establish TB/HIV working groups at the district level.

Our strategies are based on existing best practices in TB control and in treatment of TB patients co-infected with HIV. In particular, the use of trained family members as guardians to ensure the adequate adherence to TB and other medications and clinic follow up of people with TB is well-established in the literature. By training Health Surveillance Assistants (HSAs) to train and deploy guardians and by expanding their role to include assistance with HIV and adherence to ART, we are increasing the likelihood of successful TB cure or treatment completion, as well as the diagnosis and treatment of TB cases co-infected with HIV. And by expanding the role of the guardian to include TB symptom screening of household contacts, we are increasing the likelihood of previously unrecognized cases of TB being diagnosed and treated. By training HSAs to train guardians, we are leaving a process that can be continued after this project is complete. Similarly, by recruiting and training additional microscopists, we will be greatly expanding the capacity for TB sputum microscopy in Mulanje and Phalombe and creating a lasting cadre of trained personnel in the districts.

Other durable outcomes of our project include the engagement and education of traditional healers and drug sellers in the recognition of TB symptoms and the referral of persons at risk of TB, the linkages between VCT sites and HIV clinical care sites and the TB system, and the general public education regarding the recognition of TB symptoms, the prevention of HIV, the interaction of TB and HIV, and the understanding that TB is a curable disease.

As noted above, we have included our plans for collaboration with local NGOs, including CHAM and other members of the HIV NGO community, who are viewed as essential to the ongoing operations and sustainability of the program. MOUs have been established with CHAM as well as the NTP for this program. Because of the rather strict emphasis in the RFA on the focus of this project being TB first, and HIV only in so far as it bears on TB outcomes, and only to 30% of the budget, we felt that a programmatic emphasis on HIV-associated community groups and NGOs might create an impression of a greater focus on HIV exclusively than was intended or desired in the RFA. Nonetheless, collaboration between the TB system and the HIV care system, including the invaluable role played by HIV advocacy groups, is viewed as essential for the success of this project, and every effort will be made to include them in our efforts to improve TB case detection and treatment outcomes.



Baseline Data

The Malawi team conducted three baseline assessments in Mulanje and Phalombe Districts in the first year of the project to collect information on community knowledge, attitudes, and practices; to assess health facility functioning; and to perform an in-depth laboratory assessment. The community survey took place in December 2006, the facility surveys in January 2007, and the laboratory assessment in July 2007. For the community survey, the team used a 40 by 10 cluster random sampling to

interview 130 households in Phalombe and 270 in Mulanje. A convenience sample of 42 health facilities (including all hospitals, most regional health centers, and selected community health posts) and 168 staff were interviewed for the facility survey. A laboratory assessment was also completed in all existing microscopy laboratories in the 2 districts. Baseline data reports were completed and submitted at the time of the DIP.

Community Baseline Summary

The community baseline survey was conducted in order to help us guide our community IEC campaign and aimed to determine the levels of knowledge, attitudes, availability and acceptability of TB and HIV services. Results showed that the population had a general awareness about TB and HIV/AIDS, but more in-depth knowledge and understanding of the variety of modes of transmission for both TB and HIV and concepts of TB and HIV testing and their benefits was lacking. While nearly all identified coughing as a symptom of TB, few identified fever and weight loss.

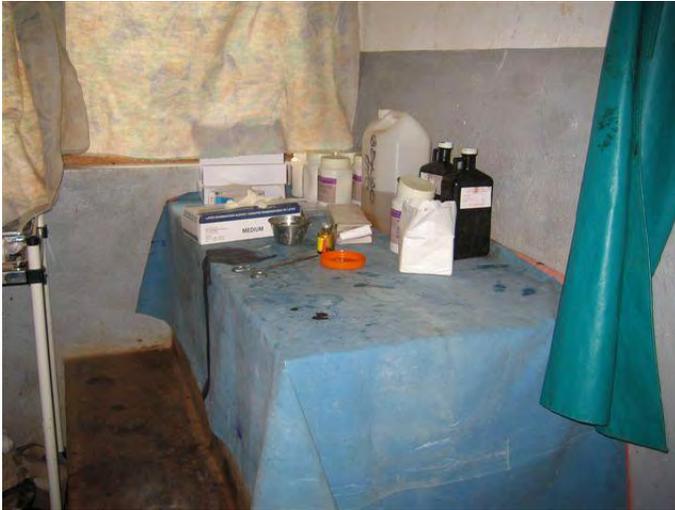


Nearly three-quarters knew that TB was contagious and transmitted through the air by coughing. Although 95% knew that HIV was sexually transmitted, few knew it is also transmitted through blood or perinatally from mother to child & 28% believed it is transmitted through items of public use. 11% incorrectly believed that HIV can be cured. Only 13% knew that people are more susceptible to TB if they have HIV. In a country with 14% HIV prevalence in the general population, only 23% had ever had an HIV test. Mass media is the primary source of information. Less than half (47%) of the respondents reported to have received TB information in the last six months prior to the survey. For almost half of the people surveyed, it is over an hour walk to reach the nearest VCT center or TB testing facility. Most people (85%) did not feel it was shameful to have TB and 21% said someone with TB would try to hide it from others.

Health Facility Survey

Generally, the findings from this survey have confirmed that problems with staffing of health facilities in the two districts are acute. Some facilities have remain unopened because there are no staff to run them, in others, there only 1-3 staff members who have to implement all the activities on their own. The current staff portfolio also seems overworked and most are already spending more than 50% of their time on TB and HIV services. In most cases, facilities are also making use of HSAs to provide CT and other services. Health staff in the two districts seek additional training/retraining opportunities that would enhance their skills in the management of TB and HIV/AIDS. Considering the status of infrastructure, the findings from the survey suggest that facilities in the two districts have limited access to communication gadgets for efficient referral systems and the general sanitation systems are not good (some do not have access to portable water). Storage facilities for perishable medical products are lacking in many of the facilities in the two districts. The findings have also shown that facilities have records of TB and HIV clients and of pharmaceutical products being received and distributed. Issues of infection prevention and control are not being adequately taken care both for the facility staff and their

patients. Challenges exist for a comprehensive TB/HIV programme in the form of distances to TB/HIV care centers, distances to care and support centers, issues of nutrition, issues of stigma in the communities and the cost of accessing treatment. Most of the facilities do not have access to TB diagnostic materials for sputum tests.



Detailed Implementation Plan (DIP)

Discussions with the District Health Management Teams for Mulanje and Phalombe on the DIP guidelines provided were held on February 13 in Mulanje (with Dr. Frank Chimbwandira) and February 15 in Phalombe (with Raphael Piringu the DHO). Discussions were held with the District Assemblies Mulanje on February 12 with Mrs. Malo Salimu, M&E Officer, and in Phalombe on February 15 with Isaac Mkandawire, M&E Officer. Data collection before the DIP Workshop took place from February 19 – 24, 2007. Consultations with the USAID Local Mission occurred regularly by phone prior to the DIP Planning Meeting. Consultations with the National TB Programme Office as well took place regularly by phone prior to the DIP Planning Meeting.



Thereafter, a 4-day DIP Planning Meeting took place from February 26 to March 1, 2007. Including Project HOPE staff, in attendance to this meeting were 22 participants drawn from different institutions like: Holy Family Mission Hospital, Phalombe DHO and District Assembly,

Mulanje DHO and District Assembly, Reach Trust LL, FHI (TB CAP), NTP/CHSU LL. Contributions from these participants were very fruitful that made DIP meeting a success. Mr M. Gondwe (FHI) represented TB CAP and he gave a presentation on what they re planning to do in Zomba and Mangochi district in relation to TB control while REACH TRUST presented what they are doing in Mtsiriza Village - Lilongwe. FHI, REACH TRUST and MSH are amongst the primary international PVO/NGOs working in Malawi in TB/HIV Control programmes. Project HOPE invited these organizations to this meeting in order to strengthen the coordination/collaboration already existing.

After the meeting, a smaller working team was commissioned on March 1, 2007 to put together the DIP in collaboration with Project HOPE headquarters staff. The team comprised of Patrick Chipungu, the Programme Manager, Timothy Kachule, Country Representative, Dr. Frank Chimbwandira, DHO Mulanje, Raphael Piringu, DHO Phalombe, Lameck Mlauzi, District Point Person, Mulanje, and Tommy Thepheya, District Point Person Phalombe, and Ireen Kachingwe, M&E Project HOPE Malawi. The meeting went very well with lots of active participation. The group looked at the project as outlined in the proposal document, shared findings of the Baseline Community and Health Service Provision surveys, and were appraised as to what other partners are doing on TB and HIV such as FHI, MSH and REACH Trust. With all this background information and knowledge, the team was able to come up with collective observations, drew conclusions and lessons learned and then designed the way forward. The team also went through the DIP development guidelines and with support from a representative from USAID Malawi, Mr. Sosten Chilumpha, they re-designed the structure of the project to accommodate suggestions that came up during the workshop.

Assessment of Microscopy Sites

Eight (8) and eleven (11) health facilities were assessed in Mulanje and Phalombe respectively by Project HOPE staff and district TB focal persons from DHOs. These facilities were identified as TB Microscopy centers by the DHMT of the respective districts. Out of the 8 facilities in Mulanje, two health facilities (Lujeri Estate clinic and Chonde H/C) already offer TB microscopy services while in Phalombe, it is only Holy Family Mission Hospital that offers TB microscopy in the District.

The activity aimed at assessing the readiness of the health facilities in terms of physical environment whether conducive to providing TB microscopy services and whether the sites meet the minimum standards and guidelines of the National TB Control Program and Medical Laboratory Code of Practice in Malawi in provision of TB microscopy services. The assessors paid much of their attention on the physical environment, equipment in use and staff profile.

Findings were similar in most of the health facilities assessed. Common short falls were observed as follows:

- Lack of electrical sockets in the rooms
- Lack of sinks for hand washing and staining
- Lack of security bars on doors
- Lack of furniture
- Lack of lockable cabinets

It was also observed that there are some health facilities that provide malaria tests only and not TB microscopy like Lujeri, Chonde, Namasalima and Kambenje Health Centres in Mulanje district, Mwanga and Chiringa Health Centres (CHAM institutions) in Phalombe. Even though these centers offer malaria tests the Microscopes in use were very old and in bad condition, therefore a recommendation was made to replace.

Despite that there is only one site that provides TB microscopy in Phalombe, no one has been trained in smearing and fixing while in Mulanje, 7 people have been trained in TB Microscopy and 14 in Fixing and smearing.

Recommendations were made that immediate maintenance of the identified sites made in order to make the places conducive for TB Microscopy.

Microscopy sites

This project will triple the current diagnostic capacity for TB in Mulanje and Phalombe by training additional microscopists, thereby increasing access to appropriate diagnostic care and subsequently increasing case detection at an earlier and more easily treatable stage. Project HOPE has already conducted a microscopist refresher training in TB diagnosis via sputum smear microscopy covering eight (8) microscopists.

Mulanje District has 3 microscopy sites and Phalombe has 4 (*see attached map*) that are equipped, but do not yet have trained microscopists. Project HOPE will provide the training for these staff as well including the two District Health Officers (DHOs). In total, 42 laboratory staff will be trained in this microscopist training. Three training sessions will be offered with approximately 14 persons attending each session to maximize the participatory learning process.

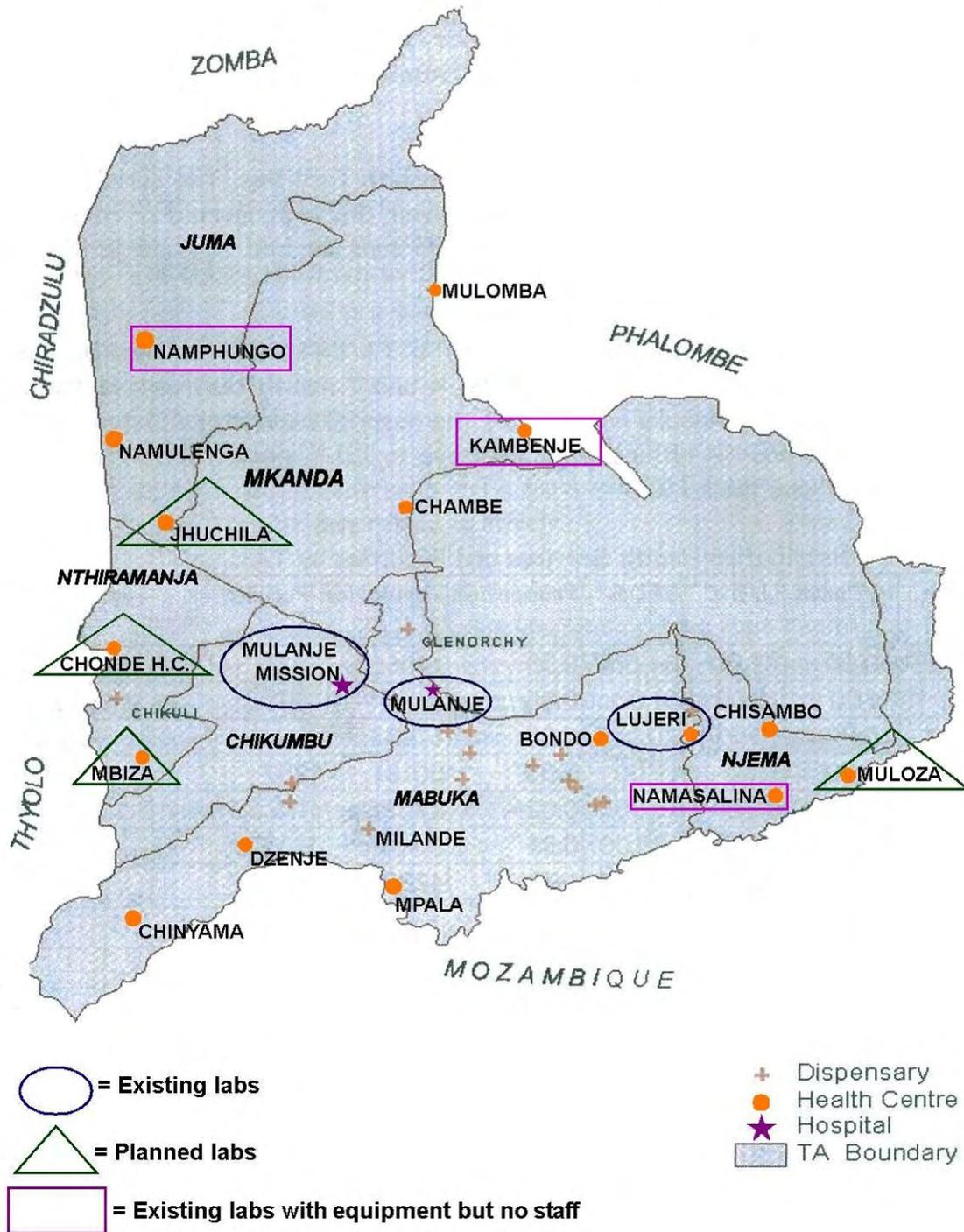
Using international standards and the revised training manual and curriculum, this training intends to equip participants with proper methods and skills of obtaining sputum samples, preparing slides, staining, examination with microscopy and correct methods of transporting slides and sputum whenever necessary. The training will also cover data management aspect as to how patients should be recorded, data on standard DOTS forms and how to submit reports. Identification of SS- patients with symptoms needing specialist/x-ray examination and referral will be discussed. Quality Control procedures will be emphasized as well.

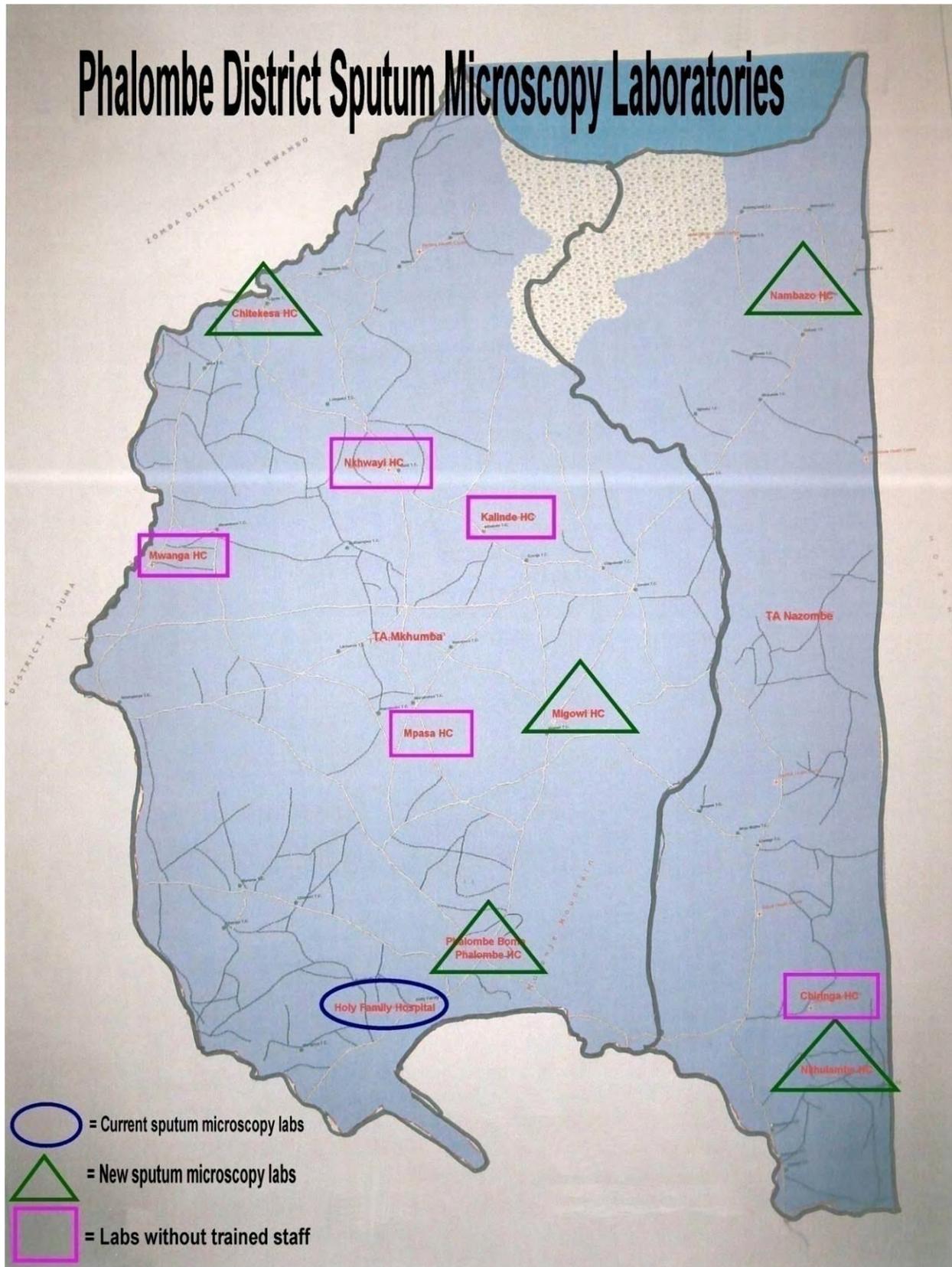
In concurrence with national TB policies, the training will run for 10 days. Project HOPE will follow the initial training with 1-day workshop after 4-8 weeks to review and share experiences and plan to provide additional training where necessary. Subsequent on-site supervision will be conducted by the District TB Officers/Hospital Laboratory Staff and Project HOPE technical team through the expanded QA and supervisory program for efficiency. Zonal Laboratory Supervisor and Zonal TB Officer will conduct quarterly Support Supervision to ensure quality of services.

Proposed New Microscopy Sites

	Mulanje	Phalombe
Proposed New Sites (where Project HOPE will equip labs & train microscopists)	<ul style="list-style-type: none"> • Muloza Health Centre • Chonde Health Centre • Mpala Health Centre • Mbiza Health Centre • Thuchila Health Centre 	<ul style="list-style-type: none"> • Chitekesa Health Centre • Migawi Health Centre • Nambazo Health Centre • Phalombe Health Centre • Nkhulambe Health Centre
Sites with Equipment (where Project HOPE will train microscopists)	<ul style="list-style-type: none"> • Namphungo Health Centre • Namasalima CHAM Health Centre • Kambenje Health Centre 	<ul style="list-style-type: none"> • Chiringa CHAM Health Centre • Mpsa CHAM Health Centre • Mpsa Health Centre • Nkhwayi Health Centre
Sites Currently Performing Microscopy (where Project HOPE will provide refresher training:	<ul style="list-style-type: none"> • Mulanje District Hospital • Mulanje Mission Hospital • Lujeri Estate Clinic 	<ul style="list-style-type: none"> • Holy Family Mission Hospital

Mulanje District Sputum Microscopy Laboratories





Laboratory Assessment

In July 2007, Marija Joncevska, Regional Laboratory Specialist for Central Asian Republics came to Malawi to assess the current status of TB microscopy testing and quality assurance for microscopy labs in Mulanje and Phalombe districts, and make recommendations for improvement in order to achieve the planned results of the project. The assessment included looking at both qualitative and quantitative data as indicated in the background information of project documents and also primary data through direct observations and key informant interviews. Refer to the table below for some of her major findings and recommendations.

FINDINGS	RECOMMENDATIONS
Case finding and treatment policies	
<ul style="list-style-type: none"> • Case finding is passive and TB suspect cases are identified among patients seeking health services because of respiratory symptoms consistent with tuberculosis. All suspect cases are referred to laboratories for sputum smear examination. • Although DOTS coverage in Malawi is 100%, the TB program performance is not satisfactory. Very high mortality rates are most likely due to dual HIV/TB infection, but so far there is no documented evidence for that. Because of the permanent shortage of trained staff, TB program widely relies on HSAs, which is an additional threat for the quality of implemented TB control activities. 	<ul style="list-style-type: none"> • Project HOPE team in Malawi should guide and mentor the needed improvements. Initiation of expanded treatment efforts will make sense only if linked to robust steps to improve microscopy quality, better use of the data generated, and effectively unify management of the laboratory network with the treatment services. • External technical assistance to the Project HOPE team and the local district TB officials is needed, at least in the next 18 months. It is expected that by then (mid-project) the Project HOPE team should be able to function with less assistance and lead the project activities required to accomplish the two objectives.
Use of smear microscopy for case finding	
<ul style="list-style-type: none"> • Currently smear examination is available at three microscopy labs in Mulanje (District Hospital; Mission Hospital and Lujeri Estate Clinic) and only one laboratory in Phalombe (Holy Family Mission Hospital). All hospital laboratories work with a high workload varying from 20, up to 60 smear examinations per day. Besides smear microscopy all technicians assist in other laboratory tests, clinical chemistry and hematology. • Smear positivity rates among examined suspects are high (>10%) in all laboratories. This indicates that the case finding activities are insufficient. With the 	<ul style="list-style-type: none"> • In close collaboration with local partners, the Project HOPE team should develop a plan for expansion of smear microscopy network in two phases and open three labs in the first phase. Ensure that all basic requirements for proper functioning and quality assurance are in place. • Scale up community awareness activities according to increased capacity of smear microscopy network. The start of IEC activities, planned for the Year 2 of TB project should be synchronized with the availability of smear microscopy services in newly opened labs. • Evaluate the work of newly opened

<p>current capacity of lab service it is difficult to improve case finding.</p> <ul style="list-style-type: none"> • Poor accessibility also contributes greatly to low case finding. There are rural areas in both districts, which are isolated up to six months of the year during the rainy season without access to health facilities. 	<p>laboratories in terms of quality of smear microscopy and their contribution in case finding. Standard indicators for evaluation should be included in advanced training for Zonal and District supervisors.</p>
Technical procedures in smear microscopy	
<ul style="list-style-type: none"> • All laboratories in Mulanje and Phalombe use the standard Ziehl Neelsen method, but the quality of smear microscopy is not satisfactory. Standards for smear preparation are not followed and smears prepared are with different size thickness with unevenly smeared samples. The quality of samples is often poor. • A certain number of slides are kept for quality assurance in all laboratories, but the method used for External Quality Assessment (EQA) is not standardized and cannot provide reliable information on proficiency in smear microscopy. 	<ul style="list-style-type: none"> • Project HOPE, in collaboration with Lab technicians in Mulanje District, should take initiative for organizing a rechecking procedure, which will provide reliable information on proficiency in microscopy, identify problems in technical procedures and provide recommendations for quality improvement. • There is need to improve the content of laboratory supportive-supervisory visits, conducted by local laboratory staff, and implement recommended standards for smear microscopy. • A copy of the WHO manual for smear microscopy should be available in all labs. It could be included in training materials for microscopy training, organized by Project HOPE • Refresher training is recommended for all lab technicians in both districts. After they improve their own skills, they could be trained as trainers for smear microscopy.
Laboratory equipment and supplies	
<ul style="list-style-type: none"> • The demand for trained microscopists in the Districts is very high. Currently there are only five trained technicians in Mulanje (three in the District Hospital and two in the Mission hospital) and one in Phalombe (Holy Family). Due to the shortage of qualified technicians, NRL decided to select the best candidates among HSAs and train them as microscopists but the demand is still there. 	<ul style="list-style-type: none"> • Project HOPE should coordinate training activities with the Zonal Health Office in order to avoid duplication of trainings.
Quality assurance	
<ul style="list-style-type: none"> • Quality assurance for smear microscopy is poor. The NRL tried in vain to 	<ul style="list-style-type: none"> • Develop appropriate model for blinded rechecking of representative sample of

introduce blind rechecking of slides due to the shortage of personnel and because of the structure of laboratory service, which mainly relies on the central level. The system of rechecking was not designed properly and supervisors (controllers) did not receive required training. Currently, rechecking is done during supervisory visit and a certain number of slides (20 - 25) are rechecked by Zonal supervisor. However, the rechecking is not representative and not completely blinded. It is focused on positive slides and reduces the possibility for identification of false negative errors which are more likely to occur. Positive results, recorded in lab registers were mainly 2+ or 3+. It is possible that 1+ and scanty positives are reported as false negative.

slides, taking into account the available resource in Mulanje and Phalombe Districts (technical assistance is required).

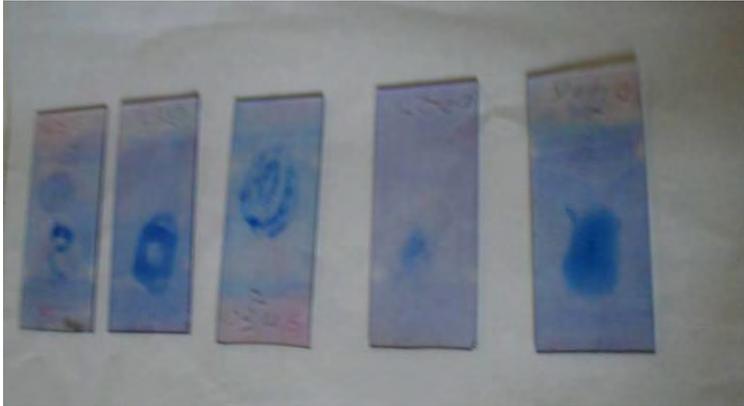
- Analyze data from rechecking, including all evaluated elements (smear preparation; staining and microscopy) and take required remedial action.
- Link between laboratory EQA data analysis and cohort analysis is a basic requirement for improvement of case finding activities. The recommended use of experienced, external TB technical assistance will be essential to accomplish this project objective and it will be seriously at risk if such assistance is delayed or of poor quality.
-

Recording and reporting

- Poor recording and reporting. Laboratory forms and registers are filled in correctly and smear microscopy results are reported the same day. Delay in diagnosis is usually related to transport of sputum samples from remote Health Centers. Additionally, some of the records did not match.

- Support local partners in improving recording and maintenance of TB registers.
- Visit once a quarter District Hospital in Mulanje and Holy Family Hospital in Phalombe and assist TB officers in reporting quarterly results on case detection and treatment outcomes (TB07 and TB08). Technical training in TB recording and cohort analysis for Project HOPE Mulanje team is recommended. Technical assistance, provided by external TB advisor should have this as a main objective for the next six months.

Smear preparation and staining



Unsatisfactory quality of smear preparation observed during assessment visit



Required standard for smear preparation and staining





Discussion on laboratory assessment findings

Specific Information Requested During the DIP

A complete Social and Behavior Change Strategy was requested during the DIP. Please see next section below for the complete description.

Social and Behavior Change Strategy for TB Control

Please note that while we recognize the vital importance of behavior change strategies in general, the primary focus of this TB Control project is at the health system level and not at individual behavior change level. The key interventions for this program are improving case detection through quality diagnosis, increasing access to microscopy sites, and improving quality case management of TB and TB-HIV co-infection in order to reduce the case fatality rate. The community IEC campaign will be introduced after proven system improvements are in place and rolled out as the new laboratories demonstrate expertise. As such, the behavior change strategy has not been a primary focus of this project to date. Once the proven system improvements and new laboratories begin to roll out, the IEC campaign will take on greater importance and will be addressed accordingly. We will develop key messages based on our community baseline survey results to address some of the gaps in knowledge about TB and HIV and TB-HIV co-infection and to inform the community of the new project sites. We will disseminate the key messages through community meetings and involvement of local theatre groups.

Broad behavior change goal: *Improve early care seeking behavior*

Specific behavioral objectives: *community members who have symptoms of TB seek medical treatment at appropriate TB facilities early (within four to eight weeks of the start of their cough)*

Summary of strategy:

This project will increase case detection of TB by improving early care seeking behaviours among community members with symptoms of TB. Community members' behaviours will be changed by

- *increasing awareness about symptoms of TB, appropriate facilities to seek diagnosis and treatment, and about the benefits of early diagnosis and treatment*
- *changing attitudes about early care seeking*

- increasing access to TB diagnosis by increasing the number of testing facilities with equipment and trained staff from 4 to 21 by the end of the project and establishing village sputum collection sites that link to TB testing facilities

Awareness and attitude changes will be addressed through radio messages and dramas performed in the communities and will be reinforced by traditional healers and pharmacists/drug sellers through the referral checklist system, and through trained health care providers in the clinics and hospitals.

Channels of Communication:

Radio spots will be broadcast through local media stations twice a week, capitalizing on free programs on health. As indicated by our baseline survey, 72% of the community receives health messages through this media. Messages will be based on results of our baseline survey and will be pre-tested with random audiences. The radio spots will focus primarily on three key messages: the importance of early care seeking behavior for TB symptoms, appropriate facilities in which to seek diagnosis and treatment, and the benefits on early diagnosis and treatment.

Drama will be performed by existing drama groups that are active in the communities. The key messages will be the same as the radio spots and will also address stigma related issues. Performances will be pre-tested with the Project HOPE team and our local partners. Group performances will take place for one week per quarter at the major health facilities in our districts.

Interpersonal communication of key messages from the radio spots and drama performances will be reinforced in the community by health facility providers, traditional healers, and drug sellers/pharmacists. In addition, community leaders have been oriented to the project and will also provide reinforcement of key messages.

BEHAVE Framework

Priority and Supporting Groups	Behavior	Key Factors	Activities
<i>TB suspects</i>	<i>Visit to an appropriate health care facility within 4-8 weeks of cough initiation</i>	<i>Barriers: lack of knowledge of TB symptoms, distance to TB testing facilities, cost of TB testing and transportation Facilitators: desire for healthy outcome; desire to keep family and friends infection free, family and community support</i>	<i>Radio messages and drama group performances. Training for traditional healers and drug sellers/pharmacists. Training for community leaders. Equip and train new TB testing facilities.</i>
<i>Community members</i>	<i>Encourage community members with symptoms to visit appropriate health care facility within 4-8 weeks of cough initiation</i>	<i>Barriers: lack of knowledge, stigma Facilitators: desire for healthy outcome, desire to keep family and friends infection free</i>	
<i>Indicators: % of suspects reporting to health facility within 4-8 weeks of cough; Case notification rate (<u>Numerator</u>: Number of new smear-positive pulmonary TB cases reported ; <u>Denominator</u>: Total population in the specified area; X 100,000)</i>			

Monitoring table

Priority Group	Awareness	Knowledge	Attitudes/skills	Trial	Behavioral maintenance
<i>TB suspects</i>	<i>Radio messages broadcast 2 times a week Drama group performances at health facilities each quarter</i>	<i>Community based survey Community key informant interviews Oral surveying of drama audiences</i>	<i>Case notification in communities increases Key informant interviews indicate if TB suspects are seeking care earlier Surveying of drama audiences indicate key messages are understood</i>	<i>Increase in case notification at midterm Increase in % suspects reporting to health facilities in 4-8 weeks of symptoms at midterm</i>	<i>Consistent or increased case notification Consistent or increased suspects reporting to health facilities in 4-8 weeks of symptoms</i>
<i>Community members</i>	<i>Traditional healers and drug sellers trained in symptom recognition and referral</i>	<i>Community key informant interviews</i>	<i>Pre and post test following training Referrals of TB suspects to health facilities</i>	<i>Increase in referrals by traditional healers and drug sellers at midterm</i>	<i>Consistent or increase in referrals</i>

Management System

Human Resources: As discussed previously with USAID, Project HOPE decided to lay off our Program Manager, due primarily to difficulties in his managerial abilities. As also discussed, we plan to commence recruitment efforts in January 2008. In the meantime, Timothy Kachule, our Country Representative, who presented the DIP during the mini-university, has taken over management of the program. Our team felt it necessary to have an experienced senior manager run the program in the interim, to strengthen relationships with our partners and to make sure the program is functioning at its best. Our field team has been restructured as well to be able to provide additional TB laboratory expertise and fit within the budget constraints, and the HQ staff time has been reduced and reallocated. Our current field positions include:

- Country Representative (100% time until a new Program Manager is hired, then down to 20% time)
- Program Manager (0% until hired; then 100%)
- 2 Trainers (100% each)
- Trainer (100%)
- Laboratory Specialist (20%)
- Accounts Assistant (100%)
- Secretary (100%)
- Driver (100%)
- M&E Specialist (30%)

On the HQ end, our positions are as follows:

- Program Officer (20%)
- Operations Accountant (5%)
- M&E Director (2%)
- HQ Technical Team (7%)
- Administrative Assistant (4%)
- Regional Director (2%)
- Assistant Regional Director (2%)

Financial Management: The Program Manager is responsible for ensuring that accurate financial reporting is submitted to HQ in a timely manner. He is also responsible for complying with all grant limitations and conditions relating to local expenditures. The field-based Accountant is responsible for tracking expenditures and submitting financial reports for all project expenditures to the Program Manager for review and approval. Expenses are then sent to HQ where the Operations Accountant receives, processes, and reviews the monthly reports. Monthly reports are generated by the Operations Accountant and reviewed by headquarters management staff, and as needed, with the Program Manager.

As discussed with USAID previously, difficulties with our Program Manager prevented our management system from working optimally and one result was that the program overspent in the first year. To address this from an operations standpoint, our Country Representative is now managing the financial operations from the field side, and the Program Officer and Operations Accountant are managing finances from the HQ side. This team will be closely and actively monitoring and reviewing expenditures on a monthly basis in order to appropriately manage the program budget and activities. The review on the HQ side has shifted from the responsibility of the Regional Director to the Program Officer, who is more involved with day-to-day operations in the field. Our Regional Director for Africa is also no longer with Project HOPE and we have appointed an Acting Regional Director in his stead. A revised budget will be submitted to USAID this month which will incorporate adjustments in Year 2 to make up for the over-expenditures in Year 1. Decisions have been made as well to close all offices except the Mulanje office to lower overall operating costs in the field.

Communication System and Team Development: The Malawi TB Control team, including field and HQ staff, meet on a regular basis, normally every two weeks, via Elluminate's v-class system or Skype. Field participants include the Country Representatives, Program Manager, and the two Trainers. HQ participants include the Program Officer, Technical staff, M&E Director, the Operations Accountant, and the Regional team. Regular communication through email, phone, and Skype occur in between official meetings to discuss various topics, including curriculum development, finances, M&E, and other managerial issues. Weekly meetings are held at the field level with project staff and monthly with local project partners. TB laboratory expertise is provided from Project HOPE's Central Asia Region TB project Laboratory Specialist staff every other week or as needed, including annual visits to the field.

Local Partner Relationships & PVO coordination/collaboration: This issue is discussed at the beginning of this report. Project HOPE is working in very close collaboration with our local partners and includes regularly scheduled Quarterly meetings, joint supportive supervision visits, as well as other meetings including partnerships to work on improving case detection. In addition

to the NTP, Project HOPE is working closely with TB CAP to share materials and work in tandem to address similar issues in our shared Zone.

Mission Collaboration

First partners' mission collaboration meeting was held on Friday the 9th of February 2007 at Malawi Teacher Training Activity (MITTA) in Zomba the old Capital city of Malawi. Discussed among other things were new vehicle tax policies which negatively affected the procurement of our project Vehicle.

Second partners' mission collaboration meeting was held on Friday the 1st of June 2007 at Public Affairs Section Auditorium. Discussed among other things were new Daily Subsistence Allowances (DSAs) following the release of the circular (HRM/ALL/01) dated April 2nd 2007 from the Secretary for Human Resource Management, to have a collective position of development partners on this issue. In the interest of achieving a consistent and equitable approach to DSAs and to ensure the best use of funds available for the Development of Malawi, developing partners proposed to adopt a uniform approach to paying DSAs in all instances where development partner funding is used.

Timeline for Year 2

Activity	Quarter				Comment
	1	2	3	4	
Treatment Success					
TB health worker training	X	X	X		2 sessions of 25 participants each
Supervisor training (recording, reporting)	X				1 session of 20 participants
Mentoring/supervision TB health workers	X	X	X	X	
HIV health care workers training	X				2 sessions of 30 participants each
Mentoring/supervision HIV health care workers	X	X	X	X	
HSA training	X	X	X	X	3 sessions of 30 participants each
Mentoring/supervision of HSAs	X	X	X	X	
Case Detection					
Initial Training for Microscopists	X				1 session of 14 participants
Mentoring/supervision microscopists	X	X	X	X	
Zonal Quarterly Supportive Supervisory Visits	X				
Quarterly Partner Review Meetings (NTP, TB CAP, PH & MOH Team)	X				
Cohort analysis (District Quarterly TB Evaluation Meetings)	X	X	X	X	
District Partner Collaborative Meetings (On-going)	X	X	X	X	

Pilot new lab		X			
New lab phase in			X	X	
Symptom screening/referral (VCT, Traditional healers, Pharmacists/drug sellers)			X	X	3 sessions of 30 participants each
Community IEC (Awareness Campaigns)			X	X	4 week-long sessions (2 sessions each district)

Results Highlight

One innovative idea in our program is to train HSAs as microscopists to help provide a sustainable solution to the health care worker shortage in the country and to increasing case detection capabilities. The training for HSAs will be rolled out in Year 2 of the program. The HSAs will be mentored and supervised following training to ensure that their performance meets necessary global standards. Today in our program sites, Mulanje and Phalombe, there are only 4 laboratories with the staff and equipment needed to perform microscopy to detect TB in a combined population of approximately 800,000 people. By the end of our project, we will have 21 sites performing microscopy. Project HOPE is contributing microscopes to the sites that do not have them, as well as training, mentoring, and supervision to the HSAs who will become microscopists. We expect that the HSAs will be able to perform at a satisfactory level, comparable to the existing microscopists. Beginning in Year 2, the program will train the HSAs and monitor their performance.

Publications

Two publications have resulted from this program to date. The first was an abstract published in the abstract book for the 4th International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention in Sydney, Australia in July 2007. The second was a poster presented at the Infectious Disease Society of America in San Diego, California in October 2007.

- Timothy Kachule, Sandra Dalebout, Hector Jalipa, Caroline Teter, Renslow Sherer. *TB/HIV co-infection in Malawi: Results of Baseline Surveys*. Poster presented at the Infectious Disease Society of America, San Diego, CA, October 2007.
- Renslow Sherer, MD; Sandra Dalebout, MPH; Timothy Kachule; Patrick Chipungu; Caroline Teter. *Improving TB and TB/HIV Control in Southern Malawi by Expansion of Sputum Testing, VCT, and Improvement of Treatment Completion via Community Health Workers: Results of a Baseline Community Survey*. 4th International AIDS Society (IAS) Conference on HIV Pathogenesis, Treatment and Prevention, Sydney, Australia, July 2007. Published in abstract book.

Success Story

While at Nambazo Health Centre, an old lady, a guardian to her daughter, very appreciative of her daughter's progress on TB treatment, came for a refill of her TB drug supply. Unfortunately, the drugs were not in stock at this particular time. This was not because there were no drugs in stock at the main pharmacy in the Phalombe DHO, where Nambazo Health Centre gets its supplies, but because the health facility (Nambazo) failed to order stock. One of the HSAs from

this facility was in Phalombe trying to stock the drugs and other supplies. This was too late because they are advised to request an order two weeks before the current stock finishes.

If it was not for this visit, this poor lady would have been sent back and one imagines the long distance she covered only to be sent back without the drugs. This affects drug compliance because next time this lady will think twice whether it is really necessary to go for drug supply because she becomes disappointed. These are some of the patients categorized as defaulters. Once she does not return twice or thrice for drug supply, the HAS will just indicate on the treatment card that this person is a defaulter without following up and finding out why the person is defaulting. It is no wonder that out of 21 treatment cards reviewed, 6 (29%) were defaulters, which is just too high.

Bravo to this visit because the team was well equipped with drugs and other supplies like sputum containers and stationary. This lady as well as the health facility were supplied with the required drugs and were encouraged to come back on the scheduled date. The woman went back very happy and was able to provide her daughter with a continuous uninterrupted supply of TB medication, which is not only good for her daughter's recovery, but also good for ensuring against drug resistant TB in the community.



**Checklist for Supervisory Visits to
Health Facilities Providing TB Control Services**

	Health facility..... District TB Coordinator..... TB Focal Person..... C el #..... Cadre..... Date..... Name of Facility In-Charge.....
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A Review *TB Treatment Cards* for all current TB patients and those who previously completed treatment. Register all newly-detected cases. Update the *District TB Register* for other patients.

Observations

1. Total Number of Patients reviewed.....
2. Number of New Patients reviewed.....
3. Number of patients completed treatment in the last quarter

B	Also check <i>TB Treatment Cards</i> :	YES*	NO	RECOR D #
		1. Is each patient on the correct treatment regimen?		
2. Are sputum examination results recorded correctly?				
3. Do <i>TB Treatment Cards</i> indicate that all patients are receiving directly observed treatment? Is treatment regular and correctly recorded?				
4. Are patients undergoing smear examination at 2 months (3 months if Category II)?				
5. Are patients undergoing smear examination at 5 months and/or during the last month of treatment?				
6. Are patients who are smear-positive at 2 months (at 3 months for Category II) receiving 1 more month of initial-phase drugs?				
7. For each patient who has completed treatment, is the information On the <i>TB Treatment Card</i> sufficient to determine treatment outcome?				

C	Review <i>Register of TB Suspects</i> and/or <i>TB Laboratory Register</i> (if available): 1. Does the facility have a <i>Register of TB Suspects</i> ? 2. If yes, are the results of sputum smear microscopy written in the <i>Register of TB Suspects</i> ? 3. Is there only a reasonable delay (within 7 days) between sending sputum to receiving microscopy results? 4. If the facility has both a <i>Register of TB Suspects</i> and a <i>TB Laboratory Register</i> in the facility, do the microscopy results recorded in them match? 5. Do results in the <i>Register of TB Suspects</i> match the results recorded on the <i>TB Treatment Card</i> ? 6. Have all the smear-positive patients started treatment?	YES	NO	RECOR D#
D	Examine and ask about supplies. Is there: 1. An adequate supply of anti-TB drugs? Are anti-TB drugs well-maintained, not expired? Note quantities in stock: 2. An adequate supply of needles, syringes and diluents for injections? 3. A system for safe disposal of needles and syringes? 4. An adequate supply of co-trimoxazole for TB/HIV patients? 5. An adequate supply of sputum containers? Number in stock: 6. A sterilizer in good working condition (if required)? 7. An adequate supply of: – <i>TB Treatment Cards</i> ? – <i>Request for Sputum Examination Forms</i> ? – <i>Tuberculosis Referral/Transfer Forms</i> ?	YES	NO	RECOR D#
E	Were there changes in staff responsible for TB case detection and treatment? Fill in the chart, <i>Training Needs for TB Control</i> , every 6 months.	Update the chart when there are changes.	NO	YES

F	<p>Ask the health worker responsible for TB control about recent monitoring results. Has the health worker calculated the following for appropriate quarters? If so, what are the results?</p> <ol style="list-style-type: none"> 1. The total number of TB cases currently on treatment? 2. The proportion of outpatients aged 15 years and older who were identified as TB suspects? 3. The proportion of TB suspects tested who was sputum smear-positive? 4. The proportion of new sputum smear-positive TB cases that converted at 2 or 3 months (sputum conversion rate)? 5. The proportion of new sputum smear-positive cases that <ul style="list-style-type: none"> – were cured? – completed treatment? 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		
G	<p>Ask whether health workers have any questions or problems.</p> <p><i>Notes:</i></p>			
H	<p>(At OPD) Observe health workers with patients if possible. Do they:</p> <ol style="list-style-type: none"> 1. Ask all adult outpatients about cough and correctly identify TB suspects? 2. Send TB suspects to laboratory or collect sputum samples for examination? 3. Inform TB suspects/patients about TB in a considerate and appropriate manner? 4. Inform TB patients about HIV testing? Provide or refer patients to HIV testing services 5. Collect sputum outdoors or in a well-ventilated area? <p>At OPD) Observe health workers with patients if possible. Do they:</p> <ol style="list-style-type: none"> 6. Administer the correct drugs for the treatment regimen? 7. Watch patients swallow the tablets? 8. Tick the <i>TB Treatment Card</i> after watching the patient swallow the tablets? 9. Correctly give a streptomycin injection after the tablets have been swallowed? (if applicable) 10. Give each injection with a sterile syringe and needle? (if applicable) 	YES	NO	RECORD#

I	Talk to TB patients, if available. Do patients know:	P 1	P 2	P 3
	<ol style="list-style-type: none"> 1. What disease they are suffering from? 2. The number of tablets per day to take? 3. When to come back for the next appointment? 4. The duration of treatment? 5. What to do when they experience problems (side-effects)? 6. Why sputum examinations are needed? 7. How TB spreads? 8. How many people are in your household? 9. How many have been tested? <p>Ask whether the patient has any problems that may prevent completing treatment.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			

J	Look at the work environment.	YES	NO
	<ol style="list-style-type: none"> 1. Is there good ventilation in the waiting area, in patient care areas, and where treatment of TB patients is directly observed? 2. Is the patient flow arranged to minimize the time that TB suspects and TB patients are with or pass by other patients? 3. If there is a microscopy unit, does it have good air flow? Is the work area, slides, and supplies well organized and maintained? 		

K

Observations from this supervisory visit:

Describe problems identified during this visit:

Possible causes of the problems:

Actions and recommendations:

K

Observations from this supervisory visit:

Describe problems identified during this visit:

Possible causes of the problems:

Actions and recommendations: