Tuberculosis Control in Southern Malawi

Detailed Implementation Plan – Revised July 2007

Cooperative Agreement Number: GHS-A-00-06-00012-00

Project location: Malawi (Mulanje and Phalombe Districts)

Project duration: October 1, 2006 – September 29, 2011

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Acronyms & Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AFB	Acid-Fast Bacteria
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral drug
BCC	Behaviour Change Communication
CAR	Central Asia Republic
CCC	Community Care Coalitions (Global Fund)
CCM	Central Coordinating Mechanism
CHAM	Christian Health Association of Malawi
CHW	Community Health Worker
CHSU	Community Health Sciences Unit
COM RN/M	Community Registered Nurse/Midwife
CORE	Child Survival Collaborations and Resources Group
CPT	Cotrimoxazole Preventive Therapy
CXR	Chest X-Ray
DA	District Assembly
DEHO	District Environmental Health Officer
DHO	District Health Officer
DHMT	District Health Management Team
DIP	Detailed Implementation Plan
DNO	District Nursing Officer
DOT	Directly Observed Therapy
DOTS	Directly Observed Therapy Short course
DTO	District TB Officer
EHO	Environmental Health Officer
EP	Extra-pulmonary
EQA	External Quality Assurance
FHI	Family Health International
FOMO	Friends of Mulanje Orphans
FTBO	Focal TB Officer
GF	Global Fund
GIK	Gift-In-Kind
GTZ	German Technical Cooperation
HAART	Highly Active Antiretroviral Therapy
HBC	Home Based Care
HCW	Health Care Worker
HFA	Health Facility Assessment
HIV	Human Immunodeficiency Virus
HOPE	Health Opportunities for People Everywhere
HQ	Headquarters
HSA	Health Surveillance Assistants

HTC	HIV Testing and Counselling
IC	Improvement Collaboratives
IEC	Information, Education, and Communication
INH	Isoniazid
IPT	Isoniazid Preventive Therapy
IS	Information System
KAP	Knowledge, Attitude, Practice survey
LQAS	Lot Quality Assurance Sampling
LL	Lilongwe
MDH	Mulanje District Hospital
MDR	Multi Drug Resistant
M&E	Monitoring & Evaluation
M & E O	Monitoring & Evaluation Officer
MIS	Management Information System Specialist
MO	Medical Officer
MOH	Ministry of Health
MOU	Memorandum of Understanding
MPR	Mulanje-Phalombe region
MTE	Mid Term Evaluation
NAC	National AIDS Council
NAP	National Action Plan
NGO	Non-Governmental Organization
NICE	National Initiative for Civic Education
NTP	National Tuberculosis Programme
OI	Opportunist Infection
PDA	Personal Digital Assistant
PHC	Primary Health Care
PLWHIV	Person Living with HIV
PMTCT	Prevention of Mother to Child Transmission
PPD	Tuberculin skin test (Purified Protein Derivative)
QA	Quality Assurance
QAP	Quality Assurance Project
REFORD	Restored-hope Foundation for Rural Development
RTO	Regional Tuberculosis Officer
SNO	Senior Nursing Officer (or Matron)
SS+	Sputum Smear positive
SS-	Sputum Smear negative
STI	Sexually Transmitted Infections
SWAp	Sector Wide Approach
TA	Technical Assistance
TB	Tuberculosis
TB/HIV	Tuberculosis and Human Immunodeficiency Virus Co-infection
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
XDR TB	Extensively Drug-Resistant Tuberculosis
ZC	Zone Coordinators

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A. Executive Summary

Setting: Project HOPE's "TB Control in Southern Malawi" will take place in two of Malawi's 27 districts, Phalombe, which has a population of 296,960 in 445 villages, and Mulanje, with 548,250 people in 496 villages. These districts are in the South Eastern Zone, which reported the highest number of new TB cases in Malawi (15,000) in 2004.

Problem statement: Malawi was one of the model countries in the world in TB control in the past, but over the last 10 years, the effectiveness of Malawi's TB system has been undermined by a health care human resource crisis and deteriorating public health infrastructure, resulting in an insufficient capacity and poor performance in TB diagnosis and treatment outcomes. Malawi currently has a high TB burden with 52,000 new cases annually, a rate of 409/100,000. HIV is driving these high rates, with WHO reporting 50% prevalence of HIV in adult TB incident cases, one of the highest in the world. Case detection is far too low at 39% for the country and even lower (29%) in our program districts. Notified cases are much lower than expected and problems in recording and reporting data have been observed. Treatment outcomes initially appear favorable as treatment success is reported at 77%; however, 20% of TB patients die and it is likely that many of these are co-infected with HIV as well. Gaps identified in the current TB control system from extensive discussions and data review with Dr. Salaniponi, the National TB Programme (NTP) Director, and other officials of the NTP, TB leaders in Phalombe and Mulanje, and data from an extensive community survey, health service provision assessment, and laboratory assessment conducted in 2007 are shown below, as major contributing factors:

Low case detection rate (29% in Mulanje & Phalombe)	Due to poor quality of smear microscopy, limited accessibility and capacity of sputum microscopy centres, and the rate of co-infection with HIV, which makes detection of infectious cases by microscopy much more difficult, and possibly late seeking of diagnosis despite relatively good knowledge of TB symptoms in the community.
High TB death rate (20%)	Due to high rate TB cases co-infected with HIV, late presentation of TB suspects for diagnosis and poor quality of the diagnostic services, inadequate adherence to current DOTS protocols and practices and poor access to DCT/VCT and ART.

Beneficiaries: *7,500 Individuals with newly diagnosed TB*: The most immediate beneficiaries of this program will be the 1,500 individuals newly diagnosed with TB annually in the two districts, including the substantial portion of TB patients who are co-infected with HIV. In addition, beneficiaries will include contacts of infectious TB cases, and people with TB symptoms who will benefit from improved case detection, improved diagnosis of TB with HIV co-infection and better access to ART, and all those with improved treatment outcomes.

382,986 Adults in Mulanje and Phalombe: The adult population in the two districts will benefit from improved knowledge of TB, improved care seeking behaviours, reduced stigma, and reduced danger of death from TB because of earlier case detection and more effective and successful treatment. Hence the beneficiaries for the direct activities of this project are the 58% of the total population in these two districts which is over the age of fourteen: 134,560 in Phalombe and 248,426 in Mulanje for a total of 382,986 in the two districts.

Goal and objectives: The goal is to reduce morbidity and mortality due to TB cases and TB cases with HIV co-infection in Mulanje and Phalombe. The objectives are to:

1. Improve treatment outcomes of TB cases and TB cases with HIV co-infection cases in Mulanje and Phalombe.
2. Increase case detection of TB, including among people with HIV infection in Mulanje and Phalombe

Allocation of effort: Over-arching resource allocation: TB ≥ 70%, HIV/AIDS < 30%

Portion of budget/resources for training TB health care workers, including HSAs and case management/HBC of people with TB (80% TB, 20% HIV):	40%
Portion of budget/resources for sputum microscopy effort (which is 100% TB assigned):	30%
Improve supervisory and referral capacity of South Eastern Zone and District TB Officers (80% TB, 20% HIV):	10%
Other early TB detection efforts (symptom screening, HCW training, outreach to traditional healers, drug sellers, and other VCT & PHC sites, and general IEC/BCC):	10%
Access to VCT for TB cases, access to ART for TB cases with HIV co-infection meeting the clinical and/or laboratory criteria, and other measures such as improved adherence and TB treatment completion:	10%
TOTAL	100%

Strategies: We will utilize two principle strategies. First, we will increase successful treatment completion and cure of people known to have TB by training and supporting health care workers, especially HSAs, to fully implement DOTS protocols, including recording and reporting and to train, mentor and supervise guardians in treatment adherence. Secondly, we will increase the diagnosis of people with unrecognized TB by increasing the diagnostic capacity of the DHO through training of sputum microscopists, establishing 10 new labs and strengthening zonal/district TB supervision and management and the lab quality assurance program. Additionally, we will utilize several ancillary strategies to support these two core strategies such as outreach and education to key stakeholders such as traditional healers, drug sellers, and VCT centre personnel, and provide awareness and education for the general community.

Partners, roles, and responsibilities: Ministry of Health; policy, leadership, data access, M&E Mulanje & Phalombe District Health Offices: project sites, PHC trainees, trainings, data access, M&E Christian Hospital Association of Malawi (CHAM) through Mulanje Mission Hospital and Holy Family Hospital in Phalombe: microscopy site, guardian & CHW sites, PHC trainees, data, M&E. and the private sector Agricultural Estates (Tea) through Lujeri Estate clinic: guardian & CHW trainings, PHC trainees, data, M&E.

CSHGP category: Entry
Start and end dates: October 1, 2006 to September 30, 2011
Funding USAID amount: $1,500,000.00
Total Obligated USAID amount: $375,000.00
Cost Sharing amount (Non-Federal): $509,201.00
Total programme cost: $2,002,845.00

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Child Survival and Health Grants Program Project Summary

Jul-19-2007

Project HOPE
(Malawi)

General Project Information:

Cooperative Agreement Number:	**GHS-A-00-06-00012**
Project Grant Cycle:	**22**
Project Dates:	**(10/1/2006 - 9/30/2011)**
Project Type:	**TB Control**
PROJECT HOPE Headquarters Technical Backstop:	**Sandra Dalebout, MPH**
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Funding Information:

USAID Funding:(US $): $2,002,844 **PVO match:(US $)** $509,201

Project Information:

Description:

Project Goal: To reduce morbidity and mortality due to TB cases and TB cases with HIV co-infection in Mulanje and Phalombe.
Interventions: This is a tuberculosis project.

Strategies:
1. Improve treatment outcomes of TB cases and TB cases with HIV co-infection cases in Mulanje and Phalombe.
2. Increase case detection of TB, including among people with HIV infection in Mulanje and Phalombe.

Location:

Phalombe and Mulanje districts in Southern Malawi

Project Partners	Partner Type	Subgrant Amount
National TB Programme	Collaborating Partner	
Ministry of Health	Collaborating Partner	
Mulanje & Phalombe District Health Offices	Collaborating Partner	
Christian Hospital Association of Malawi (CHAM)	Collaborating Partner	
Lujeri Estate clinic	Collaborating Partner	

General Strategies Planned:

(None Selected)

M&E Assessment Strategies:

KPC Survey
Health Facility Assessment
Lot Quality Assurance Sampling
Participatory Evaluation Techniques (for mid-term or final evaluation)

Behavior Change & Communication (BCC) Strategies:

Mass Media
Interpersonal Communication

Groups targeted for Capacity Building:

PVO	Non-Govt Partners	Other Private Sector	Govt	Community
(None Selected)	(None Selected)	Pharmacists Business Traditional Healers Private Providers	Dist. Health System Health Facility Staff	(None Selected)

Interventions/Program Components:

HIV/AIDS (30 %)

(CHW Training)
(HF Training)

Tuberculosis (70 %)

(CHW Training)
(HF Training)

- Facility based treatment/DOT
- Microscopy
- Monitoring/Supervision Surveillance
- Community IEC
- Linkages with HIV services
- Community based care/DOT

Target Beneficiaries:

Children 0-59 Months	
Number of Suspected TB Cases:	3,457
Population of Target Area:	845,210

Rapid Catch Indicators:

	Numerator	Denominator	Percentage	Confidence Interval
Percentage of children age 0-23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)	0	0	0.0%	0.0
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	0	0	0.0%	0.0
Percentage of children age 0-23 months whose births were attended by skilled health personnel	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who received at least two tetanus toxoid injections before the birth of their youngest child	0	0	0.0%	0.0
Percentage of infants age 0-5 months who were exclusively breastfed in the last 24 hours	0	0	0.0%	0.0
Percentage of infants age 6-9 months receiving breastmilk and complementary foods	0	0	0.0%	0.0
Percentage of children age 12-23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday	0	0	0.0%	0.0
Percentage of children age 12-23 months who received a measles vaccine	0	0	0.0%	0.0
Percentage of children age 0-23 months who slept under an insecticide-treated bednet the previous night (in malaria-risk areas only)	0	0	0.0%	0.0
Percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment	0	0	0.0%	0.0
Percentage of sick children age 0-23 months who received increased fluids and continued feeding during an illness in the past two weeks	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who cite at least two known ways of reducing the risk of HIV infection	0	0	0.0%	0.0
Percentage of mothers of children age 0-23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to	0	0	0.0%	0.0

a child who has defecated				
Percentage of new smear positive cases who were successfully treated	**295**	**382**	**77.0%**	**0.0**
Percentage of children age 0-23 months who were born at least 24 months after the previous surviving child	**0**	**0**	**0.0%**	**0.0**
Percentage of mothers with children age 0-23 months who received at least two Tetanus toxoid vaccinations before the birth of their youngest child	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months whose births were attended by skilled personnel	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months who received a post-natal visit from an appropriate trained health worker within three days after birth	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-5 months who were exclusively breastfed during the last 24 hours	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 6-23 months who received a dose of Vitamin A in the last 6 months (Mother's Recall)	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 12-23 months who received a measles vaccination	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 12-23 months who received DPT 1 vaccination before they reached 12 months	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 12-23 months who received DPT 3 vaccination before they reached 12 months	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months with a febrile episode during the last two weeks who were treated with an effective anti-malarial drug within 24 hours after the fever began	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months with diarrhea in the last two weeks who received oral rehydration solution and/or recommended home fluids	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months with chest-related cough and fast and/or difficult breathing in the last two weeks who were taken to an appropriate health provider	**0**	**0**	**0.0%**	**0.0**
Percentage of households of children age 0-23 months that treat water effectively	**0**	**0**	**0.0%**	**0.0**
Percentage of mothers of children age 0-23 months who live in households with soap at the place for hand washing and who washed their hands with soap at least 2 of the appropriate times during a 24 hour recall period	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23				

months who slept under an insecticide-treated bed net (in malaria risk areas, where bed net use is effective) the previous night	**0**	**0**	**0.0%**	**0.0**
Percentage of children age 0-23 months who are underweight (-SD for the median weight for age, according to WHO/HCHS reference population)	**0**	**0**	**0.0%**	**0.0**
Percent of infants and young children age 6-23 months fed according to a minimum of appropriate feeding practices	**0**	**0**	**0.0%**	**0.0**

Comments for Rapid Catch Indicators

B. Detailed Implementation Plan

"If the TB and HIV-TB burden are to be tackled effectively in Malawi, TB and HIV programs have to share mutual concerns: Prevention and care of HIV should be a priority for the TB control, and TB care and prevention should be a priority for HIV programs."

Anthony Harries, Director, Malawi HIV Programs[1]

1. Program Site Information

Project HOPE will work in two of Malawi's 27 districts: **Phalombe**, which has a population of 296,960 in two traditional authorities and 445 villages[2], and **Mulanje**, with 548,250 people in six traditional authorities and 496 villages[3] for a total population of 845,210. These two provinces are part of the South Eastern Zone of Malawi, which has the majority of identified tuberculosis cases in the country. A map of the area is provided as Annex 4. The South Region, which includes Mulanje and Phalombe, in addition to Blantyre and 11 other districts, had a TB burden of 15,748 cases in 2004.[4]

The target beneficiaries in the districts are persons over age 14 who comprise 58% of the population and total 383,000 persons. The NTP reports 100% DOTS coverage in Malawi, including Phalombe and Mulanje. The target districts have an estimated 1,500 new cases of TB per year.

Health and Economic Status of the Population:

Malawi is one of the poorest countries in Africa, ranking among the bottom dozen countries in the UN Human Development index, with 65.3% of persons below the national poverty line[5]. Food insecurity affects more than half the population. About 48% of the children (0-5 years old) in Malawi suffer from chronic malnutrition (stunting), a process that for many starts during gestation, with 16% of newborns underweight[6]. Such malnutrition magnifies and worsens the impact of both TB and HIV/AIDS. Malawi health indices are shown in the table below. Malaria is endemic in Malawi, affecting up to 2.8 million people every year[7] and contributes heavily to the disease burden.

[1] Harries A. Human resources for control of TB and HIV-associated TB. Int Jl Tub Lung Dis 2005;9:128-137
[2] Phalombe District Socio-Economic Profile, March 2006, Phalombe District Assembly.
[3] Mulanje District Socio-Economic Profile, July 2002, Mulanje District Assembly.
[4] South Region report for 2004, provided by the Regional TB Officer
[5] UNDP Human Development Report 2006.
[6] UNICEF Country Statistics.
[7] WHO Global Health Atlas, 2002.

Indicator[8]	Malawi
Population	12.8 million
Fertility Rate	6.1
Maternal Mortality Per 100,000 live births	1,100
Infant Mortality Per 1,000 live births	110
HIV Prevalence (15 to 49)	14.1%
People living with HIV	940,000
HIV/AIDS Orphans	550,000
Life expectancy	41 men; 42 women

Approximately 940,000 people in Malawi are infected with HIV, for a prevalence of 14.1%, and 78,000 people die from HIV each year[9]. As a result, the average life expectancy in Malawi has fallen to 41 years for men and 42 years for women. In 2005, there were 550,000 orphans in Malawi (11% of all children), with an additional 60,000 children becoming orphans annually[10,11]. In the South Eastern Zone of Malawi, which includes Mulanje and Phalombe, HIV prevalence rates are even higher than the national rate, at 18.6% and rates are higher in urban areas (21.6%) than in rural areas (12.1%)[12].

Factors Influencing Health:

Factors influencing health and potentially impacting our program as identified by participants in the DIP planning meeting are listed below:

Economic Characteristics

Both Mulanje and Phalombe Districts are entirely dependant on farming. Most of the arable land has been taken up by the tea estate companies leaving the local people with limited land for growing crops. In Phalombe, fishing is also an important source of food and income. Cash crops in Mulanje are primarily tea, while in Phalombe are burley tobacco and sunflower. As a result, most people live by conducting some cross border trading and by gaining temporary employment on the estates, earning minimal wages which are insufficient to take care of their nutritional and other health needs.

Social Characteristics

With a matrilineal marriage system in both Mulanje and Phalombe, most major decisions, including health, are made by uncles. This may result in late care seeking behaviours if the decision makers are not within easy reach of the family. Most of the families are large especially with the extended family relationships, with an average family size of 6. Polygamy is practiced in both districts. With the high death rate due to AIDS, household resources are usually not adequate to meet all needs, including health.

[8] 2006 Report on the Global AIDS Epidemic, UNAIDS, Annex 1: Country Profiles and UNDP Human Development Report 2006.
[9] 2006 Report on the Global AIDS Epidemic, UNAIDS, Annex 1: Country Profiles.
[10] 2006 Report on the Global AIDS Epidemic, UNAIDS, Annex 1: Country Profiles.
[11] Health Systems Strengthening and Orphan Care and Support. Malawi Global Fund Application, Round 5, March 17, 2005. Accessed from the internet March 23, 2007: http://www.theglobalfund.org/search/docs/5MLWH_1141_0_full.pdf
[12] Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.

Cultural Beliefs and Practices

Cultural practices in Malawi have been noted to have a very strong bearing on HIV transmission. Both districts have cultural practices that create situations in which transmission of HIV and other STIs is facilitated. Some of these practices include sexual initiation ceremonies for teenagers, cleansing practices (Kusasa fumbi), hyena practices (kulowetsa fisi) for couples having difficulty conceiving involving sex with someone other than the marriage partner in order to have children, and certain traditional dances (Tchopa, Manganje, Likwata, Nguja) where sex outside marriage is permissible. These practices, combined with the fact that condoms are not widely accepted culturally, further the likelihood of transmission of infections. In addition, most men are not circumcised, which provides a protective factor against contracting HIV.

Other Constraints

Various other constraints also affect health, including a poorly developed road infrastructure which results in many areas remaining isolated and health facilities hard to access. Running water systems are inadequate, as are electricity and the telephone system. Primary schools are inadequate and inequitably distributed. Phalombe is a new district, and as such governmental infrastructures still evolving. Finally, a lack of economic opportunities in either small or medium industries is a problem in Phalombe.

Current Status and Overall Quality of Health Care Services

Issues affecting quality of health care services identified during the DIP planning meeting include the following:

Phalombe	Mulanje
• Outreach clinic services require additional support • Inadequate # and training of personnel working in health facilities • Inadequate and unequal distribution of health facilities • Phalombe Mission Hospital serves as a referral unit • Few Health Posts • Few VTC Centres and counsellors	• Outreach clinic services require additional support • Inadequate # and training of personnel working in health facilities • Inadequate and unequal distribution of health facilities • Two referral hospitals serve the population • Few Health Posts • Few VTC Centres and counsellors

Disadvantaged groups at high risk, under-served, or living in extreme poverty.

Disadvantaged groups identified at the DIP Planning meeting in both districts include TB patients, commercial sex workers, patients on ARVs, patients in general due to long distances between health facilities, and the elderly. Fishmongers were also identified as a high risk group in Phalombe and seasonal workers on tea estates were identified in Mulanje.

Health System in Malawi:

Health services in Malawi are provided by a mixed system of providers, with both government and private services playing a significant role in overall care. CHAM, the Christian Health

Association of Malawi, coordinates 22 mission run hospitals of the total 48 hospitals (central and district level), 17 of the 36 community hospitals, and 115 of the total 416 government or mission health centres. The structure at the district level is similarly mixed, with both government and non-government facilities at almost every level in the two target districts, as can be seen in the following table:

District	Hospitals	Health Centres	Dispensaries	Private Clinics	Outreach/ Under 5 Clinics	Health Posts
Phalombe[13]	1	13	1	0	66	58
Mulanje[14]	2	21	19	5	97	199
Totals	**3**	**35**	**20**	**5**	**163**	**199**

In addition to these formal sector sources of services, providers in private practice, shopkeepers, and traditional healers play a very important role in the provision of health services, including services for chronic infections including TB and HIV. In one study, 37% of TB patients visited a traditional healer before seeking regular medical care, and deteriorated under their care without being referred to allopathic medical services.

The governing body responsible for decision-making on all health issues in the district is the District Health Management Team, which includes:

- the District Health Officer (DHO), responsible for all district health activities;
- Programme Coordinators, responsible for specific program interventions;
- the District Nursing Officer (DNO), who supervises health facility services;
- the District Environmental Health Officer (DEHO), responsible for the activities of Zone Coordinators and Health Surveillance Assistants (HSA).

The health system faces major resource deficiencies, in particular in the number of health staff available to deal with not only routine health needs, but also the increasing numbers of people with active TB and people living with HIV and AIDS who require treatment, both in facilities and in the community. As indicated in the chart below, and keeping in mind the population of 296,960 in Phalombe and 538,250 in Mulanje, the availability of health care personnel per person is shockingly low.

District	MDs	Registered Nurses	Clinical Officer	Medical Assistant	Community Nurse	Enrolled Nurse	HSA
Phalombe[15]	1	3	6	11	0	46	155
Mulanje[16]	4	12	15	30	8	86	259
Totals	**5**	**15**	**21**	**41**	**8**	**132**	**414**

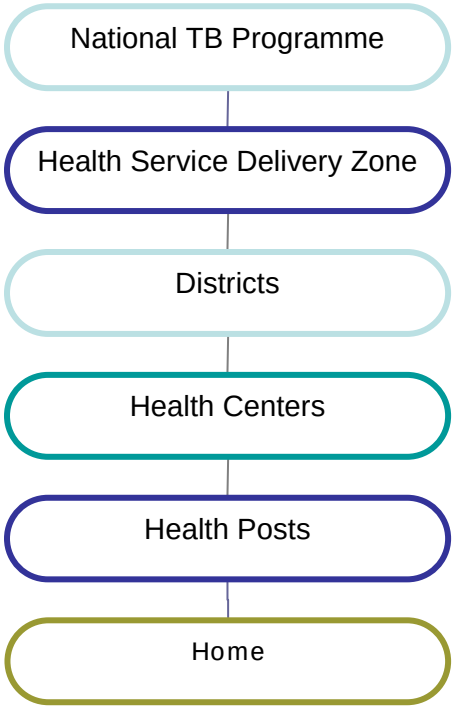
[13] Phalombe District Socio-Economic Profile, March 2006, Phalombe District Assembly.
[14] Mulanje District Socio-Economic Profile, July 2002, Mulanje District Assembly.
[15] Phalombe District Socio-Economic Profile, March 2006, Phalombe District Assembly.
[16] Mulanje District Socio-Economic Profile, July 2002, Mulanje District Assembly.

Other challenges include: (1) high staff turnover, particularly at the district level; (2) lack of technical knowledge and skills among providers, particularly in TB and HIV diagnosis and treatment; (3) dysfunctional referral systems, including referral for TB diagnosis, (4) ineffective drug supply management which results in stock-outs of certain essential drugs and supplies, including antiretroviral therapy (ART), although TB drugs, supplied through a special vertical process, are said to be consistently available, and (5) difficulties in providing proper and timely supervision. [17]

Health Surveillance Assistants (HSAs) provide one opportunity for dealing with the health worker shortage. HSAs live in villages close to the population they serve and together form a network of paid community health workers who bring health care services closer to the population by linking the health care system with the community and families. The national recommendation is for each HSA to cover approximately 2,000 people. However, this population may be in villages that are far away from each other in areas that without transportation or easy access.

TB Control Structure in Malawi:

The TB control program in Malawi is run by the National TB Programme (NTP). It was among the first African nations to implement DOTS. The DOTS strategy is practiced in 100% of the government health facilities, as well as many mission and other private sector facilities. The NTP in Malawi consists of a central unit with a Programme Director, Dr. Felix Salaniponi, who has a small staff including a Deputy Programme Manager and a National TB Officer.



Although the health system as a whole abolished regionalization, the NTP was allowed to retain its three Regional TB Officers, now under the heading of Health Service Delivery Zone. This has provided a middle level source of leadership, management, and supervision as well as communication and coordination. Regular meetings at the regional level provide a forum for cohort analysis, action planning, evidence-based management, and ongoing solution of problems. Each regional TB office has one or two regional TB officers. This project falls under the South Eastern Regional TB Director (the region encompassing the Mulanje and Phalombe Districts was previously called the Southern Region. It was split into two in 2006).

Each of the 44 district-level TB hospital facilities has a TB Officer with or without an assistant, as well as a TB laboratory with one or two laboratory technicians. The TB officers at district and mission hospitals are responsible for registering, recording, and reporting TB cases, and for all

[17] Health Systems Strengthening and Orphan Care and Support. Malawi Global Fund Application, Round 5, March 17, 2005. http://www.theglobalfund.org/search/docs/5MLWH_1141_0_full.pdf

other logistics of TB control at the district level. Past assessment indicates that TB officers at both mission and district hospitals have other responsibilities in addition to TB.

Diagnoses of TB suspects and the clinical treatment of registered patients are provided by hospital and health centre clinical and nursing staff, including Clinical Officers, Nurses, Health Assistants, and HSAs. TB treatment in Malawi has been "decentralized" since studies in 1997-99 demonstrated that treatment of patients outside of hospitals using family members referred to as "guardians" as treatment observers (DOT) was as effective as treatment with long hospitalization, and costs less than half as much. Its effectiveness, however, does depend on extensive training and supervision of the health centre-based HSAs so that they provide ongoing education and support to the patient and guardian and actively trace non-adherent patients. It also depends on strong supervision by the District TB Officer to ensure that all data are entered in the district register, and entered accurately in both hospitals and in the community.

Patient Flow

The case detection process begins in Malawi when a person with TB-suggestive symptoms seeks diagnosis. Many people initially seek treatment with a traditional healer, or at shops selling medicines, providers who would normally be unlikely to refer for sputum examination. If the provider at a public or private facility considers the possibility of TB, a sputum sample is obtained, and then is transported to the laboratory, typically by an ambulance which does not come by on a regular or consistent basis. The TB suspect may also go to the hospital directly to obtain a sputum examination, although that may take substantial time and money (The TB suspect is responsible for paying for diagnosis of TB. Once diagnosed, treatment for TB is free). If the sputum does arrive at the laboratory, it then joins the line of specimens which need staining and microscopic examination. In the two districts, there is a single laboratory for sputum microscopy in each of the three hospitals and in one health centre.

Microscopy Sites in Mulanje	Microscopy Sites in Phalombe
Mulanje District Hospital	Holy Family Hospital
Mulanje Mission Hospital	
Lujeri Health Centre	

As more people become educated about TB symptoms and subsequently seek treatment, the demand for microscopy services will quickly outstrip current capacity. The current system already results in inadequate referrals for sputum examination, delays or failures in obtaining a result in a timely fashion, and poor microscopy technique with little quality control. These problems and delayed returns of results are important factors in the late diagnosis of cases for TB treatment and very low case notification rates in Malawi.

Sputum microscopy should ideally be completed within two hours, and not longer than 48 hours after collection; however, specimens from the Health Centres actually may take up to a week to get to the testing centre, and getting the results back to the Health Centres may take up to two weeks. If at least two results are positive for AFB, the patient is registered for smear positive treatment. If only one result out of three is positive for AFB, the patient is referred to a clinician

for a chest X-ray. If the x-ray in is abnormal, then the patient is registered and treated for sputum positive tuberculosis. If the x-ray is normal then the diagnosis is reconsidered. If all the three sputum results are negative for AFB and the x-ray is abnormal, the patient is treated for smear negative tuberculosis. Patients with a normal x-ray who remain symptomatic are referred to a clinician for further investigations. Note that data from our facility survey, and from previously conducted DOH facility surveys in 2002 and 2004, show that access to x-rays and high quality x-ray interpretations by radiologists is difficult in Mulanje and Phalombe, which presents an important obstacle to this portion of the sequence for the smear negative patient in whom TB is suspected.

Intensive Phase (2 months):
When sputum results are found positive, results are sent to the District TB Officer to find the patient, admit him or her to the hospital and initiate treatment. The intensive phase for a patient is two weeks in the hospital and six weeks at home. Newly diagnosed TB patients are admitted to District or CHAM hospitals where they receive daily treatment, which is supervised by the nurse on duty in the TB ward. The TB ward at the hospital generally consists of four staff: two nurses and two HSAs. Normally there are less than 20 TB patients on the ward at one time.

While the TB patient is in the hospital, the guardian is provided with two hours of education every morning in a group setting, and then receives individual instruction in the afternoon. Patients choose their DOT option (supervision by hospital, health centre, guardian, or community member) and then are released from the hospital. Upon discharge, patients are given drugs for six weeks that they take to and surrender at their local health centre. They leave the health center with two weeks worth of drugs.

Patients are required to visit the health centre every fortnight to collect their medication. The guardians show the health worker the DOTS monitoring form on which they record when the patient has taken their TB medication. An HSA visits the TB patient in their home 1-2 times per week to check on paperwork, assess symptoms, and provide sputum sample cups as needed. The HSA's supervisor is supposed to assure this system is working and make a follow up schedule. If the HSA notes that the TB patient is having problems taking his/her medication or has significant side effects, then he or she is referred to the clinician at the district hospital and readmitted. The Fixed Dose Combination is then stopped and the patient is given individual medications and monitored. Once stabilized, the patient is discharged with the new medications and will continue receiving DOTS via the guardian. At any time in this process, if the patient fails to return for medicine, the facility directs the HSA responsible for the village where the TB patient resides to seek out the patient and convince him or her to return to treatment.

Guardian-based patients are provided a sputum container when they receive their last two-week supply of TB medication. The patient must return to the health centre at the end of the intensive phase with a filled sputum container (morning specimen) and must give a second on the spot sputum at this same visit. A 90% or better conversion rate is expected.

Continuation Phase: (4 months):
If the sputum has converted to negative at two months, the patient is started on the continuation phase. But if it is positive the patient continues on intensive treatment for one month. During this

time sputum checks are done weekly until they convert to negative, and then the patient is switched to the continuation phase. If the patient is still positive after a month of extension, he/she is started on the continuation phase of medications and sputum is checked at five months. This time if sputum is still positive the patient is declared a failure and sputum is taken for culture and sensitivity. The patient at this time is registered under the re-treatment regimen.

During the continuation phase the patient is given a monthly supply of maintenance therapy with two drugs– INH + RIF – for 4 months and is expected to visit the Health Facility once per month.

At the end of the treatment course in each individual patient, results of chemotherapy should be recorded as follows:
Smear negative (Cured): Patient who is smear negative (cured) at one month prior to the completion of treatment and on at least one previous occasion.

Treatment completed: Patient who has completed treatment (taken a full course of treatment) but in whom smear results are not available on at least two occasions prior to the completion of treatment.

Failure: Patient who remains or becomes again smear positive at five months or more during chemotherapy.

Died: Patient who dies for any reason during the course of their chemotherapy.

Defaulted: Patient who has interrupted the treatment for more than two consecutive months before the end of course of treatment.

Transferred out: Patient who has been transferred to another treatment centre and in whom the treatment results are not known.

Medications:
Over the past six months, Malawi has changed its treatment guidelines to conform with internationally accepted guidelines. The changes include a change to a fixed dose combination and from 3 accepted to 4 accepted drugs, i.e., INH, RIF, ETM, and PZA for two months followed by INH + RIF for four months.

Medications include combined tablets (Fixed Dose Combinations-FDCs), single tablets and streptomycin for injection as shown below:

Combination Tablets:
Adult Formulations
RHZE contains: Rifampicin 150mg, Isoniazid 75mg, Pyrazinamide 400mg and Ethambutol 275mg
RHE contains; Rifampicin 150mg, Isoniazid 75mg and Ethambutol 275mg
RH contains: Rifampicin 150mg and Isoniazid 75mg

Paediatric Formulations
RHZ contains: Rifampicin 60mg, Isoniazid 30mg and Pyrazinamide 150mg
RH contains: Rifampicin 60mg and Isoniazid 30mg
E contains : Ethambutol 100mg

SINGLE TABLETS:
Z contains: Pyrazinamide 400mg
E contains: Ethambutol 400mg
H100 contains: Isoniazid 100mg

INJECTABLE
S contains: Streptomycin 1g

Dosage of Drugs in Relation to Body Weight for FDC
Dosages of FDC formulations

ADULTS			
Body weight in kg	Initial phase 2 months [RHZE] [R150/H75/Z400/E275] Number of tablets*		Continuation phase 4 months [RH] [R150/H75] Number of tablets*
30-37	2		2
38-54	3		3
55-74	4		4
75 and over	5		5
CHILDREN			
Body weight in kg	Initial phase 2 months [RHZ] (R60/H30/Z150) Number of tablets or sachets*	E100 Number of tablets or sachets*	Continuation phase 4 months [RH] (R60/H30) Number of tablets or sachets*
< 7	1	1	1
8-9	1.5	1.5	1.5
10-14	2	2	2
15-19	3	3	3
20-24	4	4	4
25-29	5	5	5

Tuberculosis Meningitis
The regimen for adult and childhood cases of tuberculosis meningitis is different from above. The regimen is 2SRHZ/7RH; regimen and doses are in

This regimen consists of two months of daily streptomycin, rifampicin, is oniazid, pyrazinamide and ethambutol given under supervision, one month of daily rifampicin, isoniazid, pyrazinamide

and ethambutol given under supervision followed by four months of daily rifampicin, isoniazid and ethambutol given under supervision.

Sputum positive cases that have previously taken anti-tuberculosis drugs for one month or more must be suspected of discharging tubercle bacilli resistant to one or more anti-TB drugs. These patients must submit sputum specimens for drug sensitivity testing before starting the re-treatment regimen.

For Relapse, Return after default, Treatment Failure and Recurrent Tuberculosis.
2SRHZE/1RHZE/5RHE

National TB Plan

Malawi recently declared that TB is a national emergency (Press release March 27, 2007). The current five-year development plan for the TB program (2007-11) recommits Malawi to the DOTS strategy and aims at improved case detection, quality of and access to diagnosis, and improved TB treatment outcomes. It has been linked to a three-year (2003-05) joint TB/HIV plan aiming to reduce ill health due to TB and HIV with a focus on collaboration between health systems, training of health professionals, and improved surveillance. Among other components, the TB plan emphasizes testing interventions to shorten the diagnosis pathways for poor communities, by using store keepers and community case-finding strategies; active communication strategies to the community (IEC) to ensure adequate knowledge about TB and when and where to access TB diagnosis and treatment; integrating community perspectives into monitoring and evaluation of TB treatment; and taking action to reduce the delays in accessing TB treatment which are frequent in rural Malawi[18]. Similarly, the five-year plan for HIV (2005 – 2009) calls for greater collaboration between the HIV care system and the TB system at all possible intersections, led by increased efforts to diagnose TB in people living with HIV and to diagnose HIV in TB suspects, and by expanded efforts to train health providers in the optimal management of the overlap of TB and HIV through directly observed therapy.

Some of the salient current challenges in the response to TB/HIV co-infection from the **NTP Plan** for 2006/7 – 2010/11, which, although it was developed after this project was conceived, concisely summarizes the trends outlined above and points the direction for our central interventions in support of the district DHOs and the TB control structure in Mulanje and Phalombe:[19]

- High co-morbidity of TB patients due to HIV infection and complications, resulting in high case-fatality rate, and thus low treatment success and cure rate;
- High barriers to TB treatment for the poorest of TB patients, particularly in rural areas, resulting in under-diagnosis (those who do not access the system, and those who do access but in whom the diagnosis is missed), under-registration (the 10% non-registered patients) and non-treatment of patients with active TB disease.
- Poor access to TB/HIV treatment due to lack of integrated TB/HIV services at all levels of the system, resulting in low numbers of eligible patients with HIV and/or TB disease

[18] Kemp,J. Mann G. Nhlema B. Salaniponi F. Squire B Improving Access to DOTS for the Poor in Malawi; presentation 2004 Equi-TB Knowledge Perogramme and NTP.
[19] NTP Plan for 2006/7 – 2010-11, pg xvi.

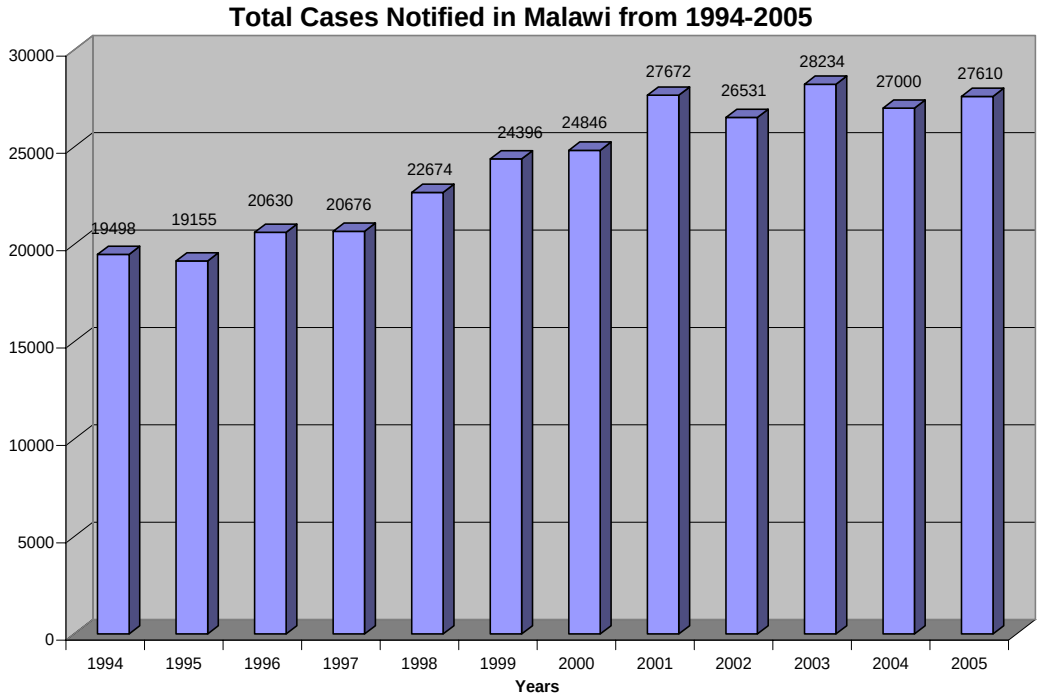
receiving the life-saving treatment they require in a single setting by the same staff team - HIV care & treatment & TB treatment

- The changing environment of the health system, demands that the NTP change from a purely specialized program to a strong technical system of support to the primary health care system. This poses new challenges in terms of maintaining the good performance of the program under an integrated approach with more devolution of powers; the TB system as a whole should be vertical, but at the district level and below it needs to be integrated with the primary health care system
- The human resources in the TB program and in the general health system are the largest constraint to effective TB control. The staffing in the NTP at national level makes it very vulnerable to staff leaving the program for any reason (other employment, illness or death).
- Lack of adequate information on the why the case detection in Malawi is so low.
- Very vulnerable and fragile Central Reference Laboratory in terms of performing its responsibilities in the area of supporting a quality assured microscopy network.

TB Epidemiologic Data:

TB Cases in Malawi

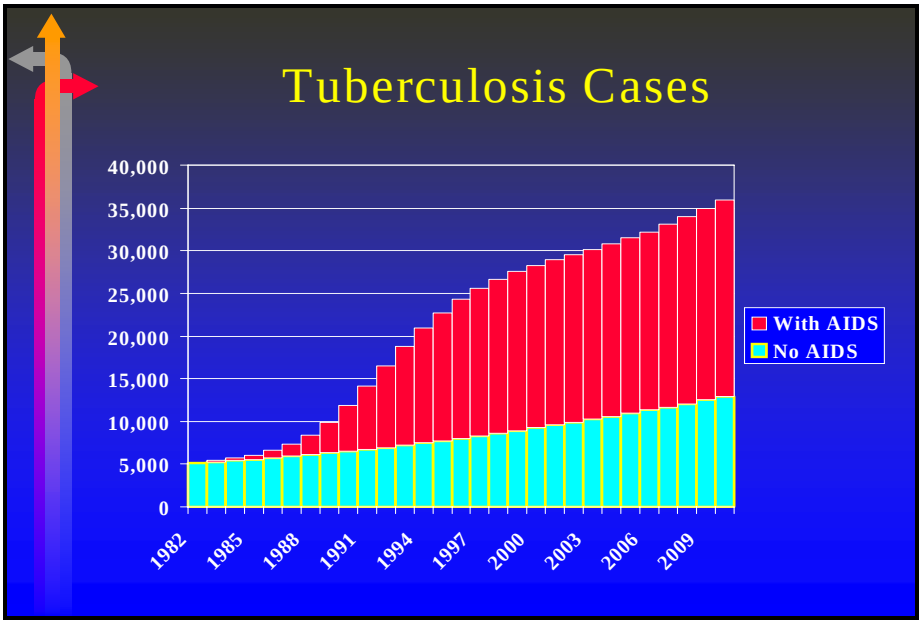
Malawi has experienced a dramatic rise in reported tuberculosis cases as high HIV prevalence has triggered the outbreak of new TB cases among those long ago or newly infected with *M. Tuberculosis*. From a total notification of 25,000 cases with a rate of 108/100,000 population in 1990, by 2005 the estimated incidence had risen to 52,751 cases, a rate of 409/100,000[20]. Of these, 21,882 were sputum smear positive (SS+). Case detection rate in Malawi is very low at 39%, far beneath the WHO global target of 70%.



HIV in Incident TB Cases in Malawi

WHO reports 50% HIV prevalence among adult incident TB cases and most of the deaths among TB patients are associated with HIV infection[21]. Studies and surveys have shown even higher rates. A countrywide survey from 2002 found that 77% of TB cases were HIV-positive; these data were reinforced by a study among 1,404 TB patients in 2003 in Lilongwe that found 68% to be HIV infected. In 2005, 12,243 patients with TB in Malawi, which was almost one half (47%) of registered TB patients, underwent HIV testing, and 8,447 (69%) were HIV positive.[22] TB relapse rates run at over 10% related to this immunodeficiency epidemic.

[20] World Health Organization, Global TB Control: surveillance, planning, financing. WHO report 2005, Geneva WHO (WHO/HTM;TB/2005.349).
[21] MOH Malawi: NTP Five Year Development Plan: 2006/7 – 2010/2011 (11 Aug 06 version), pg xiv.
[22] MOH Malawi. NTP Five Year Development Plan 2006/7 – 2010/11 (11 Aug 06 version).



TB Cases in Mulanje & Phalombe

The chart below shows the most recent data from the TB 07 forms in both districts.

District	Total New SS+	Total Recurrence SS+	SS-	EP TB	Total	Others	Grand Total
Mulanje*	257	15	269	73	614	35	**649**
Phalombe*	153	19	179	60	411	29	**440**
TOTAL	**410**	**34**	**448**	**133**	**1,025**	**64**	**1,089**

*One year of data: Q2 2006 – Q1 2007

Based on the estimated incidence rate of 409/100,000 for Malawi as a whole, we would expect to see many more cases than are being reported. For example, in Mulanje, although only 257 new SS+ cases were notified we expected to see 932 (see chart below). We find the same situation in Phalombe. So the case detection rates for SS+ cases in the two districts is only 29%, which is abysmally low and even worse than the very low rate of 39% for Malawi as a whole. This points to poor or incomplete acceptance of the DOTS diagnostic protocol among health workers and indicates a weak microscopy lab network.

Expected Cases & Case Detection Rate	Malawi*	Mulanje & Phalombe**
Notified cases (all forms)	25,491	1,025
Expected cases (all forms)	n/a	3,457
Notified cases (SS+)	8,443	410
Expected cases (SS+)	n/a	1,437
Case detection (SS+)	39%	29%

*WHO TB Control Report 2007 (2004 cohort)

**Mulanje District Health Office (TB 07 Q2 2006-Q1 2007); Phalombe District Health Office TB 07 (Q2 2006 – Q1 2007)

In addition, with the high prevalence of HIV in the country (14%) and even higher in our program districts (18%-20%), the rate of smear negative cases is excessively low. The frequency of smear negative and extra-pulmonary TB disease in a high prevalence area normally exceeds smear-positive TB by almost 2:1, yet this is not appearing in local data. This low rate is likely linked to a variety of factors: poor or incomplete acceptance of the DOTS diagnostic protocol, failure of ill persons to seek treatment, failure of providers to identify patients and obtain diagnostic tests, and the high rate of sputum negative disease in HIV+ patients leading to missed diagnosis.

Treatment Outcomes

The WHO global target for treatment success is 85%. According to the WHO TB Control Report 2007 (2004 cohort), Malawi has a treatment success rate of 71%. Of greater concern in Malawi are the 16% who die during the course of their treatment, likely in large part due to HIV co-infection which is undiagnosed and/or untreated.

Treatment Outcomes	Malawi*	Mulanje & Phalombe**
Treatment success	71%	77%
Cured	70%	72%
Completed treatment	1%	5%
Died	16%	19%
Failed	1%	2%
Defaulted	3%	1%
Transferred	2%	1%
Not evaluated	6%	0%

*WHO TB Control Report 2007 (2004 cohort)
**Mulanje & Phalombe District Health Office (TB 08 Q3 2005-Q2 2006)

Based on the most recent treatment outcome data reported in the TB 08 forms (see chart below), a total of 382 SS+ cases were detected in Mulanje and Phalombe during the most recent year of data. Of these, 276 were cured, 19 completed treatment, 74 died, and the remaining 13 failed, defaulted, or transferred. This makes the treatment success rate 77%, which seems high, and, in fact, is higher than the rate reported for the country as a whole. However, a full 19% of these patients died during the course of the treatment, as mentioned above, likely due in large part to the high prevalence of HIV in these TB patients. This, along with the lack of smear negative cases being found described above, indicate that improvement is needed in both detecting and treating HIV in confirmed TB patients and in detecting TB in patients who are HIV positive.

District	Number Notified	Cured	Completed	Died	Failed	Defaulted	Trans.	Not eval.	% Success
Mulanje*	280	197	18	55	5	4	1	0	77%
Phalombe*	102	79	1	19	2	0	1	0	78%
TOTAL	382	276	19	74	7	4	2	0	77%

**TB08, Q3 2005 – Q2 2006, District Health Office Mulanje & Phalombe

Problems in Data Recording and Reporting

In addition to the two major problems noted above of low case detection and high death rates, serious problems were noted in data recording and reporting at the local level in TB 07 and TB 08 forms. Numbers didn't add up within forms, duplicate forms with different numbers were observed, and other problems were noted, leading us to question the overall validity of the data we received. In meetings with the DTO and national TB leaders, the apparent discrepancies in reported data in Mulanje and Phalombe have been recognized and discussed. During our laboratory assessment, recording and reporting problems were confirmed.

MDR-TB

Available data suggests that the prevalence of MDR-TB was low, i.e., 1-2% in one district of Malawi in 1998-2000.-TB[23] More recent data from Lilongwe in 2003 show similar overall percentages, and published national rates in 2004 were 1.7%[24]. However, there is a paucity of more recent data nationally, and very little data specific to Mulanje and Phalombe on which to base program planning. Given the gradual increase in MDR in Kwazulu-Natal, South Africa in recent years, the recent outbreak of XDR-TB in Tigula Ferry, and increasing cross-border migration in the past decade for economic reasons, there are reasons for concern and continued attention to this issue. A successful project will help reduce the creation of drug resistant TB.

HIV Diagnosis & Treatment in Malawi

As noted above, HIV has added to the TB relapse rate, now over 10%, and to the strikingly high case fatality rates, i.e., 19% for smear positive TB cases, and 30% for smear negative and extra-pulmonary TB.[22] The six-month mortality for a person living with HIV who contracts TB once started on ARVs averages 10%,[25] and this figure increases for patients with more advanced HIV disease (i.e., CD4 cells below 200) and for patients with more extensive extra-pulmonary or miliary TB. The high frequency of sputum negative TB in people living with HIV demands a higher index of clinical suspicion, as well as systemic changes that include symptomatic assessment, repeated microscopy, and referral to a clinical officer for more detailed symptom screening and examination as needed.

A related problem resulting from the centralization of HIV care and treatment in 66 centres nationally and only four centres in the target districts is the relatively poor clinical knowledge, skills, and experience of health care workers related to HIV care, and to the treatment of people with TB/HIV co-infection. For this reason, a major activity of this project is the training or refresher training of primary care providers in the provision of HIV care at the district level. Project HOPE will review and enhance the current curricula in HIV care and treatment, and most importantly mentor clinicians over time in the development of these skills, in collaboration with the DOH officials. Project HOPE will also provide technical assistance to the national MOH to improve training and mentoring methods and to develop strategies to better integrate the treatment of people living with TB/HIV co-infection. Options under consideration at present include the distribution of ART to TB patients who are also living with HIV or their guardians

[23] Warndorff et al. Trends in TB drug resistance in Karunga district, Malawi. Int Jl TB Lung Dis 2000;4:752-7.
[24] WHO. TB Annual Report 2006. Malawi Country Profile.
[25] UNAIDS Report 2006, Chapter 7: Treatment.

from the centralized sites; gradual decentralization of ART services, following the evolution of TB services; and other measures.

However, there is a tension between the current ARV and TB distribution systems in Malawi[26]. The NTP successfully moved toward decentralization, currently only using two weeks of hospital treatment for training of the patient and guardian followed by distribution of TB medications at the district level. In contrast, antiretroviral therapy to date has been distributed in 66 public and mission hospitals in Malawi. In Mulanje and Phalombe, there are only four centres that distribute ARVs. This problem has been shown to be one important cause of the low uptake of ART by people with TB in Malawi; in one study in Thyolo in 2005, only 101 of 770 TB patients with HIV co-infection accepted ART for a rate of 13.6%, and the likelihood of ART acceptance was associated with the cost of transportation to the local hospital. Compared to patients for whom the cost of transport was $0.50 or less, patients who had to pay more than $0.50 were four times less likely to access ART.[24] Importantly, the overall treatment success rates and default rates were higher in the HIV co-infected group than a comparator group without HIV infection. For this reason, a major objective of this project is to identify all patients with HIV who have TB and to get them into appropriate TB treatment and on to ART. The TB DOTS system and the ART system have an important opportunity to improve efficiency by closely integrating their activities.

This also points to the need to strengthen the skills of all medical and paramedical personnel to diagnose smear negative TB, know how to treat it, and to improve lab services for much greater effectiveness and efficiency in confirming both positive and negative smear cases. The project staff will work with our collaborators to determine the sources of these disparities between case detection rates in Mulanje and Phalombe during the course of the project.

HIV Counselling and Testing

HCT scale up has increased gradually in Malawi, with 6.9% of the population above age 15 now estimated to have received HIV testing by 2005[27]. Of the sites offering counselling and testing services, only 48% were located in rural areas even though over 85% of the Malawian population resides in rural areas[28]. Current targets in the national plan call for 50% of the sexually active population to be reached by 2009, a target still well below the estimated need.[29]

To improve TB treatment outcomes in a high HIV prevalence country like Malawi, it is critical to identify TB patients that are co-infected with HIV. Conversely, it is also critical to rapidly identify people living with HIV who may have TB.

[26] Makombe SD et al. Outcomes of TB patients who start ART under routine program conditions in Malawi. Int J Tuberc Lung Dis 2007;11(4):412-416.
[27] Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.
[28] Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.
[29] Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.

Current Diagnostic Counselling and Testing (DCT) guidelines in Malawi require that DCT be performed on all TB patients, with an opt-out option. Once a person is confirmed to have TB, they are tested for HIV when they are hospitalized. In the past three years, DCT has increased considerably among TB patients. In 2005, 12,243 patients with TB in Malawi, which was almost one half (47%) of registered TB patients, underwent HIV testing, and 8,447 (69%) were HIV positive.[30] Other studies of smaller cohorts in 2001 and 2006 have found similar HIV prevalence of 77% among people with TB.[31,32] As policy and practice, all TB suspects are routinely advised to get an HIV test, but there are many obstacles including travel time, stigma, and lost work time.

In spite of the increased access to VCT nationally, the availability of VCT in rural areas such as Mulanje and Phalombe is still limited, and access to VCT sites remains a challenge. In Mulanje and Phalombe, there are only 15 HCT units in the Mulanje District (one is now closed), and even fewer, only four, in Phalombe. Approximately 2,500 tests are given per month in Mulanje and approximately 1,000 tests per month in Phalombe. Results to date from HCT in Mulanje indicate that 33% of 10,568 clients tested overall were positive. Four sites that offer sputum microscopy also offer HCT services, including Mulanje District Hospital. Mulanje Mission Hospital, Lujeri Clinic, and Holy Family Hospital. Existing HCT sites include:

HCT in Mulanje	HCT in Phalombe
Mlomba Health Centre	Holy Family Hospital*
Banja La Mtsogolo Clinic	Nambiti 2 Health Centre
Thuchila Health Centre	Migowi Health Centre
Chambe Health Centre	Nambazo Health Centre
Chonde Health Centre	
Mulanje District Hospital*	
Mulanje Mission Hospital*	
M'biza Health Centre	
Mpala Health	
Youth Centre	
Namphungo Health Centre	
Namasalima Health Centre	
Namulenga Health Centre	
Lujeri Health Centre*	
Cross Border – now closed	

*facility also has TB microscopy

[30] MOH Malawi. NTP Five Year Development Plan 2006/7 – 2010/11 (11 Aug 06 version).
[31] Zachariah R et al. Acceptance of ART among patients infected with HIV and TB in rural Malawi is low and associated with cost of transport. Plos ONE 1(1):e121. doi:10.1271/journal.pone.00000121
[32] Kwanjana JH et al. TB/HIV seroprevalence in patients with TB in Malawi. Malawi Med J 2001;13:7-10.

TB symptom screening in VCT candidates and known HIV positive patients was piloted and is currently in practice in 12 hospitals in the country, however it is not yet practiced in Mulanje or Phalombe.[33]

Antiretroviral Therapy

According to UNAIDS 2006 estimates, an estimated 900,000 people in Malawi are living with HIV, of whom 150,000-200,000 are in need of ART. However, only 20% or 30,000 are estimated to be currently on ART. Of the estimated 19,000 people living with HIV who have TB, although ART is indicated in all of them, only 10-15% are currently on ART.

With access to ART now increasing gradually throughout Malawi, it is likely that some of the AIDS related deaths can be avoided and the TB treatment outcomes thereby improved. However, scale up is still short of need. An estimated 170,000 people were in need of ARVs in Malawi in 2005; however, only 55,100 patients had been started on ARVs as of 2006, which represents only 30% of those in need of ART[34] and falling short of the WHO 3x5 target of 80,000 by over 50%[35].

ART has begun in all three of Mulanje's and Phalombe's hospitals but has reached only 3,223 patients so far. In Phalombe, ARVs are provided at the Holy Family Hospital to 789 patients. In Mulanje, ARVs are provided to 2,434 people living with HIV at the two hospitals and one clinic as follows:

- Mulanje District Hospital – 1,414 (with an additional 150 on a waiting list)
- Lujeri – 59
- Mulanje Mission Hospital – 961

Though encouraging progress in ART scale up has been made, recent surveys suggest that key populations, including people with TB, are not receiving ARVs proportionately; of 5,791 HIV patients treated with ARVs in late 2004 and early 2005 in Malawi, 1,052 were patients with TB, which was 16% of all registered TB patients in the context of an estimated 50% to 70% co-infection rate.[36] Successful Cotrimoxazole (CPT) prophylaxis, as well as effective TB treatment for HIV infected patients with TB infection can substantially reduce morbidity and mortality also. In one recent comparison of 938 patients with TB/HIV co-infection in Lilongwe who were started on ARVs, with 74% of patients alive and on ARVs after 12 months, compared to 66% of the 4,179 patients with no TB, and both default and transfer rates were also better in the TB/HIV group.[37] HIV positive TB patients on ART in Malawi have generally good treatment outcomes, so it is important for more patients, especially TB patients to access ARVs.

[33] Zachariah R et al. Can we get more HIV positive TB patients on ART in a rural district of Malawi? Int J Tubercul Lund Dis 2005;(3):238-247.
[34] Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.
[35] UNAIDS 2006 Report, Malawi Country Summary, Annex 1.
[36] WHO Global TB Report 2007 and Makobme S et al. Who is accessing ART during national scale up in Malawi? Trans Roy Soc Trop Med Hyg 2006;100(10):975-9.
[37] Makombe SD et al. Outcomes of TB patients who start ART under routine program conditions in Malawi. Int J Tuberc Lung Dis 2007;11(4):412-416.

The NAP is beginning to pilot the strategy of combined DOT for TB/HIV co-infected patients in a few centres in Malawi (DOT for both TB medications and for ARV), but this has yet to be implemented in Phalombe and Mulanje.[38] In Mulanje and Phalombe, the ART clinic also provides treatment for opportunistic infections, but is hindered by frequent shortages of needed drugs including Cotrimoxazole.

HIV/AIDS National Plans

Though insufficient to date, the governmental response to the HIV crisis has made important advances. The first Malawi HIV/AIDS Strategic Framework (2000–2004) identified key interventions to address the spread of HIV that included prevention and risk reduction, VCT expansion, PMTCT, STI treatment, and ART scale up, among other health systems interventions. These have recently been modified and incorporated into the National Action Framework for 2005-2009. Extensive international support for this effort has been received in the past three years, beginning with round one of the Global Fund, which provided $196M in 2002 for four activities: 1) VCT scale up; 2) PMTCT; 3) ART scale up and management of opportunistic infections (OIs); and 4) Home based care (HBC), including orphan care. Additional support for critically needed human resource and infrastructure support was received in 2003-2004 from DFID ($100M) and from the government of Norway. Taken together, these efforts support the evolution of the strategy for HIV, TB, and malaria into the Essential Health Package through the new Health Sector Wide Approach, in which decentralization of authority and implementation from the central government to the district health authority is being implemented. These HIV control and treatment activities are now captured in the National HIV/AIDS Action Framework 2005-2009, which is designed to make progress towards the Millennium Development Goals for Malawi. A second Global Fund application for HIV (Round 5, June 2005) provides additional support for orphans and vulnerable children, as well as health systems strengthening including human resource augmentation.

This project is fortunate to have had the consultation of Dr. Anthony Harries, who led the initial successes in the TB program in Malawi in the 1980s, and who is now the new Director of HIV/AIDS in the Ministry of Health and is leading the response to HIV and TB/HIV co-infection.[39] In a sentinel review paper in 2005, Dr. Harries made the logical analogy between TB program successes and the future of HIV control, including TB/HIV, by applying the lessons learned from the TB DOTS strategy. It included acknowledgement of the central role to be played by both health professionals and lay clinical officers in areas of severe human resource shortages, such as the District TB Officer. Five key constraints to reaching global targets for TB control were noted: lack of trained and qualified staff, inadequate preparation for decentralized TB control activities, non-compliance of the private sector with TB DOTS, weak health infrastructure, and poor political commitment. The paper concludes with the greatest promise for remedying this situation in Malawi being 1) training and staffing additional microscopy laboratories; 2) training and supporting additional DTOs (or HSAs); 3) training additional VCT counsellors and sites; and 4) additional training and collaboration of TB and HIV clinical staff,

[38] Limbamba E et al. Scaling up ART in Africa: Learning from TB control programs – the case of Malawi. Int J Tuberc Lund Dis 2005; 9(10): 1062-1071.
[39] Harries AD et al. Human resources for control of TB and HIV-associated TB. Int Jl Tuberc Lung Dis 2005:9(2):128-137.

as well as critical changes in the health and political structure, and in health professional schools and employment practices.

NAC has launched a country wide effort to provide ARVs to patients with AIDS, using mechanisms and an information system essentially identical to the tuberculosis treatment of DOTS currently in use in 100% of districts. The management structure is also similar to the TB management structure, with a Regional Director and District HIV/AIDS Directors. This effort has begun in Mulanje and Phalombe, although currently covering only a small portion of the AIDS patients in the region. The most recent Round 5 application to the Global Fund gained support for expansion of the human resources on the frontline for this initiative, including social welfare assistance, community child protection officers, and those responsible for actually delivering ART including nurses, HSAs, laboratory and counselling staff, and other critical personnel. The program procedure calls for the use of a system of DOT for ARV carried out by "guardians" just as in the case of TB DOTS. Monthly and quarterly cohort analysis and district and regional levels identify problem areas and direct management attention to solve such problems.

2. Summary of Baseline and Other Assessments

Community Baseline Assessment

The community baseline survey was aimed at determining the levels of knowledge, attitudes, availability and acceptability of TB and HIV services in the two districts of Mulanje and Phalombe. It was also aimed at identifying gaps in the provision of both information and services related to TB and HIV that would form the basis for the development of the programme's implementation plan. From the analysis, the following key results were found:

TB Diagnosis and Treatment

In the survey, 16% of the respondents reported symptoms compatible with TB within the household. Of these, 68% took six weeks or longer to seek medical attention. Contributing factors included the distance to health care clinics (21%) and lack of money (10%). 45% of respondents noted that their primary clinic or hospital was more than one hour's walk from their homes. While most respondents recognized cough of more than three weeks and productive cough as compatible with TB, only 6-15% recognized weight loss, blood sputum, or fever for three weeks as symptoms of TB. 9% of respondents said that they had been unable to obtain a sputum test or test result. Of the sixty five respondents (16%) who noted that a household member had developed TB, 89% were diagnosed by sputum microscopy. For 32% of respondents who had had a sputum microscopy, test results were obtained longer than one week after the test.

It has been established that only a small proportion of people seek medical attention within days of noticing TB symptoms. Community members were aware that TB treatment was free (however, diagnosis of TB is not). Some respondents said that some patients stop taking TB drugs after sometime upon noting that they feel better with a belief that it was no longer necessary to continue with the treatment. This is dangerous as it encourages drug resistant strains that are hard to cure. While a sustained IEC campaign to give people the facts about TB treatment will be pertinent, the health workers and microscopy services would also need to do much better and sustained education of guardians and the patients on treatment adherence.

TB Stigma

Although most respondents reported some positive attitudes towards TB patients, there were still some pockets of stigmatization. Eighteen percent of respondents equated TB infection with being HIV positive. While awareness of the issue of co-infection is valuable, it carries the risk of misunderstanding of the distinct transmission patterns of both diseases. Also, the equating of TB infection with positive HIV serostatus may engender stigma and discrimination. This would hamper efforts aimed at encouraging people to go for TB testing services. As the serious situation in Kwazulu Natal, South Africa with MDR and XDR TB has been in the lay press, some increases in discrimination towards people with TB in South Africa have been reported, and our program will need to monitor the situation for similar patterns in Southern Malawi. It is pertinent to design patient and family education messages as part of Home Based Care for families of people with TB that would deepen the knowledge and understanding that not all who are infected with TB are also HIV positive. The ensuing communication approach should use social mobilization techniques to bring in the communities into the communication campaign. The participation of the communities in TB and HIV related campaigns would lead to increased

participation in TB and HIV testing and foster community ownership of the interventions. This approach can help people infected with TB or HIV/AIDS be accepted within their communities thereby reducing denial, stigma and discrimination.

Knowledge about TB and HIV/AIDS

While awareness about TB and HIV/AIDS in general is almost universal for both males and females in the two districts, the deeper 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 found to be inadequate. While 91% new that coughing was a symptom of TB, only 9% and 10% knew that fever and weight loss were also symptoms. Only 72% knew that TB was contagious. When asked how HIV is transmitted, although 95% responded that it is transmitted through sexual intercourse, only a combined 5% of the respondents said that HIV can also be transmitted from mother to child during pregnancy and breastfeeding. In addition, 28% of respondents believed that HIV could be transmitted through items of public use and 11% (one in every nine respondents) believed that AIDS has a cure. It is clear from the results elucidated in this report that there is a gap in knowledge about the vital role played by the early diagnosis of TB and the importance of early detection of HIV. Less than a quarter (23%) of the respondents had gone for HIV testing and counselling.

Information about TB and HIV/AIDS and its sources

Unlike HIV/AIDS, there is not much information about TB in the two districts; less than half (47 percent) of the respondents reported to have received TB information in the six months prior to the survey. For both TB and HIV/AIDS, the mass media, particularly the radio is the main source of information.

Community Baseline Survey		
Strategic Objective	**Conclusion**	**Lessons Learned**
Strategic Objective 1: Improve treatment success rates of TB and TB/HIV in Mulanje and Phalombe.	• A significant proportion of households did not know about the linkage of TB and HIV	• Lack of communication between clients and health workers on the cost of some TB services • Health workers should take a role in communicating to clients about the importance of treatment adherence • Health workers should be involved in providing IEC campaigns on the relationship of TB and HIV
Strategic Objective 2: Increase case detection of TB and TB/HIV in Mulanje and Phalombe.	• A large proportion of clients pay for diagnosis of TB • Some clients walk long distances to get TB services • Some clients never got their results after TB tests • Large knowledge gap on TB transmission • Health workers don't contribute much on IEC to communities • High knowledge of TB symptoms	• Need for more microscopy sites in the two districts • Health workers should be involved in providing health education/IEC campaigns in terms of knowledge and awareness of TB in the communities. This will only work after Dx services are functioning very well.

Health Service Provision Assessment

A baseline assessment was conducted to generate information that would help Project HOPE, the District Assemblies, the District Health Offices and other partners in Mulanje and Phalombe to plan TB/HIV interventions properly. The information that was collected relates to: staffing levels, status of infrastructure for TB/HIV management, current practices regarding TB and HIV management, perceptions and views of staff on TB/HIV co-infection, accessibility of TB and HIV services and procedures for drugs and supplies management. Interviews were held with 168 staff at 42 of the 52 facilities in the two districts[40] to get both individual level and facility level information regarding TB and HIV/AIDS.

Generally, the findings from this survey have confirmed that problems with staffing of health facilities in the two districts are acute such that some facilities have remained unopened because there are no staff to run them; in others, there are only 1-3 staff members who have to implement all the activities on their own. The current staff is overworked and most are already spending over half their time on TB and HIV services. In most cases, facilities are also making use of HSAs to provide HTC and other services. While this is a good initiative, this may in the long run compromise the delivery of primary preventive health care in the communities for which HSAs are primarily responsible. Health staff in the two districts bemoans the general lack of 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 equipment such as cell phones, PDAs, or computers for efficient referral systems. General sanitation systems are poor (some do not have access to potable water). One quarter of facilities have no electricity and most lack functioning clinical laboratories.

There are some positive findings on which to build. The findings have also shown that facilities do keep records, including records of TB and HIV clients and of pharmaceutical products being received and distributed; although the quality of the records was not evaluated during this assessment. However, substantial challenges exist for a comprehensive TB/HIV programme in the form of distances to diagnostic centres, distances to treatment and support centres, issues of nutrition, issues of stigma in the communities and the cost of accessing treatment. Issues of infection prevention and control are not being adequately taken care of both for the facility staff and their patients.

TB detection in the two districts is largely passive, i.e., most patients self-refer to heath facilities with signs and symptoms of TB. Although this is the case nationwide, the figures that are recorded in the system are likely to fall short of the actual numbers requiring treatment. Most of the facilities do not have access to TB diagnostic materials for skin test, sputum test and X-ray machines. Systems for patient follow-ups and community referral are already in place and just need strengthening. Almost one half of facilities have not yet started proactive HIV testing for all TB patients.

[40] Ten of 52 facilities could not be assessed because 1) the facilities were closed owing to staff shortages or 2) difficult access during the rainy season.

Facility staff generally have positive attitudes and perceptions towards TB and HIV/AIDS such that most are willing to work with patients presenting themselves with either of the two or both. Challenges exist for a comprehensive TB/HIV programme in the form of distances to TB/HIV treatment centres, distances to treatment and support centres, issues of nutrition, issues of stigma in the communities and the cost of accessing treatment.

The health services provision assessment was completed shortly before the date of the completion of the DIP. Additional analyses are planned in consultation with the DHOs to inform our site implementation, and to further identify potential partners and referral networks for health provider training, guardian deployment, TB symptom screening, VCT, and clinical treatment for people with TB and TB/HIV co-infection.

On the basis of the findings of this report, it is recommended that Project HOPE, district partners, and other stakeholders address the issue of staff shortage in the two districts for an effective TB control program. This could include, among others, supporting training of more personnel, supporting mechanisms for staff retention, provision of refresher training courses and regular supervision. In addition, it would also be good to develop interventions that aim at improving the infrastructural situation of the facilities by, among others, establishing additional sputum diagnostic centres, improving communication systems, and improving coordination between the TB and the HIV diagnostic and treatment systems. Project HOPE and partners should support infection prevention and control mechanisms both for the facility staff as well as their clients. The issue of utilizing HSAs needs to be carefully looked into and proper timelines need to be developed so that other health concerns requiring their attention are also taken care of. Community level meetings could be conducted to motivate people to go for TB and HIV testing as well as providing symptom recognition and HIV preventive information.

In addition to our own assessment, two previous national facility assessments were consulted as part of the DIP preparation for their data related to Mulanje and Phalombe, and for the applicability of their findings to this project.[41] Regarding national smear microscopy data, in 1998, 88,257 TB suspects contributed approximately 230,000 sputum specimens for smear microscopy, and these were performed by 86 trained microscopists in 45 laboratories. Thus the annual average sputum per microscopists per year was 2,600, or about 50 readings per week and 10 per day per microscopist. We have used this figure for an average daily microscopy workload in our planning; hence the addition of 10 new microscopy labs with two microscopists per lab would be expected to add 20% to the available microscopy capacity, with an added annual 52,000 sputum samples analyzed.

Further evidence of obstacles to timely sputum microscopy was identified in the published literature from Malawi.[42] A study of 964 laboratory specimens sent by bus to a central lab for TB *culture* found delays and logistic errors at all points in the process, starting with sputum collection in district health centres, securing of containers, labelling, transport, and placement

[41] MOHP (2003) Malawi Health Facility Survey Report. Planning Unit, Lilongwe, Malawi; and Harries A et al. Resources for TB control in Malawi. Bull WHO 2001;79:329-336.
[42] Harries A et al. Int Jl Tub Lung Dis 2004;

into culture media. The paper concluded that expansion of sputum microscopy at the local level would help to reduce the problems associated with laboratory specimen transport, and called for an additional expansion for TB culture capacity in regional hospital laboratories to reduce the costs and inefficiencies that are associated with specimen transport to a central lab.

Health Facility Assessment		
	Conclusion	**Information Discovered**
Strategic Objective 1: Improve treatment success rates of TB and TB/HIV in Mulanje and Phalombe.	• Inadequate TB case detection leave a high rate of undetected TB cases in the community • High mortality among TB patients while on TB treatment • Inadequate access to VCT • Inadequate symptom screening for TB • Poor TB service delivery • Poor data management	• Inadequate knowledge on managing TB/HIV co-infection cases • Health workers have no problem to work with TB/HIV patients • Poor data management • Poor linkage between TB/HIV service systems. • Poor communication between Zone Office and the District TB Office • Lack of transport for supervision • Poor implementation of DOTS protocols by medical services
Strategic Objective 2: Increase case detection of TB and TB/HIV in Mulanje and Phalombe.	• Delay in diagnosing and treatment of TB • Inadequate number of sputum microscopy sites or poor quality of existing centres	• Inadequate diagnostic centres • Low staffing levels • Inadequate knowledge on TB free services • Poor accessibility to TB/HIV diagnostic services • Uncertain quality of sputum microscopy system

Laboratory Assessment

A laboratory assessment was conducted in July 2007 by Marija Joncevska, Ph.D., Project HOPE's TB Regional Laboratory Specialist from the Russia/Eurasia region. The final report is forthcoming, but below is a summary of findings.

All of the laboratories currently doing smear microscopy in Mulanje and Phalombe (Mulanje Mission Hospital, Mulanje District Hospital, Lujeri Health Center, and Holy Family Hospital) and several health center sites that are either currently doing slide fixing or are proposed new microscopy sites were visited. Ten percent (randomly selected) of the entries in the District TB registers (TB 03) for 2005 were reviewed and cross-referenced with information on the TB 01 and TB 04 forms. Staff were interviewed, equipment was inspected, and work was observed.

The review of the **Recording & Reporting** system raised some concerns. The lab registry and TB 03 forms our Specialist inspected were completed, in contrast to the TB 03 forms that were faxed to us from the field previously. Only one minor error in the TB03 form was discovered in the review in Mulanje. All smear microscopy was recorded accurately but staff are not reporting +1 and +scanty smears as positives as they are concerned with that with the thin, poor quality smears they are producing they may be misreporting positive findings. All appropriate exams were completed and diagnosis made. However, they are not using the current, correct WHO forms to record the information, so the wrong drug regimens are shown on the forms, and no HIV information was being recorded.

High positivity rates were found among TB suspects. Especially in a high HIV prevalence area, this indicates that not enough suspects are being examined, TB suspects are coming late for diagnosis with advanced cases, those with smear negative cases are not coming in for diagnosis at all, and the poor quality of microscopy leads to some cases not being detected at all.

Workload was found to be minimally normal for the staff as per WHO recommendations, and staff was expected to be able to handle a (10%) 20-30% increase within their existing labs. However, because of the lack of suspects being examined, this confirms the need to retrain health staff and community leaders to be more suspecting of TB and to encourage potential suspects to seek diagnosis. This will increase workload, which will create a need for additional microscopy sites in the districts.

Normal infrastructure conditions (electricity, water supply, drainage) are not in place in all the new proposed sites. Minor supplies and equipment are needed, but the microscopes are good quality. New labs will not be opened until basic bio-safety measures are taken care of.

Regular **monitoring and supervision** of laboratories is not functioning well. Although they are visited by Zonal Supervisors, the visits are not focused on assessment of the labs, current findings/problems, next steps to remedy these, mentoring and coaching of staff to make progress, review and public recognition of progress. The slides reviewed by the Zonal Supervisors are selected by the microscopists and other slides are not retained. No real quality assurance system is in place, so it needs to be developed.

Quality of slide fixing is poor and points to a training need. Marking is done properly and they do not wash and re-use slides. One of the hospitals was out of reagents. This points to potential supply problems for routine materials necessary for microscopy as the number of suspects being examined increases under the project.

Local **staff** capable of carrying out quality training of microscopy and QA was not observed.

There is a **lack of collaboration** between laboratories and TB health care workers/doctors. While each group has quarterly meetings, they are separate. Joint quarterly meetings should be held to review data together and problem solve. Analytical skills are not in place for cohort analysis – currently, only numbers are reported – and Project HOPE will have to lead this process.

3. Program Description

In order to reduce morbidity and mortality due to TB cases and TB cases with HIV co-infection in Mulanje and Phalombe, Project HOPE is concentrating on two main strategic objectives: 1) improving treatment outcomes of TB cases and TB cases with HIV co-infection in Mulanje and Phalombe and 2) increasing case detection of TB including among people with HIV co-infection. Our two key strategies for this project are as follows:

1. Key Strategies to Improve Treatment Outcomes:
    - Improve implementation of DOTS protocols including the recording and reporting system
    - Strengthen referral system (of TB suspects to appropriate TB diagnostic facilities and of TB patients to VCT/DCT and of HIV patients to appropriate TB diagnostic facilities as appropriate)
    - Improve case management of TB and TB with HIV co-infection
    - Enhance Quality Assurance
    - Improve recording & reporting system

2. Key Strategies to Increase Case Detection
    - Improve microscopy quality at existing laboratories
    - Increase access to microscopy

3. Supporting Strategies
    - Increase referral of TB suspects
    - Increase community awareness of TB
    - Partner coordination & collaboration
    - Operations Research
    - Improve management of TB services provided by the District and Zonal Officers

To improve treatment outcomes, Project HOPE will first focus on improving implementation of DOTS protocols at all levels in the TB Control system, from District TB Officers to guardians. We will also work closely with our partners to enhance Quality Assurance and supervision. To address the large impact HIV/AIDS is having on treatment outcomes, Project HOPE will work with partners to strengthen the referral system and improve case management of TB with HIV co-infection.

To increase case detection, Project HOPE will first improve the quality of microscopy at existing laboratories. Following proven improvements at existing labs, Project HOPE will increase access to microscopy through a phased roll out of new laboratories, effectively tripling the number of sites in which sputum microscopy is performed in the two districts by the end of the program.

Supporting strategies will be employed, include implementing TB symptom screening and referral to appropriate diagnostic centres through guardians of TB patients to household contacts, and through traditional healers, shop keepers, and HIV health care workers, including VCT providers. To increase self-referrals, Project HOPE will conduct a community education campaign to increase awareness of TB symptoms and the importance of early detection through

appropriate health care facilities. To address issues with data, Project HOPE will assist our partners in improving recording and reporting.

Throughout the program, Project HOPE will work closely with our local partners. Our primary partner in this endeavour is the National TB Programme, particularly the Mulanje District Office and the Phalombe District Office, the DHMT, and the Zonal Offices. Memorandums of Understanding have been signed (see Annex 6) as much collaboration will be 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. These approaches are described in detail in the next section, following the Results Framework.

New and innovative approaches

The program innovations are related to task-shifting from professional laboratory to other health personnel to increase microscopy capacity; expansion of the training and role of the traditional TB guardian to include counselling for improved treatment adherence, increased attention to HIV diagnosis and care and treatment, and expanded attention to the detection of TB among close household contacts. Ancillary activities with important additional innovations include outreach to other key stakeholders such as traditional healers and shopkeepers (drug sellers), including the critical role of local NGO and FBO partners.

More specifically, the important innovations in this project are: 1) 20% expansion of the microscopy capacity in Mulanje and Phalombe through task shifting of microscopy to, trained, supervised, and quality monitored microscopists the thorough integration of approaches to TB; 2) expansion of the available pool of TB guardians through the enhanced training of guardians who follow an increased job description with specific activities related to TB/HIV co-infection and to enhanced TB symptom screening and detection of TB in household contacts; 3) specific attention to treatment adherence with three potential medication targets, i.e., i) TB medications; ii) cotrimoxazole preventive therapy (CPT); and iii) antiretroviral therapy for TB patients with HIV co-infection; 4) increased TB symptom screening to potentially high yield settings such as traditional healers, drug sellers, and VCT sites (with the potential to add further outreach to perinatal care centres); and 5) adjunctive community education to reduce stigma, increase recognition of TB symptoms, and support HIV risk reduction and TB and HIV diagnosis. Each innovation is discussed further below:

1) The expansion of microscopists in partnership with the MOH and DTO will fold into the Six Year Emergency Training Plan currently underway and the related Essential Medical Laboratory Services program rollout that has been constrained by erratic funding and uneven performance. Task-shifting has been identified as a reasonable means of relieving over-burdened professional staff by isolating specific tasks to be performed by trained and supervised lay personnel. The critical role of the Zonal Health Laboratory supervisors, in partnership with project staff, will be to certify the microscopists and to monitor the quality of their work over time. The roll out of this program will begin following proven improvements in the work of existing microscopists.

2 and 5) TB guardians have been shown to improve retention in treatment, adherence to TB medications and clinic appointments, and TB cure rates and treatment success.[43] Project HOPE will broaden the usual scope of work of guardian activities to include support and assistance with VCT for the client and their spouse or partner, access to HIV care and treatment, including ART, for people with TB who are found to be HIV positive, TB symptom screening for family and close household contacts, and general TB and HIV health and risk reduction information, including stigma reduction. One nurse will typically supervise 50 guardians.[44] By performing TB symptom screening among household contacts of people diagnosed with TB, TB case detection rates are likely to improve.

3) As above, guardians have been shown in several studies to improve treatment adherence for patients with TB and with HIV. Note that we have included Cotrimoxazole preventive therapy (CPT) because CPT is part of the standard of treatment for TB patients who are HIV positive in in Malawi, and the drug is provided free of charge. Cotrimoxazole (CTX) is available to patients at the district health centre along with TB medications. CPT is an essential component of effective treatment for new TB patients who are HIV positive; in one study in 2000 of 717 TB patients, for every 12.5 TB patients treated with CPT, one death from non-TB opportunistic infections was averted, and CPT reduced the mortality in TB-HIV patients from 43% to 24%, and the overall death rates fell from 37% to 29%.[45] For these reasons, guardians will be charged with assisting clients to access secure supplies of, and to maintain optimal adherence to, TB medications, CPT, and ART.

4) People who feel ill often present to traditional healers and drug sellers rather than district health centres in part due to the long distances between facilities in Mulanje and Phalombe and frequent staff shortages and absences. The performance of simple TB symptom screening in such sites has been found to be highly valuable at identifying unrecognized cases of active TB, and is broadly advocated in the NTP Strategic Plan for 2006/7–2010/11 as a means to improve the TB detection rate. The acceptance of TB symptom screening appears to be good; in one study of women in pre-natal clinics, most clients were amenable to TB screening.[46]

Project Sustainability

This project offers viable strategies that are highly cost-effective and offer the greatest possible sustainability for the level of funding.

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 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

[43] Manders IJLTB 2001;5:838-842; Banerjee A IJLTD 2000;4:333-339
[44] Harries A et al. Human resources for control of TB and HIV-associated TB. Int J Tub Lung Dis 2005;9:128-37.
[45] Mwaungulu FB et al. Bull WHO 2004;82:354-64.
[46] Sangala WT et al. Screening for pulmonary TB: an acceptable intervention for antenatal care clients and providers? Int J Tub Lung Dis 2006;10:789-794.

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.

Partners

Project HOPE is actively partnering with the National TB Programme, specifically the District Health Offices (DHOs) of Phalombe and Mulanje. The DHOs will be crucial 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 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 will be essential in facilitating training of staff in TB/HIV co-infection and in supporting the referral system between the two health groups.

Other organizations, including CBOs and NGOs that are also working on HIV, such as Likulezi, Action Aid, Bridge, Salvation Army, MSH, and FHI, will be part of the district structures who will regularly be appraised of the project for inclusion in their day to day work and will assist in the community-wide effort to alert people to TB symptoms and where to get appropriate TB diagnosis and treatment. These groups will also serve to advise on all community components of the project, including IEC efforts, and serve as links to traditional healers, drug sellers, and VCT sites as appropriate.

Partner Collaboration Matrix

Activity	Partner Role						
	Project HOPE	NTP				TB CAP	
		National	Zonal	District	DHMT	MSH	FHI
Community & Health Service Provision Surveys	L			X	X	X	X
Laboratory/Microscopists training	X	L	X	X	C	X	
TB health worker training	L	X			C		
HSA training	X	X		L	C		
HIV/AIDS health care worker training (including VCT)	X	C		C	C		
QA	L		X	X	X		
Supervision	X		L	X	X	X	X
Referral & Coordinating committees for case management	L	X	X	X	C	X	X
TB Symptom Screening via Traditional Healers & Shopkeepers	L	X		X	C		X
Monitoring & evaluation	L	X	X	X	C	X	X
Community education campaign	X			X	C		X
Patient/guardian DOTS TB IEC	L	X	X	X	C	X	
Linking DCT and ART services	X	L	X	X	C	X	X

L=lead; **X**= participant; **C**=coordinate

TB CAP

Project HOPE is actively coordinating with the TB CAP program. The TB CAP program is working in neighboring but different districts as Project HOPE's program; however, our Districts share the same Health Zone. To date, we have shared baseline survey instruments with them, which they have used in their program, and of course the survey results. TB CAP participated in our DIP planning process. We have established that we will meet with them quarterly to collaborate together - share experiences, lessons learned, and ensure that we are working in parallel, especially in regard to the QA and supervisory methods that need to be consistent throughout the Zone. FHI is working primarily on the community IEC portion and MSH on facility based systems strengthening covering the laboratory component of their

program, and Project HOPE will be working together with each of these organizations accordingly. As their program rolls out, specific roles will be clarified further. Project HOPE expects to share trainers and collaborate on training activities.

NTP

Project HOPE is also working closely with the NTP at all levels. The NTP participated in the proposal development process, DIP process, and reviewed our baseline surveys and helped carry out the baseline health services provision survey and review of training curricula. We are working hand-in-hand with the Zonal Health Officers responsible and will be training and mentoring them in improving their QA and Supervisory methods. TB CAP will be involved in this effort as well. On Project HOPE's part, we will receive guidance from Renslow Sherer, Richard Bumgarner, Marija Joncevska, and Hector Jalipa, (see Program Management section for more detail). All TB-related training in Malawi is coordinated through the National TB Programme. Project HOPE is working closely with the NTP to update and improve training manuals for microscopy and for the other trainings. Zonal Supervisors will continue to lead supervisory visits; however, they will be trained by our program staff and closely mentored and supervised. The NTP reviews and has input to all our curricula.

Results Framework

Goal: Reduce morbidity and mortality due to TB and TB cases with HIV co-infection in the Mulanje and Phalombe.

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

Intermediate Results:

Knowledge & Practice	Quality	Access	Policy
1. Increase smear conversion of new SS+ TB cases and successful treatment completion among all TB cases*	**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**
A. 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	A. Train/retrain and mentor health care personnel: o to fully implement DOTS protocols, including recording & reporting o to be effective counsellors advocating for TB and ARV treatment completion o to be aware of life-long risk and diagnostic difficulties of TB re-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. Work with NTP to update/improve training manuals and curricula B. Establish coordinating committees for case management o support quarterly cohort analysis of SS conversion and treatment outcome indicators at both the health centre and district level C. Enhance QA program in collaboration with local health authorities including: o improved supervision & support of TB clinical staff & HSAs

*including those co-infected with HIV

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

Intermediate Results:

Knowledge & Practice	Quality	Access	Policy
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**
A. Conduct a community education campaign to: o increase recognition of TB symptoms o increase recognition of the importance of VCT and early TB diagnosis o increase knowledge of the interaction between HIV and TB infection o increase behaviours related to the prevention of HIV	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. Equip new labs for sputum microscopy and support qualified staffing via training B. Advocate for client-friendly services (i.e., appropriate hours and confidentiality) C. Implement/improve TB symptom screening and referral by: o VCT/HIV clinical care providers o traditional healers o shop keepers o HIV patients (repeated self-referral) o Household contacts of SS+ TB cases	A. Work with NTP to update/improve training manuals and curricula B. Work with NTP to correctly implement WHO TB guidelines including reporting forms C. Enhance QA program in collaboration with local health care authorities o Quarterly analysis of TB07 by clinical and laboratory staff, microscopy QA

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

Intermediate Result 1. Increase smear conversion of new SS+ TB cases and successful treatment completion among all TB cases(Including those with HIV co-infection

A. 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

As TB treatment adherence is vital to smear conversion and treatment success, Project HOPE will assist our local partners to train/retrain and support all levels of practitioners within the health care system of Mulanje and Phalombe to recognize their vital role in the success of the national DOTS programme, and thereby TB treatment and success. Particularly, HSAs will be trained to train, mentor, and supervise guardians in treatment adherence for TB and for those who are co-infected with HIV, adherence to ARV. HSAs working in the TB wards of the hospitals (generally two per ward) currently provide training to guardians during the two weeks the TB patient is in the hospital. HSAs at the community level visit TB patients in their homes once or twice weekly to assess symptoms, check the DOTS monitoring form, and provide cups for sputum samples at appropriate times.

Training for HSAs will emphasize TB and ART treatment adherence, drug supply and re-supply, and proper recording and reporting. In addition, HSA training will encompass the expanded role for guardians, including TB symptom screening and referral, contact and defaulter tracing and motivation, and appropriate treatment and support for TB patients that are also HIV positive, including stigma reduction, HIV prevention, the importance of VCT, and principles of home based care. HSAs will be trained in the use of educational materials for community education and motivation, and in patient and guardian support. Training will also include how to conduct follow-up visits with traditional healers and drug sellers, and record keeping. HSAs will be mentored and supported by health centre supervisors at weekly meetings and ongoing supervision/assessment by Project HOPE staff and our partners.

Following their training/retraining, HSAs will train, mentor, and supervise guardians to provide DOTS at the community level. Guardians are usually family members who provide DOTS for TB patients. In their expanded role, they will also assist with ARV adherence for TB patients that also are HIV positive, and help ensure adherence to clinic visits. Guardians will provide other home based care for patients and will help improve the efficiency and rapidity of identification of defaulters before they have been long without medication. Guardians will be trained by and report directly to the HSAs, who will be in direct contact with the facilities that provide care and treatment of patients with TB and TB/HIV patients.

Our project will accomplish two major additions to the current guardian structure; the number of guardians will be increased, and their scope of work will be substantially enhanced to include assistance with access to VCT for TB suspects and others, test results, and access to HIV care and treatment, including ART, for the co-infected TB patient, as well as support that is directed towards TB symptom screening and assessment of household contacts.

Training for guardians will include basic facts of TB and TB/HIV co-infection, including epidemiology, transmission, HIV prevention, infection risk reduction, symptom recognition, and side effect monitoring and management. Guardians will learn where to go for appropriate TB

diagnosis and treatment and for HIV diagnosis, care and treatment. As the guardians will be providing home based care (HBC), principles of HBC will be covered, as well as palliative care. Basic facts regarding TB treatment and ART will be provided as well as information on adherence importance, side effects, drug interactions, and OI treatment and prophylaxis. Stigma reduction will be a cross-cutting theme. People cured of TB and people living with HIV will be invited to the training to provide support and real-life perspective to the training.

Project HOPE is leading the curriculum redesign and will accompany the HSA supervisors on mentoring and supervision visits. To comply with Malawian requirements and to enhance project sustainability, the NTP will conduct the training sessions. A total of 224 HSAs will be trained over the course of the project. The first training is scheduled in Year 2. Subsequent training will occur in Quarter 3 every year, as needed, for the remainder of the project.

Intermediate Result 2. Improve the quality of case management of TB and of TB with HIV co-infection

A. Train/retrain and mentor health care personnel to fully implement DOTS protocols, including recording and reporting, to be effective counsellors advocating for TB and ARV treatment completion, and to be aware of life-long risk and diagnostic difficulties of TB re-infection

Project HOPE will train/retrain health service personnel in TB control using the DOTS strategy according to international standards and guidelines. The training will begin with a review of diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. TB cure and treatment success rates, QA procedures, and data management requirements will be covered. Special attention will be given to training on the accurate application of the WHO reporting forms, as these forms allow for the rapid identification of cases that are at risk for loss-to-follow-up and for longer-term monitoring of National Programme progress and problems. Infection control measures and links to home based care will be discussed, as well as patient and guardian education and counselling. Stigma reduction will be a recurring theme throughout the training. In light of the data problems in the district as described above and problems with TB control in general, training will emphasize the importance of fully implementing the DOTS protocols as well as increased QA and supervision. Supervision and mentoring support, with refresher training/motivation as needed (planned annually), will help to ensure implementation of the skills acquired at the initial training, and include new personnel in the group. A total of 150 medical staff involved with TB DOTS implementation will be trained in sessions of 25 persons to maximize learning. Training will begin in Year 1.

Similar to the basic TB course, this will include a review of TB diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. However, the primary focus will be TB with HIV co-infection, especially including the necessity of repeated testing for TB among people living with HIV with signs or symptoms of TB. It is of vital importance that professionals working at all levels of health care understand the life-long risk of TB re-infection and accompanying diagnostic difficulties, especially among people living with HIV. Training under this IR will also include testing TB patients for HIV, CPT, HIV prevention, basic elements of HIV/ARV monitoring, TB/ARV treatment drug interactions, approaches to ensure effective initiation of treatment, and a smooth shift to ART when TB

treatment is completed. Supervision and support, with refresher training/motivation as needed (planned annually), will help to ensure implementation of the initial training, and include new personnel in the group. A total of 150 health care providers treating or likely to treat TB and/or HIV/AIDS patients will be trained over the course of the project. To maximize learning in a participatory environment, no more than 25 people will attend each training.

Intermediate Result 3. Increase access to quality care, treatment, and case management of TB patients who are co-infected with HIV

A. Provide TA for better integration of VCT into the TB system

Project HOPE will work with the NTP and district-level health authorities to advocate for better integration of Voluntary Testing and Counselling for TB suspects into TB services. Malawi guidelines currently provide for DCT for confirmed TB cases while the patient is hospitalized. Project HOPE will advocate for scaling up VCT first in facilities that provide TB microscopy services in order to facilitate testing among TB suspects. It is anticipated that, by providing VCT to TB suspects as part of the standard package of care, more HIV-co-infected cases will be identified by eliminating one step in the diagnostic procedure, that of referring to a separate VCT site.

B. Provide TA for strengthening the existing referral system between clinical and testing services for TB and HIV

Project HOPE will provide technical assistance in strengthening the referral system by working at multiple levels and across multiple community and health facility systems. By engaging guardians, traditional healers, and drug sellers at the community level, Project HOPE will create a sustainable trained cadre of people at the community level trained in TB symptom recognition and referral, as well as in VCT referral. By cross-training health care providers at multiple levels (including providers from both the TB and HIV/AIDS systems, including VCT counsellors), TB suspects will be referred for VCT, TB patients will continue receiving DCT, and HIV patients will be screened and referred for TB testing.

Counselling and education of HIV+ persons about the signs and risks of TB, as well as symptom screening of HIV positive patients for TB disease will increase the appropriate diagnoses of TB in people living with HIV. This will clearly demand more effective communication and collaboration between the TB and HIV programs, leading to cross-examination of patients, the use of prophylaxis in HIV patients, broad use of TB symptom screening and subsequent referral to appropriate TB diagnosis sites among VCT providers, drug sellers, and traditional healers, and ARV treatment when possible in patients with AIDS complicated by TB. One recent survey of screening for TB in an ANC clinic in Malawi found good acceptability among the female clients.[47] Malawi was one of three countries testing the WHO ProTEST model of TB/HIV integration, and derived many useful lessons learned from that experience[48]. We will incorporate those lessons into the planning and implementation for this project.

At the heart of these efforts is the need to identify TB patients who are also living with HIV as rapidly as possible via DCT and/or VCT scale up and to provide them with sustainable ARV

[47] Sangala WT. Screening for pulmonary TB: An acceptable intervention for antenatal clients and providers? Int Jl TB and Lund Dis 2006;10(7):789-94.

[48] Hargreaves and Chimzizi presentations at ProTEST Lessons Learned Workshop Durban 2003 www.who.int/docstore/gtb/TBHIV/ Durban_feb03/

therapy. As noted earlier, the serious deficiency in human resources, in particular nurses and HSAs, is a serious obstacle to making gains against HIV disease, and against TB. Less than one third the needed HSAs positions are currently filled. Hence a major objective of this project is the deployment and training of HSAs and nurses, as well as the recruitment and training of guardians to assist in the objectives of improved TB case detection and TB DOTS completion rates, and the key related objectives of HIV testing for all people with TB and access to ART and adherence to TB medications for TB patients and to ARV for TB patients with HIV. Accordingly, this project includes training for guardians, and HSAs to encourage and assist TB suspects to undergo VCT early in the diagnostic process.

While the district and regional TB/HIV coordinating committees will set the guidelines for active linkages between the two groups of care providers, other mechanisms will be needed at the health facility level. Project HOPE will seek to initiate case coordination meetings to discuss the management of particular cases of TB patients with HIV among those providers involved with the cases with the objective of ensuring that both treatment needs are being well met (Please see IR 4, paragraph B).

Intermediate Result 4. Improve policy environment for improved case management of TB and TB/HIV co-infection

A. Work with NTP to update/improve training manuals and curricula

The current training manuals and curriculum for sputum microscopy in Malawi do not meet international standards. The versions currently in use are based on 1992 guidelines and contain references to incorrect regimens, dated treatment and diagnostic criteria, dated case classification criteria and other out of date materials, Malawi has made a decision to move the most current set of international guidelines (2003) and Project HOPE has already received the support of the NTP to update and improve the training manuals and curriculum for the sputum microscopy training and other aspects of program management and case treatment. This effort will help improve quality diagnosis of TB both in the Mulanje and Phalombe Districts for this project, as well as throughout the country. Revisions to training manuals and curricula will begin in Year 1. Project HOPE will continue working with the NTP to update other training manuals and curricula as well throughout the duration of the project, including TB/HIV co-infection training.

B. Establish coordinating committees for case management including supporting quarterly cohort analysis of SS conversion and treatment outcome indicators at both the health centre and district level

Project HOPE will work with local partners to establish TB/HIV Coordinating Committees in the two districts, as advocated by WHO and the Global TB/HIV Working Group. The Committees will meet regularly and serve as both a forum for joint policy planning and data reporting for management of TB/HIV cases. Project HOPE will help create and initially support these meetings as needed, and facilitate the interaction of the two systems.

The coordinating committee meetings will function as follows:

Regular meetings at the level of each large facility (hospital) and each district, with two characteristics will be held to conduct grand round type discussions of every registered TB case

under treatment and their progress—problems attendant to each case, including HIV co-infection, failure to convert sputum, progress (failure), default and consequent action, death and preceding actions that could have been taken; discussion of the laboratory findings on each case, their timeliness, use in patient management, relevance to eventual outcome. The meetings will also include a full discussion of both the quarterly new cases and relapses form and the TB outcome summary form for the relevant treatment unit or district. Both TB clinical staff and lab workers should be present for both discussions. Copies of the lab registry and the TB03 case/clinical registry should be available for the discussion. For each relevant case where HIV co-infection is present, detailed discussion should be made of lab record, number of repeated efforts made to test sputum, counselling given (or not) to patient, attitudes and role of the specific guardians, training program changes that might be made, etc. This kind of quarterly facility and management case review and system performance review is well proven to make a major difference in TB program quality and transforming attitudes of staff and reinforcing their training.

C. Enhance QA program in collaboration with local health authorities including improved supervision and support of TB clinical staff and HSAs

Project HOPE staff will provide ongoing technical assistance to the DOH TB program officials to strengthen the supervisory system and monitoring and evaluation of the TB Programme and lead evidence-based problem identification and management. Cohort analysis will be introduced and used as a tool to monitor progress across facilities and districts.

Project HOPE will carry out Training of Trainers and then with counterparts facilitate training of supervisors and staff in DOTS and supervisory methods and support of adherence. HSAs will be trained and supported in activities to provide support to guardians as well as patients to bring about community mobilization for TB screening and the recognition and motivation of possible TB and/or TB/HIV patients to seek diagnosis and treatment.

Project HOPE staff will also collaborate with DHO TB program officials in the implementation of the QA program for the sputum microscopy labs by coordinating all microscopy trainings, refining the assessment and standards review, and conducting un-announced spot quality reviews.

Through the development of improved supervisory checklists and methods of supervision, and training of supervisors as well as modelling and mentoring, Project HOPE will facilitate improved supervision leading to improved performance. To support these efforts, preparation of training materials and job aids, including “on the job” training materials for supervisors to use in problem solving, will be prepared by Project HOPE’s curriculum and BCC specialists, with subsequent training in their use.

QA efforts will include drug procurement and pharmacy management at the regional and district levels in order to ensure that TB drugs and supplies have a more reliable supply system. Currently, HIV/AIDS supplies have periods of stockouts. Project HOPE’s logistician will assist in stock management and facilitate transportation to areas of need.

Still other activities will arise as problems are identified at district and/or regional level. It is our intention to specifically aim at strengthening this management problem solving approach, based on our experience in the same DOTS based management and problem solving in our TB programs in CAR. By providing sufficient resources to the managers to be able to respond flexibly with training, visits to other facilities, meetings, transportation, and the like, we will be able to facilitate the kind of "tinkering" – developing a possible solution to a problem, testing it, assessing whether it worked, making changes to improve it -- which is necessary to improve quality in health care processes. Hence our workplan and budgeted activities do not identify specifically all the interventions which will eventually result from the effort.

SO 2: Increase Case Detection of TB & TB/HIV co-infection in Mulanje and Phalombe

Intermediate Result 1. Increase community care seeking behaviours

A. Conduct a community education campaign to increase recognition of TB symptoms, increase recognition of the importance of VCT and early TB diagnosis, and increase knowledge of the interaction between HIV and TB infection, and improve behaviours related to the prevention of HIV

Project HOPE will conduct a community education campaign targeting the larger community. The purpose of the campaign will be to increase knowledge of the importance of early care seeking behaviours. Primary messages will focus on recognition of TB symptoms, where to get tested and treated for TB, and the importance of treatment adherence. As our community baseline survey indicated, although many community members have a very basic knowledge of TB, crucial gaps in their knowledge need to be addressed. Stigma reduction will be a sub theme in the messages. Recognizing that in this population of both widespread TB and a high prevalence of HIV, community education messages will also focus on the importance of TB patients getting VCT for HIV. Messages will address the interaction between HIV and TB infection and the importance of early diagnosis and treatment adherence for both infections. Finally, Project HOPE will structure messages to increase knowledge and improve behaviours related to the prevention of HIV.

Key messages will reach the population via radio and drama performances. Radio messages will be disseminated using local media stations. The most effective messages will be determined through standard qualitative media research methods with random audiences. Radio spots will be broadcast twice a week and capitalize on free programmes on health. Drama will be performed by structured volunteer drama groups that are active in the communities. Group performances will take place for one week per quarter at every health facility in each village (see BCC section for additional details).

In addition, Project HOPE will develop improved low literacy patient education materials for guardians and health care worker to use to educate and motivate patients, especially sputum positive patients, regarding transmission of TB. Materials will provide needed information about TB (symptoms, sources of diagnosis, info about the nature of TB treatment) which will both inform decision making with practical facts and also deal with the various resistance factors which have for many delayed their obtaining of diagnosis and treatment until their TB disease is far advanced. This will be integrated with information about HIV transmission and prevention as

well as information about HIV treatment, and will deal with the stigma associated with treatment for either TB or HIV.

Intermediate Result 2. Improve accurate 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/AIDS

Providers at all levels of the health care system, including traditional healers, shop keepers and guardians in this case, serve an important function in bringing suspected TB cases to diagnosis. Therefore, Project HOPE will provide technical support, training and mentoring to the health care system at large in symptom recognition and appropriate counselling for promoting TB diagnosis. (See IRs 2 and 3 under SO1) It is imperative that all members of the system currently functioning in Malawi fully understand the magnitude of their role in controlling TB in their districts and the country at large.

B. Train/retrain and mentor microscopists in sputum microscopy technology and record keeping

This project will triple the current the diagnostic capacity for TB in Mulanje and Phalombe by training additional microscopists, thereby increasing access to appropriate diagnosis and subsequently increasing case detection at an earlier and more easily treated stage. Project HOPE will provide new/refresher training in TB diagnosis via sputum smear microscopy.

The training will begin with retraining of microscopists from the existing labs followed by a mentoring and supervision stage. Following demonstrated improvements in each of the laboratories, staff from each of the new centres will be trained in a carefully phased roll out structure. Two health centre staff per each of the proposed new microscopy centres will attend the training. In addition, Mulanje District has three microscopy sites and Phalombe has four that are currently equipped, but do not yet have trained microscopists. Project HOPE will provide the training for this staff as well, and District Health Officers will attend the training.

Using international standards and the revised training manual and curriculum, training will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy, as well as information in correct methods of transporting slides and sputum when necessary. Training will also include data management training according to standardized WHO TB registration and recording forms, including how to record smear results and other relevant data. Identification of SS- patients with symptoms needing specialist/x-ray examination and referral will be discussed. Quality Control procedures will be emphasized as well.

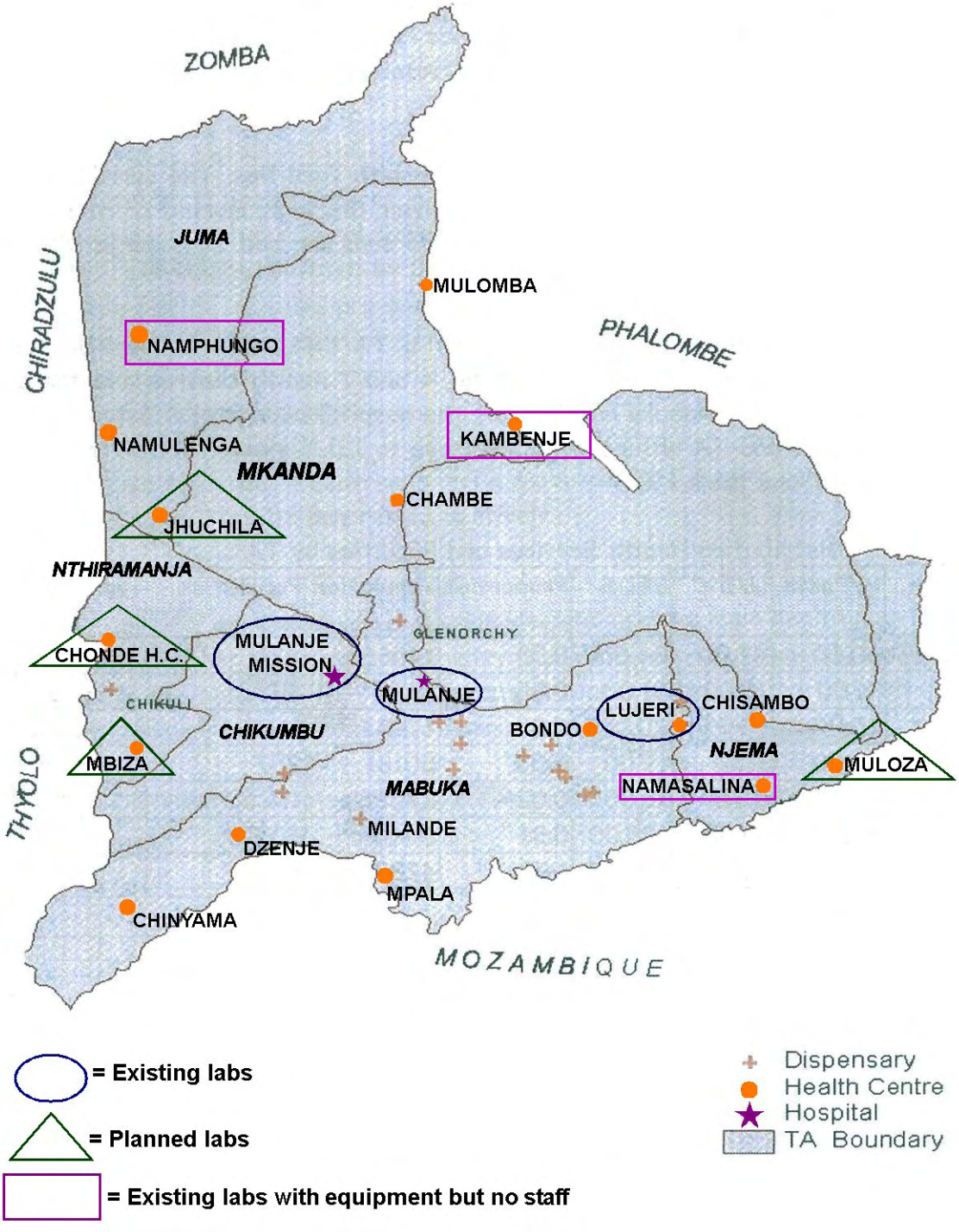
Consistent with national policies, the training will run for 10 days. In addition, Project HOPE will follow the initial training with one-day workshop after 4-8 weeks to review and share experiences and provide additional training where needed. Subsequent on-site supervision will be made by the District TB Officer/Hospital Laboratory Staff through the expanded QA and supervisory program.

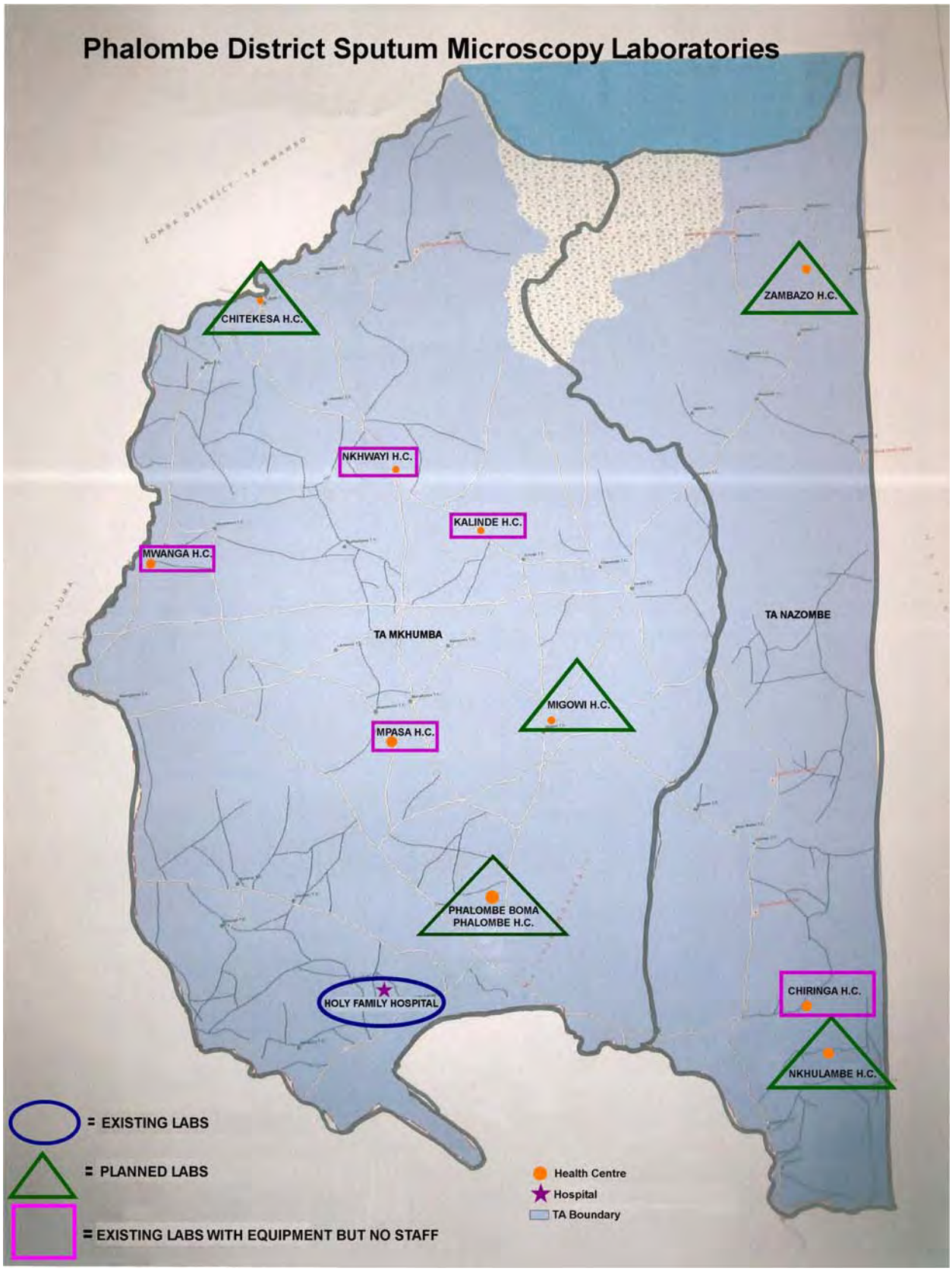
A total of 42 laboratory staff and the two District Health Officers will attend this training. Three training sessions will be offered with approximately 14 persons attending each to maximize the participatory learning process. Training will begin following completion of the newly revised

training manuals and after basic/refresher TB course is complete. Follow-up training will occur after 4-8 weeks. Two training sessions will occur in Mulanje and one in Phalombe.

Mulanje:	**Phalombe:**
Proposed New Sites (Project HOPE will equip labs & train microscopists):	Proposed New Sites (Project HOPE will equip labs & train microscopists):
o Muloza Health Centre	o Chitekesa Health Centre
o Chonde Health Centre	o Migawi Health Centre
o Mpala Health Centre	o Nambazo Health Centre
o Mbiza Health Centre	o Phalombe Health Centre
o Thuchila Health Centre	o Nkhulambe Health Centre
Sites with Equipment (Project HOPE will train microscopists):	Sites with Equipment (Project HOPE will train microscopists):
o Namphungo Health Centre	o Chiringa CHAM Health Centre
o Namasalima CHAM Health Centre	o Mpasa CHAM Health Centre
o Kambenje Health Centre	o Mpasa Health Centre
	o Nkhwayi Health Centre
Sites Currently Performing Microscopy (Project HOPE will provide refresher training):	Sites Currently Performing Microscopy (Project HOPE will provide refresher training):
o Mulanje District Hospital	o Holy Family Mission Hospital
o Mulanje Mission Hospital	
o Lujeri Estate Clinic	

Mulanje District Sputum Microscopy Laboratories




Phalombe District Sputum Microscopy Laboratories
CHITEKESA H.C.
ZAMBAZO H.C.
NKHWAYI H.C.
KALINDE H.C.
MWANGA H.C.
TA MKHUMBA
TA NAZOMBE
MIGOWI H.C.
MPASA H.C.
PHALOMBE BOMA
PHALOMBE H.C.
HOLY FAMILY HOSPITAL
CHIRINGA H.C.
NKHULAMBE H.C.
= EXISTING LABS
= PLANNED LABS
= EXISTING LABS WITH EQUIPMENT BUT NO STAFF
Health Centre
Hospital
TA Boundary

B. Enhance Microscopy Lab QA program in collaboration with local health authorities

Quality assurance of sputum microscopy is an indispensable part of an effective TB control program. It encompasses the whole process of sputum collection, smear preparation, smear staining, microscopy, recording and reporting. WHO and the STOP TB partnership[49] have identified the lack of external quality monitoring in Malawi as a significant limitation in their health care system; development of an effective internal monitoring system is an important component of this project, as is technical assistance towards the implementation of an effective and credible external quality assurance mechanism.

The purpose of quality assurance programs is the improvement of the efficiency and reliability of smear microscopy services. Like the current DHO QA system, Project HOPE will work with our DHO partners to establish a comprehensive QA program including the following:

- Quality control: Quality control is a process of effective and systematic internal monitoring which aims to detect the frequency of errors against established limits of acceptable test performance.
- Proficiency testing: Also known as External Quality Assessment, this is a program designed to allow participant laboratories to assess their capabilities by comparing their results with those obtained with the same specimens in other laboratories of the network, e.g., Regional and National Reference Laboratories. This component will be developed as part of this project in Mulanje and Phalombe.
- Quality improvement: Quality improvement is a process by which the components of smear microscopy diagnostic services are analyzed with the aim of looking for ways to permanently remove obstacles to success. Data collection, data analysis, identification of problems and creative problem solving are key components of this process. It involves continued monitoring and identification of defects, followed by remedial action to prevent **recurrence** of problems. Project HOPE will collaborate with the DOH in the implementation of quality improvement activities for both DOH and project labs.

All microscopy laboratories in network will be included in the development of system of external quality assurance (EQA) of smear microscopy, conducted by higher level laboratory. Methods for EQA currently used in Malawi are in the process of development and adaptation to the internationally adopted standards. As soon as the revisions are complete, monitoring guidelines will be established with the DOH. Rechecking of slides should be done on quarterly basis. Current standards that are unlikely to be modified include:

Positive cases found among suspects

Ideally it should be 5-10% (calculation: suspects found positive on smear microscopy/ total number of examined suspects X 100).

Completed smear examinations according to the standard requirements

All suspect TB cases referred for smear microscopy should be examined by three samples (calculation: reviewed and remedial actions discussed with the supervisor number of suspects examined by three samples/ total number of examined suspects X 100).

[49] WHO Report 2007: Global Tuberculosis Control, pgs 41 and 173

Procedures

Internal quality control of staining is mandatory. New lots of staining solutions need to be tested. This usually involves the staining of known, unstained, positive and negative smears. The inclusion of known, unstained smears each time staining is carried out in the laboratory is also strongly recommended. The re-reading of positive smears by another technologist is highly desirable; in practice however, very few peripheral laboratories employ two TB microscopists. Direct observation by an experienced observer of laboratory technicians performing their routine tasks at all stages is an essential aspect of quality assurance.

There are four principal methods of proficiency testing of smear microscopy:

- Sending smears from the Reference Laboratory to the peripheral laboratory for checking reading and reporting.
- Monitoring the quality of sputum smear microscopy in all its stages during supervisory visits in the field.
- Sending smears from the peripheral laboratory to the Reference Laboratory for re-reading.
- Sampling smears of registered patients found in the District Tuberculosis Register

All four methods have distinct advantages and disadvantages; it is therefore advisable to implement them according to the needs and the circumstances of the Malawi NTP, pending their internal QA system review and modification (expected July, 2007).

In the present context, quality improvement consists of correcting deficiencies in smear microscopy performance and reading by taking appropriate remedial action. Project HOPE will enhance the current microscopy Q/A program in the following ways. First, the Zonal Laboratory officer will visit the ten new sites for Q/A reviews monthly during the first year. In addition to the review of all positive specimens, and an equal number of randomly selected negative samples, the Zonal Laboratory Officer will also bring known positive and negative slides for spot testing. And finally, in the first year of each new microscopes' tenure, the monthly assessment will include observation of the sputum collection, slide preparation, and slide staining technique to ensure quality in each step of the procedure.

Our project will rely upon the responsibility of the Malawi NTP, as manager of the higher level laboratories of the network, i.e., Regional and Central Reference Laboratories, to retrain technologists who demonstrate less than optimal performance. We will offer materials, technical support, training methodology and mentoring methods as appropriate. See Annex 11, "Checklist for monitoring visits for microscopy labs".

Intermediate Result 3. Increase access to TB diagnosis

A. Equip new labs for sputum microscopy and support qualified staffing via high quality training

Following demonstrated improvements in the existing laboratory structure, Project HOPE will develop an additional five health centre labs each in Phalombe and Mulanje capable of carrying out accurate Ziehl Nielsen (ZN) slide staining and microscopic examination, so that patients have easy access to an appropriate lab and wait no more than 36 hours for a reading. Microscopists will be trained to staff these labs using the standard national curriculum, which will be updated by Project HOPE. Regular supervision will be provided on-site by the Zonal Laboratory

Technician and Senior Laboratory Technicians in the TB system that will have been thoroughly trained by the project. Mentoring and supportive supervision are an integral component of the Project HOPE training and will provide much needed support to the current laboratory training process. A Quality Assurance program for these community level labs will be modified from the current DOH QA procedures and implemented (see below). The sequencing of the new laboratory roll out depends on proven improvements in existing labs.

B. Advocate for client-friendly services (i.e., appropriate hours and confidentiality)

To increase client access to services, Project HOPE will advocate for client-friendly TB services, including appropriate hours and confidentiality. These issues will be discussed during training of health care workers and addressed during quarterly meetings with the NTP at the Zonal and District level.

C. Implement/improve TB symptom screening and referral by VCT and HIV clinical care providers, traditional healers, shop keepers, HIV patients (repeated self-referral), and household contacts of SS+ TB patients

Because case detection is so low in Malawi, Project HOPE will implement a simple system to help various community members screen people for TB symptoms and refer people to appropriate TB diagnostic facilities. Each of these community groups, including VCT providers, traditional healers, shop keepers, HIV health care workers, and guardians will be trained. The focus of the training and training modules for each of these three groups will be similar; however, the trainings will take place separately.

The core training will centre on basic facts about TB, with a goal of increasing recognition of TB symptoms and supporting community members in seeking appropriate medical care soon after showing symptoms. TB epidemiology, transmission, and treatment information will be covered. The importance of treatment adherence for TB patients and/or TB patients who are HIV positive will be addressed. Because of TB's virulent interaction with HIV, information on HIV will be incorporated in the training as well, with an emphasis on the importance of VCT for TB suspects and others (confirmed TB patients receive DCT). Relevant background information on HIV including epidemiology, transmission, prevention, and risk reduction will be covered as well. Stigma reduction will be a cross-cutting theme. People cured of TB and people living with HIV will be invited to the training to provide support and real-life perspective to the training.

Traditional Healers, Shop Keepers, & VCT/HIV Clinical Care Providers

Effective treatment will depend on inducing healers to refer to appropriate TB diagnosis and treatment centres early.[50] For this reason, our project includes outreach to traditional healers for TB symptom screening among clients and for referral to project staff and to TB clinics for diagnostic evaluation.

As it is common practice in Malawi to first visit a traditional healer or shopkeepers (often called "drug sellers") when ill, engaging traditional healers in our project will be vitally important to increasing early care seeking behaviours at appropriate medical facilities. Traditional healers will be engaged to learn about the project and actively participate by screening for TB symptoms and

[50] Brouwer et al, Traditional healers & pulmonary tuberculosis in Malawi. Intl J Tub Lung Dis1998 Mar;2(3):231-4

making referrals, thereby actively participating in the larger effort to cure TB. The Project HOPE team has met with executive members of the herbalist association in Mulanje to enlist support and is also working on engaging those not in the formal association by getting information from HSAs and Village Chiefs. To date, Project HOPE has identified 54 healers willing to participate in our program. The NTP is also working on how to get traditional healers on board on a national level, particularly on referral of TB suspects; however, they do not yet have a curriculum and are very interested in the one Project HOPE will create.

Traditional healers and shop keepers will receive the core community training described above, with an additional section detailing their role in the program. After completing the training, traditional healers will begin screening their patients for possible TB infection using a simple, visual screening checklist designed for low literacy use. If the screening indicates the patient may have TB, the healer, shop keeper, or VCT provider will discuss this with the patient and let the patient know that he/she will be contacted by an HSA who will assist the patient in getting tested at an appropriate facility. The HSAs will visit the traditional healers in the program weekly to collect referrals. In addition, to reinforce engagement in the project, periodically the HSAs may reinforce training, discuss difficult cases, and report on project success to date. Project staff will support the HSAs and their supervisors to follow up to on all symptom screening forms and follow up with patients for whom referrals have not been completed; this focused follow up will greatly increase the likelihood that a symptomatic individual receives a timely evaluation and diagnosis of TB and/or HIV.

A total of 375 traditional healers and 375 shop keepers will be trained in sessions with approximately 25 participants throughout Mulanje and Phalombe. A total of 40 VCT providers will be trained as well. The first trainings will begin in Year 2 and subsequent trainings will occur as the program is scaled up and additional people are identified. Repeat workshops may be provided as needed for re-motivation and reinforcement of education.

HIV patients and household contacts of TB patients

Similarly aimed at improving early case detection, training for 150 HIV/AIDS health care workers (see SO1, IR 2) will emphasize the importance of TB screening among their patients. Training for health care workers will focus on patient communication and motivation, and will include motivating patients with symptoms to undergo multiple tests as needed. The training for HSAs (see SO1, IR1) will also cover the importance of TB symptom screening among household members and instructions on how to use the symptom screening checklist.

Intermediate Result 4. Improve policy environment for improved diagnosis of TB and TB/HIV co-infection

A. Work with NTP to update/improve training manuals and curricula

The current training manuals and curriculum for sputum microscopy in Malawi do not meet international standards. Project HOPE has already received the support of the NTP to update and improve the training manuals and curriculum for the sputum microscopy training. This effort will greatly improve quality diagnosis of TB both in the Mulanje and Phalombe Districts for this project, as well as throughout the country. Revisions to training manuals and curricula will begin in Year 1. Project HOPE will continue working with the NTP to update other training manuals

and curricula as well throughout the duration of the project, including TB/HIV co-infection training.

B. Work with NTP to correctly implement WHO TB guidelines including reporting forms

As above, the current training manuals, curricula and procedures do not always meet current WHO standards. Project HOPE is working closely with the NTP to improve training materials described above and will work hand-in-hand with the District Health Officers and Zonal Supervisors to ensure that the current standards are implemented throughout all levels of the project, including recording and reporting forms.

C. Enhance QA program in collaboration with local health care authorities including quarterly analysis of TB07 by clinical and laboratory staff, microscopy QA

See SO 1, IR 4, C.

Training Plan

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	Health Care Worker Training				
1	**TB health workers - DOTS protocols & TB/HIV co-infection:** Review of diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. Other topics will include: suspecting and identifying co-infected patients early; identifying cases of TB as early as possible; providing CPT; following DOTS algorithm; providing good supervision; ensuring quality lab records. TB/HIV co-infection topics will also include: HIV prevention, basic elements of HIV/ART monitoring, and ART/TB treatment drug interactions.	All medical staff involved with TB DOTS implementation including laboratory (± 150 persons for both districts)	3	25	6
2	**Existing microscopists:** Training will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy. Training will also include data management training, including how to record patients and data on standard DOTS forms and how to submit reports. Training will also cover identification of SS- patients with symptoms needing specialist/x-ray examination and referral. Quality Control procedures will be emphasized as well.	Microscopists in 4 hospitals and health centre laboratories currently doing microscopy, plus 2 District TB Officers	10	6	1
3	**New microscopists:** Training will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy. Training will also include data management training, including how to record patients and data on standard DOTS forms and how to submit reports. Training will also cover identification of SS- patients with symptoms needing specialist/x-ray examination and referral. Quality Control procedures will be emphasized as well.	2 health centre staff per health centre, including the 10 new microscopy sites and the 7 sites that are not yet operational as they are without trained staff.	10	11	3
4	**HSA training** Guardian and volunteer support (DOT, ART adherence, drug supply and re-supply, patient and family support, stigma reduction, record keeping; and mobilization for TB symptom screening & referral, TB/HIV prevention, VCT, contact tracing, defaulter tracing and motivation; use of job aids to do community education and	HSAs and HSA supervisors, by Health Centre teams -- ± half of Health Centre HSAs in one session, other half in subsequent session (± 4 Health Centres per session)	2	28	8

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	motivation; how to do follow-on visits to traditional healers & drug sellers; preparation of specific HSA locality plan. Follow-on by Health Centre supervisor at weekly meetings with HSAs and ongoing supervision/assessment.				
5	**HIV/AIDS health care worker training:** Similar to the basic TB and TB/HIV co-infection course, this will include a review of TB diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. However, the primary focus will be TB/HIV co-infection including screening/testing for TB and for HIV co-infection; CPT, IPT, HIV prevention, basic elements of HIV/ART monitoring, and ART/TB treatment drug interactions.	Health care providers working with HIV/AIDS patients	3	30	5
6	**VCT providers - TB screening and referral:** Training will be focused on TB symptom screening and the Project HOPE project and will include basics on TB and TB/HIV co-infection and the importance of getting their clients that show symptoms to an appropriate facility or department for diagnosis.	VCT staff and their district coordinator (AIDS Control Officer)	1	20	4
7	**Advanced DOTS – TB treatment workshop/training:** Details of topics and training method to be determined based on project progress and quality issues; will take place midway in project following midterm evaluation and recommendations.	Selected participants from Basic/Refresher DOTS training	2	25	6
	Partner Capacity Building				
8	**Evidence-based Problem Identification & Management & Supervisory Methods:** Workshop/training for NTP staff at district level to strengthen accuracy of data being recorded and reported in DOTS system and to use the existing information system and cohort analysis for problem identification and management to improve performance and increase collaboration with HIV system. Initial session to establish procedures and priorities and analysis methods. Methods, forms, standards assessment procedures, and motivation approaches for supervisors at various levels. Subsequent follow-up activities to be carried out as part of monthly	Zonal Supervisors, District Health Officers, relevant Hospital staff, Health Centre directors	5	15	1

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	district analysis and quarterly regional analysis meetings and supervision by Zonal Supervisors and Project HOPE regional TB advisor.				
	Community Level Training				
9	**Traditional Healers** This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.	Traditional healers who see patients with TB/HIV symptoms and can refer for testing/diagnosis	1	50	10
10	**Shopkeepers (Drug Sellers)** This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.	Drug Sellers who see patients with TB/HIV symptoms and can refer for testing/diagnosis	1	50	10
	Monitoring & Evaluation				
11	**Community & Health Service Provision Survey Preparation:** At baseline, midterm, and final. Intensive training on survey methodology, interviewing techniques, detailed review of survey questions, and data management procedures.	Project HOPE Malawi M&E staff, external data collectors, survey supervisors, and district TB program staff.	2	30	3

Behaviour Change Strategy

Note: The behaviour change strategy will be revised and resubmitted at the time of the first annual report, as per discussions with USAID at DIP presentation and letter from USAID dated June 15, 2007.

Broad Behaviour Change Goal:

Reduce morbidity and mortality due to TB and TB/HIV co-infection in the Mulanje and Phalombe Districts in Southern Malawi through strengthening of health services to fully implement DOTS protocols; when that is accomplished, as indicated by programmatic data, to improve early care seeking behaviour and adherence to treatment regimens.

Specific Behavioural Objectives:

1. Health service personnel to be fully familiar with and implement on a daily basis all aspects of DOTS protocols in managing diagnosis and treatment of TB.
2. Community members in Mulanje and Phalombe who have symptoms of TB seek medical treatment at appropriate TB facilities early. Early care seeking behaviour is defined as seeking diagnosis at an appropriate testing facility within four weeks of the start of their cough.
3. TB patients in Mulanje and Phalombe adhere and comply with TB and HIV treatment.

Summary of the Strategy

1. This project will increase case detection of TB by first strengthening the capacity of the health services to properly diagnosis, treat and monitor the progress of all notified TB cases; this will be augmented by fostering early care seeking behaviours among community members with symptoms of TB. This will be accomplished by promoting community awareness of TB symptoms and the importance of early care seeking behaviour, primarily through a general IEC campaign and by training guardians in recognition of symptoms and counselling. Specifically, language and literacy appropriate IEC materials will be adapted from the NTP or designed as necessary. IEC materials will be made available at all primary through tertiary health facilities, at VCT sites, at local pharmacies and hopefully, through traditional healers. The IEC materials will focus on the symptoms of TB and the benefits of early diagnosis and treatment, as well as treatment completion. Additional materials will be developed to address TB and TB/HIV-related stigma. Guardians will be trained in the utilization of these materials as teaching tools, as well as in individual and group counselling on TB symptom recognition and treatment adherence for TB and TB/HIV clients.

2. This project will improve treatment success rates of TB and TB/HIV by training of medical service personnel in DOTS protocols, including regular use of the DOTS monitoring and evaluation system to track their performance; this will be further enhanced by fostering treatment adherence behaviours among TB patients. This will be accomplished by promoting community awareness of the importance of TB and HIV treatment adherence and by training guardians, and health care workers in DOTS treatment adherence. Guardians will be of particular importance to this element of the strategy in that they represent the first line of treatment adherence counselling to TB clients. They will be provided with in-depth counselling on treatment adherence and motivational strategies. HSAs will be trained to support the Guardians in their efforts, as well as to provide treatment adherence information to the community at large through group events and individual counselling opportunities.

Channels of Communication

Radio

As indicated by our baseline survey, 72% of the community receive health messages through the radio, TB, or newspaper. Radio messages will be disseminated using local media stations. The most effective messages will be determined through standard qualitative media research methods with random audiences. The radio spots will focus primarily on three key messages: the importance of early care seeking behaviour for TB symptoms, the importance of treatment adherence, and self-efficacy, thereby supporting the efforts of HSAs and Guardians. Radio spots will be broadcast twice a week and capitalize on free programmes on health.

Drama

Drama will be performed by existing structured drama groups that are active in the communities. The drama groups will be trained in the key messages of the project. It is important to note that drama at the community level provides a particularly appropriate teaching moment for addressing stigma related issues. The groups will be instructed to perform with TB/HIV-related stigma reduction in mind. Group performances will take place for one week per quarter at every health facility in each village. The drama groups will be provided with meals as appropriate and project vehicles will provide transportation as needed.

Interpersonal communication: health care providers, community volunteers and guardians

Interpersonal communication includes counselling provided by health facility staff, community volunteers, and existing TB and HIV support groups. Community volunteers and Guardians will administer the key messages at the community level. Facility health care workers will be trained in TB and TB/HIV co-infection and on the DOTS strategy so that they are able to effectively manage TB/HIV patients, thereby promoting treatment adherence. Additionally, health care providers will be trained in referral to and between TB and HIV services.

Community members will attend educational sessions throughout Mulanje and Phalombe.

BEHAVE Framework

Priority & supporting groups	Behaviour	Key Factors	Activities
TB suspects	Prompt medical care seeking upon symptom presentation	Barriers: lack of trained microscopists to diagnose TB, lack of knowledge, poor self-efficacy, distance to labs that can diagnose TB, cost of TB services and of getting to services Facilitators: desire for healthy outcome; community support	Training in microscopy and in good R&R system management for M&E. Radio messages, drama group performances, training for health care workers, training for guardians and volunteers, IEC materials on TB and TB/HIV for community members, TB and TB/HIV support groups
Indicators: quarterly smear conversion rates for all new smear positive cases; In addition, as an indicator of early reporting for diagnosis, % of suspects reporting to health facility within 4 weeks of cough; Case notification rate (Numerator: Number of new smear-positive pulmonary TB cases reported ; Denominator: Total population in the specified area; X 100,000)			
TB patients	Drug adherence and compliance	Barriers: lack of knowledge, distance from treatment centres, cost of TB services and of getting to treatment centres, lack of trained microscopists to prove TB cure Facilitators: desire for healthy outcome	Radio messages drama group performances, training for health care workers, training for guardians and volunteers, IEC materials for TB and TB/HIV patients and their household members
Indicators: Cure rate and success rate (Numerator: Number of new smear-positive pulmonary TB cases registered in a specified period that were cured (cure rate number) plus the number that completed treatment (success rate numerator); Denominator: Total number of new smear-positive pulmonary TB cases registered in the same period)			
Health care workers	Counselling TB suspects for early care seeking behaviour Counselling TB patients and TB/HIV patients on treatment adherence Sputum microscopy	Barriers: Lack of knowledge, negative attitude, inadequate training; inadequate sputum microscopy equipment and infrastructure Facilitators: desire to perform job well; desire for healthy outcomes	Training in counselling skills, DOTS training, including patient communication skills and guardian support supervision Construction of structures and procurement of equipment and supplies for sputum microscopy, training in sputum microscopy.
Indicators: Case notification rate (see metrics above); #/% of sputum microscopy sites covering population within recommended range of 50k to 150k; #/% of sputum microscopy sites performing quality assurance checks of slides/specimens; % HIV patients accessing TB screening; % of TB patients accessing VCT services; % HIV+ TB patients referred to HIV care and support services during TB treatment; Treatment success rate (see metrics above)			
Community volunteers and	Encourage TB suspects to seek early and appropriate medical	Barriers: Lack of knowledge; stigma; poor self-efficacy	Orientation to TB and TB/HIV, focus group discussions; promotion of support groups

guardians	treatment Encourage TB patients in treatment adherence to adhere to treatment regimens through promoting self-efficacy	Facilitators: desire for healthy outcome	
Indicators: # of Guardians and Community Volunteers trained; #/% of trained community-based providers (Guardians and CVs) that keep accurate records of counselling sessions; # of support groups formed; Case notification rate; % of TB clients (registered with Guardians) adhering to regimens.			

Monitoring Table

Priority group	Awareness	Knowledge	Attitude/ skills	Trial	Behaviour maintenance
TB suspects	Radio messages are going to be broadcasted 2 times a week Drama group performances at every health facility once a quarter Traditional healers & drug sellers will be trained in symptom recognition and referral Guardians and community volunteers will be trained in recognition of TB symptoms and referral	Community-based survey; focus group discussions; key informant interviews; oral surveying of drama audiences; Monitoring of Facility records	Stigma reduced; health facility records indicate increase in case notification; focus group discussions and key informant interviews indicate that community counsellors, leaders, traditional healers and drug sellers are knowledgeable of TB symptoms and practicing referral	% increase in cases detected at midterm; Increase in knowledge of TB symptoms by community-based volunteers, traditional healers, drug sellers, etc. at midterm; Increase in referrals by above at midterm	% increase in cases detected at final Consistent or increased referrals by community volunteers, traditional healers, drug sellers, etc. Increased treatment success rate
TB patients	Training for guardians and community volunteers; TB patients are counselled in treatment adherence and risk reduction	Focus group discussions and Community Volunteer and Guardian diaries indicate increased counselling around TB treatment adherence and increased DOTS application; Focus group discussions indicate TB patients understand the importance of adherence;	Facility records indicate consistent/improved treatment adherence; Focus group discussions and client exit interviews/CV and Guardian diaries indicate that TB patients are planning to complete treatment	Increased treatment adherence at mid-term as determined by facility records and guardian and community volunteer diaries; HSA and Guardian records report adequate drugs obtained/administered	Increased treatment success rate at final
Health Care Workers	Training for Health care workers	Key informant Interviews and focus group discussions indicate increased quality of supportive supervision for job performance; training pre/post tests indicate short-term increase in knowledge around TB	Facility records indicate increase in TB screenings; Facility records and Key informant interviews indicate increased referrals for TB suspects and patients; Focus group discussions	Increased number of referrals to and between TB and TB/HIV services at mid-term; increased number of SM sites at mid-term; increased number of SM slides processed at mid-	Consistent or increased appropriate referrals to and between TB and TB/HIV services; Increased or consistent number of SM slides processed;

Priority group	Awareness	Knowledge	Attitude/ skills	Trial	Behaviour maintenance
		and TB HIV co-infection; appropriate counselling for TB suspects and clients and sputum microscopy	indicate reduction in TB-related stigma among health care providers; sputum microscopy proficiency testing indicates increased processing skills	term	increased case notification rate
Community-based providers (community volunteers, Guardians, traditional healers, etc.	Training for community-based providers and support groups Improved supportive supervision for community-based providers (quarterly)	Key informant interviews and Guardian/CV diaries indicate increased quality of supportive supervision for job performance;	Focus group discussions and Guardian/CV diaries indicate improved counselling skills, increased referrals and increased participation in supportive activities (i.e., support groups)	Reported increase in referrals to services at mid-term; increased community-based supportive activities at mid-term (e.g., support groups)	Improved support structure for community-based providers; increased or consistent referrals to appropriate services

Currently supervision for health services in both districts is both centralized in the areas of skills and knowledge assessment, including TB/HIV management. At district level there is a District TB Officer and an HIV/AIDS District Coordinator who provide direct supervision to the Health Centres once a month at each site.

At Health centre level there is usually a Health Assistant who supervises the work of Health Surveillance Assistants who are usually based at Health Post level and in the villages. The Health Surveillance Assistants in turn supervise volunteers within their catchment area which is supposed to be of up to 2000 population.

4. Intervention Specific Approach

In order to reduce morbidity and mortality due to TB cases and TB cases with HIV co-infection in Mulanje and Phalombe, Project HOPE is concentrating on two main strategic objectives: 1) improving treatment outcomes of TB cases and TB cases with HIV co-infection cases in Mulanje and Phalombe and 2) increasing case detection of TB, including among people with HIV co-infection. Our key interventions include training and supporting health care workers, especially HSAs, to fully implement DOTS protocols and correctly implement WHO guidelines, including recording and reporting and to train, mentor and supervise guardians in treatment adherence. Our second key intervention is to improve and increase the diagnostic capacity of the DHO through training of sputum microscopists, establishing 10 new labs. A main underlying theme throughout the project is strengthening Zonal and District capacity for Quality Assurance and supervision. We will utilize several ancillary strategies to support these two core strategies such as outreach and education to key stakeholders such as traditional healers, drug sellers, and VCT centre personnel, and provide awareness and education for the general community. The key interventions are described below.

Intervention	Support piece	Type
Improve treatment outcomes by training and mentoring **health care workers at all levels in the TB control system**, including HSAs, **to fully implement DOTS protocols**, including recording and reporting and by training health care workers to better manage TB patients with **HIV co-infection**	• Enhancing **QA program** • Strengthening the **referral system** between the TB control system and HIV care and treatment system • Establishing **coordinating committees** for case management of TB patients with HIV co-infection • Updating **training manuals** & curricula	Quality, Access, BCC
Increase case detection by **improving quality microscopy** at existing laboratories and following proven improvements, establishing **new microscopy sites** and training microscopists to do smear microscopy according to national and international standards	• Enhancing **QA program** • Strengthening the **referral system** by training **VCT providers, traditional healers, and shopkeepers** in using a TB symptom screening checklist and referring to TB diagnosis facilities and training health care providers to look for TB in **HIV patients** and **household contacts** of TB patients. • Conducting a **community education campaign** to increase recognition of TB symptoms and the importance of early diagnosis & VCT • Updating **training manuals** & curricula	Access, Quality, BCC

Improve Treatment Success Rates

Main activities:

The primary activity for this intervention is to train and mentor TB health care workers at all levels in the TB control system, including HSAs, to fully implement DOTS protocols, including recording and reporting. HSAs will in turn train, mentor, and support guardians of TB patients to provide support for people with TB, primarily focusing on treatment adherence, symptom screening for household contacts, and access and adherence to ART for the TB patients co-

infected with HIV. Health care workers in the TB control system and the HIV system will be trained on HIV co-infection and ART, the life-long risk and diagnostic difficulties of TB re-infection, case management, CPT, and the importance of VCT. The training will focus on cross-referral and case management. Success will be measured by smear conversion of new SS+ TB cases and successful treatment completion among all TB cases, including those co-infected with HIV. In addition, success will be measured by the percent of TB patients who are tested for HIV (according to TB registers), the percentage of TB patients who are HIV+ who are referred to HIV care and support services during TB treatment, percentage of TB patients accessing VCT services, and the proportion of registered TB patients with HIV given ART during TB treatment. The number of TB/HIV services successfully integrated will be measured as well, defined as #/% with TB screened for HIV, # TB patients with HIV co-infection on both TB medications and ART, # screened for TB in VCT sites, of TB HCW trained in HIV co-infection, and durable and sustainable co-location of services achieved.

Support activities:

A key supporting activity to improve treatment success is to enhance the quality assurance program. The current monitoring and supervisory system is inadequate and does not result in quality improvements. Project HOPE will train, mentor, and supervise the TB Zonal Officers to assist them in improving their QA program. In addition, coordinating committees will be established for case coordination of TB patients who are co-infected with HIV for better case management. Project HOPE will also strengthen the referral system between the TB and HIV health systems to ensure proper treatment of TB patients with HIV co-infection through training activities as well as through quarterly quality meetings. At the community level, HSAs will be trained to support the guardians in providing treatment adherence.

Quality:

As mentioned above, improving Quality Assurance and supervisory methods of the TB control system is a key supporting intervention. The Zonal Officers will be trained, mentored, and supported in their efforts to supervise the District Health Officers. DHOs will be trained, mentored and supported in their efforts to supervise laboratories and health centres, including HSAs. Quality of guardian treatment adherence will be ensured through the supervision of the HSAs. HSAs will liaise and report to the health facilities on treatment progress and difficulties.

Case coordination will be monitored by the coordinating committees. This intervention depends on the availability of TB medication and ARV, the availability of HIV testing and counselling services, the availability of service providers including HSAs, the availability of sound TB and HIV management policies and environment, and the continued roll out of ART services.

Training on drug procurement and pharmacy management will occur at the regional and district levels in order to ensure that TB drugs and supplies have a more reliable supply system. Currently, HIV/AIDS supplies have periods of stockouts. Project HOPE's logistician will assist in stock management and facilitate transportation to areas of need.

Tools to be used by the project to promote quality of service primarily include the national training curriculum and manuals updated by Project HOPE. In addition, a low literacy TB

symptom screening checklist will be developed for use at the VCT sites and by the traditional healers and drug sellers.

Access:

One of the primary access issues impeding treatment success of TB is the lack of management of TB patients who are co-infected with HIV. Training health care providers who treat TB patients and training health care providers who treat HIV patients in co-infection issues is crucial to addressing this issue. Training guardians in DOTS treatment adherence and ARV treatment adherence for co-infected patients will ensure treatment compliance, even to those who live far away from health facilities that treat TB and HIV patients. Project HOPE will also provide technical assistance for strengthening the referral system for TB and HIV diagnosis and treatment. To improve access to TB drugs, technical assistance will be provided to the regional and district TB Officers in drug procurement and pharmacy management.

BCC:

See BCC section above.

Curricula:

Basic Curriculum

The basic curricula for training TB and HIV health care providers, including HSAs and VCT/DCT providers, will be a modular curriculum, with key portions for all trainees and other portions specifically targeted to the trainee group. The basic curriculum will include basic information on TB diagnosis and treatment standards and methods, including sputum microscopy and patient referral for diagnosis.

Other topics will include: TB treatment success rates and requirements; TB infection control measures; home based care; patient and guardian education & counselling. HIV co-infection topics will include: screening/testing for TB and for HIV co-infection; CPT, HIV prevention, basic elements of HIV/ART monitoring, and ART/TB treatment drug interactions.

TB Health Workers Training

The training for TB health workers will include the topics described above in the basic curriculum, with a greater focus on details of recording and reporting and how to correctly implement WHO TB guidelines.

HIV/AIDS Health Care Provider Training

Similar to the training for TB health care providers, this training include the basic curricula describe above. The primary focus of this training will be case management of TB patients who are co-infected with HIV, and will include the importance of treatment adherence to both sets of medications, and the life-long risk and diagnostic difficulties of TB re-infection.

HSA Training

HSAs will be trained to train, mentor, and support guardians. Training for HSAs will emphasize recording and reporting, correctly implementing WHO DOTS guidelines for treatment adherence. HSAs will also learn about ART adherence, and drug supply and re-supply. Patient and family support, stigma reduction, VCT, contact tracing, defaulter tracing and motivation will be covered. Training methodology will be taught, as will the use of job

aids to do community education and motivation; how to do follow-on visits to traditional healers & drug sellers; and the preparation of a specific HSA locality plan. HSAs will be supervised at weekly meetings and receive ongoing supervision, mentoring, and assessment.

QA, Supervisory Methods

Zonal Officers, District Officers, and other relevant Hospital and Health Centre staff will be trained in Quality Assurance, Evidence-based problem identification and management, and supervisory methods. Quarterly meeting will be held to review data and issues, and problem solve. Project HOPE staff will mentor and supervise the Zonal Officers and will accompany them on supervisory visits. Workshop/trainings will be held for district level staff and Zonal Officers to strengthen accuracy of data being recorded and reported in DOTS system, including key data re: HIV status, staging, and treatment date, and use of data to identify implementation and program problems, followed by management interventions to improve performance and increase collaboration with HIV system and caregivers. After an initial session to establish procedures and priorities and analysis methods, follow-on activities will be carried out as part of monthly district analysis and quarterly regional analysis meetings and supervision by Zonal Offices and Project HOPE staff. The initial workshop/training will be conducted by Malawi NTP consultant/staff and Project HOPE.

Advanced TB DOTS

The advanced TB DOTS course will be developed based on project need. Details of topics and training methods will be determined based on progress and quality issues. This course will take place midway through the project, following the midterm evaluation.

Increase Case Detection of TB and TB/HIV

Main activities:

The primary activity for this intervention is train microscopists and existing laboratories to improve quality microscopy and following proven improvements, to equip 10 new sputum microscopy labs and train staff in sputum microscopy for the 10 new labs and seven additional labs already equipped by the NTP. Success will be measured primarily by the % annual increase of case notifications according to the TB registers. We will also monitor the number of referrals resulting from TB symptom screens, and by process indicators on the number of new microscopy labs established and functional will also indicate success.

Support activities:

A key supporting activity is to enhance the Quality Assurance program. Supporting activities at the national level include updating and improving the national microscopy training manuals and curriculum. At the health facility level, Project HOPE will train health care providers who work with TB patients and those who are co-infected with HIV. The training will focus on case management and improving treatment success as described above, but will also serve to make providers more aware of co-infection and improve cross referrals to appropriate VCT sites for TB suspects and to TB microscopy sites. In addition, Project HOPE will strengthen the referral system between the TB and HIV health systems by implementing a screening checklist at VCT sites. As part of the referral network at the community level, traditional healers and drug sellers will also be trained in using the TB screening checklist and in the basics of TB and TB with HIV co-infection. Also at the community level, support activities include conducting a community

education campaign to increase recognition of TB symptoms and the importance of early TB diagnosis.

Quality:
Quality of sputum microscopy will be determined through a Quality Assurance program and will be measured by a percentage of specimens correctly prepared and examined. On a monthly basis, the Zonal Laboratory supervisors will review 10% of randomly selected prepared slides at each site, including all positive samples. As noted above, the review procedure will be expanded in the first year for each new microscopist to include random spot checks with known positive and negative slides, as well as a review at each visit of the microscopes' techniques in slide preparation and staining. Currently, 85% of the slides examined are correctly prepared. Project HOPE seeks to increase the percentage to 90% at all existing and new sites. In addition, a system of external quality control will be piloted and implemented under the auspices of the DTO and the NTP.

This intervention depends on the availability of clean sputum collection and examination materials including slides and microscopes. Project HOPE has purchased five new microscopes for the new laboratories and will provide through match an additional five. Success of the intervention also depends on the availability of staff to train as microscopists and the sustained staffing of these positions by the MOH/NTP.

Tools to be used by the project to promote quality of service primarily include the national training curriculum and manuals updated by Project HOPE. In addition, the current QA supervisor checklist will be reviewed and updated as needed.

Access:
One of the primary access issues impeding case detection of TB is the distance of the facilities from the patients. If patients do not live in one of the four areas that currently have sputum microscopy capabilities, they have to walk for over an hour to reach the facilities while they are likely sick with TB. In the rainy season, while the distance remains the same, roads are flooded and may be impassable. By creating ten new sputum microscopy labs and providing training and mentoring to staff at an additional seven laboratories, Project HOPE will increase the number of facilities in the two districts from four to twenty-one by the end of the project. In the two districts, sites were selected to match the highest concentrations of population. In addition, sites in Phalombe centre on the Eastern portion of the District, which is particularly difficult to reach.

The ten sites were selected on the basis of the facilities survey, the DIP workshop, and discussions with the district DTOs and the NTP. The sites were mostly chosen by the DHOs based on a various problems within those areas, i.e., a higher case load, larger population, long distance to facilities, and a greater demand for services.

BCC:
See BCC section above.

Curricula:

Microscopists

The current training manuals and curriculum for sputum microscopy in Malawi do not meet international standards. Project HOPE will work with the NTP to update and improve the training manuals and curriculum. The NTP has welcomed Project HOPE's support in this capacity. This effort will greatly improve quality diagnosis of TB both in the Mulanje and Phalombe Districts for this project, as well as throughout the country. The curriculum will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy. Training will also include recording and reporting using current WHO forms.. Training will also cover identification of SS- patients with symptoms needing specialist/x-ray examination and referral. Quality Control procedures will be emphasized as well.

VCT Provider Training

Training will be focused on TB symptom screening and the Project HOPE project and will include basics on TB and TB/HIV co-infection and the importance of getting their clients that show symptoms to an appropriate facility or department for diagnosis.

Traditional Healers

This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.

Shopkeepers (Drug Sellers)

This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.

5. Program Monitoring and Evaluation Plan

The project emphasizes participation and collaboration with counterparts and health system staff throughout the project, as part of its capacity building efforts. The M&E area is no exception. Our local colleagues, including the NTP have been actively engaged in the baseline assessments and the DIP planning process, and will continue to be involved throughout the duration of the project in various data collection processes and in the subsequent use of data generated for performance management. We will adopt and successfully apply national guidelines for recording and reporting data and work with NTP to correctly use the WHO recommended forms for TB control.

Project M&E Matrix:

The Project's plans for gathering and utilizing data for ongoing process monitoring and evaluation of outcomes are presented in the project M&E Matrix. The text which follows presents some additional description, methods, and tools where needed. Both the availability of existing data and reporting systems; the dependability and accuracy of the data collected through the current system; and the utilization of data for programme management was assessed during the initial baseline facility assessment. Project HOPE's Monitoring and Evaluation specialist at HQ, Mary Ann Seday, will be intensively involved in assisting project staff to utilize and understand existing TB data collection forms and analyze the data, as well as leading training in cohort analysis and designing and supervising additional outcome studies or Operations Research and cohort analysis.

DOTS Information System: As an early implementer of DOTS, the Malawi NTP has been a leader in using the DOTS information system (IS) as the basis for monitoring the quality and effectiveness of its TB control program, using the standard DOTS forms and the full range of WHO defined indicators, as evidenced in the flood of scientific publications from the program itself and its former senior physician, Dr. Anthony Harries. Reports from the target area used in preparing this proposal provide evidence of the ongoing use of these data for reporting the results of the program.

The existing information will be strengthened as follows:

At the community level, we will assist the guardian to properly utilize Form TB 01.

At the Health Centre level the system maintains a Chronic Cough Register which collects patient name, date, address, age, sex, result of screening, and remarks. In addition, they use the TB Registration form (TB03) and the Laboratory Register (TB02), which links cases to lab results. However, according to the forms review there are cases in which the TB03 form lacks the laboratory specimen/registration number and the Laboratory register (TB02) does not record a specimen number. Additionally distribute and monitor Patients' TB Treatment Cards for treatment adherence, and keep Drug Monitoring Books for monitoring of receipt and dispensation of TB drugs.

The Zone Level maintains and provides various data gathering tools for the District TB office, including the supervisory checklist. The Zonal authorities are the primary implementers or supervisory activities.

At the District Level the system maintains a District TB Register in which all TB cases in the district are recorded, a Laboratory Register, a TB/VCT Register, a District Drug Monitoring Book for registry of TB drugs distributed to facilities, and the Health Centre Supervisory Checklist. Since some of the data collection forms and their location are not fully compliant with updated (2006) WHO standards, the overall data collection system for TB control will be reviewed and strengthened to meet global standards.

The existing IS will form the backbone of our program monitoring. The indicators in the Program M&E matrix include the critical WHO indices which will be gathered from this IS, including TB case detection rates, TB cure and treatment success, sputum conversion, TB case notification by sputum positivity and type of illness, DOT performance, and so on.

Project HOPE will provide technical support and supervision (as negotiated) to enhance the reliability and accuracy of the data generated through the District TB control system. Based on Project HOPE's experience in TB control in CAR, we will seek to strengthen capacity for utilization of the data collected on the WHO recommended TB forms to closely monitor district level progress in TB control. The most important activity supporting TB control is the cohort analysis and individual case management that supports it. Project HOPE will provide technical expertise in cohort analysis and the utilization of the case level data discussed during quarterly coordinating committees. It is through this process that the DTP will be able to identify program performance problems, define necessary actions, and track outcomes.

HIV, HIV/TB, and ART Information System: Malawi has also developed an IS for HIV/AIDS, which includes a DOTS-like component for the HAART activities[51]. The project will use existing data from this system to document and measure its TB/HIV related activities to the extent these data allow. Additionally the project will work directly with both the TB and HIV ISs to develop useful operational indicators and reporting mechanisms that allow more direct reporting on the links between the two systems, including referrals, and VCT and TB diagnostic activity. Clearly defined indicators will facilitate the measurement of the effectiveness of TB/HIV service integration, thereby improving the measurement of case detection, prophylaxis, and treatment activities aimed at HIV/TB. Example indicators include: # / % of TB patients undergoing VCT, # / % of VCT clients screened for TB, # / % TB patients with HIV co-infection referred for CPT and ART as necessary.

Routine Reports: Existing reports within the health information system will be assessed. As necessary, data collection instruments and activities needed to track project activities (e.g. HSA contact tracing, defaulter tracing, Zonal Coordinator activities, community activities, and drug movement, referrals) will be defined and developed in collaboration with partners.

Supervisory Data: Supervisors currently use nationally developed checklists for some activities e.g. health facility assessment for TB, supervisory activities, etc.). We will assess with our partners the availability and adequacy of these checklists. The checklists will be assessed against

[51] Chimzizi, Harries, et al. Scaling up HIV/AIDS and joint HIV-TB services in Malawi [Notes from the Field] Intl J TB LD May 2005, pp 582-584

the WHO recommended TB forms to ensure that they contain the data needed to provide adequate supportive supervision, drawing in particular on our existing training follow-up and DOTS supervisory checklists from CAR. This will be particularly important in tracking HSA activities via collaboration with their formal supervisors (the District Environmental Health Officer) and their coordinators (HSA Supervisors or Zonal Coordinators). Additionally, the project will focus efforts on the revision or development of supervisory checklists for the community-based volunteers and Guardians, as needed.

Project Information System: The project will develop its own internal information system to track activities and related indicators. Pre and post test surveys will be developed to assess the short-term effectiveness of training activities at all levels in the curriculum design phase. After the implementation of the training courses, performance will be assessed through the supportive supervisory activities based on the WHO TB forms completion. The programmatic database will track all processes such as training sessions, visits, meetings, etc., with training registries and community volunteer and Guardian diaries based on the TB01 form and including any other programmatically relevant information to be determined by in-country counterparts. Standardized data collection forms will be developed to facilitate the collection of valid and reliable project-related data. Standardized data collection formats and training in the formats are of particular importance for the collection of consistent and reliable information from community volunteers and Guardians. Training in data collection will be an integral part of all project-related training activities.

Evaluation:

Baseline & final assessments: 1) A baseline and final assessment of community level **knowledge, attitudes, and practices (KAP)** related to TB transmission, treatment, stigma as well as HIV transmission, prevention, treatment, and stigma in the two districts was conducted using a questionnaire created to address project specific indicators as well as those of national interest. This was carried out with project staff and HSAs, using a modified 30-cluster sampling strategy. Forty clusters were sampled across the two districts, using probability proportional to size. The results of this survey activity are reported in Section 2 of this implementation plan.

2) Project staff including the health care technical specialist, the Project Manager (TB specialist) and the Country Representative (Mr. Kachule) carried out *with counterparts from the facilities* a **health facility assessment** on the 39 health centres and three hospitals in the district, drawing for the instruments for this from the NTP's instrument for such TB facility assessments, the WHO Tuberculosis Handbook (WHO/TB/98.253), and Project HOPE's instruments for this purpose used in CAR. The assessment included interviews with patients, medical staff, and guardians, as well as direct observation of DOT, coverage of DOTS related training, drug supply management, records and registers, laboratory equipment and practices, and infection control practices. The HFAs also assessed HIV related services and procedures (methods for referral, registers, management of HIV patients, use of prophylaxis, patient education, and the presence of interaction between HIV and TB activities and providers.

A focused formal qualitative study of the District TB Officers and Offices and the RTO will be conducted to assess management methods and capacity, the effectiveness and use of the information system particularly for management purposes, as well as the manager's approach to

supervision, training, meeting management, budget management, and other elements of management capacity. *This DTO/RTO study together with the HFAs will constitute the baseline capacity assessment for the project.*

3) A **qualitative study** among providers, HSAs, guardians, patients, and community members using in depth interviews and focus group discussions will define more operationally the barriers and factors influencing various TB and HIV related behaviors, and provide the basis for message and educational materials development for these groups. This study will be directed by the BCC Consultant, who will train project and counterpart staff in the data collection methods as part of capacity building.

Midterm Evaluation: A MTE will be carried out according to the USAID CSHGP guidelines for such MTEs and will focus on the facilities and service provision components of the project.

Final Evaluation: The final evaluation will be carried out according to USAID CSHGP requirements, with the participation of an external evaluator, with repetition of the baseline community cluster survey, the HFA, and capacity assessments. The final evaluation will provide necessary information to assess the achievement of the strategic objectives by the end of the project.

The project will collect data on four USAID required indicators for TB program (per attachment D to the DIP guidance):

Treatment success rate (DOH data):
Numerator: # of new smear-positive PTB cases registered and cured or completed Rx
Denominator: # of new smear-positive PTB cases registered

Case notification rate (DOH data)
Numerator: # of new smear-positive PTB cases reported X 100,000
Denominator: total population in area

Proportion of population who are aware that cough and fever are symptoms of TB (project survey data)
Numerator: # of people who correctly identified *both* cough & fever as symptoms of TB
Denominator: Total # of people surveyed

Proportion of population who know that TB is a curable disease (project survey data)
Numerator: # of people who correctly answered that TB is a curable disease
Denominator: Total # of people surveyed

Additional WHO recommended indicators will be monitored as well:

Smear Conversion Rate (TB02 and TB03=>TB05)
Numerator: Number of new smear positive PTB cases who are smear negative at the end of the intensive phase of treatment over one quarter
Denominator: Number of new smear positive cases identified in same quarter

Case Detection Rate (National Statistical Unit/WHO estimates)
Numerator: Number of reported cases per 100,000 persons per year
Denominator: The estimated incidence rate per year

In addition, the project will collect and/or monitor and report on the following program-specific indicators (see following page for Results Framework):

Objective/Result	Indicators	Source	Frequency	Baseline Value	EOP Target
SO 1: Improve treatment success rates of TB and TB/HIV	TB treatment success rate	TB registers	Quarterly	60%	75%
	Proven TB cure rates	TB registers	Quarterly	60%	75%
	% TB patients who are HIV+ referred to HIV care and support services during TB treatment	TB register, project records	Quarterly	15%	85%
	% of TB patients accessing VCT services	TB registers, project records	Quarterly	50%	85%
	Proportion of registered TB patients with HIV given ART during TB treatment	TB registers, project records	Quarterly	13%	70%
	No. of TB/HIV services successfully integrated	Project Reports	Quarterly	2	75%
SO 2: Increase case detection of TB and TB/HIV	% of suspects reporting to health facility within 4 weeks of cough	Chronic Cough Register	Quarterly	0	75%
	% annual increase of case notification	TB registers	Annually	500 cases per year	25% increase in case notifications
	% VCT candidates with positive TB symptom screen successfully referred for TB screening	Project records	Quarterly	0%	50%
	% registered TB Patients who are tested for HIV	TB registers	Quarterly	49%	75%
	No. of new TB microscopy services established through equipment and/or training staff	Supervision reports	Annually	0	17
	Percentage of sites performing microscopy lab QA correctly	Supervisor records	Quarterly	75%	85%

Results Framework

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

Intermediate Results:

Knowledge & Practice	Quality	Access	Policy
1. Increase smear conversion of new SS+ TB cases and successful treatment completion among all TB cases*	**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**
A. 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	A. Train/retrain and mentor health care personnel: o to fully implement DOTS protocols, including recording & reporting o to be effective counsellors advocating for TB and ARV treatment completion o to be aware of life-long risk and diagnostic difficulties of TB re-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. Work with NTP to update/improve training manuals and curricula B. Establish coordinating committees for case management o support quarterly cohort analysis of SS conversion and treatment outcome indicators at both the health centre and district level C. Enhance QA program in collaboration with local health authorities including: o improved supervision & support of TB clinical staff & HSAs

*including those co-infected with HIV

Strategic Objective 2: Increase case detection of TB and TB/HIV co-infection in Mulanje and Phalombe.

Intermediate Results:

Knowledge & Practice	Quality	Access	Policy
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**
A. Conduct a community education campaign to: o increase recognition of TB symptoms o increase recognition of the importance of VCT and early TB diagnosis o increase knowledge of the interaction between HIV and TB infection o increase behaviours related to the prevention of HIV	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. Equip new labs for sputum microscopy and support qualified staffing via training B. Advocate for client-friendly services (i.e., appropriate hours and confidentiality) C. Implement/improve TB symptom screening and referral by: o VCT/HIV clinical care providers o traditional healers o shop keepers o HIV patients (repeated self-referral) o Household contacts of SS+ TB cases	A. Work with NTP to update/improve training manuals and curricula B. Work with NTP to correctly implement WHO TB guidelines including reporting forms C. Enhance QA program in collaboration with local health care authorities o Quarterly analysis of TB07 by clinical and laboratory staff, microscopy QA

6. Program Management

Proposed management structure: Project HOPE will take primary responsibility for the implementation and coordination of field activities in Mulanje and Phalombe and will manage all aspects of project financial and technical reporting. Project HOPE has extensive experience in the development and management of health programs in international settings, including several previously described in Malawi and tuberculosis programs in Russia/Eurasia. TB and other health programs are planned, administered and evaluated by the staff within the Global Health Division under the supervision of the Senior Vice President for Global Health.

Project HOPE has opened an office in the Mulanje District to ensure successful implementation in both Mulanje and Phalombe. This office will liaise with the existing Project HOPE office in Limbe, and will be administratively supported by our Country Director, Mr. Timothy Kachule, and the country accountant. Mr. Kachule is also actively participating in the project's clinical and field activities. The existing Project HOPE office will support this project by interfacing with USAID mission and National Level officials and providing logistical support. Coordination between the two offices is the responsibility of the Country Director.

Program planning occurs through a team process. Headquarters staff provides supportive feedback to the hiring of key local staff, agreements with partner agencies, baseline and assessment instruments, and the project DIP. Management issues are addressed through e-mail, phone calls, and bi-weekly or weekly meetings conducted through Elluminate or Skype with headquarter and field staff. Formal reporting consists of monthly financial reports, quarterly and annual reports, annual personnel reviews. Headquarters staff will make annual or semi-annual site visits.

Headquarters Management: Shaun Walsh, the Regional Director for Africa and an experienced Africa development manager, holds formal responsibility for all aspects of project management, including technical management coordination, managerial supervision of the field team, and finance and administration. The Deputy Regional Director, Sue Adams, has extensive experience in management of health and training programs internationally for Project HOPE, and she will backstop the project. Project support at Project HOPE headquarters includes additional administrative support and staff for communications and backstopping; a Purchasing Department with experience in USAID procurement regulations; a Finance Department with extensive experience in USAID accounting and reporting requirements; and a Human Resources department with experience in recruiting and contracting under USAID regulations. These resources have demonstrated experience and competency in similar roles working with USAID in Project HOPE's various projects and activities in Malawi, Mozambique, and Namibia and around the world.

Technical Management. Technical management for this program consists of the following:

- The overall project is led by the Director of the Infectious Diseases Unit, Dr. Renslow Sherer. Dr. Sherer in an internationally-known expert in HIV and related infectious diseases, with over 25 years of international experience in HIV prevention and treatment, including working with TB patients co-infected with HIV, and is currently involved in HIV/AIDS programs in Malawi and other countries in sub-Saharan Africa. In addition to serving as the overall lead of the program, Dr. Sherer will provide significant support to the program regarding TB patients who are co-infected with HIV.

- The program relies on Richard Bumgarner for TB technical expertise. Mr. Bumgarner is a former Deputy Director of the WHO Global Tuberculosis Programme in Geneva, and an architect of WHO's DOTS TB strategy from its inception. He has expertise with global healthy policy and disease management, and an in-depth knowledge of global TB program strategy and monitoring and evaluation.

- Marija Joncevska, PhD, our Regional Laboratory Specialist for the Russia/Eurasia region, will provide technical laboratory expertise to the project. Dr. Joncevska has over 10 years of global experience in assessing, monitoring, and evaluating TB laboratory services, as well as developing training packages for TB laboratory technicians and on TB control program management.

- Dr. Hector Jalipa, the Africa Regional TB/HIV expert stationed in Mozambique, will be available with easy access to Malawi to support and backstop the project. Dr. Jalipa has over 20 years of experience, primarily in Africa, in program management and health care provision for people with HIV and TB.

- Sandra Dalebout, MPH, is the lead Headquarters backstop for this project, serving as the main coordinating point with USAID/Washington. A member of the Infectious Diseases Unit at Project HOPE Headquarters, Sandra has over 14 years of experience managing infectious diseases and reproductive health programs and studies. She has a wide range of experience in program design and implementation with a focus on monitoring and evaluation, and community based education programs.

- TB consultants will be engaged as needed to further support the project.

Field Management. At the project site in Malawi is a team of technical and administrative staff as well as support staff. The team is led by Timothy Kachule, Country Representative, Project HOPE/Malawi and Patrick Chipungu, TB Programme Manager. Mr. Kachule is responsible for overall day-to-day project management and administration, providing direction to and supervising project staff; and liaising with project partners at district and national level. He serves as the liaison between Project HOPE headquarters and various partner/donor organizations in Malawi. Mr. Chipungu is responsible for overall day-to-day project management and administration, providing direction to and supervising project staff; and liaising with project partners at district and national level.

The rest of the technical team consists of two trainers, Elizabeth Kapyepye and Thandiwe Kamanga, a monitoring and evaluation specialist, Ireen Kachingwe, and a logistician, Chifundo Chopi. The trainers are responsible for leading training and supervision in collaboration with counterparts, and ensuring the adequacy and rapid management of the data sources needed to document progress and outcomes. In addition, the Malawi team has an accountant, Eric Trinta, an accounting assistant, Enoch Mwamusaku, a secretary, Angellina Chimbalanga, an office assistant, Violet Kagwa, and two drivers, Charles Sandula and Stanley Chotsani.

Staff for this project were hired through a competitive process. In the case of the Programme Manager, Dr. Nyaungulu, the National TB Technical Advisor, participated in the interview process along with headquarters and field staff.

New in-country staff received training, as appropriate for their responsibilities, in the policies and procedures of Project HOPE, including communications, finance, personnel, procurement, shipping, reports, and setting up and closing down programs. Patrick, Elizabeth, Ireen and Thandi attended a training for District TB Coordinators. The purpose was to train TB officers to plan, monitor, and implement TB control in district. The course 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.

An organizational chart showing US Headquarters positions, their relation to the regional offices, reporting lines and in-country positions is in Annex 7. Key staff resumes are in Annex 8.

7. Training Plan

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	Health Care Worker Training				
1	**TB health workers - DOTS protocols & TB/HIV co-infection:** Review of diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. Other topics will include: suspecting and identifying co-infected patients early; identifying cases of TB as early as possible; providing CPT; following DOTS algorithm; providing good supervision; ensuring quality lab records. TB/HIV co-infection topics will also include: HIV prevention, basic elements of HIV/ART monitoring, and ART/TB treatment drug interactions.	All medical staff involved with TB DOTS implementation including laboratory (± 150 persons for both districts)	3	25	6
2	**Existing microscopists:** Training will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy. Training will also include data management training, including how to record patients and data on standard DOTS forms and how to submit reports. Training will also cover identification of SS- patients with symptoms needing specialist/x-ray examination and referral. Quality Control procedures will be emphasized as well.	Microscopists in 4 hospitals and health centre laboratories currently doing microscopy, plus 2 District TB Officers	10	6	1
3	**New microscopists:** Training will include proper methods of obtaining sputum samples, preparing slides, staining, and examination with microscopy. Training will also include data management training, including how to record patients and data on standard DOTS forms and how to submit reports. Training will also cover identification of SS- patients with symptoms needing specialist/x-ray examination and referral. Quality Control procedures will be emphasized as well.	2 health centre staff per health centre, including the 10 new microscopy sites and the 7 sites that are not yet operational as they are without trained staff.	10	11	3
4	**HSA training** Guardian and volunteer support (DOT, ART adherence, drug supply and re-supply, patient and family support, stigma reduction, record keeping; and mobilization for TB symptom screening & referral, TB/HIV prevention, VCT, contact tracing, defaulter tracing and motivation; use of job aids to do community education and	HSAs and HSA supervisors, by Health Centre teams -- ± half of Health Centre HSAs in one session, other half in subsequent session (± 4 Health Centres per session)	2	28	8

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	motivation; how to do follow-on visits to traditional healers & drug sellers; preparation of specific HSA locality plan. Follow-on by Health Centre supervisor at weekly meetings with HSAs and ongoing supervision/assessment.				
5	**HIV/AIDS health care worker training:** Similar to the basic TB and TB/HIV co-infection course, this will include a review of TB diagnosis and treatment standards/methods, including sputum microscopy and/or patient referral for diagnosis. However, the primary focus will be TB/HIV co-infection including screening/testing for TB and for HIV co-infection; CPT, IPT, HIV prevention, basic elements of HIV/ART monitoring, and ART/TB treatment drug interactions.	Health care providers working with HIV/AIDS patients	3	30	5
6	**VCT providers - TB screening and referral:** Training will be focused on TB symptom screening and the Project HOPE project and will include basics on TB and TB/HIV co-infection and the importance of getting their clients that show symptoms to an appropriate facility or department for diagnosis.	VCT staff and their district coordinator (AIDS Control Officer)	1	20	4
7	**Advanced DOTS – TB treatment workshop/training:** Details of topics and training method to be determined based on project progress and quality issues; will take place midway in project following midterm evaluation and recommendations.	Selected participants from Basic/Refresher DOTS training	2	25	6
	Partner Capacity Building				
8	**Evidence-based Problem Identification & Management & Supervisory Methods:** Workshop/training for NTP staff at district level to strengthen accuracy of data being recorded and reported in DOTS system and to use the existing information system and cohort analysis for problem identification and management to improve performance and increase collaboration with HIV system. Initial session to establish procedures and priorities and analysis methods. Methods, forms, standards assessment procedures, and motivation approaches for supervisors at various levels. Subsequent follow-up activities to be carried out as part of monthly	Zonal Supervisors, District Health Officers, relevant Hospital staff, Health Centre directors	5	15	1

	Training Topic and Description	Participants	Days per session	Participants per session	Number of sessions
	district analysis and quarterly regional analysis meetings and supervision by Zonal Supervisors and Project HOPE regional TB advisor.				
	Community Level Training				
9	**Traditional Healers** This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.	Traditional healers who see patients with TB/HIV symptoms and can refer for testing/diagnosis	1	50	10
10	**Shopkeepers (Drug Sellers)** This orientation will consist of an introduction to Project HOPE's project, with a focus on symptom screening and referral. Basic facts about TB (symptoms, epidemiology, transmission, treatment, where to get tested & treated) will be covered with an emphasis on the importance of early care seeking behaviours and treatment adherence. Emphasis will be placed on the importance of VCT and where to get tested, including relevant basic facts on TB/HIV co-infection and HIV.	Drug Sellers who see patients with TB/HIV symptoms and can refer for testing/diagnosis	1	50	10
	Monitoring & Evaluation				
11	**Community & Health Service Provision Survey Preparation:** At baseline, midterm, and final. Intensive training on survey methodology, interviewing techniques, detailed review of survey questions, and data management procedures.	Project HOPE Malawi M&E staff, external data collectors, survey supervisors, and district TB program staff.	2	30	3

8. Work Plan

Activity	Year 1 Quarter				Year 2 Quarter				Year 3 Quarter				Year 4 Quarter				Year 5 Quarter			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Treatment Success																				
TB health worker training				X																
Supervisor training (recording, reporting)				X																
Mentoring/supervision TB health workers				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
HIV health care workers training					X															
Mentoring/supervision HIV health care workers					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
HSA training					X															
Mentoring/supervision of HSAs					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Case Detection																				
Laboratory assessment				X																
Microscopy curriculum development				X																
Retrain existing microscopists				X																
Mentoring/supervision microscopists				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Cohort analysis				X	X	X	X	X	X	X	X	X	X	X	X	X	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	X	X	X	X	X	X	X	X	X	X	X	X
Community IEC							X	X	X	X	X	X	X	X	X	X	X	X	X	X

ANNEX 1

Description of DIP Preparation Process

Description of DIP Preparation Process

Project Start Up

Initial Meetings and Visits

After receiving the award, Project HOPE's Country Representative, Timothy Kachule, contacted the District Health Offices to share the news. Mulanje was contacted on September 4 and Phalombe on September 5, 2006. In Mulanje, Timothy met with Dr. Frank Chimbwandira, the District Health Officer (DHO) and Mrs. Emma Nkhoma, the District Nursing Officer (DNO). In Phalombe, Timothy met with Tommy Thepheya, the Deputy DHO, and Mr. Thom Ngwira, the DNO. The discussion included a review of early preparatory steps for program implementation, NTP plans for updated TB curricular modules and training, current plans for ART scale up and care in the region, and next steps.

Mr. Kachule and staff met with members of the District Executive Committees (DEC), comprising all government and non-governmental heads in the districts, in Mulanje and Phalombe districts. The meetings were held in Phalombe on November 11, 2006 and in Mulanje on November 18, 2006. Timothy Kachule presented the program objectives and broad implementation plan, and they highlighted the key contributions to be made by members of the DEC. Particular emphasis was placed on the role of the DHOs, Health Surveillance Assistants (HSAs), and clinics in identifying trainees, allowing free time to attend trainings, interaction and support for the guardians and Community Health Workers (CHWs), and timely access to NTP and DHO data for program performance monitoring and evaluation.

A meeting with Mrs. Catherine Chiphazi, Child Health Specialist at the USAID Local Mission in Malawi was held on September 1, 2006. The Project HOPE TB Program was discussed in detail, and key milestones in the implementation process were reviewed, including the establishment of infrastructure and the hiring of key staff, the form and implementation of the community survey and health facility survey, preparation for the Detailed Implementation Plan (DIP), interaction and collaboration with the HIV care and treatment sector in Malawi, and further communications with Dr. Salaniponi and the NTP. Mrs. Chiphazi offered useful suggestions regarding these activities, and encouraged regular and frequent communication.

On September 21, Timothy Kachule met with Dr. Salaniponi and colleagues of the National TB Control Programme. The discussion included a review of early preparatory steps for program implementation; NTP plans for updated TB curricular modules and training; current plans for ART scale up and care in the region; and next steps. There was additional discussion of best practices in Home Based Care (HBC) for people with TB, and various methods of medication adherence. Sputum microscopy and quality control in the NTP system were reviewed, and Dr. Salaniponi offered to forward the current microscopy training plans and QA system plans to Mr. Kachule.

On October 31, 2006, a meeting was held with USAID staff and local partners. USAID staff included Namita Agravat, Child Survival and Health Grants Advisor/USAID Washington and Mrs. Lilly Maliro, Deputy Health, Population and HIV/AIDS and Nutrition Team Leader/USAID Malawi. Local partners included Margaret Kaseje, Country Director FHI; Njuru Ng'ang'a, Operations and Finance Manager, MSH Malawi; McPherson Gondwe, FHI TBCAP Programme Manager; and Timothy Kachule from Project HOPE Malawi. It was decided that this group would meet quarterly to help foster collaboration, share ideas and lessons learned, and

prevent duplication of efforts. Presentations were made by each group to share information on what their organizations' objectives were.

On November 16-17, 2006, a partners meeting was conducted in Blantyre. Participants included:

- Dr. Felix Salaniponi, National TB Programme Director
- Mr. Upindi, South Eastern TB Zonal Coordinator
- Dr. Frank Chimbwandira, DHO Mulanje
- Raphael Piringu DHO Phalombe
- Tommy Thepheya, Prog. Point person Phalombe
- Lameck Mlauzi, District point person Mulanje
- William Zuza, District TB Officer Mulanje
- Zuze Phiri, District TB Officer Phalombe
- Project HOPE staff including Patrick, Themba, Ireen and Timothy

Briefing sessions were presented for Health Centre administrators and all district coordinators in Phalombe on November 16 and in Mulanje on November 17, 2006.

Caroline Teter, Technical Specialist, Project HOPE Virginia visited from November 17 to January 24, 2007. Caroline assisted with general programme start up and the Baseline Community Survey and the Health Services Provision Assessment.

Richard Bumgarner, former Deputy Director of WHO and one of the founders of the STOP TB initiative, has provided document reviews and advice throughout the DIP process as well.

Start Up Activities

Staff recruitment is complete. The Programme Manager, Patrick Chipungu, started on November 6, 2006, contingent upon USAID Washington final approval, which was received shortly thereafter (USAID Washington pre-approved all Programme Manager finalists). Trainer Themba Phiri started on November 7, 2006, but unfortunately resigned this year to pursue a higher degree. He was replaced by Thandiwe Kamanga in March 2007, who transferred from a training position in another Project HOPE Malawi programme. Elizabeth Kapyepye, the second trainer, began on December 1, 2006. Ireen Kachingwe, Management Information Specialist stared on November 13, 2006. The team is also supported by a logistician, secretary, office assistant, assistant accountant, and drivers.

Project HOPE designed and conducted a Community Baseline Survey from December 7–28, 2006 to determine levels of knowledge and attitudes about TB in the general community. In addition, Project HOPE designed and conducted a Health Services Provision Assessment from January 22-31, 2007 to determine the capacity of the health services in the two districts.

DIP Planning Meeting

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. A 4-day DIP Planning Meeting took place from February 26 to March 1, 2007 (see participant list and agenda below). A smaller working team was commissioned on March 1, 2007 to put together the DIP (in collaboration with headquarter staff) 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 session also went through the DIP development guidelines and with support from a representative from USAID Malawi, Mr. Sosten Chilumpha, re-designed the structure of the project to accommodate suggestions that came up during the workshop.

Participants at DIP Planning Meeting, Malawi, Feb. 25 – Mar. 1, 2007

Name	Cadre	Place of Work
Ireen Kachingwe	M&E	Project HOPE
Timothy Kachule	Country Rep.	Project HOPE
Elizabeth Kapyepye	Trainer	Project HOPE
Rutgor Antem	MO	Holy Family Hospital
Sabina Sesay	SNO	Holy Family Hospital
Mercy Chinkhunda	COM RN/M	Phalombe DHO
Patrick Chipungu	Program Manager	Project HOPE
Zuze Juwawo Phiri	DTO	Phalombe DHO
Lifa Sanudi	Researcher	Reach Trust LL
Isaac Mkandawire	M & EO	Phalombe DA
Malo Salimu	M & EO	Mulanje DA
Vincent Madalopa	Laboratory	Mulanje DHO
Jonathan W. Kandiero	EHO	Phalombe DHO
Little E.M. Banda	IEC Officer	Mulanje
Alfred Kapyepye	HIV/AIDS Coordinator	Mulanje DHO
Sellina Chinsinga	District AIDS Coordinator	Phalombe DA
McPherson Gondwe	Senior Technical Office (Care Support)	FHI
William Zuze	DTO	MDH
Lameck Mlauzi	FTBO	MDH
Hector Jalipa	Regional Specialist	Project HOPE
Isaias Dambe	Research Officer	NTP/CHSU LL
Dr. Frank M. Chimbwandira	DHO	Mulanje District Hospital

Agenda DIP Planning Meeting, Malawi, February 25 – March 1, 2007

DAY	Time	Activity
Day 1	8.00 a.m.-8.15 a.m.	Welcome Remarks
	8.15 a.m.-8.40 a.m.	Introductions
	8.40 a.m.-9.00 a.m.	Activity Objectives
	9.00 a.m.-9.15 a.m.	Agenda Outline Process
	9.15 a.m.-10.00 a.m.	Introduction to Project HOPE
	10.00 a.m.-10.30 a.m.	Tea Break
	10.30 a.m.-12.00 p.m.	TB Programme Outline
	12.00 p.m.-1.30 p.m.	Lunch
	1.30 p.m.-3.00 p.m.	Baseline Survey
	3.00 p.m.-3.15 p.m.	Tea Break
	3.15 p.m.-5.00 p.m.	Health Facility Assessment
Day 2	8.00 a.m.-8.05 a.m.	Opening Prayer
	8.05 a.m.-8.35 a.m.	Re-Cap
	8.35 a.m.-9.35 a.m.	DIP DHO-Mulanje
	9.35 a.m.-10.35 a.m.	DIP DHO-Phalombe
	10.35 a.m.-11.00 a.m.	Tea Break
	11.00 a.m.-12.30 p.m.	Conclusion & Lessons Learned
	12.30 p.m.-2.00 p.m.	Lunch
	2.00 p.m.-3.00 p.m.	Conclusion & Lessons Learned
	3.00 p.m.-3.30 p.m.	Tea Break
	3.30 p.m.-4.30 p.m.	Programme Redesigning
	4.30 p.m.	End of the Day
Day 3	8.00 a.m.-8.10 a.m.	Opening Prayer
	8.10 a.m.-9.10 a.m.	RE-CAP
	9.10 a.m.-10.10 a.m.	Programme Designing
	10.10 a.m.-10.40 a.m.	Tea Break
	10.40 a.m.-12.30 p.m.	DIP Outline
	12.30 p.m.-2.00 p.m.	Lunch
	2.00 p.m.-3.30 p.m.	DIP Outline
	3.30 p.m.-4.30 p.m.	Discussions
	4.30 p.m.	End of the Day
Day 4	8.00 a.m.-8.10 a.m.	Opening Prayer
	8.10 a.m.-9.10 a.m.	Re-Cap
	9.10 a.m.-10.10 a.m.	MOU Reviewing & Signing
	10.10 a.m.-10.30 a.m.	Tea Break
	10.30 a.m.-12.30 p.m.	Way Forward
	12.30 p.m.	Lunch & Departure

Revisions (from the original application)

Three major changes have been made since the original proposal was written. The first change is that instead of establishing 5 new microscopy sites total in the two districts, we will establish 5 new microscopy sites in EACH of the two districts, for a total of 10 new sites. In addition, based on a request from the NTP and the DHOs, we will be training microscopists for an additional 7 microscopy sites to be operated and managed by the DHO (3 in Mulanje and 4 in Phalombe). These sites are equipped, but they lack trained personnel. In total, the number of functional microscopy sites in the two districts will increase from 4 currently in operation to 21 by the end of the project (Mulanje will increase from the 3 currently in operation to 11 and in Phalombe from the 1 currently in operation to 10). Project HOPE has purchased 5 microscopes for this purpose and has received 5 donated microscopes.

Secondly, based on conversations with USAID/Washington, USAID/Malawi, and the NTP we have dropped our original objective #3, which was to provide technical assistance to the Blantyre DTO and DOH. Instead, we will concentrate on providing technical assistance specifically to the Mulanje & Phalombe Districts. However, some of our activities will benefit the country as a whole. For example, we will be providing technical assistance to update the microscopy training manuals and curricula prior to our first microscopy training. The revised manuals and curricula will be used not only for our project training, but also for the entire country.

And finally, there have been some changes from the originally proposed budget, although there are modest differences in the overall amount that will be spent of either federal or non-federal funds. The main increases are due to items out of the project's control and include an increase in Project HOPE's NICRA rate from 31.03% to 35.2%, the introduction of duty on some capital items such as motor vehicles in Malawi, and USAID/Malawi per diem increases from 1,000 to 2,800 Kwachas, which have a significant impact on our training budget, resulting in an increase of approximately $50,000.

To make up for these increases, Project HOPE has reduced the budget in the following ways:
Project HOPE has established a partnership with another NGO to bring much needed pharmaceuticals to Africa including Malawi. Working with the MOH, Project HOPE will procure appropriate GIK during the life of the program and our partner will cover some of the consignment shipping costs and thus funds needed for shipping were reduced accordingly. Year 5 activities have been reduced including removal of travel, and reductions in staff time in anticipation of absorption of project activities by the DTO and NTP.

See Annex 10 for the revised budget and Annex 3 for our responses to the Proposal Review Comments.

ANNEX 2

Revisions
(from the original Application)

Tuberculosis Control in Southern Malawi

Detailed Implementation Plan - Revised

Changes/Additions/Clarifications:

- The **TB epidemiology** section was completely rewritten to reflect new data received from the field which more clearly outlines the epidemiological situation in Malawi. In addition, TB language was clarified throughout the document.

- A new section called "**Laboratory Assessment**" was added to the "Summary of Baseline Assessments" section. This section is a summary of the lab assessment conducted in July. The final report is forthcoming.

- The **Results Framework** was revised to reflect changes discussed during the DIP review, and the sections that follow describing SO1 and SO2 and the interventions in detail, were subsequently rearranged and revised accordingly. The training plan, workplan, and budget were also modified accordingly.

- Minor changes have been made to **budget** line items including removing line items for training community volunteers, as we have dropped this item from our activity list, dropping the midterm LQAS survey as our community based portion of the project will start later in the program, following proven improvements in the health care facilities, and increasing the technical support and travel line items for our laboratory specialist.

ANNEX 3

Response to Application Debriefing

DIP Presentation

Tuberculosis Control in Southern Malawi

Detailed Implementation Plan: Response to Application Debriefing

Response to USAID notification of award May, 2006

Executive Summary

"This section mentions QAP but it was not clear the specific approach proposed for this project. It would have been helpful to explain this innovative idea further."

Response: Our intent in the application was to adopt the model for gradual implementation of quality improvements in district health facilities following the "Change" model developed by the Institute for Health Care Improvement (IHI) and implemented in their 'Improvement Collaboratives.' Our team has the advantage of the fact that Dr. Renslow Sherer was the Chairman of the first IHI collaborative in HIV care in 75 Title III HIV clinics in the United States from 2000-2002, and so is intimately familiar with the change model and the implementation strategy.

In brief, the IHI change model will be added as a supplemental module to the training and refresher courses for physicians, nurses, guardians, HSAs and DTOs as a means to problem solve the most pressing obstacles to quality improvement in primary care for people with TB at the local (district) level. In the model, all staff levels are encouraged to participate in suggesting changes in care systems and approaches, and the means to conduct small tests of changes are contained within the model.

While the use of this model was noted during our DIP preparations with the NTP and DTOs met with interest and support, the DTOs felt that the use of the model in the first year might present too radical a change to the usual method of training and new program implementation. Hence our DIP includes the gradual introduction of the change model in years two through five. As noted in the original executive summary, ongoing consultation and advice for this aspect of the project will be sought from the USAID Quality Assurance Project (QAP). Additional discussion of this issue is to be found on page 52 of the DIP.

Situational analysis

"There are a few minor errors in the epidemiologic data (rates in 1990 and graph are inconsistent)."

Response: The DIP contains the best available current epidemiological data from the NTP and the DTOs, and yet, as discussed on page 27 of the DIP, it remains flawed in several important ways. First, the NTP has been slow in entering and reporting on

national data for the past two years; hence we have had to rely on national data from 2004, as published in the draft NTP Strategic Plan for 2006/7-2010/11. Where possible, we have supplemented this data with data from smaller cohorts from the published literature.

We note that the recent declaration that TB is a national emergency in Malawi (Press release March 27, 2007) states that while 27,500 people are diagnosed with TB annually in Malawi, this is estimated to represent only 50% of all cases in the country, i.e. there are an estimated 55,000 cases annually in Malawi. We have used these national estimates in the DIP. Similarly, the initial proposal cited the TB case detection rate of 442/100,000 from 2003, and the DIP cites the more recent national TB case detection rate of 409/100,000 (2004).

To complete the discussion of national TB and TB/HIV data, we agree with and have used the figures from the NTP 5 year strategic plan and Malcombe S et al (Trans R Soc Trop Med Hyg 2006;100:975-9) suggesting that of the 27,500 annual TB cases in 2004, 69% or 18,975 are estimated to be HIV infected.

More recent data are available from the districts; we present data from the Mulanje and Phalombe DTOs from the third quarter of 2006 on page 25 of the DIP. We note, however, that these data suggest a TB case detection rate of 224/100,000, which is substantially below the national average. This indicates serious deficiencies in the DOTS recording and reporting system that must be addressed by the DTOs and their staff, as well as by the NTP officials, in order for this project to succeed and to successfully document its impact on case detection rates and treatment success rates. While we have based our planning on the available data in the situational analysis and the program plan, we have tried to point out the deficiencies and to estimate the impact of the difference between the reported and the actual numbers of patients with TB, and TB/HIV co-infection, for TB case detection, treatment success rates, and other program indicators. Project HOPE will collaborate with the NTP and the DTOs to identify correctible causes of discrepancies in the reported DOTS program indicators.

Finally, we are relying on the UNAIDS 2006 estimates for HIV in Malawi, as follows: There are an estimated 900,000 people living with HIV, of who 150-200,000 are in need of ART, and only 30,000 are currently on ART. Of the estimated 19,000 TB/HIV co-infected patients, although ART is indicated in all of them, only 10-15% are currently on ART.

We note also that HIV, and TB/HIV, are frequent causes of lost time from the job and of mortality among health care workers; in an analysis of the workforce in 2003, 2.8% of the health care workforce in Malawi died every year from HIV/AIDS.

"Except for the areas mentioned above, the application would have been strengthened with a more detailed description of what other local NGOs are doing in TB or TB/HIV. In addition, it would have been useful to know what other health organizations are working in the selected project areas."

Response: We believe that our outreach to date to international and local NGOs has addressed this concern, as illustrated in the description of the DIP process, the

community and NGO representation at the DIP workshop (pgs 11-12), and in the section of the program plan that addresses partners (pgs 30-31). Project HOPE is also conducting quarterly meetings with the TB CAP program, including MSH and FHI, to collaborate, share information, and ensure no duplication of effort.

"There is a lot mentioned about working with other actors but strategies and letters of support from the NTP and others appear to be missing. Though there were letters from the district in support of this program and this is sufficient, it is important to include letters from the regional and national levels. This raises concerns that the relevant stakeholders may not have been involved in this process."

Response: The DIP contains clear involvement of the NTP, at both the national and district level, and of community NGOs in the preparation of this DIP. Since program inception, the District Offices have assigned "focal points" specifically to liaise with our project staff and were involved in the baseline survey (design and implementation) as well as in the DIP planning meeting.

"IPT and CPT treatment are mentioned but not discussed further in terms of whether this is a national policy and the drugs are available in the selected areas. The CSHGP program does not support NGOs procuring drugs. A clear description of how the project will support the sustainable systems for drugs would have been a more useful strategy."

Response: INH preventive therapy (IPT) has been removed from this DIP at the advice of the NTP and the DTOs, as it has yet to be implemented on a large scale at the district level due to the limited access to quality chest radiography and limitations in human resources, reliable refrigeration and electricity, and the cost of testing reagents.

In contrast, clotrimoxasole preventive therapy (CPT) is standard of care for people with TB, with TB/HIV co-infection and for people with HIV infection in Malawi, and the drug is provided free of charge. Clotrimoxasole is available to patients at the district health center along with TB medications. CPT is an essential component of effective treatment for TB patients; in a study in 2000 of 717 TB patients, for every 12.5 TB patients treated with CPT, one death was averted, and CPT reduced the mortality in TB/HIV patients from 43% to 24%, and the overall death rates fell from 37% to 29% (Mwaungulu FB et al, Bull WHO 2004;82:354-64.) For these reasons, we continue to describe CPT as an integral component of TB care in Malawi.

In addition, Project HOPE plans to address district capacity in drug procurement and supply chain processes. Our field staff includes a full-time logistician to assist with this effort.

"Although the application does a thorough job of walking the reader through the health and community systems and showing where the bottlenecks are, it would be useful to know what additional effort is USAID funding."

Response: We have taken care in the DIP to describe those components of our project that are USAID supported, as well as to describe other efforts that are supported by USAID funding.

Program strategy and interventions

"Plans and strategies for project sustainability are not clearly outlined. The concept of working with other partners including local NGOs is a good one and will address issues of sustainability; however, this strategy is not fully described and there is little mention of CHAM and other HIV CBOs that will be involved with the program. There are no letters of support provided by these targeted organizations."

Response: Project sustainability is addressed on page 41 of the DIP. In brief, we believe that this project offers viable strategies that are highly cost-effective and offer the greatest possible sustainability for the level of funding.

Our strategies are based on existing best practices in TB and TB/HIV care. In particular, the use of trained family members as guardians to ensure the adequate adherence to TB and other medication and clinic follow up of people with TB is well-established in the literature. By training HSAs to train and deploy guardians and by expanding their role to include assistance with HIV VCT 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/HIV co-infection. 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 TB and 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.

"It would be helpful to have a clearer understanding about the use and working with TB guardians and linkages with other health workers in the community. How will CHWs and guardians be trained and supported? What is the unique role that the guardians offer and their difference in roles with community health volunteers and HSAs. Also, how will the project work with traditional healers. There is no information provided about how traditional healers will be engaged in the project."

Response: We have described the job descriptions, training schedule, and relationships between the community volunteers and guardians to other health workers in the district in DIP.

In brief, guardians have the principle responsibility of working one to one with people known to have TB during their treatment. They are charged with ensuring compliance

with clinic visits, medication adherence (for all relevant medications, i.e. TB meds, CTX, and ART where appropriate), and full treatment completion. They are also charged with ensuring that each TB patient has been HIV tested, and, if necessary, engaged in HIV primary care with access to ART. Finally, guardians are charged with assessing family members and other contacts at home, and assisting with their TB assessment by the performance of TB symptom screening on all household members. Secondary responsibilities include providing general information on TB and HIV, means of prevention, and information and referral to sites where household members can be assessed and tested.

Community volunteers have the principle responsibility of linking the project to key stakeholders in the community, and for performing TB symptom screening at such sites, including traditional healers, drug sellers, and VCT sites. They will maintain supplies of TB symptom screening brief assessments and background information about TB transmission, symptom recognition, and the names, addresses, and phone numbers of sites for TB assessment, sputum examination, and treatment in the districts, as well as HIV transmission, risk reduction information, and sites for VCT and access to HIV care and treatment.

The training schedule for the community volunteers and guardians and the workplan are noted on pages 86-91. Guardians will receive one-day trainings with regular updates in groups of twenty guardians. The content of the training is directed towards familiarity with TB treatment and the DOTS and STOP TB strategies, with the emphasis on adherence to treatment and clinic visits, regular sputum microscopy, and treatment completion; the important of nutrition; the value of CPT; TB transmission patterns and methods of TB prevention, as well as TB warning signs; HIV transmission and the importance of HIV and STI risk reduction; VCT for any clients who have yet to be HIV tested, and the value of clinical care and ART for those known to be HIV infected. And finally, guardians will also perform TB symptom assessment for household contacts and assist with clinic visits and sputum micrsocopy for all symptomatic family members.

The community volunteers will receive one-day trainings with regular updates. The range of topics is similar to the guardians in a more condensed form. The emphasis for community volunteers is on networking and referral for TB symptom screening, clinical assessments, sputum microscopy, and treatment, as well as VCT and access to HIV care and treatment, including ART. Specific materials for both guardians and community volunteers will include TB symptom screens; telephone contact numbers and addresses for district TB and HIV care centers, including microscopy sites; and TB, HIV, and TB/HIV information sheets.

"CPT is mentioned for HIV patient referral but is not given a high priority as a complement to TB treatment, by the TB program."

Response: We have addressed this issue in the DIP and in the answer on IPT and CPT above.

"The experience with TB programs in Africa indicates that countries are not enthusiastic about IPT. It is not clear or apparent that Malawi is really ready for this form of treatment."

Response: As noted above, we have removed IPT from the DIP and from our project. We will engage the NTP and the DTO regarding IPT over time, as it has been shown to have a significant benefit in settings where adequate training and radiography are available.

"It is not clear how the lay microscopists will be sustainable and further information needs to be provided on this cadre of workers. Questions include: will they be paid; are they from the community or do they belong to the MOH health infrastructure; will they eventually be hired as part of the MOH system; and are they authorized to do this work?"

Response: Our strategy in regard to the microscopy training has been to work *within* the DTO and NTP structure exclusively. Microscopists will undergo training in the standard 2 week training from the NTP, as enhanced by the Project HOPE review and modification of the curricula. They will be paid according to current rates for reimbursement for community health workers, and the intent is to fold this expanded workforce into the MOH health structure over time, which will maximize the impact of the training on long term sustainability. Finally, the MOH will collaborate on all facets of this key portion of the project, including the inclusion of the new sites in the quality monitoring of the sputum microscopy facilities and the authorization of trained microscopists to perform microscopy.

The key players in these events will be the NTP officials, for their oversight and approval of the modified curriculum, the training plan, the quality assurance plan, and the authorization of local staff; the DTOs, for their oversight and approval of the process and the quality assurance plan, and the Zonal Laboratory officer, who will conduct the trainings and oversee the implementation of the quality assurance program.

Performance monitoring and evaluation

"It is not clear what specific baseline instruments will be used. It might be helpful to add traditional healers and other community-based workers to the qualitative study."

Response: The baseline instruments were developed by Project HOPE and are included in the baseline survey report annexes of the DIP. We agree that follow up of our linkages to traditional healers, drug sellers, and VCT sites for successful referrals and as sites for TB symptom screening will be important for our overall outcomes. For this reason, we will track the percentage of suspects reporting to a health facility with a chronic cough, as well as the successful referrals from these sites.

Management plan

"There does seem to be excessive HQ staff assigned to the project, but the assumption is that these people will be drawn on for expertise as needed and not for continuous staffing. It was not clear whether there are 2 HQ staff on the project as the mgmt table does not list these positions. Again, the community workers at various levels of the project are not clearly depicted or described in the mgmt plan, and their support, supervision, and training still needs to be clarified. A large number of community volunteers are proposed, but there is no clear breakdown of the numbers for each type of volunteer; for example, where do the guardians fit on the mgmt table? It is also not clear as the number of HSAs that the project will work with."

Response: This assumption is correct. We have engaged some expert consultants for the design and initial implementation of the project, after which their services will be reduced considerably.

We have added a section on the management of guardians and community volunteers to the project management section for greater clarity. The activities and roles of volunteers is also addressed in this section. Finally, we have clarified the target HSAs and their role in both the management and the program plan section, as noted above.

"The training of microscopists for expansion of the laboratory network, described in the activities, is not included in the training plan. The 3-day training planned for health facility staff is insufficient for this type of personnel, which should received additional intensive practical training, in courses of at least two weeks (particularly as they are not experienced in laboratory)."

Response: The training of micrsocopists is item two in the Training Plan. The training duration and agenda are described in the DIP (pages 86-89) and above.

"A bit puzzling is the statement on page 25 that mentions 'new in country staff will require training in the policies and procedures of the foundation." This would be good to clarify."

Response: This statement refers to the orientation of new staff to the policies and procedures of Project HOPE regarding finances, human resources, travel, and all the requirements for overall project management. Due to the presence of Mr. Kachule, Country Director, this orientation will present no serious obstacles to project implementation.

Collaboration with USAID Field Mission

"Although there is a letter indicating the concept paper is in line with the strategic objectives of the Mission's health portfolio, these strategic objectives and how they are addressed are not included."

Response: We have addressed this issue extensively in the DIP based on the overall direction and specific objectives in the NTP Strategic Plan for 2006/7 – 2010/11, as well as extensive discussions with Dr. Salanaponi at the NTP and the DTOs at the district level as part of the DIP preparation process. The relevant sections of the DIP are pages 20-23 and throughout the program plan section.

Overview comments

The community approaches and delivery mechanisms need to be further clarified and described. There is no doubt that the applicant has the required experience both in community programming and in the Malawi context to ensure that this community component will be adequately addressed.

Response: We have described our approach to the community extensively in the DIP (pages 38-40 and throughout the program plan).

We regard the community information, education and communication and the behavior change and communication elements in this project to be of great importance

as secondary and ancillary activities in support of the central activities, which are expanding microscopy capacity and improving treatment outcomes via trained and deployed guardians.

As outlined in the DIP and explained most succinctly on page 36, the key outcomes of the community IEC/BCC activities include improved recognition of TB symptoms, improved understanding that TB is a curable disease, improved understanding of the virulent interaction between TB and HIV, improved HIV risk reduction activities, and improved access to TB symptom screening, clinical assessments, and improved access to VCT. In addition, general stigma reduction for both TB and TB/HIV is an essential component. We note that the CHWs and the cadre of community volunteers will carry these messages, as well as the primary care providers and other trained staff who are part of the project.

Regarding the community approach and service delivery mechanisms for the central project activities, the DIP describes in detail the training, deployment, and quality assurance program for the microscopists, as well as the training, deployment, and activities of guardians.

TB Control in Southern Malawi

October 1, 2006 – September 29, 2011

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Location

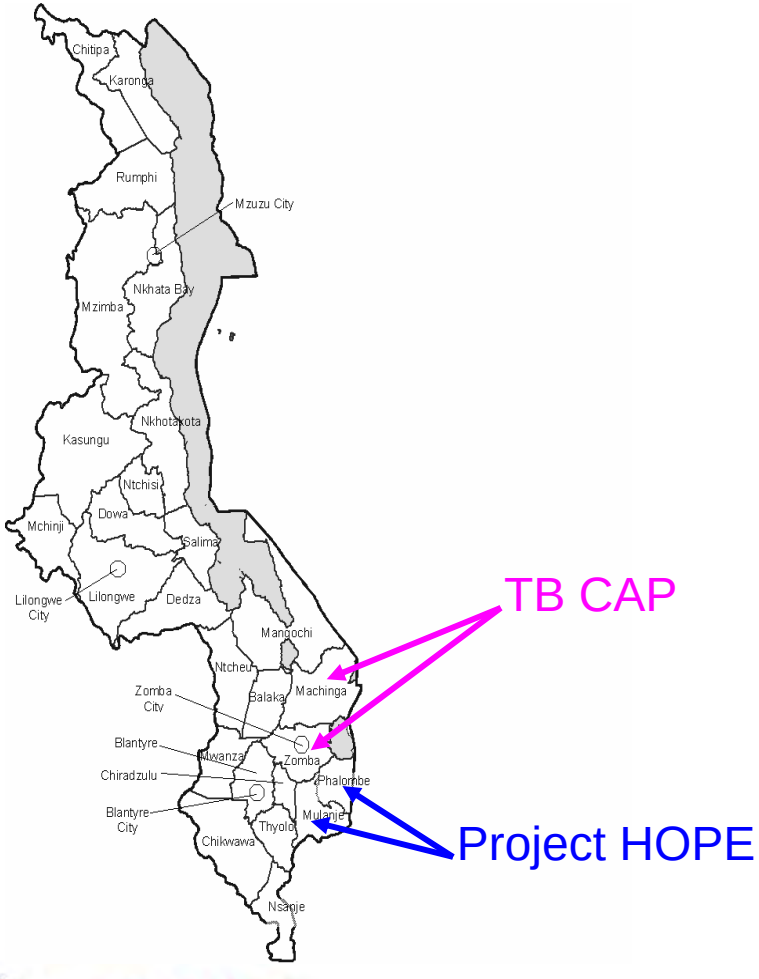
Africa

Malawi

- Population 11.3 million
- 65% living below poverty line
- Maternal Mortality Rate 1,120
- Under 5 Mortality Rate 189
- Infant Mortality Rate 104
- Life expectancy 36.3 years
- HIV prevalence 14.2%
- Of those eligible for ARV, only 20% are accessing it

PROJECT WHOLE 50 1958 2008

Program Sites



Project HOPE

- Mulanje (pop. 548,250)
- Phalombe (pop. 296,960)

TB CAP

- Mangochi
- Zomba

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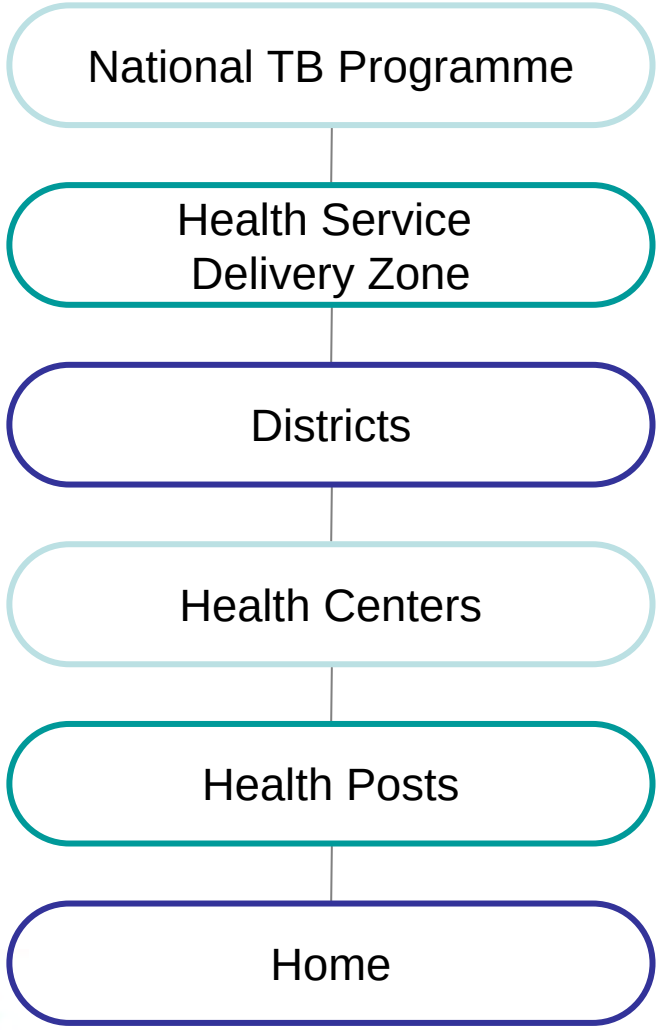
TB Structure in Malawi



Zonal Supervisor

District TB Officer
District Health Officer
District Health Management Team (DHMT)
Clinical Officers & Medical Assistants Rx & Dx

Nurses & Medical Assistants Rx & Dx
Health Surveillance Assistants (HSAs)

HSAs

TB Patients
Guardians

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TB Epidemic in Malawi

- TB burden is very high 52,000 cases annually a rate of 409/100,000
- HIV is driving these high rates
- Case detection is far too low - 39% SS+ (global target 70%)

*WHO 2007 Report (treatment data 2004, cases 2005)

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Case Detection

	Malawi*	Mulanje & Phalombe**
Notified Cases (all forms)	25,491	1,025
Expected Cases (all forms)	n/a	3,457
Notified Cases (SS+)	8,443	410
Expected Cases (SS+)	n/a	1,437
Case Detection Rate (SS+)	39%	29%

WHO global target for case detection is 70%

*WHO TB Control Report 2007 (2004 cohort)
**Mulanje District Health Office (TB 07 Q2 2006-Q1 2007)
Phalombe District Health Office TB 07 (Q2 2006 – Q1 2007)

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Treatment Outcomes Also Must Be Improved

	Malawi*	Mulanje & Phalombe**
Treatment success	71%	77%
Cured	70%	72%
Completed treatment	1%	5%
Died	16%	20%
Failed	1%	2%
Defaulted	3%	1%
Transferred	2%	0%
Not evaluated	6%	0%

WHO global target for treatment success is 75% in high HIV prevalence areas; 85% in low

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*WHO TB Control Report 2007 (2004 cohort)
**Mulanje District Health Office (TB 08 Q3 2005-Q2 2006)
Phalombe District Health Office (TB 08 Q1 2006 – Q4 2006)

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Program Goal & Objectives

- Goal:
  - Reduce morbidity and mortality due to TB and TB/HIV co-infection in Mulanje and Phalombe
- Objectives:
  - Improve treatment success rates of TB and TB/HIV in Mulanje and Phalombe
  - Increase case detection of TB and TB/HIV in Mulanje and Phalombe

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Strategies

1. Improve Treatment Success:
   - Improve implementation of DOTS protocols
   - Strengthen referral system
   - Improve case management of TB/HIV co-infection
   - Enhance Quality Assurance

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Strategies

2. Increase Case Detection
   - Improve microscopy quality at existing laboratories
   - Increase access to microscopy (phased roll out of new labs following proven improvements at existing labs)

Supporting Strategies

- Increase referral of TB suspects
- Increase community awareness of TB
- Partner coordination & collaboration
- Improve recording & reporting system
- Operations Research

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Timeline: Treatment Success

Activity	Year 1 Quarter 4 (Jul.-Sept.)	Year 2 Quarter 1 (Oct.-Dec.)	Year 2 Quarter 2 (Jan.-Mar.)	Year 2 Quarter 3-4 (Apr.-Sept.)	Year 3-5
TB Health Workers training	X				
Supervisor training (recording, reporting)	X				
Mentoring/supervision TB	X	X	X	X	X
HIV health care workers training		X			
Mentoring/supervision HIV		X	X	X	X
HSA training		X	X		
Mentoring/supervision HSAs		X	X	X	X

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Timeline: Case Detection

Activity	Year 1 Quarter 4 (Jul.-Sept.)	Year 2 Quarter 1 (Oct.-Dec.)	Year 2 Quarter 2 (Jan.-Mar.)	Year 2 Quarter 3-4 (Apr.-Sept.)	Year 3-5
Laboratory assessment	X				
Microscopy curriculum	X				
Retrain microscopists	X				
Mentoring/supervisory visits	X	X	X	X	X
Cohort analysis	X	X	X	X	X
Pilot new lab			X		
New labs phase in				X	X
Symptom screening/referral (VCT, Traditional healers, Pharmacists/drug sellers)				X	X
Community IEC				X	X

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Accomplishments

- Stakeholder buy-in at local level
- Baseline Community & Facility assessments
- Participatory DIP development
- Field visit to a model TB program Village (Mtsiriza – Reach Trust)
- Ongoing curriculum development

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Challenges

- Poor Infrastructure
- Shortage of Staff and of Trained Staff
- Accessibility of TB/HIV diagnosis and treatment centres
- Weak TB recording & reporting
- Slow roll out of ART & DCT program
- Lack of other TB diagnostic materials
- Poor road infrastructure

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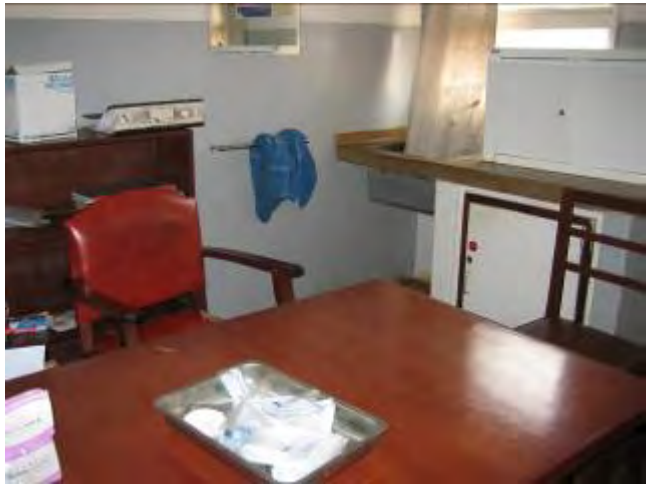
Typical Lab & Treatment Rooms-Health Center



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Thank you!

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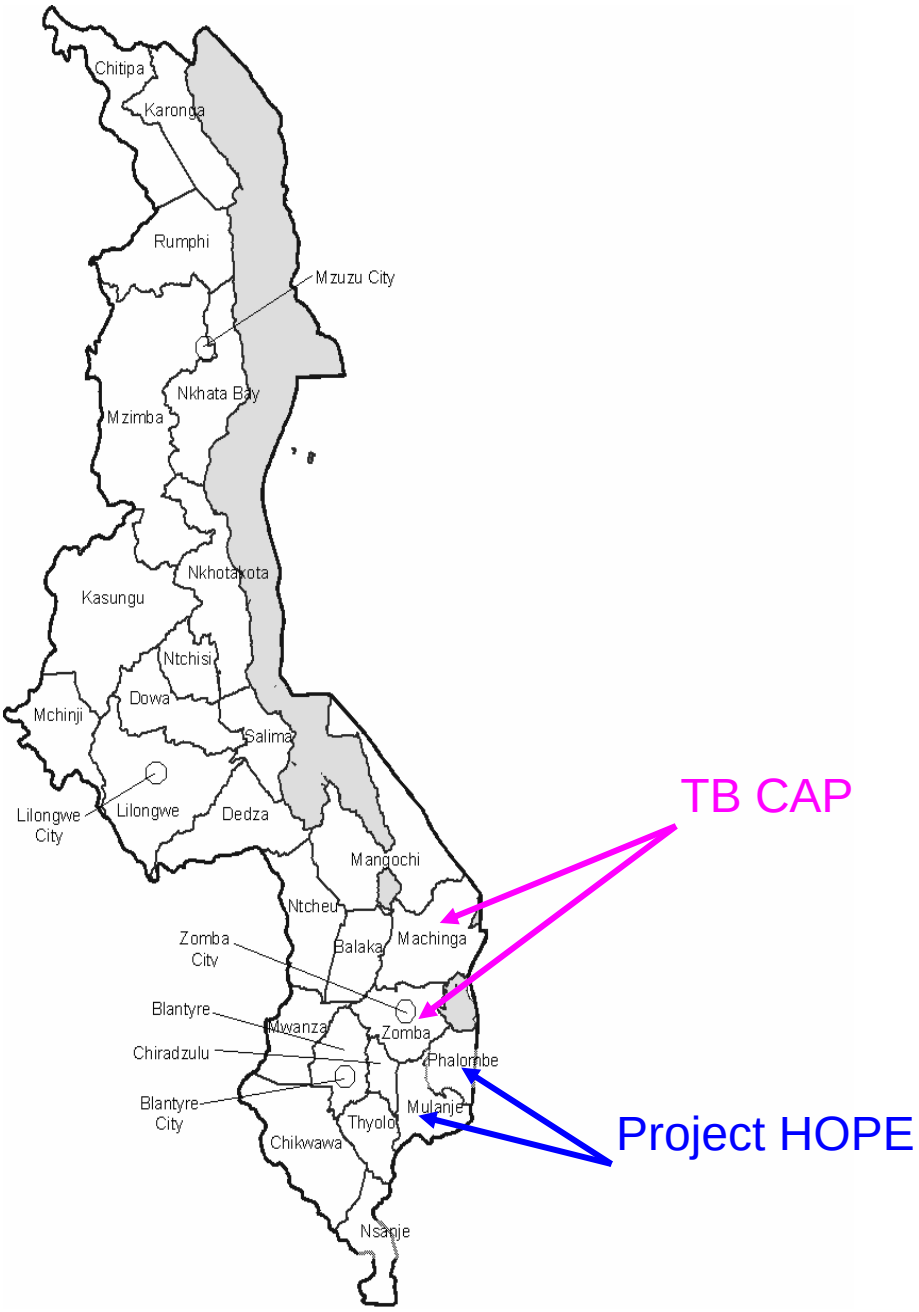
ANNEX 4

Maps

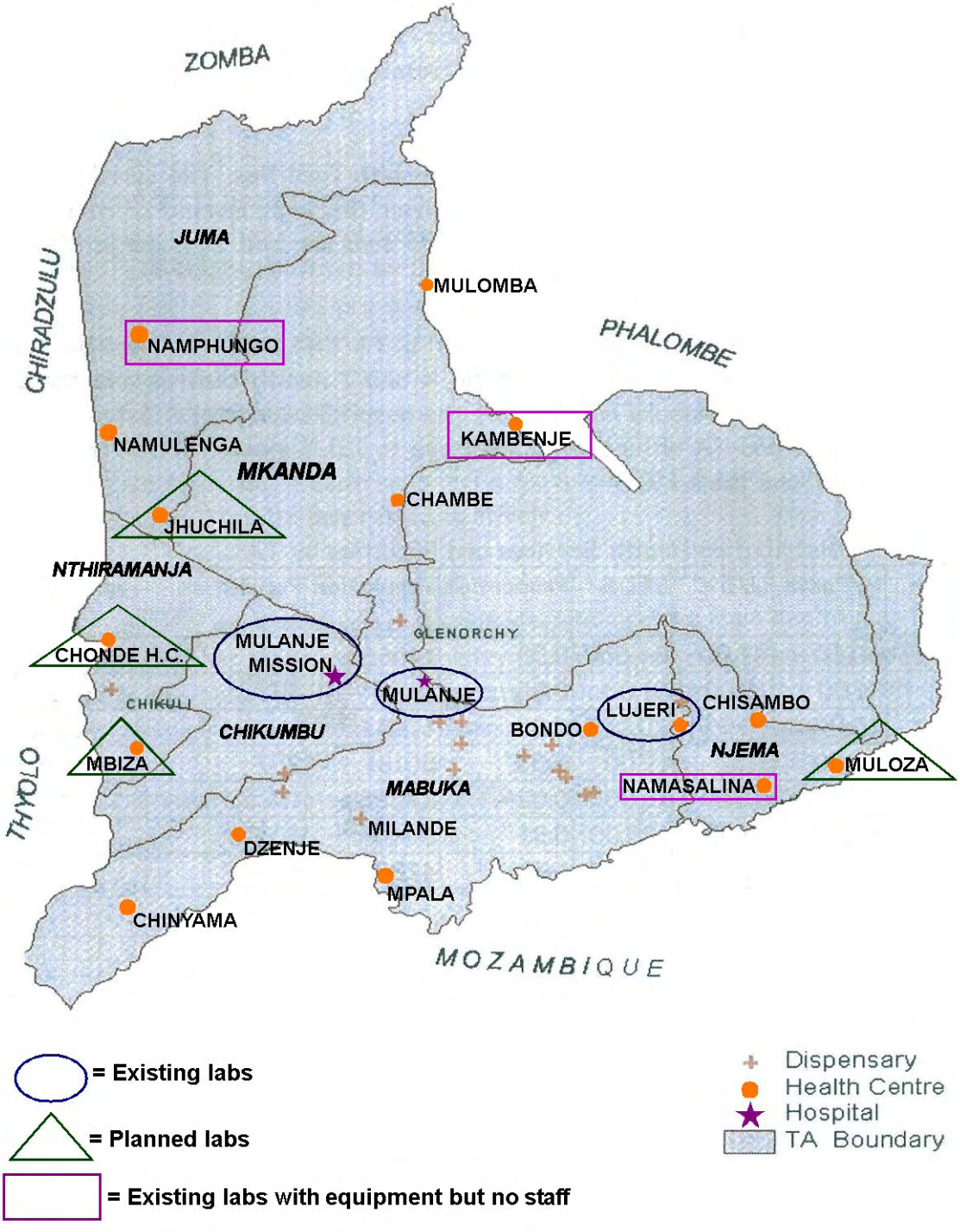
Tuberculosis Control in Southern Malawi

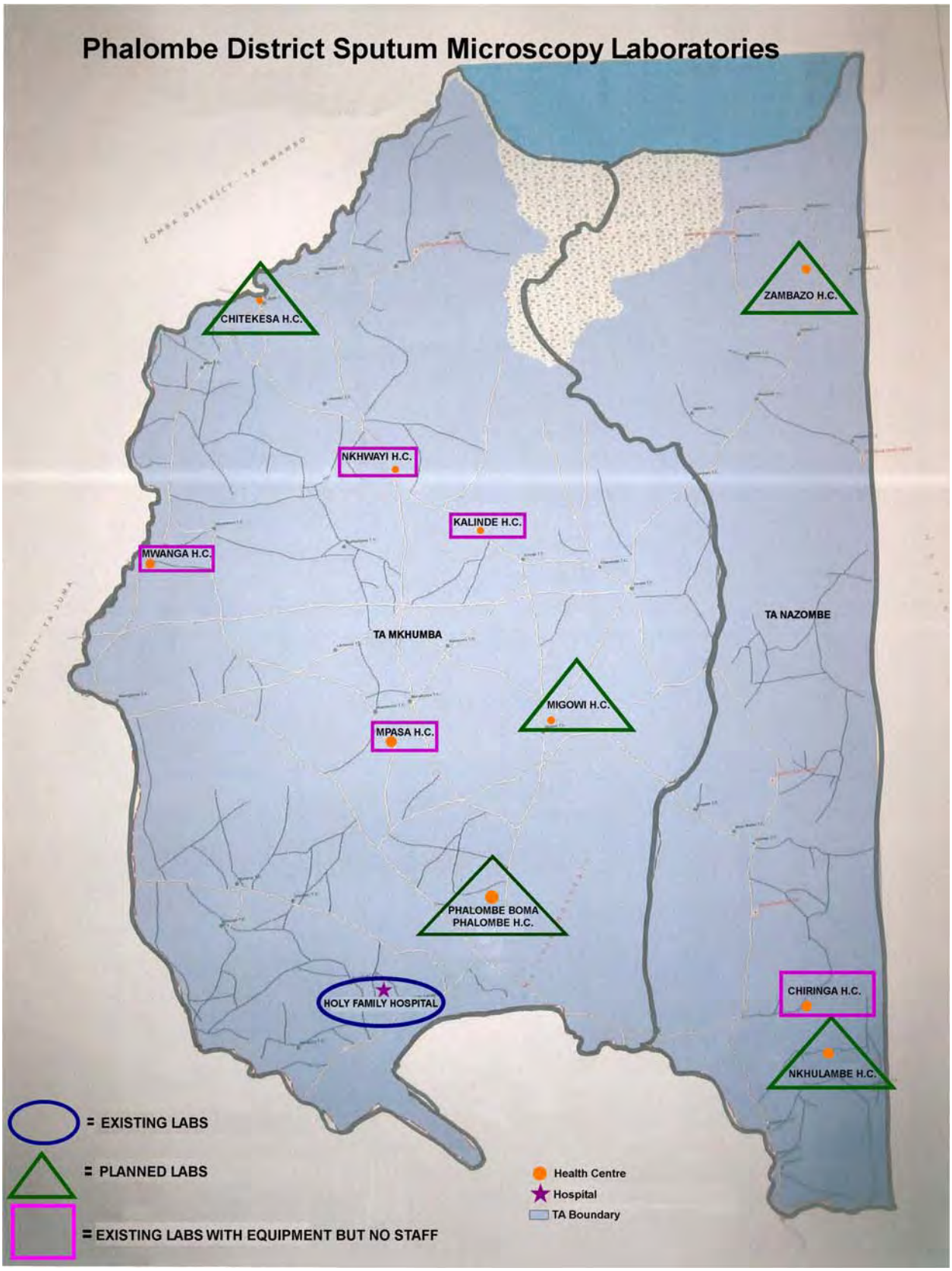
Detailed Implementation Plan – Map

Malawi Districts



Mulanje District Sputum Microscopy Laboratories




Phalombe District Sputum Microscopy Laboratories
CHITEKESA H.C.
ZAMBAZO H.C.
NKHWAYI H.C.
KALINDE H.C.
MWANGA H.C.
TA MKHUMBA
TA NAZOMBE
MIGOWI H.C.
MPASA H.C.
PHALOMBE BOMA
PHALOMBE H.C.
HOLY FAMILY HOSPITAL
CHIRINGA H.C.
NKHULAMBE H.C.
= EXISTING LABS
= PLANNED LABS
= EXISTING LABS WITH EQUIPMENT BUT NO STAFF
Health Centre
Hospital
TA Boundary

ANNEX 5

Baseline Assessment Reports

Tuberculosis Control in Southern Malawi

Community Baseline Survey Report

Cooperative Agreement Number: GHS-A-00-06-00012-00

Project location: Malawi (Mulanje and Phalombe Districts)

Project duration: October 1, 2006 – September 29, 2011

Date completed: March 2007

Submitted to:
U.S. Agency for International Development

Submitted by:
Project HOPE – The People-to-People Health Foundation, Inc.
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TABLE OF CONTENTS

ACKNOWLEDGEMENTS

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Finally, special gratitude is extended to all the men and women in Phalombe and Mulanje for sparing their valuable time to participate in this TB Control Programme's community baseline assessment survey. They provided a great deal of information, views and insights without which the survey would have failed.

Despite the best efforts of the TB Control Programme Staff, any errors of fact to be found in this report must be considered the responsibility of the consultant.

Benjamin Kaneka, BA, BSocSc (Hons) , MSocSc
Monitoring and Evaluation Consultant.
Zomba

List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral
BCC	Behavioural Change Communication
BLM	Banja La Mtsogolo
BSS	Behavioural Surveillance Survey
GOM	Government of Malawi
HIV	Human Immunodeficiency Virus
HOPE	Health Opportunities for People Everywhere
HSA	Health Surveillance Assistant
IEC	Information, Education and Communication
MACRO	Malawi AIDS Counseling and Resource Organization
MDHS	Malawi Demographic and Health Survey
MOH	Ministry of Health
NAC	National AIDS Commission
NGO	Non-governmental organization
RHU	Reproductive Health Unit
SRH	Sexual and Reproductive Health
TB	Tuberculosis
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing

SECTION 1: INTRODUCTION

1.0 Introduction and Background

Tuberculosis (TB) is one of the gravest public health concerns in Malawi. The number of reported cases of TB has been increasing steadily over the past ten years. For example, in 1994 approximately 10,000 cases were reported, in 1995, the number rose to 19,000 and in 2004, 52,042 new cases of TB were reported. These figures show a fivefold increase in the number of reported TB cases. Recurrent tuberculosis accounts for 11-12% of total TB case notifications (Chipungu survey training notes, 2006).

In October, 2006 Project HOPE Malawi began implementing a five year TB Control Programme in two districts in the Southeastern Zone of Malawi; Mulanje and Phalombe. The districts were identified for TB control interventions because they are among the districts with the highest number of reported TB cases in Malawi. Phalombe district has a population of 296,960. It is bordered by Zomba District in the North Western part, Mulanje District in the South Western part, Chiradzulu District in the West and Mozambique in the East. Mulanje district has a population of 548,250 and is bordered by Phalombe in the North East, Thyolo in the South West, Chiradzulu in the North West, Zomba in the Northern part and Mozambique in the South (refer to the Map of Malawi in appendix). The common feature of these two districts is that they are predominantly rural with high levels of poverty among the people. The people in the villages rely mostly on subsistence agriculture although Mulanje has many commercial tea estates and is the biggest producer of tea in the country.

1.1 Objectives of the Baseline Study

The baseline survey was conducted with the aim of establishing the current levels of knowledge, attitudes and practices pertaining to TB related issues and identifying critical gaps that would form the basis for the execution of the Programme. Specifically, the survey was conducted to meet the following objectives:

- To collect data that will be used by the programme to develop benchmarks for programme monitoring and evaluation.
- To gather information that will be used by the programme to develop a Detailed Implementation Plan to develop strategies for behavior change amongst community members in TB prevention, treatment, care and support.

1.2 Recruitment and Training of Data Collectors and Field Data Collection

Twelve data collectors were employed for the baseline survey, of which six were males and the other six were females. The data collectors underwent a five day training session that took place at Limbe Primary School Teachers' Development Centre in Blantyre. The training was conducted to equip the data collectors with information about Project HOPE in general and TB and HIV issues in particular and develop their survey taking skills.

The training was conducted for five days from 7th December to 11th December 2006. A day was set aside for pre-testing the questionnaire that was done at Chileka in Blantyre. Each data collector conducted two to three trial interviews.

1.3 Sampling

1.3.1 Sampling

The type of sampling that was used during this survey was 40 by 10 cluster random sampling. A total of 40 villages were selected, and in each village 10 households were selected for interviews. In Phalombe, 13 villages were selected and 130 households were interviewed whereas in Mulanje, 27 Villages were selected and 270 households were interviewed. The variations in the number of villages in Mulanje and Phalombe are a reflection of the differences in total populations of the two districts.

1.3.2 Household and respondent selection

The selection of villages was done by Project HOPE in the following manner: a random number list was used to select a number randomly; then, a number between one and the total population was selected. The corresponding village's cumulative population range that the random number falls in was then selected. In the event that a random number outside a population range was selected, another number was chosen on the next row. This same method was used when selecting the households and the informants in the households.

1.3. 3 Field work and data processing

Data collection took place from 12th December to 22nd December, 2006. The data collectors were grouped into two teams of six, with one Project HOPE staff as a supervisor. All the data collectors were assigned to one district at a time but spread to different villages. It took three days to collect data in Phalombe and seven days to do the same in Mulanje. In total 400 interviews were conducted in both districts. Data entry was done in MS Access. The database was developed by a consultant in collaboration with Project HOPE's Management Information Systems Specialist. Two data entry personnel were hired for this activity. The questionnaires were entered on double entry basis where one questionnaire was entered twice in two different computers by two different data entry clerks, that is, data entry personnel exchanged each questionnaire entered.

1.4 Challenges during Field work

The research teams encountered a number of challenges during the field work. The survey period had coincided with crucial community farming season activities such as planting, fertilizer application and weeding as such some data collectors had to wait for long periods for the respondents to come back from their fields. However, this was dealt with by ensuring that most of the interviews were scheduled for late afternoon hours. Related to that were interruptions of the interviews due to rains. Sometimes when the rains started in the course of the interview, respondents had to leave the interviews to attend to other household chores. Both situations delayed the whole interviewing process as more time was spent waiting for the respondents.

Logistically, there was the problem of limited capacity of the vehicles that were made available for the field work. For example, a team of seven data collectors used a four capacity double cabin to ferry them. Some members had to be in the open body where it was not comfortable and healthy. The condition of the roads was also very poor resulting in vehicles being stuck in the mud and made the plight of the data collectors even worse.

1.5 Data Analysis

When data entry was completed, the data was cleaned and validated before the production of statistical tables for analysis. Statistical Package for Social Scientists (SPSS) package was used for data processing.

1.6 Structure of the Baseline Survey Report

This report is divided into four sections. Section One provides the introduction and background information to the exercise and the details on the data collection, entry and analysis. Section Two provides a synthesis of the results obtained from the survey. It presents the quantitative results of the respondents' knowledge, attitudes and practices pertaining to TB and related issues that include diagnosis, treatment, stigma and co-infection with HIV.

Section Three contains a summary of the key findings of the survey and their implications on the TB Control programme's implementation plan. It also outlines some recommendations for consideration by the programme implementation and management team. Finally, the fourth section contains the appendices, which contains the map of Malawi and the full text of the informed consent form and the data collection instrument.

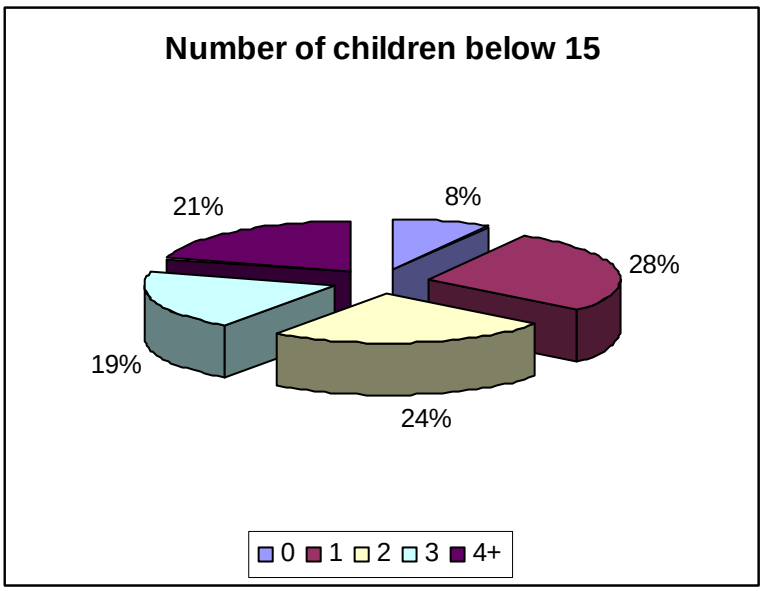
SECTION 2: SURVEY RESULTS

2.1 Background Characteristics of the respondents

An understanding of the background characteristics of the respondents is essential for interpretation of the survey findings. Table 2.1 shows the number and percent distribution of some background characteristics of the respondents in the two districts according to sex. The ratio of males to females was nearly one to one (49 percent females and 51 percent men), a slight departure from the country's sex ratio that depicts more females than males.

Sixty-nine percent of the respondents were drawn from Mulanje while 31 percent of the interviews were conducted in Phalombe. In terms of age distribution, 45 percent of the respondents were aged 30 and below. Nearly two-thirds (62 percent) of those interviewed in the survey reported primary school as their highest level of education. One in every five (20 percent) had no education at all. Only 18 percent of the respondents had at least secondary as their highest level of education attained. This shows that there are low levels of education in these two districts that is also a reflection of most rural districts in the country. About 62 percent of the respondents were married, 20 percent were single, while a combined 18 percent were those who were either widowed or divorced. As is the case with many rural areas, over half (55 percent) of the respondents cited farming as their main occupation, 26 percent were petty traders, while 10 percent were students at the time of the survey. Only a combined nine percent of those surveyed reported to be in the formal labour sector as employees in tea estates and civil servants.

Figure 2.1 Percentage Distribution of the number of children below age 15 in the households



More than one in every three (40 percent) households had three or more children under the age of 15 while half (52 percent) of the households had just one to two children aged below 15 years.

Table 2.1: Selected Demographic Characteristics of the Respondents

	Sex				Total	
	Male		Female			
Background Characteristics	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
District						
Mulanje	141	51.3	133	48.7	274	68.7
Phalombe	63	50.4	62	49.6	125	31.3
Age Group						
20 years and below	6	1.3	8	5.1	14	3.6
21-30	84	42.4	79	40.5	163	41.5
31-40	28	14.1	29	14.9	57	14.5
41-50	15	7.6	17	8.7	32	8.1
51 and above	65	32.8	62	31.8	127	32.3
Highest Level of Education						
No education	54	27.7	26	13.3	80	20.1
Primary	123	60.3	124	63.6	247	61.9
Secondary and Higher	29	14.2	42	21.5	71	17.8
Marital Status						
Single	37	35.9	66	64.1	103	26.1
Married	126	51.6	118	48.4	244	61.9
Divorced	19	79.2	5	20.8	24	6.1
Widowed	19	82.2	4	17.8	23	5.8
Occupation						
Farmer	121	59.3	99	50.6	220	55.1
Trader	44	21.6	46	23.6	90	22.6
Student	14	6.7	27	13.8	41	10.3
Pieceworker	16	7.8	17	8.7	33	8.3
Artisan	8	3.9	16	8.2	24	6.0
Estate worker	8	3.9	13	6.7	21	5.3
Civil .servant	3	1.5	10	5.1	13	3.3
Unemployed	11	5.4	1	0.5	12	3.0
Other	26	13.3	28	14.7	54	14.0
Number of people in the household						
2 and less	25	12.3	16	8.2	41	10.3
3	28	13.7	39	20.0	67	16.8
4	48	23.5	28	14.4	76	19.0
5	29	14.2	35	17.9	64	16.0
6	32	15.7	26	13.3	58	14.5
7	15	7.4	19	9.7	34	8.5
8+	27	13.2	32	16.4	59	14.8

More than half (52 percent) of the households from which the respondents were drawn consisted of between three and five people, while more than a third (36 percent) had between six and ten people in their households.

2.2 Economic Profile of the Respondents

The economic status of the people in a community can have a bearing on whether they would be able to access various kinds of information, goods and services for their wellbeing. In this regard, the

respondents were asked to estimate their monthly income and assess its adequacy in buying food among other basic necessities. In addition, possession of certain assets in the household can also provide a proxy indicator of the household's economic status. In this regard, the respondents were asked to indicate if they possess certain valuable household assets. Table 2.2 summarizes the results.

Table 2.2 Economic profile of the respondents by gender

	Sex				Total	
	Male		Female			
Economic Characteristics	Number	Percent	Number	Percent	Number	Percent
Estimated monthly income(MK)						
0-500	40	19.9	42	21.5	82	20.7
501-1000	37	18.4	25	12.8	62	15.7
1001-2000	22	10.9	30	15.4	52	13.1
2001-3000	8	4.0	18	9.2	26	6.6
3001-4000	5	2.5	7	3.6	12	3.0
4001-5000	8	4.0	10	5.1	18	4.5
5001-10000	7	3.5	11	5.6	18	4.5
10001 and above	5	2.5	5	2.6	10	2.5
Don't know	52	26.7	72	35.8	124	31.3
Estimate of the monthly incomes adequacy						
Not enough for food	137	69.9	123	64.7	260	67.4
Barely enough for food	25	12.8	26	13.7	51	13.2
Enough for food	30	15.3	29	15.3	59	15.3
Don't Know	4	2.0	12	6.3	16	4.1
Ownership of some valuable assets						
Radio	134	65.7	143	73.3	277	69.4
Television	8	3.9	12	6.1	20	5.0
Cellular phone	23	11.3	18	9.2	41	10.3
Bed with mattress	41	20.1	34	17.4	75	18.8
Sofa set	23	11.3	11	5.6	34	8.5
Paraffin lamp	185	90.7	177	90.8	362	90.7
Table and Chairs	83	43.1	95	48.7	183	45.9
Bicycle	127	62.3	138	70.8	265	66.4

As is the case with many rural communities in Malawi, poverty is pervasive in these two districts. This is reflected in the depiction of the estimated average monthly income of the respondents. While three in ten respondents could not estimate their monthly income, 21 percent of the respondents indicated to have a paltry average income of K500 and less (about US $3.6) a month and 29 percent earn between K501 and K2,000 a month. It is not surprising, therefore, that two out of three respondents felt that their income was not enough to meet their monthly food requirements. Only 16 percent of the respondents indicated that their monthly income was enough for their monthly food requirements.

On the possession of household effects, the survey results in Table 2.2 show that nearly seven in ten households reported that they have a radio; two-thirds of the household possess a bicycle, while 91 percent own a paraffin lamp. At the end of the spectrum was where only about 5 percent of the respondents owned television sets, 10 percent owned cellular phones, and nine percent owned sofa sets.

2.3 Knowledge of Tuberculosis Symptoms and Modes of Transmission

One of the core objectives of the TB control programme is to raise the levels of awareness and knowledge about various issues pertaining to TB as a communicable disease. To assess the current levels of TB awareness and knowledge, several questions were posed to the respondents. This section presents findings of the respondent's awareness and knowledge about symptoms, modes of transmission and other TB related issues. The information will assist the programme to identify gaps in information that would require special interventions. Table 2.3 summarizes the results.

Table 2.3: Awareness and Knowledge of Tuberculosis

Percentage distribution of the respondents' knowledge about TB related issues by their district and gender

	Mulanje		Phalombe		Total	
	Female	Male	Female	Male	Count	Percent
Ever Heard Of TB						
Yes	97.0	98.6	100	97.0	391	98.0
No	3.0	1.4	0.0	3.0	8	2.0
Known TB Symptoms						
Coughing	86.7	92.7	89.6	86.0	364	91.3
Weight Loss	8.5	8.5	11.1	11.7	37	9.4
Fever	13.4	7.7	2.3	11.3	38	9.5
Is TB contagious						
Yes	79.1	69.1	75.8	65.6	285	72.7
No	16.3	19.4	16.1	18.0	69	17.6
Don't Know	4.7	11.5	8.1	16.4	37	9.4
How TB is Transmitted						
Through the air by coughing	70.7	58.2	62.9	54.0	249	62.4
Sexually Transmitted	6.0	12.1	6.5	7.9	34	8.5
Through Item of public use	6.8	3.5	8.1	6.3	23	5.7
Sharing food with infected person	4.5	4.3	6.5	4.8	19	4.8
Through Blood	1.5	2.8	9.7	0.0	12	3.0
Born with it	0.0	2.8	3.2	1.6	7	1.8
Through Handshake with infected person	0.0	0.0	4.8	0.0	3	0.8
Other	33.8	31.9	21.0	25.4	119	29.8
Don't Know	7.5	16.1	14.2	14.3	49	12.3
Who can get TB						
Anyone	88.7	91.5	91.9	77.8	353	88.5
Smokers	3.8	3.5	6.5	4.8	17	4.3
alcoholics	1.5	0.7	1.6	0.0	4	1.0
Don't Know	2.3	4.3	0.0	11.1	16	4.0
Is TB curable						
Yes	240	87.3	101	80.8	341	85.3
No	30	10.9	12	9.6	42	10.5
Don't know	5	1.8	12	9.6	17	4.3
Is TB Medicine Free						
Yes	225	81.8	81	64.8	306	76.5
NO	28	10.1	18	14.4	46	11.5
Don't know	22	8.0	26	20.8	48	12.0

The results in Table 2.3 show that almost all (98%) of the respondents have heard of TB. A slight difference is noted between the districts. Females in Phalombe, for example, have universal (100 percent) awareness about TB compared to their counterparts in Mulanje (97 percent). A combined majority (91.3 percent) of the respondents mentioned coughing of any kind as the most noticed

symptom associated with TB. As indicated in the table, other symptoms that were also mentioned by a sizable proportion of the respondents included weight loss (9.5 percent) and fever (9.5 percent).

The interviewees were also asked if TB was contagious. While overall up to 72 percent of the respondents answered affirmatively, it is worth noting that there are differences in the levels of knowledge of TB being a contagious disease between the districts and between the sex of respondents. For example, 79 percent of females in Mulanje knew that TB is contagious compared to a low of 66 percent of males in Phalombe.

Regarding modes of transmission, less than two-thirds (62.4 percent) of the respondents mentioned that TB germs are passed on from an infected person to an uninfected person through the air by coughing. As can be seen from the Table 2.3, some of the mentioned modes of transmission border on misconceptions and are a demonstration of the low levels of knowledge about the disease in these two districts. For example, it is mentioned that TB is transmitted through sex, use of public items, through blood or is inherited from parents.

To further gauge their knowledge about TB, the respondents in these two districts were also asked who did they think can get TB. The majority (86 percent) mentioned that anyone can get TB. This result might be indicative of the fact that the respondents were aware that everybody was at risk of contracting TB. However, it would be appropriate to make sure that this fact does not dissuade the people in these districts from identifying particular factors that enhance one's risk of contracting TB. The results also showed that 85 percent of the respondents knew that TB is curable while about 77 percent had knowledge that TB medicines are free.

2.4 Exposure to Information about TB

Information is very crucial in the enhancement of people's knowledge, change of attitudes and a step in engendering positive behavioural change. To this effect, the respondents were asked if they had received information about TB in the six months prior to the survey. For those who had received the information, they were also asked to state the source of that information. Table 2.4 presents the results.

Table 2.4: Exposure to TB information

Percentage distribution of respondents exposed to TB information by their level of education and gender

	No Education		Primary		Secondary and Higher			
	Male	Female	Male	Female	Male	Female	Count	Percent
Ever Received Information about TB in the past 6 months								
Yes	35.2	69.2	44.7	44.4	48.3	57.1	188	47.1
No	64.8	30.8	55.3	55.6	51.7	42.9	211	52.9
Sources of Information								
Radio/TV/Newspapers	22.2	50.0	35.2	33.9	44.8	45.2	139	74.2
Acquaintances	0.0	7.7	2.4	3.2	6.9	2.4	12	5.9
Doctors or Nurses	1.9	3.8	0.0	2.4	3.4	2.4	7	3.8
Other Medical workers	5.6	7.7	4.9	4.8	3.4	4.8	20	11.3
Health Organizations	1.9	0.0	4.1	1.6	3.4	2.4	10	5.9
Lectures	1.9	3.8	0.8	3.2	0.0	0.0	7	3.8
Booklets and leaflets	1.9	0.0	0.0	0.0	0.0	2.4	2	1.1
Other	0.0	0.0	1.6	1.6	3.4	0.0	5	2.8

Results in Table 2.4 show that less than half (47 percent) of the respondents had received information about TB in the six months prior to the survey. For those who had received information on TB, the main source of information was the mass media, that is, radio, television and newspapers as mentioned by 72 percent of the respondents. Health workers in the communities followed at distant 11 percent as another source of TB information.

2.5 General Health/Medical Attention Seeking Behaviour

Seeking medical attention as soon as one has signs of sickness or falls sick is vital in ensuring that one gets prompt treatment and, in the case of TB, minimizing its spread. The respondents were asked if they or a member of their household had fallen sick in the six months prior to the survey, whether they sought medical attention and where was the medical attention sought. Table 2.5 summarizes the results.

The results indicate that general morbidity levels are high in the two districts. As can be seen from Table 2.5 in both Mulanje and Phalombe, 70 percent of the respondents reported that they or a member of their households had fallen sick in the six months prior to the survey. Also 91 percent of those who said that they or member of their households had fallen sick had gone to seek medical attention.

Table 2.5: Sickness and Seeking Medical Attention

Percentage distribution of the respondents who sought medical attention by their district and sex

	Mulanje		Phalombe		Total	
	Female	Male	Female	Male	Count	Percentage
Did you or any household member fell sick in the past 6 months						
Yes	67.7	73.0	71.0	68.3	280	70.2
No	32.3	27.0	29.0	31.7	119	29.8
Did he/she seek medical attention						
Yes	85.7	94.8	92.9	93.3	256	91.1
No	14.3	5.2	7.1	6.7	25	8.9
Where was medical attention sought						
Doctor	67.3	70.8	59.2	68.9	190	67.6
Nurse	6.1	4.2	2.4	4.4	13	4.6
Pharmacist	2.0	9.4	2.4	4.4	14	5.0
Traditional Healer	3.1	2.1	7.1	6.7	11	3.9
Vendor/Drug seller	1.0	0.0	2.4	2.2	3	1.1
Shopkeeper	1.0	3.1	2.4	2.2	6	2.1
Other	7.1	7.3	4.8	15.6	23	8.2

Of those who sought medical attention, the majority mainly consulted a 'doctor' (referred in its generic sense to include medical assistants and clinical officers) found at most health facilities in the districts. Some sought medical attention from pharmacists and nurses (5 percent). Generally, fewer females in both districts sought medical attention than their male counterparts. No marked pattern of variations is noticed between the districts.

2.6 Presentation of TB Symptoms and Medical Attention Seeking Behavior

Identification of TB symptoms and the prompt seeking of medical attention are vital in ensuring that one get treatment early if diagnosed with the disease and is vital to minimizing further transmission. Respondents were asked if they or any member of household had shown symptoms of TB. Those who had or had a household member with symptoms of TB were asked if they had sought medical attention, after how long was the medical attention sought and reasons for the delay of more than two months in seeking medical attention. Table 2.6 presents the findings.

The results show that 16 percent of the respondents had, or had a household member, with at least one of the symptoms of TB. Looking at district variations, Phalombe had more people with symptoms than people of Mulanje, at 24 percent and 13 percent respectively. Looking at the distribution of those with symptoms by sex, the results show that overall there were more males (56 percent) reporting a household with TB symptoms compared to 44 percent females. The majority (84 percent) of respondents reported that if there was a member of the household who had symptoms (including the respondent), they sought medical attention.

Those individuals who had TB symptoms present in the household and the affected individual delayed treatment for at least two months were asked to give reasons for the delay. Results in Table 2.6 show that the primary reasons given were that they were not paying attention or were ignoring the symptoms once they appeared (28 percent) and were far from a medical facility (21 percent). It is noted that some 17 percent of respondents who reported that an affected household member (or themselves) who did not go to seek medical attention were trying to treat the symptoms at home while 10 percent had no money to see a doctor. The respondents that reported that the affected household member did not go to see the doctor at all were asked why they did not do so. The respondents gave the same reasons as those given by the respondents who sought treatment late.

Table 2.6: Seeking Medical Attention for those with TB symptoms

	Mulanje		Phalombe		Total	
	Count	percent	count	percent	Count	Percentage
Did you or member of household had any of the TB symptoms						
Yes	36	13.1	27	23.5	63	16.2
No	238	86.9	88	76.5	326	83.8
Gender of the Person with symptoms						
Male	22	61.1	13	48.1	35	55.6
Female	14	38.9	14	51.9	28	44.4
Did he/she seek medical attention						
Yes	33	89.2	21	77.8	54	84.4
No	4	10.8	6	22.2	10	15.6
If medical attention was sough but not until after 2 months. Reasons.						
Not paying attention or ignoring symptoms	6	35.3	2	16.7	8	27.6
Being far from medical facility	2	11.7	4	33.3	6	20.7
Trying to treat symptoms at home	4	23.5	1	8.3	5	17.2
No money to see the doctor	2	11.7	1	8.3	3	10.3
Other	3	17.6	4	33.3	7	24.1
In your thinking why do people fail to seek medical attention when they are sick						
Not paying attention or ignoring symptoms	71	25.8	22	17.6	93	23.3
Not Aware of the consequences of the disease	58	21.1	32	25.6	90	22.5
Fear of Stigma against TB or HIV	41	14.9	11	8.8	52	13.0
Do not trust or fear health workers	27	9.8	22	17.6	49	12.3
Being far from medical facility	30	10.9	13	10.4	43	10.8
No money to see the doctor	29	10.5	9	5.1	38	9.5
Fear of Having a serious illness	21	7.6	5	4.0	27	6.8
Trying to treat symptoms at home	22	8.0	4	3.2	26	6.5
Laziness	18	6.5	6	4.8	24	6.0
Beliefs in Traditional Medicine	18	6.5	5	4.0	23	5.8
Feeling Better	10	3.6	5	4.0	15	3.8
Other	26	9.5	20	16.0	46	11.5

What symptoms can prompt you to go for TB diagnostic services						
Coughing	178	64.7	74	59.2	252	63.0
Fever	46	16.7	14	11.2	60	15.0
Weight loss	13	4.7	11	8.8	24	6.0

While seeking medical attention in itself is very crucial and commendable, timing in seeking medical attention is of more critical importance as it may determine the treatment outcomes or even make a difference between life and death and also transmission to others. The general medical advice is to seek medical attention as promptly as symptoms manifest themselves.

Figure 2.2: Percentage distribution of the respondents' length of time before seeking medical attention

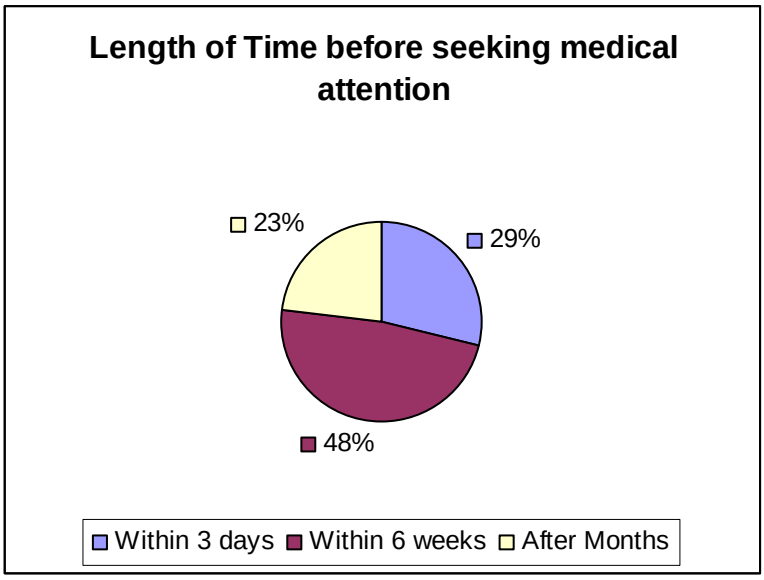


Figure 2.2 shows that only 29 percent of the respondents reported that an affected household member sought medical attention within days of noticing TB symptoms. The majority of the respondents (46 percent) reported that the symptomatic individual sought the medical attention within six weeks of noticing symptoms while 22 percent reported that they sought medical attention after more than two months of noticing the symptoms.

To get the respondents' general opinion, all the respondents were asked to give their thoughts on why generally people fail to seek medical attention whenever the fall sick. In general, their responses were comparable to the actual reasons given by the respondents. Table 2.6 shows that 23 percent thought it was because people do not pay attention or ignore the symptoms once they appear. The same proportion of the respondents stated lack of awareness of the consequences of the disease as another reason why people do not go to seek medical attention. Thirteen percent thought that stigma around TB and HIV caused people to fail to seek medical attention while 12 percent indicated that they thought people do not trust or were afraid of the health workers. About 11 percent said that people are far from a medical facility; about 10 percent indicated that people do not go because they do not have money to pay for the services while 7 percent fear that if once sought medical attention, they would end up having a serious illness.

The respondents were also asked to state what TB symptoms would prompt them to go for TB diagnostic services. The results in Table 2.6 show that coughing is the primary symptom that would

prompt them to seek TB diagnostic services. The majority (63 percent) said they would go to seek the services when they have a cough of any kind. Some 15 percent of the respondents indicated that they would go after noticing that they had some fever while 6 percent indicated that they would seek TB diagnostic tests after noticing that they were losing weight.

2.7 Access to TB Diagnosis and Treatment

While people might be aware of the symptoms of TB, they may fail to go for treatment because of failure to access TB diagnostic and treatment services. Access might be in relation to place, distance and costs. A number of questions were posed to the respondents to gauge their assessment of access to services. Table 2.7 summarizes the results.

Table 2.7: Access to TB diagnosis and Treatment services

	Mulanje		Phalombe		Total	
	Count	percent	count	percent	Count	Percentage
If you had TB symptoms, where would you go for assistance						
Public Hospital	195	70.9	76	60.8	271	67.8
Health Centre	55	20.0	43	34.4	98	24.5
Mission/Private Hospital	60	21.8	31	24.8	91	22.8
Other	5	1.8	2	1.6	7	1.6
How long Does it take to walk to the nearest TB testing Centre from here						
15 minutes and below	31	11.3	8	6.6	39	9.8
16-30 minutes	63	23.0	16	13.1	79	19.9
31 to 60 minutes	55	20.1	34	27.9	89	22.5
More than 1 hour	119	43.4	60	49.2	179	45.2
Don't Know	6	2.2	4	3.3	10	2.5
Ever Provided Sputum Sample for Testing for TB						
Yes	21	7.6	7	4.8	28	6.8
No	254	92.4	119	95.2	373	93.3
How many sputum samples were you asked to give						
Correct number of Samples (three)	9	47.4	3	50.0	12	48.0
Incorrect number of samples	10	52.7	2	33.4	12	48.0
None	0	0.0	1	16.7	1	4.0
How Long did it take you to get the results						
Same day	3	15.0	1	20.0	4	16.0
A few days	12	60.0	3	60.0	15	60.0
One week	3	15.0	0	0.0	3	12
Two to Three Weeks	0	0.0	1	20.0	1	4.0
A month or more	2	10.0	0	0.0	2	8.0
Ever Been unable to have a TB test						
Yes	11	4.0	11	8.8	22	5.5
No	264	96	114	91.2	378	94.5
Ever been unable to get the results						
Yes	1	0.7	4	6.2	5	2.5
No	133	99.3	61	93.8	194	97.5
***Ever been unable to get TB Xray**						
Yes	4	1.5	5	4.1	9	2.3
No	264	98.5	116	95.9	380	97.7
Ever Been unable to get TB Xray results						
Yes	1	0.8	4	6.3	5	2.6
No	131	99.2	60	93.7	191	97.4

As was the case with general illnesses, the majority (68 percent) of the respondents indicated that they would go to a public hospital for assistance if they had TB symptoms while 25 percent mentioned health centers and 23 percent mentioned Mission or private hospitals.

While knowing where to go is very important, people may fail to go and seek assistance due to barriers such as distance. Results in Table 2.7 indicate that 45 percent of the respondents would need to walk for over an hour to get to the nearest TB testing centre. The situation is worse in Phalombe where the proportion is 49 percent.

The results also show that 7 percent of the respondents had ever provided a sputum sample for TB testing. The majority of them (48 percent) said they had been asked to give three sputum samples while 28 percent gave two samples and 16 percent gave only one sample.

Suspected patients are required to give three sputum samples for TB testing. The first one ought to be provided on the spot on the first day of coming to the clinic. The second one is taken early in the morning of the second day while the third one is to be taken when patient returns to the clinic the next morning on the spot. The results show that only 48 percent of those who gave sputum for diagnosis gave the correct number of sputum samples.

In ideal situations, test results are supposed to be provided on the same day of testing. Results in table 2.7 show that only 16 percent of those who gave sputum received the results on the same day while 60 percent of those who had given sputum for test received the results after a few days.

A minority of respondents (5.5 percent and less) indicated that they were unable to get the sputum test results and X-ray test results. A number of reasons were given but due to small numbers (N), the cases can not be displayed in the table. The reasons given include distance to the clinic, the specimens were lost and health care workers were not available.

2.8 TB Prevalence

One of the core objectives of the programme is to increase case detection of TB in the target districts**.** In order to establish the current levels of TB prevalence and other issues pertaining to TB diagnosis and treatment, we sought information about the diagnosis and treatment of TB.

Results in Table 2.8 show for both districts a total of 16.3 percent of the respondents or a member of their families had been diagnosed with TB. For those who were diagnosed with TB, the majority (69 percent) had some assistance in ensuring adherence to treatment, 49 percent mentioned that they received assistance in the form of being reminded to renew their medication supplies, and 45 percent mentioned that they received assistance in terms of transport (money, bicycle) to the clinic.

In terms of means of diagnosis, 89 percent of those who were diagnosed with TB said that they were diagnosed through sputum tests, 23 percent mentioned that they were diagnosed through X-ray tests, and six percent indicated that they did not know how they were diagnosed. The majority (37 percent) of those who had gone for TB tests indicated that they received the results of their tests after a few days, 14 percent indicated that they received their results on the same day, 11 percent received them after more

than a month. As mentioned earlier, the ideal situation is that the results ought to be given on the same day.

Although the diagnosis and treatment of TB are free in Malawi, reports of required payment for services are common. In this survey, 39 percent of the respondents indicated that they or household member had paid for TB diagnosis, 33 percent reported to have paid for TB treatment monitoring while 33 percent of the respondents also indicated that they or members of their households had paid for TB medicines. Paying for TB medicines was reported more in Phalombe (47 percent) than in Mulanje (29 percent) while paying for TB diagnosis was more common in Mulanje (42 percent) compared to Phalombe (29 percent).

Table 2.8 : Prevalence of TB

	Mulanje		Phalombe		Total	
	Count	percent	count	percent	Count	Percentage
Have you or any member of your household be diagnosed with TB						
Yes	48	17.5	17	13.6	65	16.3
No	225	81.8	104	83.2	329	82.3
Don't Know	2	0.7	4	3.2	6	1.5
Assistance received after being diagnosed with TB						
Treatment adherence education	34	70.8	11	64.7	45	69.2
Renew supply of medication	23	47.9	9	52.9	32	49.2
Transport to the clinic	22	45.8	9	52.9	29	44.6
How were you or household member diagnosed with TB						
Sputum test	43	89.6	15	88.2	58	89.2
X-ray test	12	25.0	3	17.6	15	23.1
Don't know	2	4.2	2	11.8	4	6.2
How long did it take before you or household member got test results						
Same day	4	8.3	5	29.4	9	13.8
A few days	20	41.7	4	23.5	24	36.9
One week	5	10.4	0	0.0	5	7.7
2-3 weeks	5	10.4	4	23.5	9	13.8
A month or more	7	14.6	0	0.0	7	10.8
Don't Know	8	16.7	4	23.5	12	18.5
Did you or household member pay anything to diagnose TB						
Yes	20	41.7	5	29.4	25	38.5
No	27	56.3	9	52.9	36	55.4
Don't know	1	2.1	1	5.9	2	3.1
Did you or household member pay anything to monitor TB treatment(lab& consultations)						
Yes	16	33.3	5	33.3	21	33.3
No	29	60.4	10	66.7	39	61.9
Don't Know	3	6.3	0	0.0	3	4.8
Did you or household member pay anything for TB medicines						
Yes	14	29.2	7	46.7	21	33.3
No	31	64.6	8	53.3	39	61.9
Don't know	3	6.3	0	0.0	3	4.8

2.9 Knowledge of and Adherence to TB Treatment

Treatment for TB requires a great deal of rigor and perseverance on the part of the patient because the drugs need to be taken in strict compliance to the specifications and for a lengthy period of time. In this

respect, support from family and community members is of critical importance to ensure high levels of treatment success and cure. To gauge the respondents' levels of TB treatment literacy, several questions were posed to the respondent to assess their understanding of TB treatment. Table 2.9 presents the results.

Table 2.9: Frequency and percentage distribution of respondents' knowledge about TB treatment related issues

Knowledge about TB treatment related issues by respondents' district	Mulanje		Phalombe		Total	
	Count	percent	count	percent	Count	Percentage
For How long should a typical pulmonary TB patient take the drugs						
Correct (6-9 months)	85	31.0	23	20.0	108	27.8
Incorrect	95	34.7	47	40.8	142	36.5
Don't know	90	32.8	46	40.0	136	35.0
Why do people stop taking TB drugs						
Feel Better	90	32.7	41	32.8	131	32.8
Don't believe its necessary	70	25.5	34	27.2	104	26.0
Difficulty swallowing too many drugs	50	18.2	21	16.8	71	17.8
Drug side effects	17	6.2	6	4.8	23	5.8
lazy to take drugs	17	6.2	6	4.8	23	5.8
Ignorance	19	6.9	3	2.4	22	5.5
Negligence	17	6.2	3	2.4	20	5.0
Health Facility too far	7	2.5	4	3.2	11	2.8
Other	20	7.3	6	4.8	26	6.5
Don't know	30	10.9	15	12.0	45	11.3
How long should a pulmonary TB patient stay in hospital						
Correct (2 weeks to 2 months)	47	17.1	17	13.6	64	16.0
Incorrect	133	48.3	53	42.4	186	46.6
Don't know	93	33.8	52	41.6	145	36.2
Is it enough time to stop the patient from being infections						
Yes	120	74.5	39	78.0	159	75.4
No	34	21.1	8	16.0	42	19.9
Don't know	7	4.3	3	6.0	10	4.7
How to decrease TB transmission						
No spitting in public places	76	27.6	33	26.4	109	27.3
Seek medical attention if symptomatic	66	24.0	33	26.4	99	24.8
Adherence to treatment	70	25.5	23	18.4	93	23.3
Cover mouth when coughing	66	24.0	26	20.8	92	23.0
No delay in TB treatment	23	8.4	9	7.2	32	8.0
Provide good ventilation at workplace and home	15	5.5	2	1.6	17	4.3
Wear a mask when contacting patients with TB	12	4.4	4	3.2	16	4.0
Other	109	39.6	44	35.2	153	38.3
Don't know	26	9.5	19	15.2	45	11.3

Table 2.9 shows that more than a third (35 percent) of the respondents did not know anything about the period a typical pulmonary TB patient should take TB drugs. Almost 37 percent mentioned incorrect period for taking TB drugs. The ideal situation is that TB drugs should be taken for at least six months. In this respect, only 28 percent of the respondents expressed knowledge about the correct period that the patient should be on TB drugs. The people surveyed were also asked to give their opinion as to why

people who are on TB treatment stop taking TB drugs before completing the full treatment. The majority (33 percent) of the respondents gave the reason that the patients feel better after taking the medication for some time, 26 percent said that the patients do not believe that it is necessary to continue taking the drugs (after feeling better), while 18 percent cited the difficulty in swallowing too many drugs at a time as a reason for stopping taking the drugs. Other cited reasons were the drugs' side effects, patient's laziness to take the drugs, ignorance and negligence of the patient.

The respondents were also asked to state for how long a pulmonary TB patient should stay in the hospital. Table 2.9 shows that 36 percent of the respondents do not know the length of time one should stay in the hospital. Nearly half (46.6 percent) of the respondents mentioned incorrect period of staying in the hospital. The results show that there is inadequate information about treatment issues as only 16 percent of the respondents mentioned the correct period.

While knowledge about TB being a contagious disease was very high, the respondents were also asked to state ways they can decrease TB transmission. TB is basically spread through inhalation of droplet particles. Twenty seven percent of the respondents mentioned no spitting in public places, 25 percent said the seeking of medical attention if symptomatic, and 23 percent by adhering to TB treatment while another 23 percent mentioned covering the mouth when coughing as ways of decreasing the possibility of transmission of TB. Small proportions mentioned no delay in TB treatment, provide good ventilation at workplaces and homes, and wear masks when contacting patients with TB.

2.10 TB Related Stigma

Perceptions and beliefs about TB affect how people treat those they know to have once suffered or currently suffering from TB. In this study, a number of questions were posed to gauge the respondents' attitudes towards TB patients. The questions were about their willingness to visit a TB patient in his/her home, willingness to allow a TB patient in one's home and willingness to be in contact with the TB patient. Some questions were also asked about issues of self stigmatization that are displayed by some TB patients. The questions included why someone tries to hide that he/she has TB, reasons why people may think that it is shameful to have TB and on the reasons why someone with TB is treated differently. Table 2.10 shows the distribution of respondents by their attitude towards TB stigma related issues according to the sex of the respondent.

Results in Table 2.10 show that overall both male and female respondents tend to express positive attitudes in response to the questions directed at them concerning attitudes and behavior towards TB infected people. Ninety-five percent, 93 percent and 97 percent of the respondents reported that they would visit a TB patient at his/her home, would allow a person treated for TB in their home and would allow a person recovering from TB in their homes, respectively.

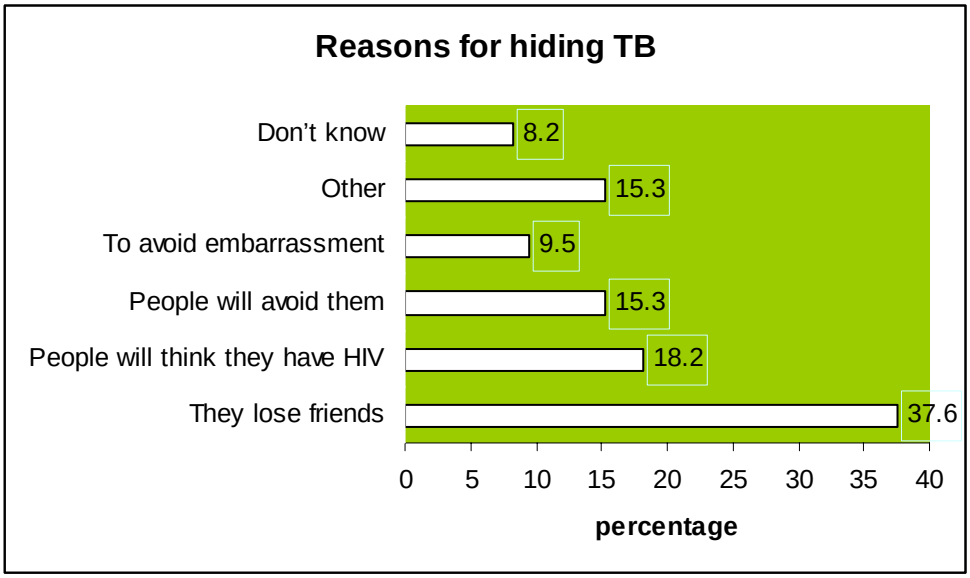
Table 2.10: Frequency and percentage distribution of responses on TB Stigma related issues

TB stigma related statements by sex of the respondents	Male		Female		Total	
	Count	percent	count	percent	Count	Percentage
Ever had a friend, neighbor, workmate or school mate with TB						
Yes	86	42.2	74	37.9	160	40.1
No	116	56.9	117	57.4	233	58.4
Don't know	2	1.0	4	2.1	6	1.5
Would you Visit TB Patient in their Home						
Yes	195	95.6	183	93.8	378	94.7
No	7	3.4	11	5.6	18	4.5
Don't know	2	1.0	1	0.5	3	0.8
Would you allow a person treated for TB in your home						
Yes	192	94.1	180	92.3	372	93.2
No	11	5.4	14	7.2	25	6.3
Don't know	1	0.5	1	0.5	2	0.5
Would you allow a person recovering from TB in your home						
Yes	199	97.5	190	97.4	389	97.5
No	3	1.5	4	2.1	7	1.8
Don't know	2	1.0	1	0.5	3	0.8
If someone has TB , will they try to hide it from others						
Yes	35	17.2	50	25.6	85	21.3
No	164	80.4	142	72.8	306	76.7
Don't know	5	2.5	3	1.5	8	2.0
Do you think it is shameful to have TB						
Yes	28	13.7	27	13.8	55	13.8
No	173	84.8	167	85.6	340	85.2
Don't know	3	1.5	2	1.0	5	1.3
Reasons for being shameful						
Everybody will avoid the person with TB	10	35.7	8	29.6	18	32.7
It means a person is or may have HIV	6	21.4	7	25.9	13	23.6
Other	9	32.1	3	11.1	12	21.8
If someone has TB, will others treat them differently						
Yes	44	21.6	59	30.3	103	25.8
No	154	75.5	133	68.2	287	71.9
Don't know	6	2.9	3	1.5	10	2.5
Reasons						
Will support and feel for them	9	20.5	7	11.9	16	15.5
Will avoid them	28	63.6	42	71.2	70	68.0
Will not use the same utensils	12	27.3	12	20.3	24	23.3
Will not use the same bedding	10	22.7	14	23.7	24	23.3
other	1	2.3	4	6.8	5	4.9
Would you avoid contacting someone with TB						
Yes	90	44.1	93	47.7	183	45.9
No	108	52.9	101	51.8	209	52.4
Don't know	6	2.9	1	1.1	7	1.8

However, it is interesting to note that when the questions are posed just to get the general opinions of the respondents, the results depict some small variations. As can be seen from the Table 2.10, 21 percent of the respondents said that if one is diagnosed with TB, he/she will try to hide it from others. The reasons given are presented in Figure 2.1. The main reason given is that the infected person would be afraid of losing friends (37 percent), people with think that they have HIV (18 percent), and fear that

people will avoid them (15 percent) and to avoid embarrassment (10 percent). In addition, 14 percent of the respondents felt that it was shameful to be diagnosed with TB. The following reasons were given for feeling ashamed of having TB: if known, everybody will avoid a person with TB (33 percent) and people think that everybody with TB is or may have HIV (24 percent). It is also seen in Table 2.10 that up to 46 percent of the respondents would avoid contacting someone with TB.

Figure 2.1: Percentage distribution of given reasons for hiding TB



It can be discerned from these findings that although most respondents express positive attitudes towards people with TB, issues of stigma against someone diagnosed with TB still do exist in these communities. All the responses concerning reasons for hiding TB or feeling ashamed of TB are mostly to do with how other people will perceive the TB infected person.

2.11 Knowledge of HIV and AIDS

This section presents the results of the levels of general awareness about HIV and AIDS particularly as it relates to TB. The respondents were asked if they were aware of HIV, whether HIV was contagious, if TB and HIV are transmitted in the same way, if they know how to protect themselves against HIV, who is at risk of getting HIV and if AIDS can be cured. Table 2.11 presents the results. Many studies in Malawi (NSO and ORC Macro, 2005, NSO and FHI, 2005) have consistently shown that level of awareness about HIV/AIDS is high irrespective of sex, place of residence or level of education. The present study has shown that just like in TB, almost all the respondents have heard about HIV in these two districts. While almost all the respondents (97 percent) said that HIV is contagious, the indication by 13 percent of the respondents that HIV and TB are transmitted in the same way shows that there are still pockets of inadequate knowledge of the basic facts of HIV and AIDS.

Table 2.11 Percentage distribution of respondents' knowledge about HIV by their district and sex

Percentage distribution of respondents' knowledge about HIV

	Mulanje		Phalombe		Total	
	Female	**Male**	**Female**	**Male**	**Count**	**Percentage**
Ever Heard of HIV						
Yes	99.2	100.0	100.0	100.0	398	99.7
No	0.8	0.0	0.0	0.0	1	0.3
Is HIV Contagious						
Yes	97.7	95.7	98.4	98.4	388	97.2
No	2.3	4.3	1.6	1.6	11	2.8
Are HIV and TB transmitted in the same way						
Yes	10.5	14.2	11.3	14.3	50	12.5
No	87.2	78.7	87.1	77.8	331	83.0
Don't Know	1.5	5.7	1.6	7.9	18	4.5
Do you know how to protect yourself against HIV						
Yes	97.0	96.5	100.0	93.7	387	97.0
No	2.3	3.5	0.0	4.8	8	2.0
No response	0.8	0.0	0.0	1.6	5	1.2
Who can get HIV						
Anyone	94.0	93.6	91.9	90.5	371	93.0
Other	7.6	2.86.3	0.012.9	6.311.1	934	2.38.6
Don't Know	0.8	1.4	1.6	4.8	7	1.8
Can AIDS be Cured						
Yes	9.8	12.8	14.5	7.9	45	11.3
No	88.0	83.0	85.5	81.0	338	84.7
Don't Know	1.5	3.5	0.0	9.5	13	3.3

Table 2.11 also shows that almost all the respondents (97 percent) indicated that they knew how to protect themselves against contracting HIV in as much as 93 percent of respondents realized that anyone can contract HIV. However, gaps in knowledge remain. While the fact remains that there is no cure for AIDS, it is interesting to note that up to 11 percent (one in every nine respondents) believed that AIDS has a cure.

2.12 Respondents' knowledge about HIV modes of transmission, preventive measures by districts

While awareness of HIV/AIDS is important, the understanding of how HIV is transmitted and knowledge of effective ways of preventing transmission are even more important for the people to be able to take action. In this respect, the respondents were asked to state the modes of HIV transmission, means of prevention and HIV/AIDS symptoms. Table 2.12 summarizes the findings.

Table 2.12 shows that knowledge about modes of HIV transmission is very high as 95 percent of the respondents knew that HIV is transmitted through sexual intercourse. It is slightly higher among those in Mulanje (95 percent) than in Phalombe (93 percent). However, it appears that the people's high knowledge about HIV transmission stops at this mode of transmission as a considerable proportion of the respondents still harbor some grave misconceptions pertaining to HIV transmission. For example, 28 percent of the respondents were of the belief that HIV can be transmitted through items of public use. More people who live in Phalombe (33 percent) have this belief than those in Mulanje (26 percent). In addition, only a combined 13 percent of the respondents said that HIV can be transmitted through contact with blood and blood transfusion. Only a combined 5 percent of the respondents knew that HIV can also be transmitted from mother to child during pregnancy and breastfeeding.

Table 2.12: Percentage distributions of respondent's knowledge about HIV modes of transmission, modes of prevention and HIV symptoms

Knowledge about HIV modes of transmission, preventive measures and HIV symptoms by district

	Mulanje		Phalombe		Total	
	Count	Percent	Count	Percent	Count	Percent
HIV Modes of Transmission						
Sexual intercourse	261	94.9	116	92.8	377	94.5
Through items of public use	70	25.5	41	32.8	111	27.8
Unsterilised sharp objects	62	22.5	18	10.3	80	20.1
Though Blood	29	10.5	10	8.0	39	9.8
Blood Transfusion	9	3.3	3	2.4	12	3.0
From mother to child during Pregnancy	8	2.9	4	3.2	12	3.0
Breastfeeding	4	1.5	4	3.2	8	2.0
Shaking hands with an infected person	5	1.8	2	1.6	7	1.7
Promiscuity	4	1.5	3	2.4	7	1.7
Kiss	2	0.7	3	2.4	5	1.3
Other						
Means of HIV prevention						
Abstinence	187	68.0	101	80.8	288	72.2
Faithfulness	65	23.6	25	20.0	80	20.1
Condom use	180	65.5	64	51.2	244	61.2
Avoid Sharing piercing objects	46	16.7	20	16.0	66	16.5
Attended by a trained service provider during pregnancy &delivery	0	0.0	2	1.6	2	0.5
other	10	3.6	3	2.4	13	3.3
HIV Symptoms						
Weight Loss	169	61.5	88	70.4	257	64.4
Persistent diarrhea	97	35.3	57	45.6	154	38.6
Pale Hair	63	22.9	28	22.4	91	22.8
Persistent fever	28	10.2	7	5.6	35	8.8
Persistent illness	27	9.8	7	5.6	34	8.5
Persistent Skin rush	20	7.3	12	9.6	32	8.0
coughing	12	4.4	7	5.6	19	4.8
lymphademopathy	13	4.7	4	3.2	17	4.3
Recurrent attacks of shingles	11	4.0	5	4.0	16	4.0
Weakness	6	2.2	9	7.2	15	3.8
Persistent mouth sores	8	2.9	1	0.8	9	2.3
Would not know until one goes for VCT	31	11.3	6	4.8	37	9.3
Other	22	8.0	5	4.0	29	7.3

On modes of prevention, Table 2.12 shows that abstinence from sex was the most commonly known way of preventing HIV transmission (68 percent in Mulanje and 81 percent in Phalombe) followed by using condoms (66 percent in Mulanje and 51 percent in Phalombe). Faithfulness to one's partner and avoidance of sharing piercing objects were mentioned by only 20 percent and 16 percent respectively.

Of great importance to this project is that only 9 percent (11 percent in Mulanje and 5 percent in Phalombe) of the respondents said that it was difficult for them to know the symptoms of HIV and indicated that one would only know that one has HIV if he/she has undergone voluntary counseling and testing for HIV which is true. The data clearly illustrates that misconceptions are common. For example, Table 2.12 reveals that the majority of the respondents (64 percent) mentioned weight loss as a symptom of HIV/AIDS infection. This was followed by persistent diarrhea and pale hair as mentioned by 36 percent and 23 percent of the respondents respectively. What can discerned from these responses is that the minority group (9 percent) appears to have a point worth considering. It is being contested here that the mentioned symptoms singularly on in combination may also be indicative of other diseases other that HIV/AIDS, so it would be ideal to pass on information on the importance of VCT to

distinguish those with HIV from those suffering from other ailments. What the general population ought to be educated on is the fact that it is impossible for one to tell who has HIV. In this respect all the mentioned symptoms are misconceptions and misleading.

2.13 Sources of HIV Information

The provision and acquisition of correct and consistent information on issues of HIV and AIDS play a great role in increasing the knowledge, adoption of positive attitudes and a first step to motivate positive behavioural change in order to protect oneself from contracting and transmitting HIV. To this effect, the respondents were asked if they had received information about HIV in the six months prior to the survey. For those who had received the information, they were also asked to state the source of that information. Table 2.13 summarises the findings.

Results in Table 2.13 show that unlike TB, the majority (75 percent) of the respondents had received information about HIV in the six months prior to the survey. This should not be surprising as a lot of resources and efforts in the country are now being directed towards HIV and AIDS because of its devastating impact on all spheres of the society. Because of the linkages that are there between HIV and TB in Malawi, it would be ideal for TB control programmes such as the one Project HOPE is implementing to package HIV and AIDS messages with TB messages also. As would be expected, the results also show that those with secondary and higher education are better informed about HIV than those with primary or no education.

Table 2.13: Distribution of respondents who have had HIV information and the source of that information

Information about HIV	No Education		Primary		Secondary and Higher		Total	
	Male	Female	Male	Female	Male	Female	Count	Percent
Ever Received Information about HIV in the past 6 months								
Yes	63.0	69.2	73.2	74.2	86.2	92.9	300	75.2
No	37.0	30.8	26.8	25.8	13.8	7.1	99	24.8
Sources of HIV Information								
Radio/TV/Newspapers	29.6	38.5	39.0	46.0	51.7	69.0	175	43.9
Doctors or Nurses	5.6	3.8	4.1	3.2	6.9	0.0	15	3.8
Other Medical workers	18.5	3.8	16.3	5.6	24.1	21.4	54	15.3
Lectures	3.7	7.7	15.4	9.7	10.3	9.5	42	10.5
Acquaintances	3.7	0.0	2.4	2,4	3.4	2.4	10	2.5
Booklets and leaflets	8.3	3.8	0.0	0.0	3.4	4.8	6	1.5
Other	16.7	15.4	14.6	21.0	20.7	19.0	71	17.8

For those who had received information on HIV, their main source of information, just like for TB, was the mass media, that is, the radio, television and newspapers. It was mentioned by 44 percent of the respondents. Health workers in the communities were mentioned by 15 percent while public lectures (11 percent) were also mentioned as significant sources of HIV information.

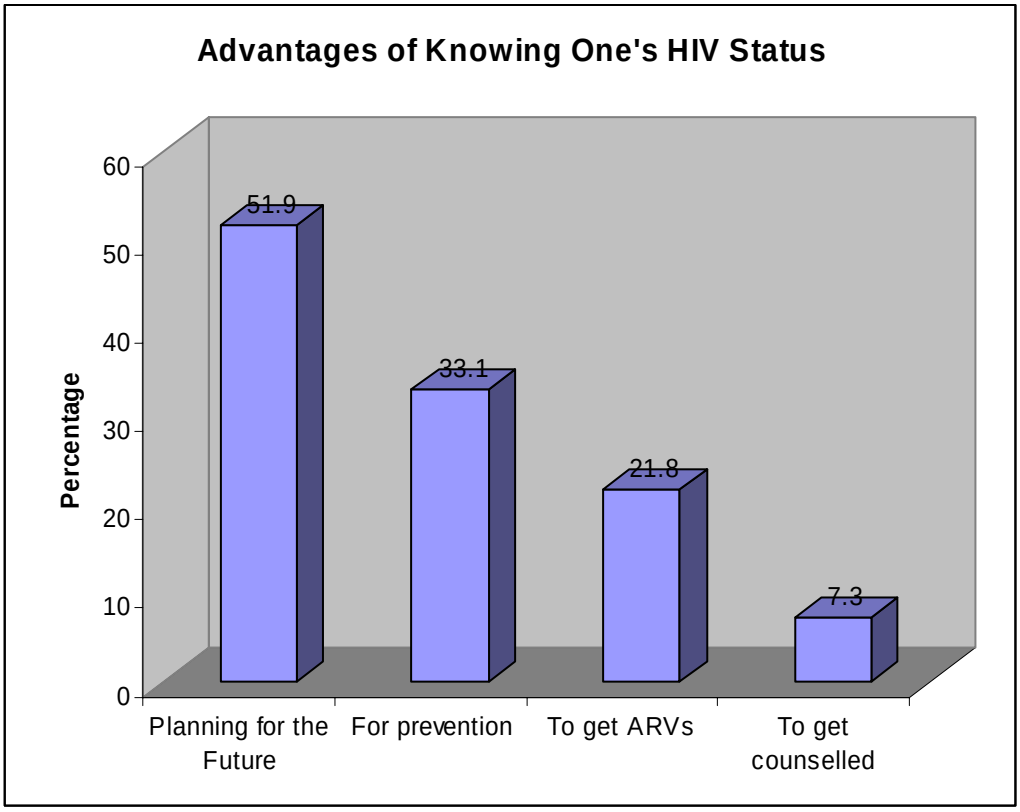
2.14 HIV Testing and Counseling

One of the emphasised activities for the project is to promote people's health seeking behaviour. HIV Voluntary Counselling and Testing plays a cardinal role in infection control through the identification of those infected with the virus in a bid to enhance efforts to interrupt transmission from HIV positive tested people to untested or HIV negative people and also from HIV positive tested mother to child during pregnancy, labor, or breastfeeding. Since there is a strong correlation between being HIV

positive and of being infected with TB, HIV testing and counseling provides a critical first step in identifying those who are HIV positive so as to effectively link them with HIV, and TB as necessary, treatment, care, and support services. To this end the people in Mulanje and Phalombe were asked about reasons that would motivate them to go for VCT. Figure 2.2 summarises the reasons.

Figure 2.2 shows that the most cited reason for one to undergo HIV testing and counseling is to plan for one's life (52 percent) followed by prevention (33 percent), to get ARVs (22 percent) and to get counseled (7.3 percent). The reasons do somehow vary according to sex with more men mentioning planning for one's future than females.

Figure 2.2 : Given advantages of knowing one's HIV status



2.14.1: Knowledge and utilisation of VCT services

Knowledge about where to go for VCT is a necessary step in seeking the services. In this regard, the respondents were asked a number of questions ranging from their knowledge about where to get VCT services, the distance to the nearest VCT site and whether they had undergone HIV testing themselves. Table 2.14 summarises the findings.

Table 2.14 Distribution of those who know where to get HIV test, have gone for VCT and where they would go if they had AIDS symptoms

Distribution of responses by gender

	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
Do you know where to get HIV test						
Yes	185	90.2	178	91.2	363	91.0
No	19	9.8	17	8.8	36	9.0
Where would you go for VCT						
Government Hospital	39	21.2	35	19.7	74	20.4
Mission Hospital	29	15.7	34	19.1	63	17.4
Health Centre	113	61.1	89	50.0	202	55.6
NGO facilities	4	1.1	20	5.5	24	6.6
How long Does it take to walk to the nearest HIV testing Centre from here						
15 minutes and below	20	11.0	17	9.6	37	10.3
16-30 minutes	29	16.0	39	22.0	68	19.0
31 to 60 minutes	40	22.1	35	19.8	75	20.9
More than 1 hour	86	47.5	81	45.8	167	46.6
Don't Know	6	3.3	5	2.8	11	3.1
Have you ever had and HIV test						
Yes	49	24.0	41	21.0	90	22.6
No	155	76.0	154	79.0	309	77.4

Results in table 2.14 show that overall 91 percent of the respondents knew where to go for VCT. As the majority of the respondents live in the rural areas, it is not surprising that the majority (56 percent) of the respondents in each district mentioned health centres that were located in their areas as places they would go for VCT services. About 20 percent of the respondents mentioned government hospital, 17.4 percent mentioned mission hospitals while about 7 percent of the respondents mentioned NGO facilities such as BLM and MACRO.

2.14.2 Distance to the nearest VCT site

Knowledge about the sites for HIV testing and counselling is important but of greater importance is access to these sites. Table 2.14 shows that nearly half (47 percent) of the people surveyed in this study have to walk for over an hour to reach the nearest VCT center while another 21 percent have to take between a half hour and one hour to walk to the nearest VCT site. What is apparent here is the fact that distance poses as one of the barriers to VCT access as people, who in most cases are not even sick, get discouraged to go to these sites probably until they fall sick.

2.14.3 VCT services utilisation

Table 2.14 also shows that only about 23 percent of the people surveyed had gone for VCT. This is a reflection of the dismally low levels of uptake of VCT services in the country as a whole. In a country where the HIV prevalence is estimated at 14 percent of the total adult (15 years and above) population, the nationally representative Malawi Demographic and Health Survey of 2004 showed that only 13% of adult (15 years and above) men and women had undergone HIV counselling and testing. This is a clear indication that HIV testing and counselling needs to be scaled up to be more accessible.

2.15 TB and HIV Co-infection

Knowledge about the linkages between TB and HIV infections is very vital in seeking prompt medical attention. Of particular importance is the fact that one should seek testing for HIV if one has been

diagnosed with TB. In Malawi, nearly half of new tuberculosis cases are acquired from HIV-infected household contacts (Chipungu's TB survey enumerator's training notes, 2006) HIV accelerates the progression of TB infection to TB disease as such up to 77% of TB patients country wide are HIV positive (Chipungu's TB survey enumerators' training notes, 2006). In this regard, the respondents were asked a number of questions to assess their understanding of TB and HIV co-infection. Table 2.15 summarizes the findings.

The results in Table 2.15 show that the majority of the respondents are generally aware of the linkages between HIV and TB infection. Eighty-one percent of the respondents think that someone with HIV can also have TB while 76 percent of the respondents were of the view that someone with TB can also have HIV. It is also noted that 79 percent of the respondent knew that one is more susceptible to TB when he or she is HIV positive. In all the three questions, people of Mulanje have significantly higher levels of knowledge than those of Phalombe. While these figures demonstrate high levels of awareness about TB and HIV co-infection, it is also worth noting that overall 20 percent of the respondents did not know that there were linkages between TB and HIV infections.

Table 2.15 Knowledge about HIV and TB co-infection

Percentage distribution of respondents knowledge about HIV and TB co-infection by district

	Mulanje		Phalombe		Total	
	Count	Percent	Count	Percent	Count	Percent
Do you think someone with HIV can also have TB						
Yes	234	85.1	90	72.0	324	81.0
No	33	12.0	23	18.4	56	14.0
Don't Know	8	2.9	12	6.2	20	5.0
Do you think someone with TB can also have HIV						
Yes	213	77.5	90	72.0	303	75.8
No	49	17.8	23	18.4	72	18.0
Don't know	13	4.7	12	9.6	25	6.3
Are you more susceptible to TB if you have HIV						
Yes	230	83.6	87	69.6	317	79.3
No	30	10.9	22	17.6	52	13.0
Don't know	15	5.5	16	12.8	31	7.8
If undergoing VCT for HIV, would you answer TB questions						
Yes	263	95.6	114	91.2	377	94.3
No	10	3.6	9	7.2	19	4.8
Don't Know	2	0.7	2	1.6	4	1.0
If you were going for a sputum test for TB, would you undergo counseling and testing for HIV						
Yes	259	94.2	111	88.8	370	92.5
No	14	5.1	12	9.6	26	6.5
Don't Know	2	0.7	2	1.6	4	1.0

2.15.1 Attitudes towards the possibility of HIV and TB co-infection

It has been shown that there are high levels of knowledge of the linkage between TB and HIV infections. To explore this further, the respondents were asked if while undergoing HIV counseling and testing, they would also answer TB questions and also if going for a sputum test for TB, they would also undergo VCT for HIV. Results in Table 2.15 show that almost all (94 percent for TB and 93 percent for HIV) of the respondents had a willingness to be tested for one disease if being treated for the other.

Section 3: Synthesis of Findings and Their Implications for the Project HOPE TB Control Programme

The baseline survey was aimed at determining the levels of knowledge, attitudes, availability and acceptability of TB and HIV services in the two districts of Mulanje and Phalombe. It was also aimed at identifying gaps in the provision of both information and services related to TB and HIV that would form the basis for the development of the programme's implementation plan. From the analysis, the following can be isolated as the core results:

3.1 Knowledge about TB and HIV/AIDS

While awareness about TB and HIV/AIDS in general is almost universal for both males and females in the two districts, the deeper 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 found to be inadequate. It is clear from the results elucidated in this report that there is a gap in knowledge about the vital role played by the early diagnosis of TB and VCT for HIV on the continuum of HIV and TB prevention, care and treatment and support. Less than a quarter (23 percent) of the respondents had gone for HIV testing and counseling.

3.2 Information about TB and HIV/AIDS and its Sources

Unlike HIV/AIDS, there is not much information about TB in the two districts as only less than half (47 percent) of the respondents reported to have received TB information in the six months prior to the survey. For both TB and HIV/AIDS, the mass media, particularly the radio is the main source of information. While the mass media has served its purpose in creating awareness about the existence of services and where to get them, they somehow fall short of bringing about desired behavioral change. It is imperative that an effective behavioral change communication strategy will have to be designed that will ensure the use of multimedia and innovative information dissemination techniques including women focused discussions on the radio, the television and community outreach forums (churches, market places) where people would openly discuss and understand issues surrounding TB and HIV/AIDS. In addition, people will need to be provided with adequate knowledge and skills that would lead to positive behaviour change and motivation to protect themselves and others from contracting TB and HIV.

3.3 TB Diagnosis and Treatment

In the survey, 16 percent of the respondents had or had a household member with symptoms compatible with TB. Of these, 68 percent reported the affected person took six weeks or longer to seek medical attention. Contributing factors included the distance to health care clinics (21 percent) and lack of money (10 percent). Forty-five percent of respondents noted that their primary clinic or hospital was more than one hour's walk from their homes. While most respondents recognized cough as compatible with TB, only 9 percent recognized or fever as symptoms of TB. Nine percent of respondents said that they had been unable to obtain a sputum test or test result. Forty-eight respondents (16 percent) noted that a household member had developed TB in the past year, of whom 89 percent were diagnosed with sputum analysis. For 50 percent of respondents, test results were obtained longer than one week after the test.

It has been established that only a small proportion of people seek medical attention within days of noticing TB symptoms. In addition, it has also been established that TB treatment literacy is low. For

example, only 28 percent of the respondent knew the correct period TB patients were supposed to take TB drugs. In addition, although there is high levels of awareness that TB treatment was free, some respondents said that some patients stop taking TB drugs after sometime upon noting that they feel better with a belief that it was no longer necessary to continue with the treatment. This is dangerous as it encourages multi-drug resistant strains that are hard to cure. While a sustained IEC campaign to give people the facts about TB treatment will be pertinent, the health workers would also need to do better and sustained education of guardians and the patients on the need for to assist their patients to strictly follow the TB treatment regimen.

3.4 TB Stigma

Although most respondents reported some positive attitudes towards TB patients, there were still some pockets of stigmatization of the same. Many people still had the tendency to equate TB infection with being HIV positive. While the issue of co-infection is real, it is not always the case of one to one. Therefore, the equating of TB infection with positive HIV serostatus may engender stigma and discrimination. This would hamper efforts aimed at encouraging people to go for TB testing services. It is pertinent to design messages that would deepen the knowledge and understanding that not all who are infected with TB are also HIV positive. The ensuing communication approach should use social mobilization techniques to bring in the communities into the communication campaign. The participation of the communities in TB and HIV related campaigns would lead to increased participation in TB and HIV testing and foster community ownership of the interventions. This approach can help people infected with TB or HIV/AIDS be accepted within their communities thereby reducing denial, stigma and discrimination.

2006 Baseline Community Survey
TB Control in Southern Malawi
(Eastern Zone)

Final: December 10, 2006
(English)

2006 BASELINE COMMUNITY SURVEY ---TB CONTROL IN SOUTHERN MALAWI

CONSENT FORM

Read the entire consent form, word for word.

Reason for the Survey

Hello. My name is _____, and I am working with **Project HOPE**, an international health organization. We are doing this survey to find out more about what people know and believe about Tuberculosis (TB). What you tell us will help us create better health programs in your community.

Your Part in the Survey

You have been chosen to be interviewed by a random selection process, much like picking a number for the lottery or winning Maele. The survey will include at least 10 other people in your community, and 400 people total in Mulanje and Phalombe. If you agree to be in the survey, I will ask you a few questions about yourself and about your ideas, attitudes, and behaviors regarding TB and HIV. This will take about 30 minutes.

Confidentiality

Your answers will be kept confidential. This means that we will not tell anyone else your name, or that you were in the study, or anything else about you. Only the interviewers and Project HOPE staff may look at your records from this survey.

Benefits and Risks

Taking part in this survey is completely voluntary. That means that you do not have to participate if you do not want to. There is very little risk in taking part in this survey. It is possible that you may feel uncomfortable answering some of the questions. You are free to leave at any time. You are also free to refuse to answer any of the questions in the survey.

CONSENT PROVISION

Do you agree to participate in the interview?

☐ NO ⟶

Can I ask why you would not like to participate in this survey?

Write reason(s) for refusal:_____

Thank you for taking time to listen.

☐ YES ⟶ get signature or thumbprint (if thumbprint, need to also have Interviewer sign)

_____ _____

Signature/Thumbprint Date

If thumbprint, have Data Collector sign: _____ _____

Signature *Date*

_____ _____

Signature of Team Leader Date

SURVEY QUESTIONNAIRE

RESPONDENT IDENTIFICATION	
Interviewer code	(Assigned by field).
Respondent/Informant Identification Number	Code 1-400
Region	1=Africa
Country	1=Malawi
District	1=Mulanje, 2=Phalombe
Traditional Authority	
Village	
Language of interview	1= Chichewa, 2=English
Gender	1=Female, 2=Male
Date of Interview	DATE/MONTH/YEAR
Time interview began	AM NOON PM
Time interview ended	AM NOON PM

Informant #	Man/ Woman	Age Range	Household # after randomizing	Decision Visit #1	Decision Visit #2	Decision Visit #3	Decision Visit #4	Decision Visit #5	Decision Visit #6

1 = INTERVIEW
2 = Does not meet informant criteria--Household not eligible
3 = Absent or Lives > 30 min away
4 = Started, did not complete
5 = Postponed, new time & date set
88 = Other reason
99 = Refused

If Interview is not completed then make appointment for follow up

Appointment of next interview	
Date of Interview	DATE/MONTH/YEAR
Time interview began	AM NOON PM
Time interview ended	AM NOON PM

FOR DATA ENTRY PERSONNEL ONLY

	Name	Date
Team leader review**:		
Keyed by:		

***Review for completion – all answers answered, skip patterns followed, etc.*

SECTION A: SOCIO-DEMOGRAPHICS

Instructions: Ask the questions exactly as they are written. Do not read responses unless directed to do so. Words in *italics* are instructions for the interviewer and should not be read aloud. Follow skip patterns as directed. Write answers in the answer box unless otherwise directed.

#	Questions	Responses		Skip	Answer
1.	How old were you on your last birthday?	Age Don't know No response	## 88 99		
2.	In which month and year were you born?	Month Year Don't know No response	## ## 88 99		
3.	Have you ever attended school?	Yes No Don't know No response	1 0 88 99	4 →5 →5 →5	
4.	What is the highest grade or level of school you have completed?	Primary or less Secondary Tertiary (college/university) Technical Other	1 2 3 4 5		
5.	Are you currently single, married, living with a partner for ≥ 1 year, divorced, widowed, or living with a partner for < 1 year ('cohabitating')?	Single Married Common law husband/wife Divorced Widowed Cohabitating	1 2 3 4 5 6		
6.	What is your occupation? ***Check all that apply.***	Farmer Trader Artisan Professional/Civil servant Pensioner/Retiree Student Skilled laborer Estate worker Unemployed (≥ 3 mos) Other (specify) _____ No response	1 2 3 4 5 6 7 8 9 77 99		
7.	How many people live in your household?	Number Don't know No response	## 88 99		
8.	How many children in your household are under the age of 15?	Number Don't know No response	## 88 99		
9.	What is your estimated average monthly income?	Number Don't know No response	## 88 99		

SECTION A: SOCIO-DEMOGRAPHICS (CONTINUED)				
#	Questions	Responses	Skip	Answer
10.	Is the average estimated monthly income of your household… ***Read responses.***	Not enough for food…… 1 Barely enough for food…… 2 Enough for food…… 3 Don't know…… 88 No response…… 99		

For the next question, please write the number of the corresponding box					
11.	Does your household have:	**Yes 1**	**No 0**	**Don't know 88**	**No response 99**
	a) a radio?				
	b) a television?				
	c) a cellular phone?				
	d) a bed with mattress?				
	e) a sofa?				
	f) a paraffin lamp?				
	g) a table and chairs?				
	h) a bicycle?				

12.	Which health center(s) or hospital(s) does your household normally go to for medical care? ***Write health center # in answer box***	Health center…… ## None…… 0 Other (specify) 77 _____ Don't know…… 88 No response…… 99		

Banja La Mtsogoto Clinic	1	Dzenje Mat. Unit	11	Lujeri HC	22	Mulanje Canning Dispensary	32	Njotwa HP	43
Bondo HC	2	Eldorado Dispensary	12	Makhanga HP	23	Mulanje District Hospital	33	Nthambula HP	44
Chambe HC	3	Esperanza Dispensary	13	Matchado Clinic	24	Mulanje Mission Hospital	34	Phalombe HC	45
Chikuli Clinic	4	Glenorchy Dispensary	14	Mbiza HC Dispensary/	25	Mulomba HC	35	Phwazi Dispensary	46
Chilekesa HC	5	Holly Family Mission Hospital	15	Migowi HC	26	Muloza HC	36	Phwerenmwe HP	47
Chinyama Dispensary	6	Kalinde HC	16	Milonde HC	27	Mwanga HC	37	Ruo Dis	48
Chisambo Disp	7	Kambenje HC	17	Mimosa Dispensary	28	Namasalima HC	38	Sapali PH	49
Chisitu HC	8	Khamalathu Mat Unit	18	Mimosa Tea Res Dispensary	29	Nambazo HC	39	Sayama Dispensary	50
Chonde HC	9	Lauderdale Dispensary	19	Mkhwayi HC	30	Nambiti HP	40	Sukasanje HC	51
Degadega HC	10	Likanga Dispensary	20	Mpala HC	31	Namphungo HC	41	Thembe Dispensary	52
		Limbuli Clinic	21			Namulenga HC	42	Thuchila HC	53

SECTION B: TUBERCULOSIS KNOWLEDGE				
#	Questions	Responses	Skip	Answer
13.	Have you heard about the disease called Tuberculosis or TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	14 →20 →20 →20	
14.	What symptoms can show that a person has TB? ***Multiple answers allowed.*** ***Do not prompt.***	Coughing..... 1 Fever..... 2 Coughing with sputum..... 3 Coughing for longer than 3 weeks 4 Periodic increases of temperature for over 3 weeks..... 5 Cough with blood in sputum..... 6 Loss of appetite..... 7 Pain in the chest..... 8 Total weakness, inertia..... 9 Weight loss..... 10 Swollen glands..... 11 Night sweats..... 12 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
15.	Is TB contagious?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
16.	How is TB transmitted? ***Multiple answers are possible.*** ***Do not prompt.***	Through the air by coughing..... 1 Through blood..... 2 Through handshake with an infected person..... 3 Sexually transmitted..... 4 Sharing food with infected person... 5 You're born with it..... 6 Through items of public use..... 7 Through kiss..... 8 After getting cold..... 9 After having stress..... 10 From mosquito bite 11 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION B: TUBERCULOSIS KNOWLEDGE (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
17.	Who can get TB? ***Multiple answers are possible.*** ***Do not read answers.***	Anyone..... 1 Poor people..... 2 Alcoholics..... 3 Smokers..... 4 Prisoners..... 5 Prostitutes (sex workers)..... 6 Truck drivers..... 7 Labor migrants..... 8 People living with HIV..... 9 Household member of person with TB..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
18.	Have you received any information about TB in the last 6 months?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	19 →20 →20 →20	
19.	***If yes, ask:*** From which sources did you receive information about TB in the last 6 months? ***Don't prompt***.	Friends, acquaintances, relatives... 1 Doctors or nurses..... 2 Other medical workers..... 3 Booklets, leaflets..... 4 Radios/TV/ Newspapers..... 5 Lectures..... 6 Health department..... 7 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION C: TUBERCULOSIS TREATMENT DELAY				
#	Questions	Responses	Skip	Answer
20.	Have you or anyone in your household been sick with any illness in the last 6 months?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	21 →24 →24 →24	

For EACH person who was sick, answer the questions below:			
	21. What gender was the person who was sick?	22. Did this person who was sick seek attention for his/her symptoms in the past 6 months? ***If no, skip to Q24***	***If yes, ask:*** 23. Who did this person seek attention from for his or her symptoms?
	Female.....0 Male.....1	Yes.....1 No.....0 Don't know.....88 No response.....99	Doctor.....1 Nurse.....2 HSA.....3 Traditional healer.....4 Pharmacist.....5 Drug seller/vendor.....6 Shop keeper.....7 Spiritual healer.....8 Nowhere.....9 Other (specify).....77 _____ Don't know.....88 No response.....99

For EACH person who was sick, answer the questions above, indicate answers in EACH box for EACH person:			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

SECTION C: TUBERCULOSIS TREATMENT DELAY (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
24.	Do you or anyone in your household have any of the following symptoms of TB? ***Read list:*** • Coughing with sputum* • Coughing for over 3 weeks • Periodic increases of temperature for over 3 weeks • Blood in sputum • Pain in the chest • Total weakness, inertia • Weight loss • Night sweat ***(definition of sputum = matter coughed up and ejected from the mouth)*** ***If someone had ONE or MORE symptoms, mark YES.***	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	25 →30 →30 →30	
For EACH person who had symptoms of TB, answer the questions on the next page:				

	25. What gender was the person who had symptoms of **TB**?	26. Did this person seek medical attention for his or her symptoms?	***If yes, ask:*** 27. After how long did he or she seek medical attention? ***Please specify the exact number of days, weeks, months. If they do not know exactly, try to get them to estimate. Prompt with questions (was it before the rainy season started, etc.)***	***If medical attention <u>was</u> sought, but not until after 2 months, ask:*** 28. Why did it take so long to seek medical attention?	***If no, ask:*** 29. If no medical attention was sought, why wasn't it?
	Female.....0 Male.....1	Yes.....1 No.....0 Don't know.....88 No response.....99	Days.....## Weeks.....## Months.....## Don't know.....88 No response.....99	Felt better.....1 No money to see doctor....2 Trying to treat symptoms at home.....3 Was far from medical institutions.....4 Do not trust or fear health workers.....5 Fear of having a serious illness.....6 Fear of stigma against TB or HIV.....7 Too busy.....8 Not paying attention or ignoring symptoms.....9 Not aware of consequences of disease.....10 Other (specify).....77 Don't know.....88 No response.....99	Felt better.....1 No money to see doctor....2 Trying to treat symptoms at home.....3 Was far from medical institutions.....4 Do not trust or fear health workers.....5 Fear of having a serious illness.....6 Fear of stigma against TB or HIV.....7 Too busy.....8 Not paying attention or ignoring symptoms.....9 Not aware of consequences of disease.....10 Other (specify).....77 Don't know.....88 No response.....99

For EACH person who had symptoms of TB, answer the questions above. In each row, indicate one answer in each answer box for each person:

1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

SECTION C: TUBERCULOSIS TREATMENT DELAY (CONTINUED)				
#	Questions	Responses	Skip	Answer
30.	In your opinion, why do people not go to the doctor when they get sick? ***Do not prompt*** ***Check all that apply.***	Felt better..... 1 No money to see doctor..... 2 Trying to treat symptoms at home 3 Was far from medical institutions... 4 Do not trust or fear health workers 5 Fear of having a serious illness..... 6 Fear of stigma against TB or HIV.... 7 Too busy..... 8 Not paying attention or ignoring symptoms..... 9 Not aware of consequences of disease..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
31.	What symptoms would make you go to a health facility to have a TB test? ***Multiple answers are possible.***	Coughing with sputum..... 1 Coughing for over 3 weeks..... 2 Periodic increases of temperature for over 3 weeks..... 3 Cough with blood in sputum..... 4 Loss of appetite..... 5 Pain in the chest..... 6 Total weakness, inertia..... 7 Weight loss..... 8 Other (specify)..... 9 _____ Don't know..... 88 No response..... 99		
32.	If you had TB symptoms where would you go to get medical service? ***Multiple answers are possible.*** ***If the response is "hospital" then ask if they would go to a "public" or "private/mission" hospital.***	Health center..... 1 Public hospital..... 2 Private/Mission Hospital..... 3 Traditional doctor..... 4 Pharmacy..... 5 Spiritual healer..... 6 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
33.	How long would it take you to walk to the nearest TB testing centre from here?	0-15 minutes..... 1 16-30 minutes..... 2 31 minutes to one hour..... 3 More than one hour..... 4 Don't know..... 88 No response..... 99		

SECTION C: TUBERCULOSIS TREATMENT DELAY (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
34.	Have you ever provided a sputum sample for testing for TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	35 →38 →38 →38	
35.	***If yes to Question 34, ask:*** How many sputum samples were you asked to give?	None..... 0 One..... 1 Two..... 2 Three..... 3 Four or more..... 4 Don't know..... 88 No response..... 99	38 →36 →36 →36 →36 →36 →36	
36.	How did you give the sputum samples? ***Multiple responses are possible.***	When I first came to the clinic "on the spot" 1 In the early morning the next day. 2 When I returned to the clinic the next day "on the spot" 3 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
37.	How long did it take for you to get the result of the sputum test?	Same day..... 1 A few days..... 2 One week or more..... 3 2-3 weeks..... 4 A month or more..... 5 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
38.	Have you ever been unable to get TB sputum test	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
39.	Have you ever been unable to get TB sputum test result	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
40.	Have you ever been unable to get Chest x-ray	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
41.	Have you ever been unable to get Chest x-ray result	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION C: TUBERCULOSIS TREATMENT DELAY (CONTINUED)				
#	Questions	Responses	Skip	Answer
42.	***If yes to Q37, ask:*** Why were you not able to get the sputum test?	Test was unavailable..... 1 Clinic too far to get to..... 2 Specimen was lost..... 3 Too expensive..... 4 Couldn't take time off from work... 5 No film or other supplies available. 6 Electricity not working..... 7 Health care worker not available.... 8 Doctor did not give me the results. 9 Equipment broken..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
43.	***If yes to Q38, ask:*** Why were you not able to get the sputum test result?	Test was unavailable..... 1 Clinic too far to get to..... 2 Specimen was lost..... 3 Too expensive..... 4 Couldn't take time off from work... 5 No film or other supplies available. 6 Electricity not working..... 7 Health care worker not available.... 8 Doctor did not give me the results. 9 Equipment broken..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
44.	***If yes to Q39, ask:*** Why were you not able to get a chest x-ray?	Test was unavailable..... 1 Clinic too far to get to..... 2 Specimen was lost..... 3 Too expensive..... 4 Couldn't take time off from work... 5 No film or other supplies available. 6 Electricity not working..... 7 Health care worker not available.... 8 Doctor did not give me the results. 9 Equipment broken..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION C: TUBERCULOSIS TREATMENT DELAY (CONTINUED)				
#	Questions	Responses	Skip	Answer
45.	***If yes to Q40, ask:*** Why were you not able to get the chest x-ray result?	Test was unavailable..... 1 Clinic too far to get to..... 2 Specimen was lost..... 3 Too expensive..... 4 Couldn't take time off from work... 5 No film or other supplies available. 6 Electricity not working..... 7 Health care worker not available.... 8 Doctor did not give me the results. 9 Equipment broken..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION D: TUBERCULOSIS HOME BASED CARE				
#	Questions	Responses	Skip	Answer
46.	Have you or any of your household members been diagnosed with TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	47 →57 →57 →57	
47.	***If yes, ask:*** Did you or your household member receive any of the following kinds of assistance after being diagnosed with TB? ***Read responses.***	Transportation to TB clinic..... 1 Adherence education..... 2 Renewed supply of medications delivered..... 3 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
48.	How were you or your household member diagnosed with TB?	Sputum test..... 1 X-ray test..... 2 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
49.	How long did it take before you or your household member got your test results?	Same day..... 1 A few days..... 2 One week or more..... 3 2-3 weeks..... 4 A month or more..... 5 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
50.	Did you or your household member pay anything to diagnose TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
51.	Did you or your household member pay anything to monitor TB treatment (laboratory tests, doctor consultations?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION D: TUBERCULOSIS HOME BASED CARE (CONTINUED)				
#	Questions	Responses	Skip	Answer
52.	Did you or your household member pay anything for TB medicines?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
53.	What kind of medication did you or your household member receive? ***Multiple responses possible***	Isoniazid (INH) (H)..... 1 Rifamipin (RFP) (R) ..... 2 Pyrizinamide (PZA)(Z)..... 3 Ethambutol (ETM) (E)..... 4 ARV..... 5 Antibiotics..... 6 Cotrimoxazole..... 7 Blood pressure medicine..... 8 Traditional herbs/medicine..... 9 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
54.	Did you or your household member complete the course of medication?	Yes..... 1 No (Stopped) ..... 0 Still taking medication..... 3 Don't know..... 88 No response..... 99	56 →55 →55 →55 →55	
55.	Why did you or your household member stop taking the TB medicine? **Multiple answers are possible**	Feel better..... 1 Don't have money..... 2 Drug side effects..... 3 TB drugs are not available..... 4 Health facility is too far..... 5 They move to a different place..... 6 They don't believe it's necessary... 7 Difficult to swallow so many pills... 8 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99	All →57	
56.	What was the outcome of the treatment?	Cured..... 1 Not cured..... 2 Haven't finished treatment..... 3 Died..... 4 Don't know..... 88 No response..... 99		

SECTION E: TUBERCULOSIS TREATMENT				
#	Questions	Responses	Skip	Answer
57.	Do you think TB is curable?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION E: TUBERCULOSIS TREATMENT				
#	**Questions**	**Responses**	**Skip**	**Answer**
58.	Is TB medicine free of charge?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
59.	For how long should a typical pulmonary TB patient take the TB drugs? ***Do not read answers.***	Less than 1 month..... 1 1-2 months..... 2 3-5 months..... 3 6-9 months..... 4 10-12 months..... 5 1 year and more..... 6 Other 77 Don't know..... 88 No response..... 99		
60.	Why do TB patients sometimes stop taking drugs before completing their treatment? ***Multiple answers are possible***.	Feel better..... 1 Don't have money..... 2 Drug side effects..... 3 TB drugs are not available..... 4 Health facility is too far..... 5 They move to a different place..... 6 They don't believe it's necessary... 7 Difficult to swallow so many pills... 8 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
61.	How long should a pulmonary TB patient stay in the TB hospital? ***Do not read answers.***	Less than 2 weeks..... 1 2 weeks – 2 months..... 2 2-4 months..... 3 5-6 months..... 4 More than 6 months..... 5 Other 77 Don't know..... 88 No response..... 99	62 62 62 62 62 →63 →63 →63	
62.	***Ask unless answer to Q61 is don't know (88) or no response (99):*** Do you think this (i.e. answer to question # 61) is enough time to stop the patient from being infectious to other people?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION F: TUBERCULOSIS PREVENTION				
#	Questions	Responses	Skip	Answer
63.	Provide a list of actions that each person should do to decrease transmission of TB. ***Do not read answers.*** ***Multiple answers are possible***	Adhere to treatment..... 1 Seek medical attention if symptomatic..... 2 Cover his/her mouth when coughing..... 3 Wear a mask when contacting patients with TB..... 4 Provide good ventilation for workplace & home..... 5 Not spit in public places..... 6 Annual medical examination..... 7 Avoid delay in TB treatment..... 8 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION G: TUBERCULOSIS STIGMA				
#	Questions	Responses	Skip	Answer
64.	Have you, your household members or close relatives ever had TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
65.	Have you ever had a friend, neighbor, workmate, or schoolmate with TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	No skip	
66.	Would you visit someone with TB in their home?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	→68 67 →68 →68	
67.	***If no, ask:*** Why would you not visit someone with TB in their home?	Fear of disease..... 1 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
68.	Would you allow a person who is being treated for TB in your home?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	→70 69 →70 →70	
69.	***If no, ask:*** Why would you not allow a person who is being treated for TB in your home?	Risk of getting TB..... 1 Attitude of others..... 2 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION G: TUBERCULOSIS STIGMA (CONTINUED)				
#	Questions	Responses	Skip	Answer
70.	Would you allow a person who has recovered from TB in your home?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	→72 71 →72 →72	
71.	***If no, ask**:* Why would you not allow a person who recovered from TB in your home?	Risk of getting TB..... 1 Disease can be inherited..... 2 Attitude of others..... 3 Other (specify) ..... 77 _____ Don't know..... 88 No response..... 99		
72.	If someone has TB will they try to hide the disease from others?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	73 →74 →74 →74	
73.	***If yes, ask:*** Why would people with TB try to hide the disease from others? ***Multiple answers are possible.***	Because they will lose job..... 1 Because they will lose friends..... 2 Because people will avoid them..... 3 Because no-one will marry them... 4 Because people will think they have HIV..... 5 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
74.	Do you think it is shameful to have TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	75 →76 →76 →76	
75.	***If yes, ask:*** Why do you think it is shameful to have TB? ***Multiple answers are possible.***	This is a disease of social people 1 Because the person with TB can lose job..... 2 Because everybody will avoid person with TB..... 3 Because it means the person is or may be HIV+..... 4 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
76.	If someone has TB, will others treat them differently?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	77 →78 →78 →78	
77.	***If yes, ask:*** How would others treat someone who has TB differently? ***Multiple answers are possible.***	Will support them and feel for them..... 1 Will avoid them..... 2 Will not use the same utensils..... 3 Will not use the same bedding..... 4 Other 77 _____ Don't know..... 88 No response..... 99		

SECTION G: TUBERCULOSIS STIGMA (CONTINUED)				
#	Questions	Responses	Skip	Answer
78.	Would you avoid contacting someone with TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION H: HIV KNOWLEDGE, STIGMA, ETC.				
#	Questions	Responses	Skip	Answer
79.	Have you heard about the disease called HIV or AIDS?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
80.	Is HIV contagious?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
81.	How is HIV transmitted? ***Multiple answers are possible.*** ***Do not prompt.***	Through the air when coughing..... 1 Through blood..... 2 Through handshake with an infected person..... 3 Sexually transmitted..... 4 Sharing food with infected person... 5 You're born with it (inherited)..... 6 Through items of public use..... 7 Through kiss..... 8 After getting cold..... 9 After having stress..... 10 From mother to child during pregnancy 11 Breastfeeding 12 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
82.	Are HIV and TB transmitted the same way?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
83.	Do you know how to protect yourself from getting HIV?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	84 →85 →85 →85	

SECTION H: HIV KNOWLEDGE, STIGMA, ETC. (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
84.	***If yes, ask:*** How can you protect yourself from getting HIV? ***Multiple answers are possible.*** ***Do not prompt.***	Abstinence..... 1 Faithfulness..... 2 Condom use..... 3 Avoid sharing skin piercing objects 4 Prompt STI treatment..... 5 Being attended to by a trained 6 service provider during pregnancy and delivery..... 7 Infant feeding options..... 8 Use of ART..... 9 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
85.	What symptoms can show that a person has HIV? ***Multiple answers allowed.***	Weight loss..... 1 Persistent diarrhea..... 2 Persistent fever..... 3 Persistent skin rash..... 4 Recurrent attacks of shingles..... 5 Lymphadenopathy..... 6 Persistent mouth sores..... 7 Skin cancer..... 8 Meningitis (Cryptococcal)..... 9 Dementia..... 10 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
86.	Who can get HIV? ***Multiple answers are possible.*** ***Do not read answers.***	Anyone..... 1 Poor people..... 2 Alcoholics..... 3 Smokers..... 4 Prisoners..... 5 Prostitutes (sex workers)..... 6 Truck drivers..... 7 Drug users..... 8 Labor migrants..... 9 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
87.	Can HIV be cured?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

SECTION H: HIV KNOWLEDGE, STIGMA, ETC. (CONTINUED)				
#	Questions	Responses	Skip	Answer
88.	Have you received any information about HIV in the last 6 months?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99	89 →90 →90 →90	
89.	***If yes, ask:*** From which sources have you received information about HIV in the last 6 months? ***Don't prompt.***	Friends, acquaintances, relatives... 1 Doctors, nurses..... 2 Other medical workers..... 3 Booklets, leaflets..... 4 Radios/TV/ Newspapers..... 5 Lectures..... 6 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
90.	What are the advantages of knowing one's HIV status?	Planning..... 1 For prevention ..... 2 To get ARVs..... 3 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		
91.	Do you know where you can get tested for HIV?	Yes..... 1 Specify _____ No..... 0 Don't know..... 88 No response..... 99	92 →93 →93 →93	
92.	***If yes, ask:*** How long would it take you to walk to the nearest HIV testing centre from here?	0-15 minutes..... 1 16-30 minutes..... 2 31 minutes to one hour..... 3 More than one hour..... 4 Don't know..... 88 No response..... 99		
93.	I don't want to know the result, but have you ever had an HIV test?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
94.	If you had HIV symptoms where would you go to get medical service? ***Multiple answers are possible.***	Health center..... 1 Public hospital..... 2 Private/Mission Hospital..... 3 Traditional doctor..... 4 Pharmacy..... 5 Other (specify)..... 77 _____ Don't know..... 88 No response..... 99		

SECTION I: TB-HIV CO-INFECTION				
#	Questions	Responses	Skip	Answer
95.	Do you think that someone with HIV can also have TB?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
96.	Do you think that someone with TB can also have HIV?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
97.	Are you more susceptible to TB if you have HIV?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
98.	If you were undergoing voluntary counseling and testing for HIV, would you be willing to answer some questions about whether or not you have symptoms of TB like chronic coughing or fever?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		
99.	If you were undergoing a sputum test for TB, would you be willing to undergo counseling and testing for HIV?	Yes..... 1 No..... 0 Don't know..... 88 No response..... 99		

Thank you. This is the end of the survey. We appreciate you taking the time to respond to our questions. Do you have any questions for me at this time?

INTERVIEWER COMMENTS:
Please record any comments or observations that you feel that are necessary to understand the circumstances in which you conducted this interview:

_____

_____

_____

Time interview Ended _____ (Please also record this time on Page 3)

SUPERVISOR (Questionnaire reviewed) _____ (initial here)

Date _____ Time _____

Health Service Provision Assessment for HIV/AIDS and TB Control in Southern Malawi: Findings from a Baseline Survey

February2007

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Lastly special thanks also go to Mr John Kadzandira, the Consultant, for analysing the data and compiling this report and also to Mr. Nyson Chizani for the support you rendered during the development of the Database.

Executive Summary

Project HOPE Malawi, an independent and nonprofit making organisation whose head office is in the United States, with financial and technical support from USAID will be implementing a 5-year TB and HIV/AIDS programme in two districts in Southern Malawi namely Mulanje and Phalombe starting in 2007. The overall aim of the programme will be to reduce and control morbidity and mortality arising from the dual infection of TB and HIV/AIDS. Specifically, the project aims to improve access to and use of TB diagnostic capabilities and related HIV case detection, prevent further spread of TB and HIV, improve effectiveness of and adherence to TB treatment including linking with ART treatment and to strengthen the capacity of the partner district and regional TB programmes in coordinating with and managing such linked programmes.

A baseline survey was therefore conducted so as to generate information that would help Project HOPE, the District Assemblies, the District Health Offices and other partners in Mulanje and Phalombe to plan HIV/TB interventions properly. The information that was collected relate to: staffing levels, status of infrastructure for TB/HIV management, current practices regarding TB and HIV management, perceptions and views of staff on HV/TB co-infection, accessibility of TB and HIV services and procedures for drugs and supplies management. Interviews were held with 168 staff at 42 of the 52 facilities in the two districts[1] to get both individual level and facility level information regarding TB and HIV/AIDS.

Generally, the findings from this survey have confirmed that problems with staffing of health facilities in the two districts are acute such that 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 is also seem overworked and most are already spending >50% of their time on TB and HIV services. In most cases, facilities are also making use of HAS to provide HTC and other services. While this is a good initiative, this may in the long compromise the delivery of primary preventive health care in the communities for which HSAs are primarily responsible. Health staff in the two districts bemoan the general lack of 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 ad 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 good record keeping including 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 centres, distances to care and support centres, issues of nutrition, issues of stigma in the communities and the cost of accessing treatment

The findings have also shown that TB detection in the two districts is largely passive where patients self-refer to heath facilities with signs and symptoms. Although this is the case nationwide, the figures hat are recorded in the system are likely fall short of the actual numbers

[1] The rest could not be included because either the facilities were closed owing to staff shortages or because of difficult access during the rainy season

requiring treatment and care. Most of the facilities do not have access to TB diagnostic materials for skin test, sputum test and X-ray machines.

On the basis of the findings of this report, it is recommended that project HOPE and partners make a systematic review of the findings of this baseline survey. At the minimum, Project HOPE should address the issue of staff shortage in the two districts for an effective TB/HIB prevention and control programme. This could include, among others, supporting training of more personnel, supporting mechanisms for staff retention, provision of refresher training courses and regular supervision. In addition, it would also be good to develop interventions that aim at improving the infrastructural situation of the facilities by, among others, improving communication systems, record keeping, laboratories and drug supplies.

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List of Acronyms

Acronym	Name in Full
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
CPT	Cotrimoxazole Preventive Therapy
CT	Counseling And Testing
DOTS	Directly Observed Treatment Strategy
HC	Health Centre
HIV	Human Immune Virus
HSA	Health Surveillance Assistant
HW	Health Worker
JCE	Junior Certificate Of Education
MSCE	Secondary School Leaving Certificate Of Education
OI	Opportunistic Infections
OPD	Out Patient Department
PLWHA	People Living With HIV And AIDS
PMTCT	Prevention Of Mother To Child Transmission
PSLCE	Primary School Leaving Certificate Of Education
STI	Sexually Transmitted Infections
TB	Tuberculosis
VCT	Voluntary Counseling And Testing

CHAPTER 1: INTRODUCTION

1.1 Background to the Programme

Project hope Malawi is part of Project HOPE international, an independent-non profit organisation founded in 1958 whose headquarters is based in Millwood, VA in the United States currently working in over 80 countries worldwide focusing on five major areas of activity namely: the health of women and children, infectious diseases (in particular TB and HIV/AIDS), health systems and facilities development, health professional education and humanitarian assistance. In Malawi, Project HOPE has been working since 1989 mainly focusing on maternal and child health, child survival programmes (CSP), HIV/AIDS/STI prevention in the community and the workplace, women's reproductive health and micro credit and health education programme known as the 'village health banking – VHB'. The primary district of operations in Malawi has been Mulanje but other programmes covered other districts such as Blantyre, Mwanza and Lilongwe.

Beginning 2007, Project HOPE Malawi, with the financial and technical support from USAID will be implementing a 5-year TB and HIV/AIDS programme in tow districts in Southern Malawi (Mulanje and Phalombe) whose overall aim will be to reduce and control morbidity and mortality arising from the dual infection of TB and HIV/AIDS. Specifically, the project aims to:

- Improve access to and use of TB diagnostic capabilities and related HIV case detection via VCT;
- Prevent TB in efforts integrated with HIV/AIDS prevention, including infection; and transmission control and isoniazid and contrimoxazole preventive therapy
- Improve effectiveness of and adherence to TB treatment including linking with ART treatment; and,
- Strengthen the capacity of the partner district and regional TB programmes in coordinating with and managing such linked programmes.

This survey was therefore conducted so as to generate information that would guide Project HOPE, USAID and other partners in Mulanje, Phalombe and the country in the development of interventions that would effectively contribute towards realization of the aims and objectives of the programme stated above.

1.2 Objectives of the baseline Survey

The main objective of the survey was to assess the capacity of health facilities and staff working in those facilities with the intention of designing programmes and interventions that adequately contribute to effective prevention and control of TB and HIV co-infection in Mulanje and Phalombe districts. Specific objectives of the survey were:

1. To assess the staffing levels of all the health facilities in Mulanje and Phalombe districts with an aim of determining staffing gaps;
2. To assess status of infrastructure including availability of communication equipment, supplies and storage facilities;
3. To explore current interventions and programmes relating to TB and HIV/AIDS currently being provided in the health facilities of the two districts;

4. To assess current practices with regard to patient treatment and diagnostic principles for TB and HIV/AIDS;
5. To explore perceptions and views of staff regarding TB, HIV/AIDS and people suffering from these infections To assess the existing infrastructure for effective TB and HIV service provision
6. To assess service provider knowledge, skills and attitude towards TB and HIV service provision
7. To assess accessibility of TB and HIV services
8. To document record keeping consistency and shortfalls
9. To explore procedures for drugs and supplies management

1.3 HIV/AIDS and TB in Malawi

HIV prevalence in Malawi is estimated at 14% and is among the highest in the world. In 2005, an estimated 928,000 Malawians were living with HIV and in that year alone over 121,000 new cases of HIV were added to the pool of HIV infected people. Every year, as many as 80,000 people in Malawi die from AIDS most of these among young people. The first cases of HIV/AIDS were officially reported in the mid 1980s and since then the government of Malawi has put in place numerous strategies aimed at controlling its spread. This included the establishment of the National AIDS Control Programme (NACP) within the Ministry of Health in 1989. A Cabinet Committee on Health and HIV/AIDS prevention was also formed to provide policy and political direction to the Ministry of Health. Following a review of the national HIV/AIDS response in 1996 which outlined problems regarding coordination of planning, implementation, monitoring and evaluation of activities of various agencies and insufficient institutional support to NACP and over-reliance on the health sector for the national response, the government established the National AIDS Commission (NAC) in July 2001 within the Office of President and Cabinet, replacing the NACP.

In 1989, the Ministry of Health and Population developed a five-year Medium Term Plan (1989-94) (MTP-I) to guide the implementation of HIV/AIDS activities, which mainly focused on blood screening, HIV and AIDS prevention through public awareness and establishing an infrastructure for epidemiological surveillance. In 1993, a review of the MTP-I showed that a lot of progress had been made especially with regard to implementation of HIV screening programs for blood transfusion and creating awareness about HIV and AIDS. However, the review noted, among other things, a lack of emphasis on care and treatment of AIDS patients. The second Medium Term Plan (1994-98) MTP-II addressed some of the weaknesses in the MTP-I. Throughout the 80s and 90s, Malawi did not have a clear national HIV and AIDS policy guiding the implementation of HIV and AIDS activities. However, after the development of the National Strategic Framework (in 1999), the process of developing the National AIDS Policy started in 2000 to guide the implementation of the National Strategic Framework. This policy was finalised and launched in November 2002.

Unlike HIV/AIDS which emerged in mid-1980's, TB has been a health problem not only in Malawi but in most countries of the world with the low-income countries bearing most of the blunt. A national TB control programme (NTP) was launched in 1964 as a major step towards containing the TB epidemic in the country and this followed recommendations of 8th and 9th World Health Organisation (WHO) Expert Committee on Tuberculosis' (MoH 2002)[2]. Since

[2] Ministry of Health (MoH) 2002: Manual of the National Tuberculosis Control Programme of Malawi: 5th Edition.

1964, the overall goal of the NTP has been to reduce the burden of ill health due to TB in the population of Malawi. In the period before the upsurge of HIV infections in Malawi, the country registered remarkable successes in the treatment of TB cases and in the numbers of newly registered TB cases (MoH 2002).

The advent of the HIV/AIDS pandemic has however severely fueled the tuberculosis epidemic in Malawi. The National Tuberculosis Programme (NTP) reported that in 1985 the number of registered cases of tuberculosis was 5335 and this increased to 24,396 cases in 1999 (Munthali 2006). In 2004 27,000 TB cases were reported and for the first two quarters of 2005, there were 13,507 cases reported. Table 1 below shows summary statistics of total TB cases, TB cure rate and TB related deaths for the period between 1992 and 2005. As would be noted from the figures presented in Table 1, statistics of newly registered TB patients have been rising since the 1990s and have almost doubled between 1992 and 2005 raising concerns over the national responses to both TB and HIV/AIDS since the two diseases have shown higher levels of co-existence. A country-wide survey of TB patients in 2000 found an HIV-sero-prevalence rate of 77% (Munthali 2006[3]).

Table 1: Treatment outcome of new smear positive pulmonary TB patients for Malawi for the period 1992 to 2005

Year	Total Cases	Cure rate	Death rate
1992	15346	63.1	13.5
1993	16369	68.5	16.0
1994	19496	67.7	16.5
1995	19155	64.7	18.8
1996	20630	63.0	20.7
1997	20676	68.5	20.8
1998	22674	66.0	22.4
1999	24396	68.9	20.8
2000	24846	69.8	19.2
2001	27672	67.3	19.1
2002	26531	69.7	19.5
2003	28334	72.7	18.5
2004	25833	69.9	16.2
2005	27601	70.0	16.2

Source: National TB Control Programme (Raw data)

The NTCP further reports that tuberculosis case notifications have risen by a factor of 500% between 1985 and 2001. High rates of HIV infection has led to increasing numbers of patients with "difficult to diagnose" smear-negative pulmonary TB (PTB), an increasing case fatality rate in patients with all types of TB and an increasing rate of recurrent disease.

The government of Malawi through the NTP and NAC realizes the great burden placed on the national response to the two diseases bearing in mind their higher levels of co-existence, higher levels of poverty, the poor nutritional status among most people in Malawi and the general poor

[3] Munthali A. 2006: Monitoring Government Commitment Towards Implementing UNGASS Declaration Of Commitment: A Case Study Of Malawi

living conditions in most parts of the country. The policy on TB treatment is to continue the treatment even in the face of HIV infection but the government is fully aware that achieving targets for TB cure rate has been greatly challenged in the event of HIV/AIDS hence the revision of the national target from 85% to 75%. Even this reduced cure rate, the country is currently struggling to achieve it (Table 1 above).

Whereas TB cure rate would improve if TB cases were detected early, the response is faced with a number of problems. Firstly, TB case detection is still passive relying on the self-referrals by the patients with signs and symptoms of TB. Compounding this problem is the fact that TB is closely linked to HIV/AIDS. This leads to delays in diagnosis because patients are afraid that they will be labeled as HIV-infected. Secondly, TB recurrence rates have been reported high in HIV positive patients (MoH 2002) and most of the times, patients with recurrent TB face a number of drug reactions leading to treatment interruptions which eventually leads to higher rates of mortality. Thirdly, although Malawi has not officially reported higher levels of drug resistance, most countries in the region have already done so to the extent that some countries have declared TB a national disaster as a way of attracting more resources to strengthen the fight against TB and HIV/AIDS.

Table 2 below shows TB cure rates, cases on re-treatment, treatment failure rates, TB related death rates and default rates among newly registered cases between 1992 and 2004. As would be noted from the Table, default rates have varied between 3 and 7% with years 1992, 1994, 1996, 2001 and 2004 registering higher rates of default. As expected, Malawi experienced serious food shortages in these years and this may have contributed to the higher rates of default. In a survey that was conducted to find out factors that affect patients adherence to the ART programme in Zomba district, food and nutritional issues were featured highly as being behind the high rates of default. This finding is also mirrored among the factors that affect adherence to TB treatment where nutrition is a key issue.

Table 2: TB cure rates, TB death rates, TB default rates and treatment failure rates among new TB cases between 1992 and 2004

Year	Cured	On re-treatment	Failures	Died	Defaulted	No trace
1992	63	11	1	13	6	6
1993	68	6	1	16	5	4
1994	68	5	1	16	7	3
1995	65	6	1	19	5	4
1996	63	5	1	21	6	4
1997	69	2	1	21	4	3
1998	66	3	1	22	4	4
1999	69	2	1	21	4	3
2000	70	3	1	19	4	3
2001	67	3	2	19	6	3
2002	70	3	1	19	4	3
2003	73	2	2	18	3	2
2004	74	1	1	17	5	2

Malawi started getting funding from the Global Funds to fight HIV/AIDS, TB and Malaria in 2004 and has so far benefited from 3-4 of the 6 rounds of funding from the Global Fund. In all these rounds that Malawi has benefited, the TB programme has not been party to the funds unlike the malaria programme which has benefited once the rest being received to fight HIV and AIDS. From the inception of the NTP in 1964, the NTP has had a number of funding sources including the International Union against Tuberculosis and Lung Disease (IUATLD), DfID, NORAD, the Royal Netherlands TB Association (KNCV), WHO and the government of Malawi.

1.4 About Phalombe and Mulanje Districts

The TB and HIV/AIDS programme will primarily be implemented in the two districts of Phalombe and Mulanje, all in the southern region of country. Phalombe district had a population of 296,960 at the last population and housing census in 1998 whereas Mulanje had a population of 548,250 people in 496 villages. In addition to working in the two districts, Project HOPE will also partner and contribute to capacity building of the Regional TB Office for the southern region which has 13 districts.

CHAPTER 2: METHODOLOGY

2.1 The Methods

A number of methods were used in the survey and these included: interviews with staff regarding facility level information, interviews with staff to assess their knowledge and practices with regard to TB/HIV, client management observations, record reviews and infrastructure assessment.

Random procedures were used to sample staff for the individual interviews. In total, 168 health care workers from both Mulanje and Phalombe were interviewed. In Mulanje 108 key informants were interviewed while 60 interviews were interviewed in Phalombe district. The original plan was to visit all the health facilities in the two districts but owing to unforeseen reasons, only 42 faculties were actually visited.

During the survey, patients with cough (of more than 3 weeks) were observed being attended to by the facility staff so as to document case diagnosis practices among the health workers. Only 5 cases were observed.

Data collection was done from 24th January to 1st February 2007. The data collectors were grouped into three teams of three, with one Project HOPE staff as a supervisor. It took two days to collect data in Phalombe and five days to do the same in Mulanje. Data entry was done in MS Access. The database was developed by Project HOPE's Management Information Systems Specialist. Two data entry personnel were hired for this activity. The questionnaires were entered on double entry basis where one questionnaire was entered twice in two different computers by two different data entry clerks.

2.2 Challenges during Field work

The research teams encountered a number of challenges during field work. Firstly, some Health centers that were supposed to be assessed had been closed due to shortage of staff. Secondly, chronic cough cases that were supposed to be observed were hard to find, as a result only a few cases were observed. Thirdly, there was poor communication between DHO's and Health centers. In most health centers, staff were not alerted on the coming of survey teams, as a result it was difficult to find health workers. Fourthly, poor road network as this survey was conducted in the rainy season and some health facilities were inaccessible therefore, data collectors had to walk to get to those health facilities or they were dropped completely.

CHAPTER 3: FINDINGS FROM HEALTH FACILITY ASSESSMENT

This Chapter presents findings from the assessment of the services that were being provided in the 42 health facilities which were visited. As discussed above, staff at the facilities were asked to list all the services that were being provided in their facilities especially those that relate to TB and HIV/AIDS.

3.1 Range of services being provided

Table 3 below shows the various types of services that were being provided in the 42 facilities that were visited during the survey. General adult and pediatric patient out-patient care and treatment services were being provided in 38% and 36% of the facilities, respectively where as in-patient services for adults and pediatrics were being provided in 61% and 54%, respectively. Counseling and testing services for TB and HIV were being provided in 38% and 42% of the facilities, respectively.

Table 3: Proportion of facilities reporting various services being provided

Type of service	Out-patient	In-patient	Service available To TB patients	Service available To HIV patients
General Adult	38.1	60.5	57.1	92.9
General Pediatric	35.7	53.8	47.6	71.4
Antenatal (ANC)	42.9	9.8	63.3	78.4
Family Planning	45.2	62.1	63.6	57.6
Delivery	48.4	61.3	54.8	40.5
General Surgery	31.3	34.5	38.7	94.7
STI	46.7	71.0	74.3	86.8
Tuberculosis	28.1	66.7	67.6	48.7
VCT Or CT	20.7	34.4	37.5	41.7
HIV/AIDS Care & Treatment	20.0	41.9	37.9	55.6
TB-HIV Co-Infection Treatment	25.0	44.8	48.4	44.7
PMTCT	26.7	25.0	35.5	13.9
Radiology (CXR)	13.8	10.3	10.3	6.1
Radiology (CT)	7.7	7.4	7.4	83.3
Pharmacy	45.2	57.6	51.6	35.1
Laboratory	17.9	21.4	17.9	44.1
General Social Services	20.0	27.6	30.0	35.1
HIV/AIDS Social Services	11.1	27.6	35.7	33.3

4.2 Staffing levels at the facilities

Annexes 1-42 at the end of this report provide details concerning staffing levels at the 42 facilities that were visited in the survey. A total of 586 health workers belonging to different professional categories were recorded in 41 of the 42 health facilities (Phalombe Health centre did not provide data on staffing levels). Nine Physicians were recorded in the two districts, 23 Clinical Officers and 34 Medical Assistants (Table 4). As expected, Health Surveillance Assistants (HSAs) were in majority totaling 287 followed by Nurses of various professional categories totaling 140. The HSAs are primarily responsible for the community level health care especially focusing on prevention activities. However, with the scaling up of HTC services, some health facilities which are understaffed in the other categories have trained the HAS to provide HTC services (NAC_IRT Report 2007). It should be noted that some of the facilities were at the time of data collection being run by literally 1-3 members of staff (e.g. Esperanza clinic which had only one person running the clinic).

Table 4: Summary of staffing levels in the 42 facilities that were visited in Mulanje and Phalombe

Category of Staff	**Number**
Physician	9
Clinical officer	16
Clinical officer intern	7
Registered Nurse/ midwife	15
Senior Enrolled Nurse/midwife	37
Enrolled Nurse/ midwife	12
Medical Assistant	34
Community Health Nurses	9
Nurse/ Midwife Technicians	57
Auxiliary Nurse	10
Environmental Health officer	4
Health Surveillance Assistants	287
Laboratory Technicians	8
Laboratory Assistants	6
Radiography Technicians	6
VCT Counselor (full-time)	59
Pharmacy Technicians	3
Dental Technicians	3
Anesthesia Clinical Officers	4
Total	586

CHAPTER 4: FACILITY INFRASTRUCTURE

4.1 Water Supplies

The staff of the facilities were asked three questions regarding availability of water at their respective facilities. The first question asked the respondents to state if water was available on the day of the interviews a question to which 88% answered in affirmation while in 12% of the cases water was not available (Table 5). Three of the five facilities that had no water on the day of the interviews were in Mulanje district namely Chambe and Namphungo Health Centres and Esperanza clinic while two were in Phalombe district namely Chiringa Health Centre and Chiringa maternity clinic. No data was collected from Phalombe HC. The five facilities which had no water on the day of the interviews do have a water source only that on the day of the interviews there was no water running from the sources.

Table 5: Availability of water at the facilities

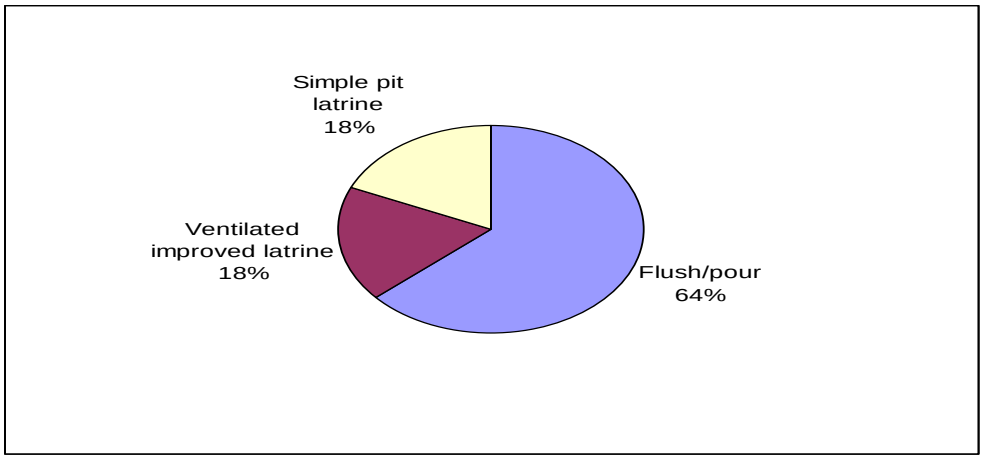
	% Yes	% No
Does this facility have water available today?	12.2	87.8
What is the most commonly used water source for hand washing?		
Piped from protected source		80.5
Piped from unprotected source		7.3
Protected well or borehole		12.2
Does this facility ever experience water shortage?	43.6	56.4

In 33 of the 41 facilities (81%) where data on water sources was provided, they had piped water from protected water sources whereas 12% of the facilities (n=5) were getting their water from protected wells or boreholes while in three cases, their water sources were unprotected (Table 5 above) and these were Nambazo and Nambiti HCs in Phalombe and Thuchila HC in Mulanje. Half of the 41 facilities where information on water was provided reported periodic water shortages (56%).

4.2 Toilet facilities

Data on the type of toilet facility available at the HC was collected only from 33 out of the 42 facilities and in these, 64% had flush/pour types of toilets (n=21) whereas in 6 of the facilities they had ventilated improved pit latrines and in the last six they had simple pit latrines (Figure 1). Six of the nine HC where information on toilet facilities was not collected were in Mulanje namely Eldorado, Kambenje, Mimosa, Mulomba, Namulenga and Thuchila HCs while three were in Phalombe namely Phalombe HC, Nambiti2 and Nkhulambe HCs. In 90% of the 33 HCs which had toilets, they were in a usable condition whereas in 6% (n=2) they were not in a usable state and at one facility, the toilet was not observed by the research team.

Figure 1: Type of toilet facilities available in the facilities (n=33)



4.3 Communication facilities

Over half of the 42 HCs had no access to a phone (60%, n=25) whereas in 12% of the cases, they had a phone with which they could receive but could not make calls on it and in 5% of the HCs (n=2) they had a phone which was not functioning at the time of the survey. Shortwave radio message equipment was available in 62% of the HCs (n=26) but was not functioning in 17% of the cases and was not available in 38% of the HCs (Table 6). In ten of the 42 facilities, they had no telephone and no shortwave radio message equipment and these were Phalombe HC, Nambiti2 and Mkhwayi HCs all in Phalombe and Mulomba, Mbiza, Milende, Mimosa, Lauderdale, Limbuli and Thembe HCs all in Mulanje district.

Table 6: Availability of communication facilities

	%
Does this facility have a phone that is available to make and receive calls?	
Yes, observed functioning onsite or within 5 minutes walk	21.4
Yes reported functioning onsite or within 5 minutes walk.	2.4
Can receive calls but cannot make calls	11.9
Yes but not functioning	4.8
No	59.5
Does this facility have a shortwave radio or radio message equipment?	
Yes observed functioning onsite or within 5 minutes walk	40.5
Yes reported functioning onsite or within 5 minutes walk	4.8
Yes but not functioning	16.8
No	38.1
Does this facility have a computer?	
Observed and functioning	21.4
Reported, but not observed	14.3
No	64.3
Does this facility have internet access?	
Observed and functioning	6.7
Reported but not observed	3.3
No	90.0

Computers were available in a third of the HCs (observed functioning in 21% of the HCs) and were not available in 64% of the HCs (Table 6 above). Only 10% of the 42 facilities (n=4) had access to internet.

4.4 Electricity

Electricity in Malawi is mainly hydro (water generated) from Nkula and Tedzani water falls in the lower Shire. The staff at the HCs were asked to state the type of electricity they have in their HCs. A quarter of the HCs had no electricity at the time of the survey where as half (54%) had the hydro-electricity and in 16% of the HCs they were using solar electricity (Table 7).

Table 7: Type of electricity in the HCs

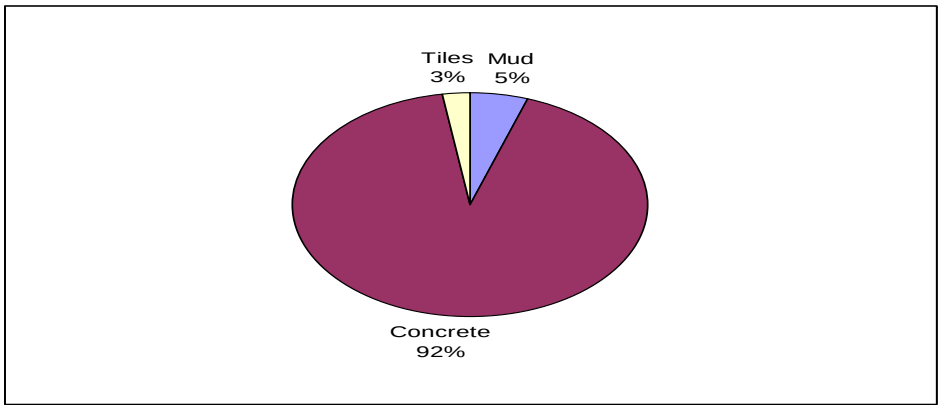
		Percent (%)
What kind of electricity does this facility have?		
	None	24.3
	Coal	5.4
	Solar	16.2
	Electric	54.1
Does this facility have electricity always (not including a backup generator) during clinical service times?		
	% yes	48.1
	% No	51.9
How many days in past month has the electricity been unavailable for at least 2 hours?	0	22.2
	1	14.8
	2	7.4
	3	7.4
	4	7.4
	5	40.7
Does this facility have a backup generator?		
	Yes observed functioning and with fuel	18.2
	Yes reported functioning and with fuel	15.2
	Yes but not functioning	3.0
	No	63.6

Malawi has been experiencing intermittent power disruptions in the last decade or so and it is not surprising that half of the 27 facilities that had either water generated electricity or solar reported to have power interruptions even during clinical service times (Table 7 above). In only a fifth of the 27 HCs (22%) they never had power interruptions of more than 2 hours in the last month before the survey. In 41% of the HCs they had power interruptions of more than 2 hours in five or more days in the month before the survey. Two thirds of the HCs reported not having a back-up generator (64%).

4.5 Floor type

Nearly all the HCs had concrete (cemented) floors whereas one HC had mud floor and two had tiled floors (Figure 2). The HC with a mud floor was Lujeri HC in Mulanje whereas Mbiza and Milonde (also in Mulanje) had tiled floors.

Figure 2: Types of Floor Materials in the HCs



4.6 Availability of in-patient beds and 24-hour staff coverage

Half of the HCs had overnight in-patent beds (for admissions) whereas in the other half such a facility or service was not available. In approximately three quarters of the HCs there was no 24-hour staff coverage (74%) basically because there was no admission services (Table 8).

Table 8: Availability of in-patient beds and 24-hour staff coverage in the HCs

	No	Yes
Does this facility have overnight or inpatient beds?	51.4	48.6
Is there 24-hour staff coverage?		
Yes 24-hour duty roster or staff live on site	-	26.3
No neither duty roster nor staff live on site	73.7	-

4.7 Supplies

Table 9 below presents findings on the availability of various supplies in the 42 facilities that were visited in the two districts. As would be observed, most of the supplies were available with the exception of spinal tap/lumbar puncture kits which were available in only 10% of the facilities (n=4).

Table 9: Availability of various medical supplies in the HCs

		% of HCs
Where are patients seen for treatment?		
	Both visual and auditory privacy	84.4
	Visual but not auditory privacy	6.3
	Privacy	9.4
Condoms		
	Observed	72.7
	Reported but not observed	15.2
	Not available	9.1
	Stock outs in last 6 months	3.0
Disposable needles		
	Observed	84.4
	Reported but not observed	12.5
	Not available	3.1
Disposable syringes		
	Observed	87.5
	Reported but not observed	9.4
	Not available	3.1
Clean non latex gloves		
	Observed	27.6
	Reported but not observed	10.3
	Not available	58.6
	Stock outs in last 6 months	3.4
Clean latex gloves		
	Observed	87.5
	Reported but not observed	9.4
	Stock outs in last 6 months	3.1
Sterile latex gloves		
	Observed	74.2
	Reported but not observed	9.7
	Not available	9.5
	Stock outs in last 6 months	3.2
Spinal tap/lumbar puncture kits		
	Observed	3.3
	Reported but not observed	6.7
	Not available	86.7
	Stock outs in last 6 months	3.3
Disinfectant for cleaning surfaces (bleach or other cleaning solution)		
	Observed	90.6
	Reported but not observed	3.1
	Not available	6.3
Hand washing soap		
	Observed	78.1
	Reported but not observed	6.3
	Not available	12.5
	Stock outs in last 6 months	3.1
Alcohol rub		
	Observed	17.9
	Reported but not observed	3.6
	Not available	75.0
	Stock outs in last 6 months	3.6

CHAPTER 5: INFECTION PREVENTION AND CONTROL

5.1 Availability of IPC in the facilities

Five questions were asked to the HCs of the facilities regarding infection prevention at the HCs. The first question asked about availability of an infection prevention/control officer at the HC a question to which only a third of the respondents answered in affirmation whereas 67% said their HCs had no such officers (Table 10). Nearly half of the HCs (45%) provide face masks for staff while almost all the HCs (94%) do not provide face masks for their patients.

Table 10: Status of infection prevention/control in the HCs

	% No	% Yes
Is there an infection prevention/control officer at your facility?	66.7	33.3
Does your facility provide face masks for staff?		
No	45.2	-
Yes observed	-	22.6
Yes reported but not observed	-	32.2
Does your facility provide face masks for Patients?		
No	93.5	-
Yes reported but not observed	-	6.5
Does your facility educate patients about infection control etiquette-coughing, blood and body fluids?		
No	22.6	-
Yes observed	-	25.8
Yes reported but not observed	-	51.6
Does your facility provide adequate ventilation to prevent the nosocomial transmission of TB		
No	31.0	-
Yes observed	-	55.2
Yes reported but not observed	-	13.8

5.2 Post Exposure Prophylaxis (PEP)

Only in a fifth (21%, n=9) of the HCs do staff have access to PEP and in 71% (n=6) of these HCs staff are referred elsewhere for PEP whereas in three (or 29%) PEP is done in the same facility. None of the 9 HCs where staff have access to PEP maintain a register where PEP referrals are recorded. Detailed findings about staff exposure to PEP are presented in Table 11 below.

Table 11: Proportion of facilities reporting PEP

	% No	% Yes
Do staff in this facility have access to post-exposure prophylaxis(PEP)	78.6	21.4
Is the PEP provided in this facility or are staff referred elsewhere for the PEP?		
PEP provided in this facility	-	28.6
PEP provided elsewhere	-	71.4
Is there a register or record that shows a worker has been referred foe PEP and has received PEP treatment	100	-
Is the PEP regimen prescribed by a provider available at this facility?	57.1	42.9
Are there any written guidelines or protocols available for PEP in this clinic		
No	50.0	25.0
Yes observed complete		25.0
Yes reported but not observed		
Are there any written guidelines or protocols for PEP in all patient service areas?		
No	85.7	-
Yes observed in some sites	-	14.3
Is there a system to monitor workers receiving PEP for full compliance with the regimen?	100	-

5.3 Availability and storage of PEP Medicines

Table 12 below shows the availability of PEP medicines in the 9 nine facilities that reported access to PEP by its staff. As would be observed, none of the 9 had Combivir (ZDV/3TC) and Stavudine/lamividune+indinavir.

Table 12: Availability and storage of PEP Medicines

PEP medicines which are present	% No	% Yes
Combivir (ZDV/3TC)	100	
Stavudine/lamivudine		
Observed	-	20
Not available	80	-
Stavudine/lamivudine+indinavir	100	-
Are the PEP medicines stored in a locked storage unit and separate from other medicines or supplies?		
Yes locked and separated		25.0
Not locked or separated		25.0
Not observed	50.0	

CHAPTER 6: PHARMACY SERVICES

All HCs that were visited reported having a pharmacy or a place where medicines for out-patients are kept and these were verified in 90% of the facilities, half reported not having such a facility for in-patient medications. Record keeping with regard to pharmaceutical products received and issued out at the facilities was reported to exist in all the facilities except for one which never had such a system (Table 13).

Table 13: Availability of pharmacy or other storage place for drugs

	% of HCs
Is there a pharmacy or other place where medications for outpatients are stored?	
Yes observed	90.0
Yes reported but not observed	10.0
Is there a pharmacy or other place where medications for inpatients are stored?	
Yes observed	42.3
Yes reported but not observed	7.7
No available	50.0
Does this facility maintain a record of each medicine received, amount disbursed and the amount remaining in stock today?	
Yes observed	86.2
Yes reported but not observed	10.3
No	3.4

6.1 Availability of various TB and HIV/AIDS related drugs

Table 14 below shows the proportion of HCs which reported having various types of drugs for TB and HIV treatment and other miscellaneous materials. As would be observed, most of the drugs were not available in the HCs with the exception of cotrimoxazole which was available in 67% of the HCs. Comparing TB and HIV medications, HIV medications more likely to be not available than TB medication. This findings is not very surprising considering that not all health facilities in Malawi have been certified to provide ART therapy. At the time when the data was being collected, there were 141 sites providing ART in the whole of Malawi.

Table 14: Availability of various TB and HIV medications and other miscellaneous materials

Types of Drugs	Proportion of HCs Not available	Available & observed	Reported but not observed
TB medicines- Isoniazid (H)	60.0	36.0	4.0
Ethambutol (E)	52.0	44.0	4.0
Pyrazinamide (Z)	72.0	24.0	4.0
Rifampicin (R)	75.0	20.8	4.2
Streptomycin (S)	80.0	16.0	4.0
FCD Adult RHZE	68.0	28.0	4.0
FCD Adult RH	80.0	16.0	4.0
FCD Adult RHE	80.0	16.0	4.0
FCD Child RHZ	84.0	12.0	4.0
HIV medications- AZT (Zidovudine)	88.9	7.4	3.7
DDI (didanosine)	96.3	-	3.7
D4T (stavudine)	92.9	3.6	3.6
3TC (lamivudine)	92.9	3.6	3.6
Lopinavir/ r	96.3	-	3.7
NVP (Neverapine)	75.0	21.4	3.6
EFV (Efavirenz) (stocrin)	85.7	10.7	3.6
FDC Duovir (AZT/3TC)	92.6	3.7	3.7
FDC Triomune 40 (D4T/3TC/NVP)	78.6	17.9	3.6
FDC Triomune 30	78.6	17.9	3.6
Miscellaneous- Azithromycin	85.2	14.8	-
Clotrimazole	57.7	34.6	7.6
Cotrimoxazole	32.1	60.7	7.1
Clarthromycin	92.3	-	7.7
Dapsone	96.2	3.8	-
Infant formula	92.0	8.0	-
Fortified protein supplement	84.6	11.5	3.8
Condoms	51.9	44.4	3.7

6.2 Storage and protection of drugs

Findings on the storage conditions of drugs in the HCs are presented in Table 15 below. As would be noted, almost all the facilities keep their drugs in safe places away from water, sun and other destructive contaminants or insects. Almost all these storage facilities were physically observed by the research team.

Table 15: Quality of storage facility for drugs

		% of HCs
Are the medicines off the floor and protected from water?		
	Yes observed	95.7
	Yes, reported, not observed	4.3
Are the medicines protected from the sun?		
	Yes observed	96.8
	Yes, reported, not observed	3.2
Is the room clean of evidence of rodents (bat, rats) or pests (roaches ,etc)		
	Yes observed	93.5
	Yes, reported, not observed	3.2
	No	3.2

6.3 Drug Replenishment systems

All the facilities reported that they place orders for additional drugs whenever stock levels reach a certain predetermined level and they would also place orders whenever they felt there was need to have some drugs including during emergencies. As expected, quantities for ordering are based on previous consumption history in all the HCs that were visited. According to information provided by the respondents of this survey, orders are mostly done on a monthly basis in 82% of the HCs, quarterly in 14% of the HCs and at any other time in 5% of the HCs. Whenever there is shortage of drugs between time of ordering and time of receipt of new drugs, emergency orders are placed with the DHOs in over 70% of the HCs, the rest just wait for their consignment to arrive. In the 3 months prior to the survey, drugs replenishment levels had been lower than expected in more than three quarters of the HCs (87%) and only in 13% have they not experienced such a shortfall.

6.4 Laboratory services and Radiology/X-ray services

Only one health facility provided information on laboratory services and two provided information on radiology/X-ray services. As such, these have been excluded from the analysis.

CHAPTER 7: TB SERVICES

7.1 Range of TB services being provided

Table 16 below shows the range of TB services that were reported available in 30 HCs which provided information on TB diagnosis and treatment. Referral to other facilities was the commonest among the HCs, whereas TB treatment was being provided in slightly over half of the HCs (57%), diagnosis was being done in 44% of the HCs. In the 'other' category were services such as nutritional care or counseling for HIV/AIDS.

Table 16: Range of TB services being provided

Type of service	% of HCs
Referral	85.2
Treatment	55.6
Diagnosis	44.4
Smearing and fixing	22.2
Testing	14.8
Other	2.4

7.2 Range of TB diagnosis services available

Nearly two-thirds of the HCs which provided information on TB treatment services reported that they had copies of the national guidelines for the diagnosis and treatment of TB (62%) and these were observed in half of the HCs (48%). Over a third (38%) of the HCs never had copies of the guidelines (Table 17). In terms of the actual TB diagnosis, the sputum test was being performed in 28% of the 30 HCs which provided information whereas chest x-ray was available in only 15% of the HCs and interpretation of chest x-ray films was being done in 12% of the HCs.

Table 17: Range of TB diagnosis services available

Availability of guidelines and Type of Diagnosis service	Response	% of HCs
National guidelines for diagnosis and treatment of TB is available (N=30)	% available and observed	48.3
	% available not observed	13.8
	% not available	37.9
TB skin test is available and charged	% yes	12.1
	% no	84.8
	% NR/NA	3.0
TB sputum test is available and charged	% yes	27.8
	% no	66.7
	% NR/NA	5.6
Chest X-ray is available and charged	% yes	14.7
	% no	82.4
	% NR/NA	2.9
Chest X-ray interpretation is available and is charged	% yes	11.8
	% no	85.7
	% NR/NA	2.9

7.3 Where do you clients come from?

As stated above (in the introduction chapter), TB case detection in Malawi is passive where patients present themselves to health facilities with signs and symptoms related to TB and are either diagnosed thereafter or are referred to other facilities. In the survey, the respondents (HC staff) were asked to state where their patients come from. In almost all the facilities (N=30) patients are self-referred from their homes, whereas in a third of the HCs, they come from a district hospital or from a private/mission health facility. Details about these are presented in Table 18 below. In the 'other' category include patients coming from across the border in Mozambique.

Table 18: Sources of TB patients (Multiple response)

Source	% of HCs
Home (self-referred)	92.6
Public hospital	14.8
Private/mission hospital	29.6
District hospital	33.3
Health centre/dispensary	14.8
Health post	3.7
Pharmacy	3.7
Spiritual healer	-
Other	4.8

7.4 TB Referral System

Referral for TB services may be vertical (either from a lower facility to a higher facility or vice versa or to a support group in the community) or horizontal between facilities at the same level. In either case, patients are expected to be given a referral note describing the condition of the patient, his/her background characteristics and diagnosis results. In the survey, the respondents (HC staff) were asked to state if patients they receive from other facilities bring referral forms and whether they also provide these forms to patients being referred from their HCs. Details of findings on these questions are presented in Table 19 below. In nearly 90% of the HCs, patients bring referral letters (or forms) and copies of these forms were observed in two thirds of the facilities. Slightly more than three quarters (79%) of the HCs also provide referral forms to patients being referred to other facilities from their HCs. In the 'other' category included telephone-based referral where clients are just told to visit another facility and staff make direct contacts with staff of the receiving facility.

Table 19: Availability of TB referral forms

		% of HCs
Do patients bring referral forms?		
	Yes, observed	61.5
	Reported but not observed	26.9
	Clients are not referred	11.5
	Other referral method	-
When you refer patients to other facilities, do you use a referral form?		
	Yes, observed	58.6
	Reported but not observed	20.7
	Clients are not referred	13.8
	Other referral method	6.9

7.5 Referral methods in practice

Details about various TB service referral methods being used in Mulanje and Phalombe are presented in Table 20 below. As would be observed, use of referral forms/letter is the commonest followed by verbal referrals and transportation by ambulance to another facility usually done to patients who are critically sick (and in that case, referral forms are also provided).

Table 20: Referral methods in practice (multiple response)

Method	% (N=30)
Verbal only	31.8
Pamphlet	4.5
Referral form/letter	90.0
Transportation by ambulance	27.3
Money for transportation	-

7.6 TB Diagnosis Methods in Practice

Table 21 below shows the various TB diagnosis methods being used in Mulanje and Phalombe districts. Use of clinical symptoms only to recommend TB treatment are being used in 42% of the facilities whereas 35% of the facilities do not do the diagnosis but treatment follow-up only.

Table 21: TB Diagnosis Methods in Practice

Method	% of HCs
Sputum smear only	17.2
X-ray only	-
Either sputum or x-ray	3.4
Both sputum or x-ray	3.4
Clinical symptoms only	41.5
Diagnosed elsewhere, this facility provides treatment follow up only	34.5
Other	-
Records of TB patients diagnosed in last 12 months are available (N=29)	72.4

Records of TB patients diagnosed in the last 12 months were available in 72% of the HCs where TB diagnosis was reportedly being done (14 facilities in Mulanje and 6 facilities in Phalombe). In Mulanje, the average number of patients diagnosed in the last 12 months in the 14 facilities was 97 patients (median of 39, maximum number registered of 561 patients) whereas in Phalombe, the average number of patients diagnosed was 74 patients (median of 15 patients, maximum number registered in one facility was 377). The minimum number of TB patients diagnosed in the 20 facilities in the two districts was three.

7.7 TB Treatment strategies in use

Table 22 below shows the strategies being followed with regard to TB treatment in 25 health facilities which provided information on this in Mulanje and Phalombe districts. As would be noted from the table, the majority (56%) direct observe their patients in the facility for approximately 2 months and subsequently make follow-ups to the patients in the next 6 months (either the patient comes for check-ups or they make use of health surveillance assistants to make home visits). None of the 25 HCs makes direct observations to their TB patients who are on treatment.

Table 22: Strategy followed by staff for TB treatment

Strategy (N=25)	% of HCs
Direct observe for 2 months, follow up 6 months	56.0
Direct observe 6 months	12.0
No direct observe treatment	-
Follow-up clients only after intensive treatment provided elsewhere	24.0
Other	8.0

7.8 Participation in the DOTS programme

Seventy six percent (76%) of the 30 health facilities which provided information on TB reported to be on the national DOTS programme. When asked what they were actually doing as part of the DOTS strategy, over half of the respondents (54%) reported that after the initial two weeks of treatment hospitalization, the duty if monitoring adherence to daily medication is vested in the guardians of the patients whereas 46% said the patient comes to the hospital on a daily basis to get medication while being observed. Such different strategies need further assessment and

supervision so as to provide standard quality of care to TB patients regardless of the location of the facility and of the patients.

7.9 Proportion of HCs with DOTS records showing clients

Seventy percent (70%, n=21) of the 30 facilities had DOTS records showing details of their clients and these were observed in 56% of the HCs (Table 23). Two thirds (65%) of the HCs had their DOTS records up to date at the time of the survey and the last dates shown in the records were of January 26 2007 in five of the HCs while the interviews at those facilities took place either on the same day or in less than a week.

Table 23: Proportion of HCs with DOTS records

	% of HCs
Are DOTS records available?	
Yes, observed	55.6
Reported but not observed	14.8
Not available	29.6
Are records up to date	
% Yes	64.7
% No	35.3

7.10 Source of TB medicines

Almost all the facilities where TB treatment is done get their medicines from the National TB Control Programme through the District TB Officers (83%) whereas in a third of the HCs, they also purchase the drugs on their own mainly mission and private facilities. In fifth of the HCs, TB patients also bring medicines from other hospitals after being discharged and referred to these facilities for monitoring because of proximity to their homes (Table 24).

Table 24: Source of TB medicines (multiple response)

Source	% of HCs
National TB Control Programme/ District TB Officer	82.6
Central Medical Stores	-
Direct Purchase	30.4
Patient brings after discharge from hospital	21.7

7.11 Storage of TB medicines in the facilities

In two thirds (65%) of the HCs TB medicines were being kept pre-packed for their patients whereas in a fifth of the HCs, the drugs were being kept in bulk jars pending to be counted for each patient that comes. Details about these are presented in Table 25 below.

Table 25: Storage of TB medicines in the facilities

Status of storage	% of HCs
Yes, pre-packaged for clients	65.4
Yes, bulk jars	19.2
No, medicines kept in pharmacies	7.7
Other	7.6

7.12 TB Treatment Follow-up

Over two thirds of the HCs (73%) make follow-ups to their TB patients, a fifth of which make follow-ups to only those that are on intensive treatment whereas 54% make follow-ups to their patients until they finish full treatment (Table 26). Charts for each TB patient on treatment were available in 75% of the HCs and were confirmed in 64% of the facilities.

Table 26: Proportion of facilities that provide follow-up to TB patients on treatment

	% of HCs
Yes, intensive treatment only	19.2
Yes, full treatment	53.8
No, clients referred to in-patient unit	-
No, clients referred to health centre	11.5
Other	15.5
Availability of individual charts of patients on Treatment	
Yes, observed	64.3
Reported but not observed	14.3
No charts available	21.4
Availability of register being followed by the HC	
Yes, observed	55.2
Reported but not observed	17.2
Not available	27.6

7.13 Numbers of patients being followed up

Table 27 below shows average numbers of all TB patients that were being followed up for treatment in Mulanje and Phalombe district. Overall, the 19 HCs that provided information had an average of 20 patients the highest being 62 patients in Mulanje and 60 patients in Phalombe district. In the two districts, there were equal numbers of female TB patients that were being followed up. The same observation also applied for young children who were being followed up (Table 27) below.

Table 27: Average numbers of TB patients being followed up by the HCs

	Mulanje (n=10)	Phalombe (n=9)	Total (N=19)
All patients			
Average	23	17	20
Minimum	3	1	1
Maximum	62	60	62
Median	21	12	14
Female patients			
Average	11	9	10
Minimum	1	0	0
Maximum	27	31	31
Median	10	7	9
Number of children			
Average	1	1	1
Minimum	0	0	0
Maximum	4	1	4
Median	1	1	1

7.14 Availability of records showing past patients no longer on treatment

Only a quarter of the 30 facilities that provided information on TB had no records showing past patients who were no longer on TB treatment and had their status confirmed with a test obtained from a HC. These records were confirmed in half of the HCs (48%) and their existence was just reported in a quarter of the other HCs (Table 28).

Table 28: Availability of records showing past patients no longer on treatment

	% of HCs
Yes, observed	48.3
Reported but not observed	24.1
Not available	24.1

7.15 TB/HIV Co-Infection

The current policy in Malawi is to test all TB patients for HIV. In the survey, the respondents were asked to state if new TB cases in their HCs were being tested for HIV or they were being referred for the service elsewhere. Detailed findings on this are presented in Table 29 below. As would be noted from the table, only a third do test or refer for testing new cases of TB (32%) or those being suspected (7%) to have HIV. The rest do not test new cases of TB for HIV.

Table 29: Proportion of facilities reporting testing (or not) for HIV all TB patients

	Response	%
New TB cases offered or referred to HIV testing (N=28)	% all referred	32.1
	% suspects only	7.1
	% no	60.7
Presence of register of new TB cases tested or referred	% Yes, observed	6.5
	% Reported but not observed	9.7
	% Not available	83.9
Presence of register of TB patients who are HIV +ve	% Yes, observed	19.4
	% Reported but not observed	6.5
	% Not available	74.2
Besides TB care, any care for HIV/AIDS patients?	% Yes	37.9
	% No, patients are referred elsewhere	62.1
New HIV cases are followed for TB skin test (N=30)	Yes, all are referred	-
	Suspects only	6.5
	No	93.5
New HIV cases are followed for TB sputum test (N=30)	Yes, all are referred	16.7
	Suspects only	16.7
	No	66.7
New HIV cases are followed for chest x-ray (N=30)	Yes, all are referred	10.0
	Suspects only	13.3
	No	76.7

Registers of new TB patients that have been tested for HIV (or referred) were available in only 16% of the HCs (and were verified in 7% only) whereas records of TB patients who are also HIV positive were available in a quarter (26%) of the HCs. Following up new HIV positive patients for TB testing (using the skin test, sputum test or x-ray) varied considerably with most of the HCs reporting doing neither of the test.

7.16 Numbers of TB patients tested for HIV or referred in past 12 months

Table 30 below shows average numbers of new TB cases that were tested for HIV or were referred in the last 12 months before the survey. As would be observed, Phalombe registered high numbers of new TB cases that were also tested for HIV (an average of 76 cases in the 4 HCs that provided information) compared to Mulanje (33 cases in the only HC which provided information). At the time of the survey, the 7 HCs which provided information on HIV/TB co-infection in Mulanje had 12 TB patients on average who also HIV in their records, a highest number of 66 patients. The figures for Phalombe were 24 and 175 patients, respectively.

Table 30: Average and highest recorded numbers of TB/HIV co-infections in Mulanje and Phalombe

	Mulanje (n=1)	Phalombe (n=4)	Total (N=19)
All patients			
Average	33	76	67
Minimum	33	0	0
Maximum	33	294	294
Median	33	4	5
TB patients and HIV positive	(n=7)	(n=4)	(N=11)
Average	12	46	24
Minimum	0	0	0
Maximum	66	175	175
Median	2	3	2

CHAPTER 8: HIV/AIDS SERVICES

8.1 Availability of Supporting Policies and Guidelines for HIV and AIDS

Guidelines for HTC were available in slightly more than half of the sites (55%) but their availability were confirmed in only 39%. Details concerning availability of other HTC related documentation are presented in Table 31 below.

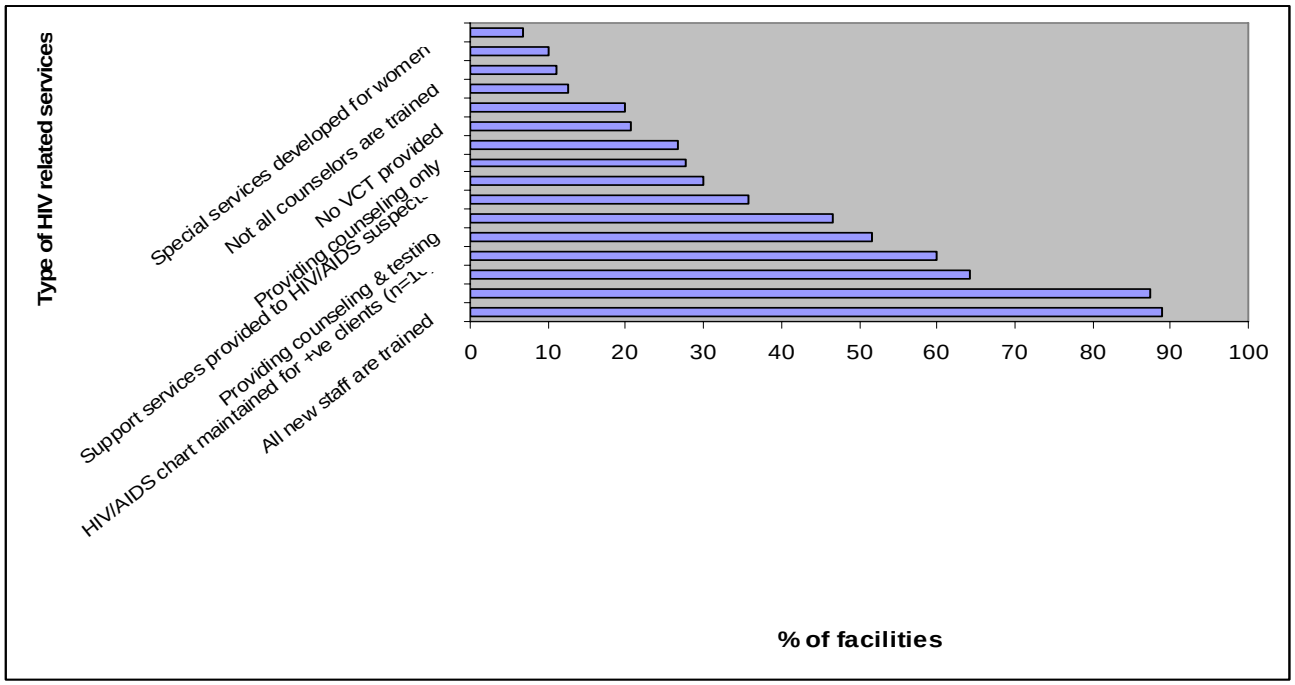
Table 31: Proportion of facilities reporting availability of various supporting documents on HIV/AIDS

	Observed & complete	Observed & Incomplete	Reported, not observed	Not available
HIV Counseling and testing including pretest, post test positive/negative results	29.0	9.7	16.1	45.2
Written policy regarding HIV testing	29.0	6.5	6.5	58.1
HIV testing procedures (obtaining specimens, running tests, discarding waste)	33.3	6.7	13.3	46.7
Confidentiality policy outlining informed consent	25.8	9.7	12.9	51.6

8.2 Range of HIV/AIDS services available in the facilities

Figure 3 below shows the range of HIV/AIDS services that were being provided in the facilities that were visited in Mulanje and Phalombe districts. As would be observed, new staff are trained in managing HIV/AIDS related cases in almost all the facilities (89%) and almost all the facilities have charts for clients that are HIV positive (87%). HTC was being provided in approximately 65% of the sites.

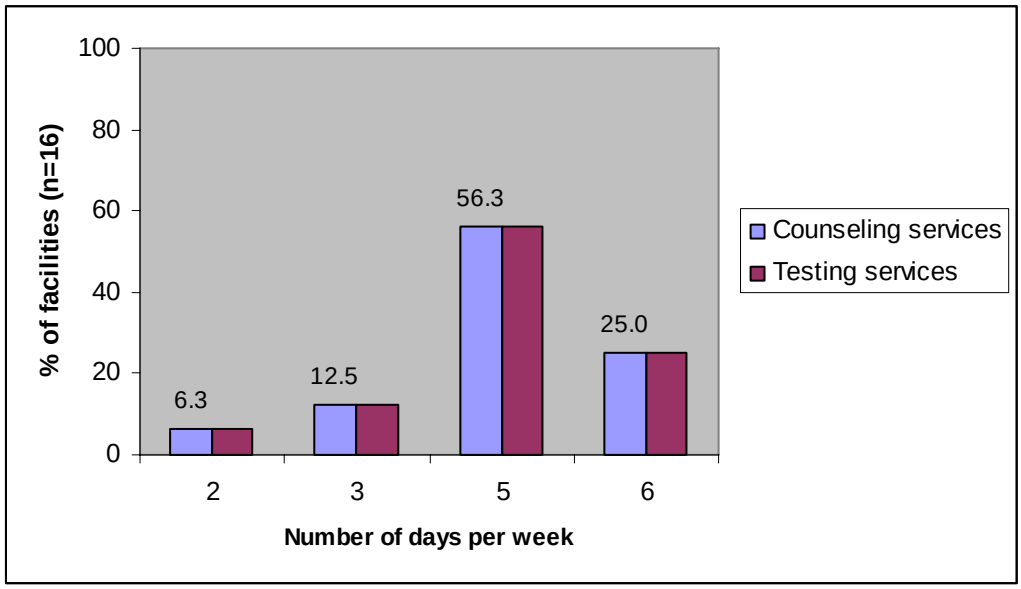
Figure 3: Range of HIV/AIDS services available in the 42 health facilities



8.3 Number of days for VCT and Testing

The majority of the sites that provided information on HTC services (N=16) provide the service at least five days of the week (81%) the rest providing the service only 3 days of the week (13%) or two days or less (Figure 4).

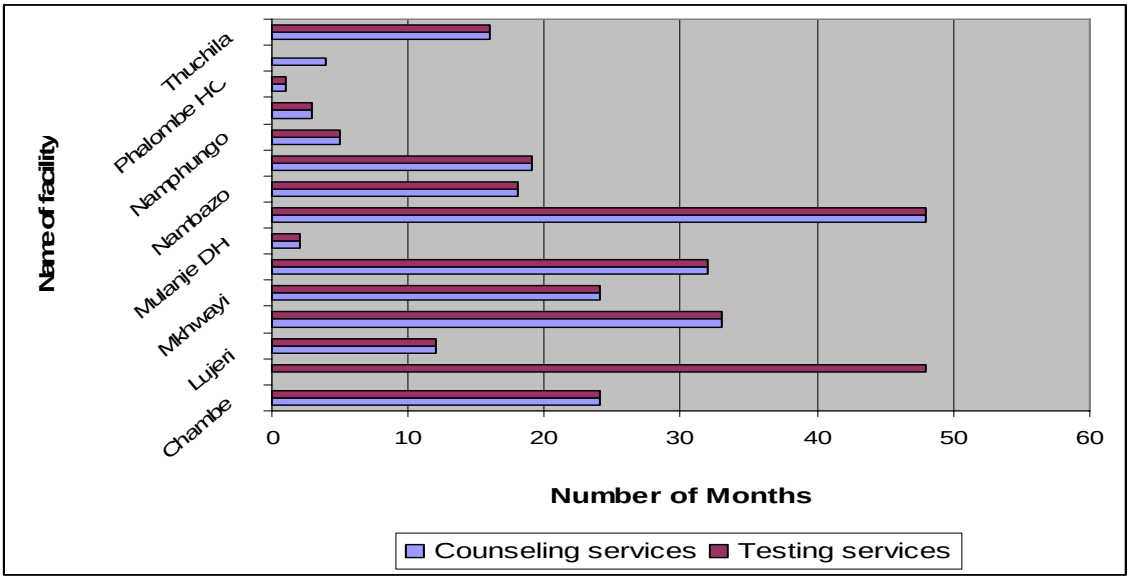
Figure 4: Proportion of Facilities providing VCT once, twice or more in a week



8.4 Length of time from when HIV/AIDS services were introduced

Figure 5 below shows the length of time that the HCs which provided information on length of time they had been providing HTC had been in operation. Mulanje district hospital and Mulanje mission hospital had been providing HTC form close to five years at the time of the survey the rest had been providing the service since the last 2-3 years.

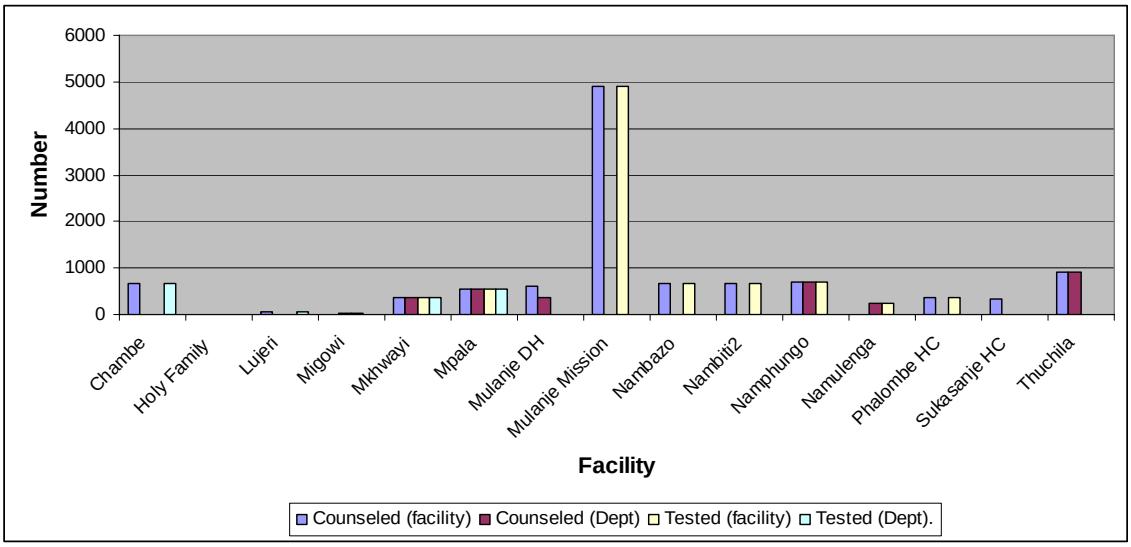
Figure 5: Length of time from when HIV/AIDS services were introduced inn the 42 facilities



8.5 Numbers of clients counseled and tested in last 12 months

Figure 6 below shows the numbers of HTC clients in the facilities which provided this information. Mulanje mission hospital reported figures close to 5,000 the rest reporting less than 1,000 clients in the last 12 months. While the figures for the small HCs would truly reflect the flow of HTC clients in those facilities, figures for Mulanje Hospital may have had some problems bearing in mind that it is the largest of all the facilities and is also centrally located than any other facility in the two districts.

Figure 6: Number of clients counselled and tested in the last 12 months



8.6 HIV testing

Counseling sessions are held in rooms that have visual and auditory privacy in 88% of the facilities (n=16) and individual charts are maintained for each specific client in two thirds of the facilities Table 32).

Table 32: Quality of HIV testing services

	% of HCs
How are tests results tracked	
By identifying number	93.8
Other (specify)	6.3
Where are HIV counseling services provided?	
In a room with visual and auditory privacy	87.5
In a room without auditory privacy	6.3
In a group setting	6.3
Have you developed any special services or accommodations for specific groups?	
Youth	60.0
Women	10.0
Other (specify)	30.0
Is an individual client chart or record maintained for all HIV positive clients?	
Yes observed	64.3
Yes reported but not observed	35.7

CHAPTER 9: FINDINGS FROM INTERVIEWS WITH HEALTH WORKERS

9.1 Educational levels of the HW

As stated above, a total of 168 Health Workers (HW) were interviewed in the survey 108 of whom were interviewed in Mulanje while 60 were interviewed in Phalombe district. Table 33 below shows the number of years of primary and secondary education that the HW completed in total. In general, the majority of the HW (81%) had spent 12 years of primary and secondary education (this translates to Form 4, a level at which one is awarded the Malawi Schools Certificate of Education – MSCE). Only 1% had not gone beyond primary school.

Table 33: Number of years of primary & secondary education among the HW

	% of Respondents (N=168)
8 years of schooling (PSLCE level)	1.2
10 years of schooling (JCE level)	10.1
11 years of schooling (Form 3)	7.7
12 years of schooling (MSCE level)	81.0

9.2 Technical Qualifications of the HW

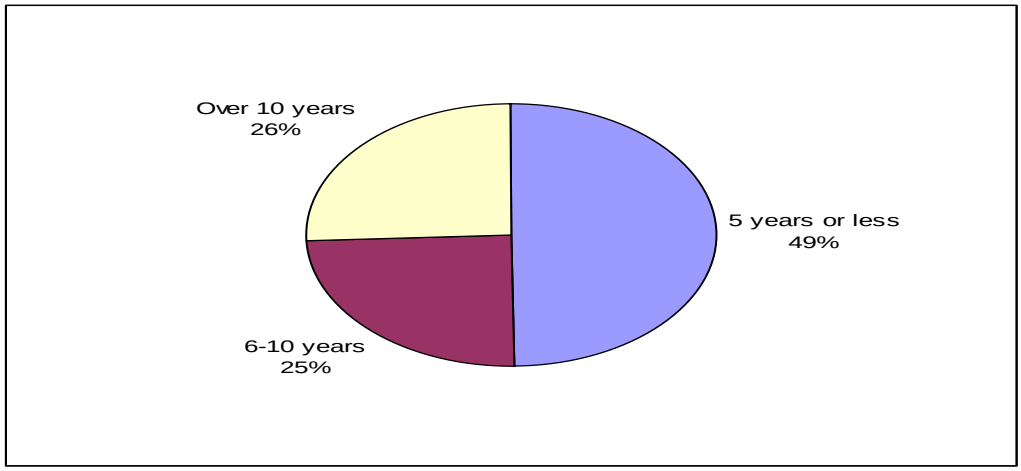
Table 34 below shows the technical qualifications of the HW who were interviewed in the survey. Half of the HW (52%) were Health Surveillance Assistants (HSAs). Nurses constituted 18% of the HW who were interviewed but these belonged to various designations the majority of whom were Enrolled Nurse/Midwives (11%).

Technical Qualification	% of Respondents (N=168)
Health Surveillance Assistant	51.8
Enrolled Nurse/Midwife	11.3
Medical Assistant	10.1
Nurse Technician	5.4
Clinical officer	3.6
Laboratory Technician	3.0
VCT Counselor	3.0
Environmental Health Officer	2.4
Registered Nurse/Midwife	0.6
Community Health Nurse	0.6
Laboratory Assistant	0.6
Other	7.7

9.3 Length in service

Nearly half of the HW had been in service for 5 years or less at the time of the survey where as a quarter had worked for 6-10 years and a similar proportion had been in service for more than 10 years. This information is presented in figure 7 below.

Figure 7: Length of time in service among the HW



On average, the HW had been in service for 6.7 years (a median period of 5.7 years). The longest period that some of the HW who were interviewed had been in service was 32 years and this was recorded among the HW who were interviewed in Phalombe district whereas in Mulanje, the longest period in service was 30 years. Details about these are provided in Table 34 below.

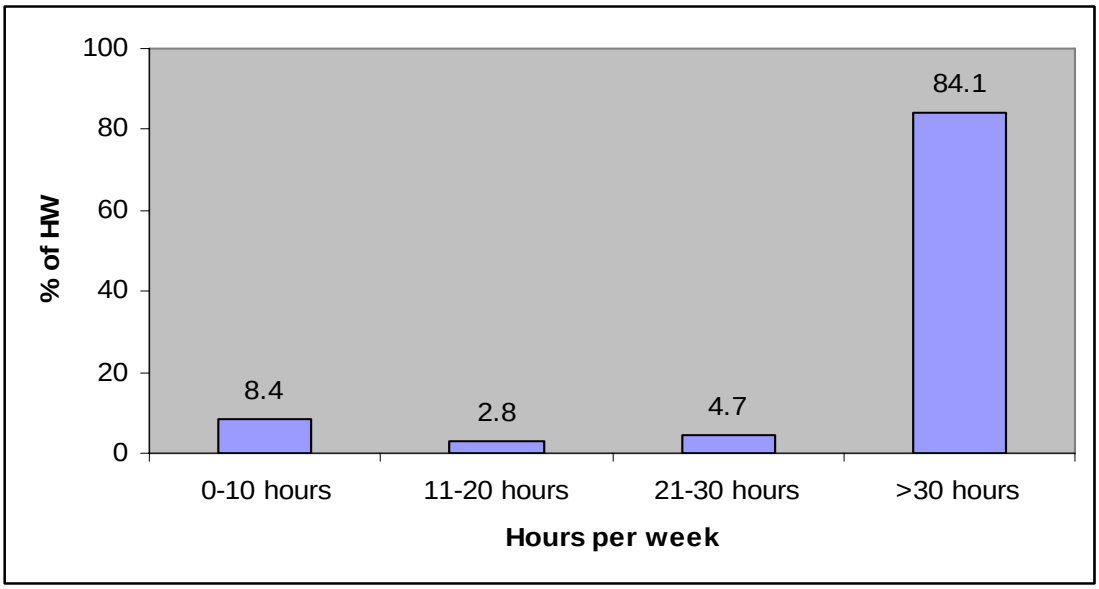
Table 34: Length of time in service among the HW

Length in service	Mulanje (n=108)	Phalombe (n=60)	Males	Females	Total N=168
Average	7.1	5.9	6.6	7.1	6.7
Median	6.2	4.5	6.2	5.6	5.7
Minimum	0.0	1.0	1.0	0.0	0.0
Maximum	32.0	30.0	18.0	32.0	32.0

9.4 Hours spent at the facility where interview took place

More than three quarters of the HW (81%) reported that they spend more than 30 hours of work each week at the facilities where they were interviewed, only less than 10% spend 0-10 hours per week at the facilities (Figure 8).

Figure 8: Proportion of HW spending 0-10, 11-20, 21-30 & >30 hours per week at the facilities



One average, the HW spend 35.5 hours each week at the facilities where they were interviewed (median time of 39 hours per week). There were basically no major differences in the time being spent at the facilities between HW who were interviewed in Mulanje and those who were interviewed in Phalombe district and between male and female HW. Details about these are presented in Table 35 below.

Table 35: Proportion of HW spending 0-10, 11-20, 21-30 & >30 hours per week at the facilities

Hours spent at the facility per week	Mulanje (n=108)	Phalombe (n=60)	Males	Females	Total N=168
Average	37.6	31.3	36.2	35.5	35.5
Median	39.2	37.6	39.2	38.4	39.0
Minimum	4.0	2.0	4.0	9.0	2.0
Maximum	40.0	40.0	40.0	40.0	40.0

9.5 Proportion of time spent on TB and HIV/AIDS services

The HW were also asked to estimate the amount of time they spend providing services relating to TB and HIV/AIDS at the facilities they were interviewed or elsewhere. Detailed findings on this are presented in Table 36 below. Over half of the HW (53%) spend 25% or less of their time ob TB services whereas 36% spend 26-50% of their time on TB services.

Fourteen percent (14%) of the HW reported that they are not providing any services related to HIV and AIDS, 27% spend 25% or less of their time on HIV/AIDS where as 40% reported to spend over 25% of their time on HIV/AIDS services. In general, a combination of TB and HIV/AIDS services occupies more than a quarter of time for over two thirds of the HW. A fifth of the HW (20%) spend 26-50% of the time providing both TB and HIV/AIDS services, 29% spend 51-75% of the time on TB & HIV/AIDS services.

Table 36: Proportion of time spent providing TB and HIV/AIDS services

	% of HW
% of time spent providing TB services	
None at all	10.4
1-25%	53.4
26-50%	36.2
51-75%	0.0
>75%	0.0
% of time spent providing HIV/AIDS services	
None at all	14.0
1-25%	45.7
26-50%	40.2
51-75%	0.0
>75%	0.0
% of time spent providing TB & HIV/ADS services	
None at all	6.2
1-25%	26.5
26-50%	19.8
51-75%	29.0
>75%	18.5

On average, the HW reported to spend 23% of their time providing TB services, 24% of the time providing HIV/AIDS services and an average of 46% of the time providing both TB and HIV/AIDS services (Table 37).

Table 37: Average, median, minim and maximum % of time spent on TB and HIV/AIDS services

	% HW Mulanje (n=108)	% HW Phalombe (n=60)	% HW Males	% HW Females	% HW Total N=168
% of time spent on TB services					
Average	21.4	24.8	19.8	23.9	22.6
Median	17.7	22.3	17.0	16.7	20.0
Minimum	0.0	0.0	0.0	0.0	0.0
Maximum	50.0	50.0	50.0	50.0	50.0
% of time spent on HIV/AIDS services					
Average	23.2	24.2	16.2	23.1	23.6
Median	17.9	20.0	10.3	20.8	18.3
Minimum	0.0	0.0	0.0	0.0	0.0
Maximum	50.0	50.0	50.0	50.0	50.0
% of time spent on both TB & HIV/AIDS					
Average	44.6	49.5	36.0	46.9	46.3
Median	42.5	50.5	30.5	51.0	48.4
Minimum	0.0	0.0	0.0	0.0	0.0
Maximum	100	100.0	100.0	90.0	100.0

9.6 Services being provided by the HW

The HW were asked several questions regarding types of services they were personally providing at the facilities where the interviews took place. This Chapter presents findings on this and will be categorized into three broad categories: general health services, TB services and HIV/AIDS services.

9.6.1 General Health Services

Table 38 below shows that a third (33%) of the HW who were interviewed in the survey were managing clinical services, half were performing services relating to infection control/ universal precautions (49%) whereas two thirds of them (67%) were data sources for the HMIS or other data reporting channels.

Table 38: Proportion of HW providing various types of general health services

	Yes	No
Manager for clinical service	32.5	67.5
Universal precautions/infection control Manager/Officer	48.5	51.5
Health Management Information Systems (HMIS) Manager or Officer or responsible for reporting requirements for any service	66.5	33.5
Diagnosis and treatment of STIs	37.2	62.8

9.6.2 TB Services

Over half (58%) of the HW who were interviewed obtain sputum for TB testing from their clients whereas half (50%) follow up their clients who are on treatment (Table 39 below). As regards TB treatment, the government of Malawi promotes home-based treatment under the direct supervision of relatives or caregivers of the patients (the so called 'DOTS' programme). On this, close to half of the HW (45%) promotes the strategy. TB skin testing was being provided by only 2% of the clients.

Table 39: Proportion of HW providing various types of TB services

	Yes	No
Obtain sputum for TB	57.7	42.3
Follow up treatment for tuberculosis	50.6	49.4
Direct observation treatment strategy (DOTS)	44.6	55.4
Clinical symptom diagnosis of tuberculosis	35.9	64.1
Preventive treatment for TB	20.5	79.5
Sputum microscopy for TB	5.4	94.6
Prescribe treatment for tuberculosis	4.8	95.2
TB Skin testing	2.4	97.6

9.6.3 HIV and AIDS Services

HIV Diagnosis/Testing and Counseling Services

Table 40 below shows that only 15% of the HW had been performing HIV tests on their clients at the time of the survey, 13% had been providing HIV rapid tests whereas only 3% were performing the Elisa and/or the Western Blot HIV tests. Counseling (both pre-test and post-test)

services were surprisingly being provided by a low proportion of the HW (19% and 16%, respectively).

Table 40: Proportion of HW providing various services relating to HIV diagnosis and counselling

	Yes	No
Clinical symptom diagnosis of HIV	38.7	61.3
HIV pre-test counseling	18.5	81.5
Ordering HIV tests (ELISA, rapid, Western Blot)	17.4	82.6
Follow up counseling for HIV, after the initial post-test counseling or emotional support	17.3	82.7
HIV post-test counseling	16.1	83.9
Drawing blood for HIV test	15.0	85.0
Perform HIV rapid testing	12.6	87.4
Perform HIV ELISA and /or Western Blot test	3.0	97.0

HIV Treatment Services

Table 41 below shows proportions of the HW who were providing various HIV treatment related services to their clients. Education for patients and their families on HIV care was being provided by half of the HW, a third (30%) were providing preventive treatment for opportunistic infections (OIs). Only 4% of the HW were prescribing ARVs for their clients and this finding may not be very surprising considering that not all the facilities in Malawi provide ART and very few of the HW in the country have been trained in providing ART to their clients.

Table 41: Proportion of HW providing various types of HIV treatment-related services

	Yes	No
Education for patient and families on HIV care	51.5	48.5
Preventive treatment for OIs, such as cotrimoxazole preventive therapy (CPT)	30.4	69.6
Nutrition counseling to HIV/AIDS infected clients	29.8	70.2
Management of opportunistic infections	25.0	75.0
Diagnosis of opportunistic infections	23.2	76.8
Nutrition counseling for newborns of IV infected women	19.0	81.0
Home based care services for people living with HIV/AIDS and their families	18.6	81.4
Training caregivers and/or patients in HIV/AIDS care	13.2	86.8
Nursing care for HIV/AIDS patients	11.4	88.6
Palliative care for terminally ill AIDS patients, such as symptom or pain control, emotional and nursing care	10.7	89.3
Pediatric HIV/AIDS care	9.0	91.0
Adherence counseling for ARVs	7.2	92.8
Medical follow-up for ARV taking patients	6.0	94.0
Prescribing ARVs	4.2	95.8
Ordering and or prescribing ARVs for post-exposure prophylaxis (PEP)	3.6	96.4
Ordering or prescribing laboratory test for monitoring of ART	2.4	97.6
CD4 testing	1.2	98.8

HIV Prevention Services

A third of the HW who were interviewed (29%) were involved in counseling services relating to the prevention of mother to child transmission of HIV (PMTCT) whereas 20% were actually providing the PMTCT services and 8% were providing ARV prophylaxis to pregnant women so as to prevent mother to child transmission of HIV during pregnancy and at birth (Table 42).

Table 42: Proportion of HW providing various types of HIV prevention services

	Yes	**No**
Confidentiality and rights to non-discrimination practices for people living HIV/AIDS	43.1	56.9
Preventative interventions for HIV/AIDS patients	39.9	60.1
Counseling for prevention of mother to child transmission	29.2	70.8
Delivery services (conducting actual delivery of new born)	20.2	79.8
Prevention of maternal to child transmission	20.2	79.8
ARV prophylaxis for prevention of mother to child transmission (PMTCT)	7.7	92.3
Counseling or prescribing ARV for post-exposure prophylaxis	2.4	97.6

9.7 Stigma and Discrimination

Diseases such as TB and HIV/AIDS have been riddled with a lot of stigma and discrimination tendencies against those who are infected and/or affected by the either of the diseases. Over the years, the government of Malawi has emphasized the need to de-stigmatize the two diseases especially HIV and AIDS. In the survey, it was felt necessary to ask the HW whether they would work with patients who have TB or HIV and AIDS and whether such patients should be allowed to work at all. Findings on this are presented in Table 43 below. As the findings suggest, all the HW who were interviewed said they would work with people living with HIV/AIDS (PLWHA) while 95% would feel comfortable working with TB patients. In general, the majority of the HW would feel comfortable working with PLWHAs compared to TB patients and a considerable proportion (14%) would also recommend TB patients not to continue working.

Table 43: Proportion of Health Workers expressing various statements towards PLWHAs

Issue	Mulanje (n=108)	Phalombe (n=60)	Male (n=34)	Female (n=32)	All (N=168)
Working with TB& HIV/AIDS patients					
% saying yes for HIV/AIDS patients	100.0	100.0			100.0
% saying yes for TB patients	96.3	91.7			94.6
Allowing TB / HIV/AIDS patients to work					
% saying yes for HIV+ people	99.1	100.0			99.4
% saying yes for TB patients	86.1	84.7			85.6
Disclosure of HIV status of a relative					
% preferring to remain secrecy	49.1	47.5			48.5
% preferring to disclose	45.4	52.5			47.9
% opting for either	5.6	0.0			3.6
Disclosure of TB status of a relative					
% preferring to remain secrecy	33.3	37.3			34.7
% preferring to disclose	65.7	62.7			64.7
% opting for either	0.9	0.0			0.6
% saying HIV+ people deserve the illness	12.0	13.3			12.5
% saying TB patients deserve the illness	8.3	8.3			8.3

Whereas working with TB patients or allowing TB patients to work would face some resistance among the HW who were interviewed compared to PLWHAs, disclosing infection status of TB is not much of an issue among the HW compared to disclosing HIV serostatus. Half of the HW who were interviewed (49%) would want the HIV serostatus of their relatives to remain a secret and an almost similar proportion (48%) would disclose the serostatus of their relatives if they tested positive for HIV (Table 43 above). More than two-thirds (65%) of the HW would disclose the TB infection status of the relatives. Regarding the infections themselves, 13% of the HW who were interviewed thought HIV+ people deserved the illness whereas 8% thought TB patients deserved the illness and in either case, the HW attributed their thoughts to past behaviours of the PLWHAs or TB patients as having being reckless at some point.

CHAPTER 10: TRAINING NEEDS ASSESSMENT

The HW were also asked to state what sort of training they needed relating to Tuberculosis (TB) and HIV/AIDS. This Chapter presents findings on this starting with training needs on TB followed by training needs in HIV/AIDS services. The HW were allowed to mention up to five areas of interest.

10.1 Training in TB related fields

Three quarters of the HW who were interviewed (74%) would want training in TB treatment services whereas 56% would want training in microscopic TB detection and a fifth (22%) would want training in strategies that are used relative to active case finding (Table 44). As the findings presented in Table 44 seem to suggest, a higher proportion of the HW who were interviewed in Phalombe raised most of the training needs compared to the HW who were interviewed in Mulanje and female HW were more likely to demand the various types of training compared to the male HW.

Table 44: Proportion of HW citing various types of training needs on TB

Areas of interest	Mulanje	Phalombe	Males	Females	Total
Treatment	73.5	76.1	87.1	73.1	74.3
Microscopy TB detection	59.2	47.8	71.0	42.3	55.6
Active case finding	18.4	30.4	16.1	26.9	22.2
Follow up	14.3	21.7	6.5	19.2	16.7
TB Documentation	15.3	17.4	25.8	7.7	16.0
IEC	9.2	26.1	3.2	19.2	14.6
Management of TB	12.2	17.4	9.7	15.4	13.9
TB prevention	12.2	17.4	16.1	7.7	13.9
Sputum Collection	13.3	8.7	6.5	7.7	11.8
Care and support	9.2	10.9	9.7	15.4	9.7
DOTS	6.1	8.7	.0	11.5	6.9
Counseling	5.1	8.7	3.2	7.7	6.3
Nutrition in TB patients	2.0	4.3	3.2	.0	2.8
Drug adherence	0.0	6.5	.0	3.8	2.1
Research and Data Management	1.0	4.3	.0	3.8	2.1
Disease epidemiology	.0	4.3	.0	15.4	1.4
Health policy and decision making	.0	4.3			1.4
Other	12.2	13.0	9.7	3.8	12.5

10.2 HIV/AIDS Training needs

Half of the HW (51%) expressed interest to be trained in HIV testing services whereas 45% said they would want training in treatment and management of side effects of ART (Table 45 below). Similar to training needs on TB, HW who were interviewed in Phalombe and female HW were more likely to cite various of training needs compared to the HW who were interviewed in Mulanje and male HW in general.

Table 45: Proportion of HW citing various types of training needs on HIV/AIDS

Areas of interest	Mulanje	Phalombe	Males	Females	Total
HIV Testing	56.2	41.4	67.6	45.2	50.9
Treatment and management of side effects	48.6	37.9	50.0	32.3	44.8
Counseling	32.4	50.0	26.5	35.5	38.7
PMTCT	21.0	22.4	11.8	12.9	21.5
Home based care	17.1	27.6	26.5	22.6	20.9
Nutrition for HIV patients	20.0	12.1	20.6	.0	17.2
Palliative care	16.2	17.2	17.6	16.1	16.6
IEC	8.6	19.0	8.8	9.7	12.3
Prevention	8.6	8.6	8.8	9.7	8.6
Transmission of HIV	5.7	6.9	14.7	0.0	6.1
Management of Opportunistic Infections	5.7	6.7	0.0	0.0	6.1
TB/HIV Co-infection	2.9	5.2	2.9	3.2	3.7
HIV screening	1.0	8.6	2.9	0.0	3.7
Training of care givers	2.9	1.7	8.8	3.2	2.5
Research	1.0	5.2	2.9	3.2	2.5
Quality control of care	2.9	1.7	0.0	3.2	2.5
Orphan care	1.0	1.7	0.0	3.2	1.2
Inventory Management	1.0	1.7	0.0	3.2	1.2
Others	7.7	17.2	5.8	32.2	11.0

10.3 Other Training Needs

In addition to training needs relating to TB and HIV/AIDS, the HW were also asked to state what other training they would like to undergo relating to their jobs. Similar to TB and HIV/AIDS training questions, the HW were also allowed to cite up to 5 areas of interest. The findings on the[is are presented in Table 46 below.

Table 46: Proportion of HW citing various other types of training needs relating to their work (neither TB nor HIV/AIDS related)

Areas of interest	Mulanje	Phalombe	Males	Females	Total
Water and sanitation	15.0	13.7	15.6	15.4	14.6
Nutrition	18.0	7.8	25.0	3.8	14.6
Family Planning	13.0	11.8	18.8	3.8	12.6
Cervical cancer	11.0	7.8	12.5	3.8	9.9
Malaria Microscopy	11.0	7.8	18.8	7.7	9.9
Immunization	9.0	9.8	12.5	11.5	9.3
Medical surgery	9.0	3.9	15.6	3.8	7.3
Computer use	7.0	2.0	3.1	11.5	5.3
STI diagnosis and treatment	3.0	9.8	12.5	.0	5.3
HMIS	4.0	0.0	6.3	.0	2.6
Drugs and usage	3.0	0.0			2.0
Laboratory management	3.0	0.0	3.1	7.7	2.0
Obstetrics	2.0	2.0	.0	3.8	2.0
Other	6.4	8.4	7.4	8.1	7.7

CHAPTER 11: DISCUSSION

HIV/AIDS and TB are the major health problems affected the adult population in Malawi. It is estimated that over 70% of all TB patients are also HIV positive and over half of clients seen at OPD sections in most health facilities present themselves with HIV/TB related signs and symptoms. This calls for concerted efforts to deal with the two diseases both through prevention efforts as well as treatment care and support. The Ministry of Health in Malawi also estimates that nearly 60-80% of hospital beds in Malawian hospitals are occupies by patients of TB or HIV/AIDS or both. This places a heavy burden on the delivery of proper health care in Malawi. Finding from this survey confirm the magnitude of the HIV/AIDS in the two districts. In Mulanje, the 14 facilities that reported figures on TB patients who were diagnosed in those facilities reported an average of 97 patients and a highest figure of 561 patients in the last 12 months. In Phalombe, the figures were 74 patients on average and a highest reported figure of 377. These figures fall short of the actual situation on the ground considering the poor record keeping in some of the facilities and also considering that case detection in Malawi is still passive. On the ground, there would be more than what is being reported in the catchment area of each health facility.

The problem of case finding in Mulanje and Phalombe districts is further compounded by the fact that not all facilities have facilities and equipment to detect TB. Only two facilities reported having X-ray machines and not all the other HCs had access to the skin or the sputum test for TB. These are all challenges that Project HOPE through this project are likely to encounter in the implementation of the HIV/TB programme in Mulanje. Several studies have documented other challenges in the fight against TB, HIV/AIDS or both (see Kadzandira 2006). These include distances to testing centres, distances to centres where care and support is provided, issues of stigma, nutrition challenges and the cost of accessing the services in terms of transport and meals while in hospital or on travel. As stated above in the introduction, the health sector in Malawi is seriously constrained in human resources. This survey has just confirmed the existence of this challenge in Mulanje and Phalombe districts. During the survey, some of the health centres were found closed due to lack of staff, in some HCs there were only 1-2 members of staff who have to serve in OPD and other departments of the facilities in addition to providing counseling and testing services for HIV/AIDS. While this is the case, the few staff who are there in the facilities are already taking up a considerable amount of their time dealing with TB and HIV/AIDS (>50%).

This survey has also indicated that HSAs play an important role in the provision of HTC as well as following up TB/HIV patients who are on treatment. While this option is commendable considering the staff constrained situation in the districts, it apparently may result in leaving out the other primary care services in the communities where HSAs are supposed to be working. This would in the long run compromise the achievements that Malawi as a country has made in dealing with immunizable diseases.

Where facilities are far and where referral facilities are also very far, it may be good to have in place good referral systems in the form of communication gadgets ad transport. The findings of this survey suggest problems with communication as less than half have phones that are in working condition and most likely they don't have transport which they rely to get from the DHO offices.

The assessment of facility infrastructure in the two districts has also shown problems with the current set-up. Not all facilities have access to safe water, toilet facilities and provision of supplies is rather erratic with some reporting regular supplies while other reporting a mixed

picture. As stated above, communication is a problem. A quarter of the facilities do not have access to electricity and storage facilities for perishable products are therefore a problem in such kinds of circumstances.

The survey has also pointed out some problems with regard to infection prevention and control practices in the HCs of the two districts. Nearly half of the HCs and 94% of the HCs do not provide face masks for their staff and patients during clinical services. Only 23% of the HCs provide prevention education to their clients with regard to TB and HIV/AIDS. These are all challenges that project HOPE needs to take into consideration in the implementation of the programme. Staff in 79% of the HCs do not have access to poet-exposure prophylaxis (PEP) and very few of the HCs had stocks of PEP drugs.

While the facilities have poor supplies and face a number of challenges, some strengths have also been verified through the present study. Pharmacy sections where they exist were found in good quality, records were also well maintained and drug replenishment for TB and HIV treatment (where they exist) were reported to function properly. As expected, TB drugs appear to be available in most facilities compared to drugs for HIV treatment basically because ART is still a controlled programme in the country.

Systems for patient follow-ups exist in the two districts and these will need strengthening through the programme that project HOPE will be implementing for the next 5 years. This study has also revealed that in general systems of record keeping in the HCs are good and staff are able to produce evidence of their existence.

With regard to perceptions of staff towards HIV/AIDS and TB patients, the findings of this study generally suggest good perceptions and practices. Most of the health workers who were interviewed made positive statements that relate to care, treatment and support for such patients. What is lacking though is regular training for the staff. It is hoped that through this programme, Project HOPE will in place mechanisms of ensuring that more staff are trained and strategies of staff retention are also taken into consideration.

CHAPTER 12: CONCLUSIONS & RECOMMENDATIONS

This chapter presents summaries of the key findings from the baseline survey. The summaries will be presented following the specific objectives of the survey outlined in the introductory chapter above. As indicated, the survey was conducted so as to generate information that would help Project HOPE, the District Assemblies, the District Health Offices and other partners in Mulanje and Phalombe to plan HIV/TB interventions properly. The information that was collected relate to: staffing levels, status of infrastructure for TB/HIV management, current practices regarding TB and HIV management, perceptions and views of staff on HV/TB co-infection, accessibility of TB and HIV services and procedures for drugs and supplies management.

12.1 Conclusions

12.1.1 Staffing levels

The findings presented in this report seem to suggest that:

- Health facilities in both Mulanje and Phalombe are facing acute shortage of staff such that 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;
- Owing to low staffing levels, current staff seem overworked and most are already spending >50% of their time on TB and HIV services;
- Health staff in the two districts bemoan the general lack of training/retraining opportunities that would enhance their skills in the management of TB and HIV/AIDS
- HSAs are being utilized to scale up TB and HIV related interventions. While this is a good initiative, this may in the long compromise the delivery of primary preventive health care in the communities for which HSAs are primarily responsible.

12.1.2 Status of Infrastructure for TB and HIV management

The findings presented in this report seem to suggest that:

- Facilities in the two districts have limited access to communication gadgets for efficient referral systems;
- The general sanitation of the facilities is also not very good. A good proportion still lack access to portable water sources, a quarter have no electricity and many have no laboratories;
- Storage facilities for perishable medical products are lacking in many of the facilities in the two districts

12.1.3 Current practices with regard to TB and HIV management

The findings presented in this report seem to suggest that:

- TB detection in the tow districts is largely passive where patients self-refer to heath facilities with signs and symptoms. Although this is the case nationwide, the figures hat are recorded in the system are likely fall short of the actual numbers requiring treatment and care;
- Most of the facilities do not have access to TB diagnostic materials for skin test, sputum test and X-ray machines;

- Systems for patient follow-ups and community referral are already in place and just need strengthening;
- Some facilities have not yet started proactive HIV testing for all TB patients;

12.1.4 Other major findings

The findings presented in this report seem to suggest that:

- Facilities have good record keeping including records of TB and HIV clients and of pharmaceutical products being received and distributed
- Pharmacy sections or other laces where drugs are kept are very clean and have good ventilation
- Issues of infection prevention and control are not being adequately taken care both for the facility staff and their patients
- Facility staff generally have positive attitudes and perceptions towards TB and HIV/AIDS such that most are willing to work with patients presenting themselves with either of the two or both
- Challenges exist for a comprehensive TB/HIV programme in the form of distances to TB/HIV care centres, distances to care and support centres, issues of nutrition, issues of stigma in the communities and the cost of accessing treatment

12.2 Recommendations

On the basis of the findings of this report, it is recommended that:

1. Project HOPE, district partners and other stakeholders address the issue of staff shortage in the two districts for an effective TB/HIB prevention and control programme. This could include, among others, supporting training of more personnel, supporting mechanisms for staff retention, provision of refresher training courses and regular supervision;
2. The issue of utilizing HSAs needs to be careful looked into and proper timelines need to be developed so that other health concerns requiring their attention are also taken care of;
3. Develop interventions that aim at improving the infrastructural situation of the facilities by, among others, improving communication systems, record keeping, laboratories and drug supplies;
4. Support infection prevention and control mechanisms both for the facility staff as well as their clients
5. Conduct more community level meetings to motivate people to go for TB and HIV testing as well as providing preventive information

ANNEXES

Annexes 1-42: Staffing levels in the facilities

Bondo HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	8	4	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chambe HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	14	11	-	-	11	2
Lab Technician	-	-	-	-	4	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	2	2	-	-	2	2
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chinyama HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-		-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	9	5	-	-	2	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chiringa Dspensary

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	-	-	-	-	1
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	1	1	-	-	-	1
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	4	4	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chiringa Maternity

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	1	1	1	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	1	1	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chisambo HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	1	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	1	1	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chisutu HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	1	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	13	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	--	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chitekesa HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	2	-	1	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	2	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	13	4	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Chonde HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	-	-	-	-
Enrolled Nurse/ midwife	1	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	15	10	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	5	4	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Eldorado Estate Clinic

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	1	1	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	1	1	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Esperanza

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Holy Family

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	1	1	1	1	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	2	2	-	-
Registered Nurse/ midwife	2	2	2	2	-	-
Senior Enrolled Nurse/midwife	2	2	1	1	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	1	1	-	-	-	-
Nurse/ midwife technician	-	-	18	11	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	14	8	-	-	-	-
Lab Technician	-	-	-	2	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	3	3	3	3	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	1	1	-
Anesthesia Clinical Officer	2	2	2	2	-	-

Kalinde HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	-	-	-	-	-
Medical Assistant	1	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	1	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	1	-	-	-	-	-

Kambenje

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	1	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	10	6	1	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Lauderdale Estate Clinic

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	1	1	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Likanga Estate

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	1	1	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	1	1	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Limbuli Estate

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	1	1	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Lujeri

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	1	1	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	-	1	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	6	4	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	1	1	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-		-	-

Mbiza HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	1	1	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	8	6	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	2	1	-
VCT Counselor	-	2	2	-	-	-
Pharmacy Technician	-	-		-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mogowi HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	1	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	3	1	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	3	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	1	1	-	-	-	-
HSA	9	5	-	-	1	3
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	4	3	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Milonde HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	7	4	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mimosa Dispensary

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse-	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	12	12	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mimosa Tea Factory

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	1	1	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mkhwayi HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	1
Community Health Nurse	1	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	8	3	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	2	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mpala HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	1	-	1	-	-
Medical Assistant	1	1	-	-	1	1
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	10	3	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	2	1	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	1	1	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mpasa HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	1	1	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	7	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mulanje DH

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	3	-	-	-	-	-
Clinical officer	-	-	9	6	-	-
Clinical officer intern	1	-	1	1	-	-
Registered Nurse/ midwife	7	4	-	-	-	-
Senior Enrolled Nurse/midwife	11	5	4	4	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	6	3	-	-	-	-
Community Health Nurse	5	4	-	-	-	-
Nurse/ midwife technician	-	-	4	2	-	-
Auxiliary Nurse	-	-	10	9	-	-
Environmental Health officer	13	13	-	-	-	-
HSA	-	16	12	-	-	-
Lab Technician	-	-	-	-	2	2
Lab Assistant	-	-	-	-	-	-
Radiography Technician	2	2	2	2	-	-
VCT Counselor	6	4	-	-	-	-
Pharmacy Technician	1	-	-	-	-	-
Dental Technician	2	1	2	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mulanje Mission Hospital

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	3	2	2	2	2	2
Clinical officer	5	4	5	4	4	4
Clinical officer intern	4	3	4	3	-	-
Registered Nurse/ midwife	1	-	4	4	1	1
Senior Enrolled Nurse/midwife	2	-	2	8	7	3
Enrolled Nurse/ midwife	2	-	-	-	-	-
Medical Assistant	4	4	1	4	4	-
Community Health Nurse	6	6	-	-	6	6
Nurse/ midwife technician	-	-	27	12	11	11
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	1	1	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	2	2	2
Lab Assistant	2	2	2	2	2	1
Radiography Technician	1	1	1	1	1	1
VCT Counselor	4	4	4	4	4	4
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	1	1	1	1	1	1
Anesthesia Clinical Officer	1	1	1	-	1	1

Mulomba HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	1	1	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	1	1
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Muloza HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	1	-	-	-	-
Medical Assistant	1	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	10	10	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Mwanga HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	1	1	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Namasalima HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	1	1	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	2	2	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	7	7	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	1	1	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	10	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Nambazo HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	1	1	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	1	1	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	15	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	2	2	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Nambiti 2

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	1	1
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	1	1	-	-	1	1
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	10	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	1	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	2	2	-	-
Pharmacy Technician	-	2	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Namphungo HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	14	13	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	2	2	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Namulenga HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	1	1	1	-	-
Enrolled Nurse/ midwife	1	1	1	1	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	1	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	4	3	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	1	1	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Nkhulambe HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	1	-
Nurse/ midwife technician	1	1	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	12	12	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	2	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Phalombe HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
-Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Sayama Dispensary

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	1	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
-Anesthesia Clinical Officer	-	-	-	-	-	-

Sukasanje HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-		-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	1	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	3	2	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Thembe Mission HC

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-		-	-
Senior Enrolled Nurse/midwife	-	-	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	1	1	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	3	2	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

Thuchila

Staff type	Out-patient service		In-patient service		Staff who work but are not officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
Physician	-	-	-	-	-	-
Clinical officer	-	-	-	-	-	-
Clinical officer intern	-	-	-	-	-	-
Registered Nurse/ midwife	-	-	-	-	-	-
Senior Enrolled Nurse/midwife	2	1	-	-	-	-
Enrolled Nurse/ midwife	-	-	-	-	-	-
Medical Assistant	-	-	-	-	-	-
Community Health Nurse	-	-	-	-	-	-
Nurse/ midwife technician	-	-	-	-	-	-
Auxiliary Nurse	-	-	-	-	-	-
Environmental Health officer	-	-	-	-	-	-
HSA	-	-	-	-	-	-
Lab Technician	-	-	-	-	-	-
Lab Assistant	-	-	-	-	-	-
Radiography Technician	-	-	-	-	-	-
VCT Counselor	-	-	-	-	-	-
Pharmacy Technician	-	-	-	-	-	-
Dental Technician	-	-	-	-	-	-
Anesthesia Clinical Officer	-	-	-	-	-	-

2007 Baseline
Health Service Provision Assessment

TB Control in Southern Malawi (Eastern Zone)

2006 BASELINE HEALTH SERVICE PROVISION ASSESSMENT
TB CONTROL IN SOUTHERN MALAWI
CONSENT FORM

Read the entire consent form, word for word.

Reason for the Survey

Hello. My name is _____. I am here on behalf of **Project HOPE**, an international non governmental organization (NGO). We are surveying health care facilities in Phalombe and Mulanje to find out more about the services available for the prevention, care and treatment of Tuberculosis (TB) and HIV/AIDS. What you tell us will help us work with you and your colleagues to create better health programs in your community.

Your Part in the Survey

Your facility was selected to participate in this survey. The survey will include all the hospitals and health centers in the Mulanje and Phalombe districts. We will be asking you and your staff questions about the types of TB and HIV/AIDS-related prevention, care, treatment and support services you do or don't provide at this facility. We will ask to see patient registers and observe a small number of patient-health care worker encounters. We will not be using the information for any purpose except to confirm the existence of the patient registers and to record numbers. No patient names from the registers will be reviewed, recorded, or shared. We would also like to ask you some questions about the training and experience of your staff.

Confidentiality

The answers of you and your staff will be kept confidential. This means that no one, including your supervisor, will know what you tell us. Only the interviewers and Project HOPE staff may look at your records from this survey.

Benefits and Risks

Taking part in this survey is completely voluntary. That means that you do not have to participate if you do not want to. There is very little risk in taking part in this survey. It is possible that you may feel uncomfortable answering some of the questions. You are free to leave at any time. You are also free to refuse to answer any of the questions in the survey.

Consent Provision

Do you agree to participate in the interview?

☐ NO ⟶

Can I ask why you would not like to participate in this survey?

Write reason(s) for refusal:_____

Thank you for taking time to listen.

☐ YES ⟶ get signature or thumbprint (if thumbprint, need to also have Team Leader sign)

_____ _____

Signature Date

SURVEY QUESTIONNAIRE

RESPONDENT IDENTIFICATION	
Interviewer code	
Region	1=Africa
Country	1=Malawi
District	1=Mulanje, 2=Phalombe
Traditional Authority	
Language of interview	1= Chichewa, 2=English
Gender	1=Male, 2=Female
Date of Interview	DATE/MONTH/YEAR
Time interview began	
Time interview ended	

FACILITY IDENTIFICATION	
Name of facility	
Address of facility	
Type of facility	1=District hospital, 2=Mission hospital, 3=Private clinic, 4=Health center, 5=Health dispensary, 6=Health post, 77=Other (specify): _____
Managing authority	1=Government, 2=NGO, 3=Private (for profit), 4=Mission, 5=Semiautonomous, 77=Other (specify): _____

Facility #	Visit #1	Visit #2	Visit #3	Visit #4	Visit #5	Visit #6

1 = INTERVIEW
2 = Does not meet criteria-facility not eligible
3 = Absent
4 = Started, did not complete
5 = Postponed, new time & date set
88 = Other reason
99 = Refused

If interview is not completed then make appointment for follow up:

Appointment of next interview	
Date of Interview	DATE/MONTH/YEAR
Time interview began	
Time interview ended	

FOR DATA ENTRY PERSONNEL ONLY

	Name	Date
Team leader review**:		
Keyed by:		

***Review for completion – appropriate sections completed, all questions answered, skip patterns followed, etc.*

SECTION

1

Facility Name

_____

SECTION 1: SERVICES OFFERED AT FACILITY

First I will ask you about services you may offer at your facility. If you offer them, I will ask if they are inpatient or outpatient services and if you provide them to TB and HIV patients.

Check the services that are available at this facility:	Outpatient service		Inpatient service		Service available to TB patients?		Service available to HIV patients?	
	Yes	No	Yes	No	Yes	No	Yes	No
101. General adult								
102. General pediatric								
103. Antenatal (ANC)								
104. Family planning								
105. Delivery								
106. General surgery								
107. STI								
108. Tuberculosis								
109. VCT or CT								
110. HIV/AIDS care & treatment								
111. TB-HIV Co-infection care/treatment								
112. PMTCT								
113. Radiology (CXR)								
114. Radiology (CT)								
115. Pharmacy								
116. Laboratory								
117. General social services								
118. HIV/AIDS social services								
119. Other (specify)								
120. Other (specify)								
121. Other (specify)								
122. Other (specify)								
123. Other (specify)								

SECTION

2

Facility Name

_____

SECTION 2: STAFFING

We will now ask you about the number of staff you have working at your facility. For each type of staff, we want to know the highest technical qualification that any staff may hold (such as nurse or doctor) regardless of the person's position. For example, if a nurse provides counseling, then her level is nurse, not counselor. We also want you to indicate the number of people who are not officially assigned to the facility but who work routinely (either full or part time) and who provide client services. This might include staff from other organizations or volunteers.

Staff Type	Outpatient service		Inpatient service		Staff who work but aren't officially assigned	
	# authorized	# working today	# authorized	# working today	# providing TB services	# providing HIV services
201. Physician						
202. Clinical Officer						
203. Clinical Officer Intern						
204. Registered Nurse/Midwife						
205. Senior Enrolled Nurse/Midwife						
206. Enrolled Nurse/Midwife						
207. Medical Assistant						
208. Community Health Nurse						
209. Nurse/Midwife Technician						
210. Auxiliary Nurse						
211. Environmental Health Officer						
212. HSA						
213. Lab Technician						
214. Lab Assistant						
215. Radiography Technician						
216. VCT Counselor						
217. Pharmacy Technician						
218. Dental Technician						
219. Anesthesia Clinical Officer						
220. Other Counselor Specify:						
221. All health worker staff Specify:						

SECTION

3

Facility Name

_____

SECTION 3: INFRASTRUCTURE

Instructions: Ask the questions exactly as they are written. Do not read responses unless directed to do so. Words in italics are instructions for the interviewer and should not be read aloud. Follow skip patterns as directed. Write answers in the answer box unless otherwise directed.

#	Questions	Responses	Skip	Answer
301.	Does this facility have overnight or inpatient beds?	Yes..... 1 No..... 0		
302.	Is there 24-hour staff coverage? *If YES, ask to see a duty roster for overnight staffing. If staff lives onsite, mark 1.*	Yes, 24-hour duty roster or staff live onsite..... 1 No, neither duty roster nor staff live onsite..... 0		
303.	What kind of flooring does the facility have? ***(OBSERVE)***	Mud floor..... 1 Concrete ..... 2 Tiled floor..... 3 Other (specify).....		
304.	Does the facility have water available today?	Yes..... 1 No..... 0		
305.	What is the most commonly used water source for hand washing? (OBSERVE) *Water can be either on site or within 500m of the site. If there are multiple sources, please choose the one that corresponds to the MOST COMMONLY USED source.*	None..... 0 Piped from protected source..... 1 Piped from unprotected source..... 2 Piped from unknown source..... 3 Protected well or bore hole..... 4 River, lake, or pond..... 5 Other (specify)..... 77 _____	→307	
306.	Does the facility ever experience water shortages? *If yes, when does this USUALLY occur?*	Yes..... 1 When? _____ No..... 0		
307.	Does this facility have a phone that is available to make and receive calls? *If yes, ask to see phone and verify that it works.*	Yes, observed functioning onsite or within 5 minutes walk..... 1 Yes, reported functioning onsite or within 5 minutes walk..... 2 Yes but not functioning..... 3 Can receive calls but cannot make calls..... 4 No..... 5		
308.	Does this facility have a shortwave radio? (radio message equipment, "Motorola") *If yes, ask to see radio and verify that it works.*	Yes, observed functioning onsite or within 5 minutes walk..... 1 Yes, reported functioning onsite or within 5 minutes walk..... 2 Yes but not functioning..... 3 No..... 4		
309.	What kind of electricity does this facility have?	None..... 0 Coal..... 1 Solar..... 2 Generator..... 3 Electric..... 4 Other (specify)..... 77 _____	→412	

SECTION 3: INFRASTRUCTURE (CONTINUED)				
#	Questions	Responses	Skip	Answer
310.	Does this facility have electricity **ALWAYS** (not including a backup generator) during clinical service times?	Yes..... 1 No..... 0		
311.	How many days in the past month has the electricity been unavailable for at least 2 hours?	1..... 1 2..... 2 3..... 3 4..... 4 5..... 5 More than 5..... 6		
312.	Does this facility have a backup generator? *If yes, ask to see generator and verify that it works and has fuel.*	Yes, observed functioning and with fuel..... 1 Yes, reported functioning and with fuel..... 2 No, reported functioning but with no fuel..... 3 Yes, but not functioning..... 4 No..... 5		
313.	Does this facility have a computer? *If yes, ask to see computer and verify that it works.*	Observed and functioning..... 1 Observed, not functioning..... 2 Reported, but not observed..... 3 No..... 4		
314.	Does this facility have internet access? *If yes, ask to see internet access and verify that it works.*	Observed and functioning..... 1 Observed, not functioning..... 2 Reported, but not observed..... 3 No..... 4		
315.	***Ask to see the toilet or latrine for patient use and indicate type.***	None..... 0 Flush/pour flush..... 1 Ventilated improved pit latrine..... 2 Simple pit latrine..... 3 Composting toilet..... 4 Open pit..... 5 Bucket..... 6 Hanging toilet latrine..... 7 Other (specify): 77 _____	→317	
316.	Is the toilet usable? (OBSERVE) ***To be unusable, the latrine is not simply dirty, but not in functioning condition.***	Yes..... 1 No..... 2 Unable to observe..... 3		
317.	Can you please show me where patients are seen for treatment? ***Inspect for auditory and visual privacy. Mark as "both" if there is a door that can close. Mark as "visual" if there is a drape or curtain.***	Both visual and auditory privacy.... 1 Visual, but NOT auditory privacy.... 2 Neither visual nor auditory privacy..... 3		

SECTION 3: INFRASTRUCTURE (CONTINUED)

Now I need to see where you keep basic supplies.
Observe where supplies are stored and answer the following questions. Be sure to ask if they have had stock outs regardless of whether or not you observe the item.

	Supplies	Observed 1	Reported, but not observed 2	Not available 3	Stock outs in last 6 months 4
318.	Condoms				
319.	Disposable needles				
320.	Disposable syringes				
321.	Clean non-latex, gloves				
322.	Clean latex gloves				
323.	Sterile latex gloves				
324.	Spinal tap/lumbar puncture kits				
325.	Disinfectant for cleaning surfaces (bleach or other cleaning solution)				
326.	Hand-washing soap				
327.	Alcohol rub				

SECTION

4

Facility Name

SECTION 4: INFECTION PREVENTION / INFECTION CONTROL				
#	**Questions**	**Responses**	**Skip**	**Answer**
401.	Is there an infection prevention/control officer at your facility?	No..... 0 Yes..... 1		
402.	Does your facility provide face masks for staff?	No..... 0 Yes, observed..... 1 Yes, reported, not observed..... 2		
403.	Does your facility provide face masks for patients?	No..... 0 Yes, observed..... 1 Yes, reported, not observed..... 2		
404.	Does your facility educate patients about infection control etiquette – coughing, blood and body fluids?	No..... 0 Yes, observed..... 1 Yes, reported, not observed..... 2		
405.	Does your facility provide adequate ventilation to prevent the nosocomial transmission of TB?	No..... 0 Yes, observed..... 1 Yes, reported, not observed..... 2		

Post Exposure Prophylaxis				
406.	Do staff in this facility have access to post-exposure prophylaxis (PEP)?	Yes..... 1 No..... 0	→501	
407.	Is the PEP provided in this facility or are staff referred elsewhere for the PEP?	PEP provided in this facility..... 1 PEP provided elsewhere..... 2		
408.	Is there a register or record that shows a worker has been referred for PEP and has received PEP treatment? ***If yes, ask to see register/record.***	Yes, register shows PEP referred and received..... 1 No, register shows PEP referred only..... 2 Yes, reported, but not observed... 3 No record or referral..... 4		
409.	Is the PEP regimen prescribed by a provider available at this facility?	Yes..... 1 No..... 0		
410.	Are there any written guidelines or protocols for PEP available in this clinic? ***If yes, ask to see guidelines/protocols.***	No..... 0 Yes, observed, complete..... 1 Yes, observed, incomplete..... 2 Yes, reported, but not observed..... 3		
411.	For inpatient facilities or outpatient facilities with multiple departments Are there any written guidelines or protocols for PEP available in all patient service areas? ***OBSERVE RANDOMLY 20% OF CLINICAL SERVICE AREAS*** ***If yes, ask to see guidelines/protocols.***	No..... 0 Yes, observed, in all sites..... 1 Yes, observed in most sites..... 2 Yes, observed in some sites..... 3 Yes, reported, but not observed..... 4		

SECTION 4: INFECTION PREVENTION / INFECTION CONTROL CONTINUED) - PEP				
#	**Questions**	**Responses**	**Skip**	**Answer**
412.	Is there a system to monitor workers receiving PEP for full compliance with the regimen? ***If yes, ask to see evidence that a pre-treatment and post-treatment HIV test is recorded.***	No..... 0 Yes, observed, complete..... 1 Yes, observed, incomplete..... 2 Yes, reported, but not observed..... 3		

For the next question, please check the appropriate box for the answer.

413.	***Ask to go where PEP medicines are stored and record which medicines are present:***	**Observed 1**	**Reported, not observed 2**	**Not available 3**	
	a) Combivir (ZDV/3TC)				
	b) Stavudine/Lamivudine				
	c) Stavudine/Lamivudine +Indinavir				
	d) Other (specify)_____				
	g) Other (specify)_____				

#	Questions	Responses	Skip	Answer
414.	Describe the storage of the PEP medicines. Are the PEP medicines stored in a locked storage unit and separate from other medicines or supplies?	Yes, locked and separated..... 1 No, not locked but yes, separated from other medicines..... 2 Not locked or separated..... 3 Not observed..... 4		

SECTION

5

Facility Name

SECTION 5: TB SERVICES

For the next question, please check the appropriate box for the answer.

Which of the following TB guidelines or protocols do you have?		Observed & complete 1	Observed & incomplete 2	Reported, not observed 3	Not available 4
Tuberculosis					
501.	National guideline for diagnosis and treatment of TB				
502.	Other guideline for diagnosis and treatment of TB (specify) _____				

For the next questions, please indicate the fee charged at your facility.

	Test	Fee Charged (How much—indicate)	Test not available at facility
503.	TB skin test		
504.	TB sputum test		
505.	Chest x-ray		
506.	Chest x-ray interpretation		

#	Questions	Responses		Skip	Answer
507.	What kinds of TB services does this facility provide? ***Check all that apply.***	Diagnosis Testing Referral Treatment Smearing and fixing	1 2 3 4 5		
Referrals					
508.	Where do your patients come from for TB services? ***Check all that apply.***	Home (self referred) Public hospital Private/Mission hospital District Hospital Health Center/Dispensary Health Post Pharmacy Spiritual healer Other (specify) _____	1 2 3 4 5 6 7 8 77		
509.	Do patients bring referral forms when coming to your facility? ***Indicate all that apply.***	Yes, observed Reported but not observed Clients are not referred Other referral method _____	1 2 3 77	→511	
510.	Is there a record of patients or specimens referred to your facility? ***If yes, ask to see the record.***	Yes, observed Yes, reported but not observed No Patients/specimens are not referred.	1 2 3 4		

SECTION 5: TB SERVICES (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
511.	When YOU refer the patient to another facility for TB testing or treatment, do you use a referral form? ***If yes, ask to see the form.***	Yes, observed..... 1 Reported but not observed..... 2 No..... 3 Do not refer out..... 4	→514	
512.	Do you use any method to provide patient with information to help with accessing the referral site or to help the client receive services from the referral site?	Yes..... 1 No..... 0	→514	
513.	***If yes, ask:*** What method do you use? ***Indicate all that apply***	Verbal only..... 1 Pamphlet..... 2 Referral form..... 3 Transportation by ambulance..... 4 Money for transportation..... 5 Other (specify) 77 _____		
514.	Are you able to perform TB skin testing?	Yes, all supplies observed..... 1 Yes but missing supplies..... 2 Yes, reported but did not observe supplies ..... 3 No, not able to perform test..... 4 Other..... 5 _____ 77		
515.	Do you refer out for TB skin testing?	Yes..... 1 No..... 0		
Diagnosis & Treatment				
516.	What method is used by providers in this facility for diagnosing TB?	Sputum smear only..... 1 X-Ray only..... 2 Either sputum or x-ray..... 3 Both sputum and x-ray..... 4 Clinical symptoms only..... 5 Diagnosed elsewhere, this facility provides follow up treatment only.. 6 Other..... 77 _____		
517.	Do you have any record of the number of newly diagnosed TB clients for this facility, during the past twelve months?	Yes..... 1 No..... 0	→520	
518.	***If yes, ask to see the records and record the # of newly diagnosed TB clients for the facility during the past 12 months***	Record # of newly diagnosed in last 12 months ##		
519.	***Record the number of months of data represented in previous question.***	Record # of months of data ##		

SECTION 5: TB SERVICES (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
520.	What treatment strategy is followed by providers in this facility for TB treatment?	Direct observe 2m, follow up 6m…. 1 Direct observe 6m…… 2 No direct observe treatment…… 3 Follow up clients only after intensive treatment provided elsewhere…… 4 Other……. 77 _____		
521.	Is this facility included in the national DOTS program?	Yes……. 1 No……. 0		
522.	What is the strategy for DOTS during the first two months of treatment or until the client is sputum negative? ***Check all that apply.***	After initial 2 weeks of hospitalization, patient comes to outpatient facility for daily meds…… After initial 2 weeks of hospitalization, Guardian monitors daily meds…… Outreach worker goes to client…… Community worker observes…… Other (specify) …… _____		
		Don't Know 1 2 3 4 77 88		
523.	Do you have a record or register that show the clients who are currently receiving DOTS? ***If yes, ask to see record/register.***	Yes, observed…… 1 No…… 0 ..Reported, but not observed…… 2	→525 →525	
524.	***OBSERVE:*** ***Is the record/register up-to-date for the prior week for all clients receiving their DOTS medications?***	Yes…… 1 …. 0 No…… ..		
525.	From where does this facility receive TB medications? ***Indicate all that apply.***	National TB Control Program…… 1 Central Medical Supply…… 2 Direct purchase…… 3 Patient brings after discharge from hospital…… 4 District TB officer…… 5 6 77		

		Donations from NGOs..... Other (specify)..... _____		
526.	Are TB medicines kept in this facility? ***If yes, ask to see medicines and indicate how they are supplied. Ask to see the prepackaged medicines and record if there is a package for all clients currently under DOTS treatment.***	Yes, prepackaged for clients..... 1 Yes, bulk jars..... 2 No, medicines kept in pharmacies. 3 Other (specify)..... 77 _____		

SECTION 5: TB SERVICES (CONTINUED)

#	Questions	Responses	Skip	Answer
527.	Does this facility provide routine follow-up for any clients who are placed on TB treatment?	Yes, intensive treatment only..... 1 Yes, full treatment..... 2 No, clients referred to inpatient unit..... 3 ..... 4 No, clients referred to health center..... 77 .... Other (specify)..... _____		
528.	Do you have individual client charts or records for clients receiving TB treatment? ***If yes, ask to see a blank or current chart/record.***	Yes, observed..... 1 Reported, but not observed..... 2 No..... 0		

Diagnosis & Treatment				
529.	Do you have a register or list of clients currently being followed by this facility for TB treatment? ***If yes, ask to see register or list.***	Yes, observed..... 1 Reported, but not observed..... 2 No..... 0	→534	
530.	*If yes, record date the most recent client was admitted to treatment.*	Date (month) Date (day) Date (year)		
531.	***Record the total # of clients who are currently on TB treatment AND who are followed up in this facility.***	Number..... ##		
532.	*Record the # of **female** clients currently on TB treatment AND who are followed up in this facility.*	Number..... ##		

533.	*Record the # of **children** currently on TB treatment AND who are followed up in this facility.*	Number…… ##		
534.	Do you have a register or record that shows the treatment outcome for clients who received TB treatment from this facility but are no longer under treatment? ***If yes, ask to see register or record.***	Yes, observed…… 1 Reported, but not observed…… 2 No…… 0		

SECTION 5: TB SERVICES (CONTINUED)				
#	Questions	Responses	Skip	Answer
TB-HIV Co-Infection				
535.	Are newly diagnosed cases of TB (or cases followed up by this facility), offered or referred for an HIV test or for counseling about HIV/AIDS?	Yes, all referred..... 1 Suspect cases only referred..... 2 No..... 0 Don't know..... 88		
Diagnosis & Treatment				
536.	Do you have a register or list of new TB patients who were referred for an HIV test or counseling? ***If yes, ask to see register or list.***	Yes, observed..... 1 Reported, but not observed..... 2 No..... 0	→539	
537.	How many new TB patients were referred for an HIV test or counseling in the past twelve months?	Number..... ##		
538.	***Record the number of months of data represented in previous question.***	Months..... ##		
539.	Do you have a register or list of clients currently under TB treatment who are also diagnosed as HIV positive or as having AIDS? ***If yes, ask to see register or list.***	Yes, observed..... 1 Reported, but not observed..... 2 No..... 0	→541	
540.	How many patients currently under TB treatment in this clinic are also diagnosed as HIV positive or as having AIDS?	Number..... ##		
541.	Other than TB services, does this facility ever provide any care or support services for clients who are suspected of having HIV or AIDS? ***Care and support means any preventive curative or palliative care, counseling or referrals for counseling, social services, or HIV tests.***	Yes..... 1 No, clients are referred elsewhere. 0 Other (specify) ..... 77 _____		
542.	Are newly diagnosed cases of HIV (or cases followed up by this facility), offered or referred for a TB skin test?	Yes, all referred or offered ..... 1 Suspect cases only referred or offered..... 2 No..... 0 Other..... 77 _____		
543.	Are newly diagnosed cases of HIV (or cases followed up by this facility), referred for a sputum testing?	Yes, all referred or offered ..... 1 Suspect cases only referred or offered..... 2 No..... 0 Other..... 77 _____		
544.	Are newly diagnosed cases of HIV (or cases followed up by this facility), referred for chest x-ray?	Yes, all referred or offered ..... 1 Suspect cases only referred or offered..... 2 No..... 0 Other..... 77 _____		

SECTION

6

Facility Name

SECTION 6: LABORATORY

SECTION 6A: LABORATORY - GUIDELINES AND PROTOCOLS

For the next question, please check the appropriate box for the answer.

	Which of the following guidelines or protocols do you have?	Observed & complete 1	Observed & incomplete 2	Reported, not observed 3	Not available 4
Laboratory					
601.	Blood safety				
602.	Universal precautions/infection control				
603.	Post exposure prophylaxis (PEP)				
604.	Protocol for TB screening of laboratory workers				
605.	Standard operating procedures for collecting and maintaining data				
606.	Sputum collection				
607.	Smearing and fixing slides (ZN)				
608.	Microscopy				

SECTION 6B: LABORATORY – HOW DO FACILITIES OBTAIN THESE TESTS

For the next questions, please check the appropriate box for the answer.

	Laboratory functions	Able to Perform test onsite 1	Collect specimen & send out for testing 2	Refer out for this test (specify where) 3	Fee Charged for this test (LIST AMOUNT CHARGED) 4	Cannot do this test in Malawi 5
609.	Blood chemistry					
610.	Complete blood count					
611.	Serum glucose					
612.	Liver function tests					
613.	Gram stain					
614.	India ink					
615.	AFB or Ziehl-Neelson test, with stain (i.e. methyl blue) present					
616.	Malaria					
617.	Urinalysis					
618.	Pregnancy test					
619.	Sputum for culture					
620.	ELISA					
621.	CD4 cytoflowmeter					
622.	Rapid HIV test					
623.	Western blot					
624.	PCR (polymerase chain reaction)					

SECTION 6B: LABORATORY (CONTINUED) – LABORATORY TESTING CAPABILITIES

For the next questions, please check the appropriate box for the answer.

	Laboratory Equipment	Observed 1	Observed but not functioning (broken, no reagent) 2	Reported but not observed 3	Not available 4
625.	ELISA				
626.	CD4 cytoflowmeter				
627.	Rapid HIV test				
628.	Western blot				
629.	PCR				
630.	Hemocytometer (for total lymphocyte count, full blood count)/coulter				
631.	Microscope				
632.	Refrigerator				
633.	Incubator				
634.	Test tubes				
635.	Glass slides and covers				
636.	AFB or Ziehl-Neelson test, with stain, such as methyl blue, present				
637.	Bunsen burner/alcohol flame				
638.	Rapid test for TB				
639.	TB culture				
640.	Wood sticks				
641.	Water source				
642.	All items for other test for TB				
643.	Test tubes				
644.	Glass slides & covers				

SECTION 6: LABORATORY (CONTINUED)				
SECTION 6C: LABORATORY – BLOOD DRAWING PROCEDURES				
#	**Questions**	**Responses**	**Skip**	**Answer**
645.	Where is blood drawn?	Private room (auditory AND visual privacy)..... 1 Auditory privacy only..... 2 Visual privacy only..... 3 Neither..... 4		
646.	Are all surfaces in the blood drawing area clean of blood or other bodily fluids?	Yes, clean, observed..... 1 Not clean..... 0		

For the next questions, please check if the following are available in the room where blood is drawn.

	Blood drawing	**Observed 1**	**Reported but not observed 2**	**Not observed 3**
647.	Running water			
648.	Water in bucket or basin (without tap)			
649.	Soap			
650.	Single use hand drying towels or functioning electric hand dryer			
651.	Accessible sharps container			
652.	Disposable latex gloves			
653.	Disposable non-latex gloves			
654.	Chlorine based decontamination solution	Date solution made (specify): _____		
655.	Rapid tests for HIV			
656.	Disposable needles			
657.	Disposable syringes			

SECTION 6: LABORATORY (CONTINUED)				
SECTION 6D: LABORATORY – MONITORING, QUALITY ASSURANCE, RECORD KEEPING				
#	**Questions**	**Responses**	**Skip**	**Answer**
658.	What is the error rate for the following tests? ***If error rate not calculated indicate N/A.*** ***If these lab tests are not conducted at your facility indicate '0'***	HIV rapid test..... # _____ # Sputum microscopy..... # _____ Malaria blood film..... _____		
659.	Where do you send samples for retesting/quality control/confirmation? ***Indicate all that apply***	Never send for retesting..... 1 District Lab..... 2 CHSU lab (Lilongwe)..... 3 South Africa Lab (specify)..... 4 _____ Other (specify)..... 77 _____		
660.	How do you record lab results? ***Indicate all that apply***	By hand in a lab registry..... 1 By hand on a laboratory requisition form..... 2 In computer..... 3 We don't record results..... 4 Other (specify)..... 77 _____		
661.	How do you release the results? ***Indicate all that apply***	Telephone call..... 1 Fax..... 2 Intranet..... 3 Courier..... 4 Patient hand carries..... 5 Other (specify) ..... 77 _____		
662.	What is the process for sending labs to an outside lab?	Ambulance takes specimen to reference lab..... 1 Specimen sent via public transportation (mini-bus)..... 2 Health care worker takes specimen in private vehicle ..... 3 Vehicle for hire..... 4 Patient hand carries..... 5 Other (specify) ..... 77 _____		
663.	How do you provide results to patients?	Fax to health care worker, health care worker gives results..... 1 Patient hand carries to health care worker, health care worker gives results..... 2 Paper result given to patient, no discussion with health care worker..... 3 Other..... 77 _____		

SECTION 6E: LABORATORY –TB TESTING				
#	Questions	Responses	Skip	Answer
664.	Where are sputum samples collected?	Outside..... 1 In the examining room..... 2 Not collected in this facility..... 3 Other (specify)..... 77 _____		
665.	How do you send specimens for TB testing?	Fixed on a slide..... 1 Sputum in bottle ONLY..... 2 Sputum in bottle in cooler..... 3 Sputum not collected at this facility..... 4 Other (specify)..... 77 _____		
666.	Are results of TB tests regularly compiled?	Yes, observed..... 1 Reported but not observed..... 2 No..... 0		
667.	How many TB tests were conducted in the last 3 months?	Number ## TB testing is not performed..... 99		
668.	How frequently are the compiled TB sputum reports submitted to someone outside of this facility?	Daily..... 1 Weekly..... 2 Monthly..... 3 Quarterly..... 4 Yearly..... 5		
669.	To whom do you send these TB reports? ***Check all that apply.***	National TB Program..... 1 District TB Coordinator..... 2 Zone Supervisor..... 3 Zone TB Program Officer..... 4 Other (specify)..... 77 _____		
670.	How many staff members are trained in sputum collection at your facility?	Number ##		
671.	How many staff members are trained in sputum smearing and slide fixing at your facility?	Number ##		
672.	How many technicians are trained in sputum microscopy at your facility?	Number ##		
673.	How many slides does each microscopist read per day on average?	Number ## Microscopy not available at this facility..... 99		

SECTION 6F: LABORATORY – HIV TESTING				
#	Questions	Responses	Skip	Answer
674.	Does this laboratory perform HIV tests?	Yes..... 1 No..... 0	→680	
675.	How many HIV tests did you conduct in the last month?	Number	##	
676.	For what reasons do you perform HIV tests?	Client diagnosis..... 1 Blood screening..... 2 Employment physical..... 3 Pre Marriage..... 4		

		No HIV tests are performed..... 5 Other..... 77 _____		
677.	Are report results of HIV counseling sessions and testing regularly compiled?	Yes, observed..... 1 Reported but not observed..... 2 No..... 0	→678	
678.	How frequently are the compiled HIV reports submitted to someone outside of this facility?	Daily..... 1 Weekly..... 2 Monthly..... 3 Quarterly..... 4 Yearly..... 5		
679.	To whom do you send these HIV reports? ***Check all that apply.***	National AIDS Commission..... 1 District HIV Coordinator..... 2 Zone Supervisor..... 3 Zone HIV Program Officer..... 4 Other (specify)..... 77 _____		

For the next questions, please indicate the fee charged at your facility. If the lab does not perform HIV testing indicate N/A in all four boxes

	Test	**Fee Charged (How much—indicate)**	**Test not available at facility**
680.	HIV ELISA/Rapid test		
681.	HIV Western Blot		

SECTION

7

Facility Name

_____

SECTION 7: RADIOLOGY/X-RAY

Ask to see the Radiology equipment and check the appropriate box below for each.

	Equipment	Observed 1	Observed but not functioning (broken, no reagent) 2	Reported but not observed 3	Not available 4
701.	X-Ray machine				
702.	CT Scan				
703.	Film for x-rays				
704.	X-ray technician present				
705.	Reagent				

#	Questions	Responses		Skip	Answer
706.	Are the x-ray films read at the x-ray facility by a doctor/radiologist?	Yes No	1 0	 →708	
707.	How many day are required for the doctor/radiologist to read the films?	Days	##		
708.	How are the results given to the requesting health care worker?	Telephone call Fax Intranet Courier Patient hand carries Other (specify) …… _____	1 2 3 4 5 77		
709.	If the x-ray film is NOT read at the x-ray facility by a doctor/radiologist then who reads the film?	Requesting doctor Requesting nurse Requesting HSA Other _____	1 2 3 77		

For the next questions, please indicate the fee charged at your facility.

	Test	Fee Charged (How much—indicate)	Test not available at facility
710.	CT head		
711.	CT chest		

SECTION

8

Facility Name

SECTION 8: PHARMACY

#	Questions	Responses		Skip	Answer
801.	Is there a pharmacy or other place where medications for OUTPATIENTS are stored?	No Yes, observed Yes, reported, but not observed	0 1 2		
802.	Is there a pharmacy or other place where medications for INPATIENTS are stored?	No Yes, observed Yes, reported, but not observed Not an inpatient facility	0 1 2 3		
803.	Does this facility maintain a record of each medicine received, amount disbursed, and the amount remaining in stock today? ***Observe record***	No Yes, observed Yes, reported, but not observed	0 1 2		

Observe where the medicines are stored. Count each medication and note the expiration date. For each, ask if there were stock outs even if the medication is observed.

Medication		Observed			Reported, but not observed 4	Not available 5	Stock outs in last six months 6
		All valid 1	At least one valid 2	None valid 3			
TB medicines							
804.	Isoniazid (H)						
805.	Ethambutol (E)						
806.	Pyrazinamide (Z)						
807.	Rifampicin(R)						
808.	Streptomycin (S)						
809.	FDC Adult RHZE						
810.	FDC Adult RH						
811.	FDC Adult RHE						
812.	FDC Child RHZ						
HIV medications							
813.	AZT (zidovudine)						
814.	DDI (didanosine)						
815.	D4T (stavudine)						
816.	3TC (lamivudine)						
817.	Lopinavir/r						
818.	NVP (nevirapine)						
819.	EFV (efavirenz) (Stocrin)						
820.	FDC Duovir (AZT/3TC)						
821.	FDC Triomune 40 (D4T/3TC/NVP)						
822.	FDC Triomune 30						

SECTION 8: PHARMACY (CONTINUED)

Medication		Observed			Reported, but not observed 4	Not available 5	Stock outs in last six months 6
		All valid 1	At least one valid 2	None valid 3			
Miscellaneous							
823.	Azithromycin						
824.	Clotrimazole						
825.	Cotrimoxazole						
826.	Clarthromycin						
827.	Dapsone						
828.	Infant formula						
829.	Fortified protein supplement						
830.	Condoms						

#	Questions	Responses		Skip	Answer
831.	Are the medicines off the floor and protected from water? **(OBSERVE)**	Yes, observed Yes, reported, not observed No	1 2 3		
832.	Are the medicines protected from sun? **(OBSERVE)**	Yes, observed Yes, reported, not observed No	1 2 3		
833.	Is the room clean of evidence of rodents (bats, rats) or pests (roaches, etc.)? **(OBSERVE)**	Yes, observed Yes, reported, not observed No	1 2 3		
834.	When was the last time that you received a routine supply of medicines?	Date	##		
835.	Which of the following best describes the routine system for deciding when to order medicines? Do you: ***Read List*** ***Indicate all that apply***	Place order whenever stock levels fall to a predetermined level Have a fixed time that orders are submitted Place an order whenever there is believed to be a need, regardless of stock level Order exactly the same quantity each time, regardless of the existing stock Review the amount of each medicine used since the previous order, and plan based on prior utilization and expected future activity Respondent familiar with ordering system is not available Other _____	1 2 3 4 5 6 77	→838 →838 →838	

SECTION 8: PHARMACY (CONTINUED)				
#	**Questions**	**Responses**	**Skip**	**Answer**
836.	If you have a fixed time for submitting orders, how often do you order:	Weekly..... 1 Monthly..... 2 Quarterly..... 3 Semi annually..... 4 Other (specify)..... 77 _____		
837.	If you have a fixed time for ordering, when is your next time to order medication? ***Indicate date***	Date ##		
838.	If there is a shortage of a specific medicine between routine orders, what is the most common procedure followed by this facility?	Submit special order to normal supplier..... 1 Facility purchases from private market..... 2 Clients must purchase from outside the facility..... 3 Borrow from another hospital..... 4 Other..... 77 _____		
839.	During the past 3 months, have you ever NOT received the amount of each medicine that you ordered (or that you are supposed to routinely receive)?	Always..... 1 Sometimes..... 2 Almost never..... 3		

SECTION

9

Facility Name

SECTION 9: HIV SERVICES

For the next question, please check the appropriate box for the answer.

Which of the following guidelines or protocols do you have?		Observed & complete 1	Observed & incomplete 2	Reported, not observed 3	Not available 4
HIV Related					
901.	HIV counseling and testing including pretest, post test positive/negative results				
902.	Written policy regarding HIV testing				
903.	HIV testing procedures (obtaining specimens, running tests, discarding waste)				
904.	Confidentiality policy outlining informed consent				

#	Questions	Responses	Skip	Answer
905.	Does this facility provide counseling and testing services for HIV?	Counseling only..... 1 Testing only..... 2 Counseling and testing..... 3 No..... 4	→821	
906.	How <u>many days a week</u> do you provide HIV <u>counseling</u> services?	Days..... ##		
907.	For <u>how many months</u> have you provided HIV <u>counseling</u> services?	Months..... ##		
908.	How <u>many days a week</u> do you provide HIV <u>testing</u> services?	Days..... ##		
909.	For <u>how many months</u> have you provided HIV <u>testing</u> services?	Months..... ##		
910.	Have your counselors been trained to provide pre/post test counseling?	Yes, all counselors trained..... 1 No, not all counselors trained..... 0		
911.	Are new staff who work with HIV/AIDS clients in any capacity routinely trained or instructed on the protocols for confidentiality and disclosure of HIV test results or client status?	Yes, all new staff trained..... 1 No, not all new staff trained..... 0		
912.	Do you provide any follow up counseling or psychological support to clients following post test counseling?	For HIV negative clients..... 1 For HIV positive clients..... 2 Both..... 3 No..... 4		
913.	How do you provide pretest counseling or information?	Individually..... 1 In a group setting..... 2		
914.	In the last 12 months, how many clients have been <u>counseled</u> about HIV at your facility/in your department?	Total number at facility..... ## Number tested in department..... ##		
915.	In the last 12 months, how many clients have been <u>tested</u> for HIV at your facility/in your department?	Total number at facility..... ## Number tested in department..... ##		

SECTION 9: HIV SERVICES (CONTINUED)				
#	Questions	Responses	Skip	Answer
916.	How are tests results tracked?	By name..... 1 By identifying number..... 2 We don't keep track..... 3 Other (specify) ..... 77 _____		
917.	Where are HIV counseling services provided? ***Ask to see space.***	In a room with visual & auditory privacy)..... 1 In a room without visual privacy... 2 In a room without auditory privacy 3 In a group setting..... 4 Outside..... 5 Other (specify)..... 77 _____		
918.	Have you developed any special services or accommodations for specific groups?	Youth..... 1 Men who have sex with men..... 2 Women..... 3 Mobile populations..... 4 Injection drug users..... 5 Other (specify)..... 77 _____		
919.	Is an individual client chart or record maintained for all HIV positive clients? ***If yes, ask to see a blank or current chart/record.***	Yes, observed..... 1 Reported, but not observed..... 2 No..... 0		
920.	Other than (V)CT services, does this facility ever provide any care or support services for clients who are suspected of having HIV/AIDS? *Care and support means any preventive curative or palliative care, counseling or referrals for counseling, or social services.*	Yes..... 1 Yes, clients are referred elsewhere 2 No..... 3 Other (specify) ..... 77 _____		

Thank you for your time! The survey is complete.

2007 Baseline
Health Service Provision Assessment

TB Control in Southern Malawi (Eastern Zone)

CLINICAL OBSERVATION FORM

SURVEY QUESTIONNAIRE

RESPONDENT IDENTIFICATION	
Interviewer code	
Region	1=Africa
Country	1=Malawi
District	1=Mulanje, 2=Phalombe
Traditional Authority	
Language of interview	1= Chichewa, 2=English
Gender	1=Male, 2=Female
Date of Interview	DATE/MONTH/YEAR
Time interview began	
Time interview ended	

FACILITY IDENTIFICATION	
Name of facility	
Address of facility	
Type of facility	1=District hospital, 2=Mission hospital, 3=Private clinic, 4=Health center, 5=Health dispensary, 6=Health post, 77=Other (specify): _____
Managing authority	1=Government, 2=NGO, 3=Private (for profit), 4=Mission, 5=Semiautonomous, 77=Other (specify): _____

Facility #	Visit #1	Visit #2	Visit #3	Visit #4	Visit #5	Visit #6

1 = INTERVIEW
2 = Does not meet criteria-facility not eligible
3 = Absent
4 = Started, did not complete
5 = Postponed, new time & date set
88 = Other reason
99 = Refused

If interview is not completed then make appointment for follow up:

Appointment of next interview	
Date of Interview	DATE/MONTH/YEAR
Time interview began	
Time interview ended	

FOR DATA ENTRY PERSONNEL ONLY

	Name	Date
Team leader review**:		
Keyed by:		

2006 BASELINE HEALTH SERVICE PROVISION ASSESSMENT
TB CONTROL IN SOUTHERN MALAWI
CONSULTATION OBSERVATION FORM: PATIENT INFORMED CONSENT

Hello. My name is _____. I am here on behalf of **Project HOPE**, a non-profit international health organization in the United States. We are surveying health care facilities and providers to find out more about services available for diagnosing and treating Tuberculosis (TB). What you tell us will help us create better health programs in your community.

We would like to come in the room with you and your health care worker to observe your consultation. You will not have to answer any questions. Your name will not be recorded.

No one except the interviewers and Project HOPE staff may look at the records from this survey.
You do not have to agree to this if you if you do not want to. It is possible that you may feel uncomfortable having an extra person in the room during your consultation. You are free to ask the observer to leave at any time.

Do you agree to allow the observer into the examination room with you?

☐ NO ⟶
Can I ask why?
*Write reason(s) for refusal:*_____
_____
Thank you for taking time to listen.

☐ YES ⟶
Please sign or print here to record that you agree.
Get signature or thumbprint (if thumbprint, need to also have Team Leader sign)

_____

_____
Signature
Date

CLINICAL OBSERVATION OF 5 CONSECUTIVE PATIENTS WITH COUGH

Observe 5 consecutive eligible clinical cases. Eligible cases are adults who present with coughing or those returning for follow up after their sputum tests or chest x-rays. There is a separate column for each of the 5 cases observed. For each question, circle YES or NO or N/A. Read the entire consent form to the patient, word for word, before they enter the exam room.

#	Question	Coding Classification				
		Case # 1	Case # 2	Case # 3	Case # 4	Case # 5
1.	Age of patient					
2.	Gender of patient					
3.	Reason for visit					
Diagnosis						
	Does the health worker:					
4.	Ask about symptoms (coughing, coughing with blood, etc.)?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
5.	Order sputum samples?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
6.	Order x-ray?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
7.	Recommend an HIV test?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
Management						
8.	Classify the patient as having signs and symptoms suggestive of TB?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
9.	Classify the patient as having TB?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
10.	Prescribe antibiotics medications?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99
11.	Prescribe TB medications?	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99	Yes 1 No 2 N/A 99

12.	Inform the patient of his/her diagnosis of TB or suspicion?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
13.	Provide patient education about TB prevention and transmission (i.e. review scenarios including eating together, sexual relations)?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99

#	Question	Coding Classification														
		Case # 1			Case # 2			Case # 3			Case # 4			Case # 5		
14.	Provide patient education on HOW to take the TB medications and the importance of adherence?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
15.	Provide patient education on WHY to take the TB medications?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
16.	Review TB medication side effects and ways to minimize them?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
17.	Review TB medication side toxicities and danger signs—when to return for urgent or immediate consultation?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
18.	Ask the patient to describe his/her understanding of the instructions?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
19.	Provide training of Guardian?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
20.	Discuss TB testing of close contacts?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
21.	Discuss disclosure issues related to TB status?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99
22.	Provide patient with a follow up instructions and appointment?	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99	Yes 1	No 2	N/A 99

Additional Comments:

Case # 1:

Case # 2:

Case # 3:

Case # 4:

Case # 5:

2007 Baseline
Health Service Provision Assessment

TB Control in Southern Malawi (Southeastern Zone)

HEALTH CARE WORKER QUESTIONNAIRE

2006 BASELINE HEALTH SERVICE PROVISION ASSESSMENT
TB CONTROL IN SOUTHERN MALAWI
CONSENT FORM

Read the entire consent form, word for word.

Reason for the Survey

Hello. My name is _____. I am here on behalf of **Project HOPE**, a non-profit international health organization in the United States. We are surveying health care facilities to find out more about services available for diagnosing and treating Tuberculosis (TB) and HIV/AIDS. What you tell us will help us create better health programs in your community.

Your Part in the Survey

Your facility was selected to participate in this survey. The survey will include at least 10 other health care facilities in the Mulanje and Phalombe districts. We will be asking you questions about the types of TB and HIV/AIDS-related care and support services provided by this facility. We will be asking about how patients receive care and support for services not provided in this facility. We will ask to see patient registers. We will not be using the information from any register for any purpose except to confirm the existence of the patient registers and to record numbers. No patient names from the registers will be reviewed, recorded, or shared. We would also like to ask you some questions about the training and experience of your staff.

Confidentiality

Your answers will be kept confidential. This means that no one, including your supervisor, will know what you tell us. Only the interviewers and Project HOPE staff may look at your records from this survey.

Benefits and Risks

Taking part in this survey is completely voluntary. That means that you do not have to participate if you do not want to. There is very little risk in taking part in this survey. It is possible that you may feel uncomfortable answering some of the questions. You are free to leave at any time. You are also free to refuse to answer any of the questions in the survey.

Consent Provision

Do you agree to participate in the interview?

☐ NO ⟶

Can I ask why you would not like to participate in this survey?

Write reason(s) for refusal:_____

Thank you for taking time to listen.

☐ YES ⟶ get signature or thumbprint (if thumbprint, need to also have Team Leader sign)

_____ _____

Signature Date

SECTION 10: HEALTH CARE WORKER QUESTIONNAIRE

Questions are asked to the most experienced health worker on staff.

#	Questions	Responses	Skip	Answer
1001.	In what year did you start working in your current position in this facility?	Year..... ##		
1002.	How many years of primary and secondary education did you complete in total?	Number..... ##		
1003.	What is your current technical qualification? ***Prompt if needed (i.e. if they say "nurse" find out what kind)***	Physician..... 1 Clinical Officer..... 2 Registered Nurse/Midwife..... 3 Enrolled Nurse/Midwife..... 4 Medical Assistant..... 5 Community Health Nurse..... 6 Nurse Technician..... 7 Auxiliary Nurse..... 8 Environmental Health Officer..... 9 HSA ..... 10 Lab Technician..... 11 Lab Assistant..... 12 Radiography Technician..... 13 VCT Counselor..... 14 Other Counselor..... 15 Other..... 77 _____		
1004.	What year did you graduate with this qualification?	Year..... ## Don't know..... 88		
1005.	How many years of study were required for this qualification (after primary and secondary education?).	Year..... ## Don't know..... 88		
1006.	In an average week, how many hours do you work in this facility?	Hours..... ## Don't know..... 88		
1007.	Please estimate what % of your time each week is spent providing services or performing tasks related to TB. This includes such services as providing clinical care and support, providing social support services, as well as record keeping and documentation related to TB.	Percent..... ## Don't know..... 88		
1008.	Please estimate what % of your time each week is spent providing services or performing tasks related to HIV/AIDS. This includes such services as counseling, testing, providing clinical care and support, providing social support services, as well as record keeping and documentation related to HIV/AIDS.	Percent..... ## Don't know..... 88		

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)

Services & Training

*I am going to ask you about different services and if you personally provide them in your **current** position as part of your work for this facility, I will ask you for the length of time providing this service (total-could be in another facility) and the last time you received training for the service.*

		Service Provided		How long have you provided service?	Last time received training?
		Yes	No	Years	Date
General Health					
1009.	Manager for a clinical service				
1010.	Universal precautions/infection control Manager/Officer				
1011.	Health Management Information Systems (HMIS) Manager or Officer or responsible for reporting requirements for any service				
1012.	Diagnosis and treatment of STIs				
Tuberculosis					
1013.	Clinical symptom diagnosis of tuberculosis				
1014.	TB skin testing				
1015.	Obtain sputum for TB				
1016.	Sputum microscopy for TB				
1017.	Prescribe treatment for tuberculosis				
1018.	Follow-up treatment for tuberculosis				
1019.	Direct Observation Treatment Strategy (DOTS)				
1020.	Preventive treatment for TB (INH)				
HIV					
	Diagnosis & Testing				
1021.	Clinical symptom diagnosis of HIV				
1022.	Ordering HIV tests (ELISA, rapid, Western Blot)				
1023.	Drawing blood for HIV test				
1024.	Perform HIV rapid testing				
1025.	Perform HIV ELISA and/or Western Blot test				
1026.	HIV pre-test counseling				
1027.	HIV post-test counseling				
1028.	Follow-up counseling for HIV, after the initial post-test counseling or emotional support				

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)					
		Service Provided		How long have you provided service?	Last time received training?
		Yes	No	Years	Date
	Treatment				
1029.	CD4 testing				
1030.	Education for patient and families on HIV care				
1031.	Preventive treatment for other OIs , such as cotrimoxazole preventive therapy (CPT)				
1032.	Diagnosis of opportunistic infections				
1033.	Management of opportunistic infections				
1034.	Prescribing ARVs				
1035.	Adherence counseling for ARVs				
1036.	Medical follow-up for ARV taking patients				
1037.	Ordering or prescribing laboratory test for monitoring of ART				
1038.	Nutrition counseling to HIV/AIDS infected clients				
1039.	Nutrition counseling for newborns of HIV infected women				
1040.	Pediatric HIV/AIDS care				
1041.	Ordering and/or prescribing ARVs for Post-exposure prophylaxis (PEP)				
1042.	Nursing care for HIV/AIDS patients				
1043.	Training caregivers and/or patients in HIV/AIDS care				
1044.	Palliative care for terminally ill AIDS patients, such as symptom or pain control, emotional and nursing care				
1045.	Home-based care services for people living with HIV/AIDS and their families				
	Prevention				
1046.	Preventative interventions for HIV/AIDS patients				
1047.	Counseling for prevention of mother to child transmission				
1048.	Delivery services (conducting actual delivery of newborns)				
1049.	Prevention of maternal to child transmission				

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)					
		Service Provided		How long have you provided service?	Last time received training?
		Yes	No	Years	Date
	Prevention (continued)				
1050.	ARV prophylaxis for prevention of mother to child transmission (PMTCT)				
1051.	Counseling **or** prescribing ARV for Post-exposure prophylaxis				
	Confidentiality				
1052.	Confidentiality and rights to non-discrimination practices for people living with HIV/AIDS				

#	Questions	Responses	Skip	Answer
Supervision				
1053.	With whom do you normally consult if you have a clinical question? ***Write position or title.***	_____ Position or title		
1054.	How do you normally consult if you have a clinical question? Check all that apply?	Telephone..... 1 Face to face..... 2 Email..... 3 Teleconference..... 4 Clinical conference..... 5 Other (specify) ..... 77 _____		
1055.	Do you receive technical support or supervision in your work? This supervision may have been from a supervisor either in this facility, or from outside the facility.	Yes, in the past 3 months..... 1 Yes, in the past 4-6 months..... 2 Yes, in the past 7-12 months..... 3 Yes, more than 12 months ago..... 4 No supervision received..... 5	→1064	

	The last time you were personally supervised, did your supervisor do any of the following:	Did supervisor do?		
		Yes	No	Don't remember
1056.	Deliver supplies			
1057.	Check your records or reports			
1058.	Observe your work			
1059.	Provide any feedback (either positive or negative) on your performance			
1060.	Give you verbal or written comment that you were doing your work well			
1061.	Provide updates on administrative or technical issues related to your work			
1062.	Discuss problems you have encountered			
1063.	Anything else? (specify)_____			

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)				
Other Health Worker Questions				
#	**Questions**	**Responses**	**Skip**	**Answer**
1064.	I don't want to know the result, but have you ever had an HIV test?	Yes..... 1 No..... 2	→1066	
1065.	The last time you had an HIV test, did you yourself ask for the test, was it offered to you and you accepted, or was it required?	Asked for the test myself..... 1 It was offered..... 2 It was required..... 3 Never had a test..... 4 Other (specify) ..... 77 _____ No response..... 99		
1066.	What should you do if you got a needle stick injury? ***Probe: Anything else?*** ***Circle all that are mentioned.***	Nothing..... 0 Squeeze finger and put it in alcohol/iodine..... 1 Squeeze finger and wash with bleach/other disinfectant..... 2 Report to manager..... 3 Get an HIV test immediately..... 4 Get ARV or referral for ARV..... 5 Other (specify): ..... 77 _____ Don't know..... 88		
1067.	Among the various things related to your working situation that you would like to see improved, can you tell me the three that you think would most improve your ability to provide better care and treatment for TB and/or HIV/AIDS? ***Select only 3 items. If the worker mentions more than 3 items, ask him or her to prioritize to only 3. If he/she does not mention 3 items, probe for any others in an attempt to have 3 answers.*** ***Prompt or read list if unable to provide responses.***	More support from supervisor..... 1 More knowledge/training..... 2 Mores supplies/stock..... 3 Better quality equipment/supplies. 4 Less workload (i.e. more staff) ..... 5 Better working hours..... 6 Better pay & benefits..... 7 Transportation for patients who are referred..... 8 Providing ART..... 9 Increased security..... 10 Better facility infrastructure..... 11 More autonomy/independence..... 12 Emotional support for staff..... 13 Other (specify): ..... 77 _____		

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)					
		Yes 1	**No** 0	**Depends** 77 Document WHY	**Don't know** 88
1068.	If you had a choice, would you work with HIV/AIDS patients?				
1069.	Do you think that a health care worker, who has HIV but is not sick, should be allowed to continue to work?				
1070.	If a member of your household became ill with HIV, would you want it to remain secret?				
1071.	Some people think that HIV/AIDS patients deserve the illness that they have. Do you agree with this point of view?				
1072.	If you had a choice, would you work with TB patients?				
1073.	Do you think that a health care worker, who has TB but is not sick, should be allowed to continue to work?				
1074.	If a member of your household became ill with TB, would you want it to remain secret?				
1075.	Some people think that TB patients deserve the illness that they have. Do you agree with this point of view?				

Training Needs Assessment				
#	Questions	Responses	Skip	Answer
1076.	Are you required to obtain continuing education to continue working in your field?	Yes..... 1 No..... 2	→1079	
1077.	***If yes, ask:*** For what reason?	Licensure..... 1 Employer requirements..... 2 Recertification..... 3 Other (specify) ..... 77 _____		
1078.	Who pays for continuing education?	Self..... 1 Employer..... 2 Government..... 3 Other (specify) ..... 77 _____		
1079.	Are you willing to pay for all or some of the costs of a seminar related to your duties?	Yes..... 1 No..... 2	→1082	
1080.	***If yes, ask*** How much are you willing to pay for a 4-hour seminar?	Amount ##		
1081.	What are the top 5 areas that interest you most related to TB and that you would like to receive continuing education? ***List***	_____ _____ _____ _____ _____ Don't know..... 88 No response..... 99		
1082.	What are the top 5 areas that interest you most related to HIV and that you would like to receive continuing education? ***List***	_____ _____ _____ _____ _____ Don't know..... 88 No response..... 99		
1083.	What are the top 5 areas that interest you most related to other areas? *List*	_____ _____ _____ _____ _____ Don't know..... 88 No response..... 99		
1084.	How many days would you be most likely to attend a continuing education activity?	1..... 1 2..... 2 3..... 3 5..... 5 7..... 7 14..... 14		
1085.	Which days of the week would you be most likely to attend? ***Indicate all that apply***	Monday..... 1 Tuesday..... 2 Wednesday..... 3 Thursday..... 4 Friday..... 5 Saturday..... 6 Sunday..... 7		

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)				
#	Questions	Responses	Skip	Answer
1086.	What time of the day would you prefer to have a continuing education event?	All day..... 1 ½ day AM (4 hours) ..... 2 ½ day PM (4 hours) ..... 3 Evening..... 4 Multiple days..... 5		
1087.	If there were a fee charged, what is your preference regarding lunch during a one day conference	Cost included in as part of seminar fee..... 1 Additional fee for lunch..... 2 Lunch on your own..... 3		
1088.	How do you currently learn new things in your field? ***Circle all that apply***	Videotapes..... 1 Audiotapes..... 2 Hospital or school sponsored in-services..... 3 Online conference..... 4 Online courses..... 5 CDs..... 6 Journal articles..... 7 Lectures..... 8 Newspapers..... 9 Other self study..... 10 _____ Peer support and education..... 11 Hands on workshop..... 12 Teleconference..... 13 Feedback during work-related activities..... 14 I do not participate in any ongoing learning activities..... 15		
1089.	Have you ever participated in a satellite teleconference?	Yes..... 1 No..... 2		
1090.	Would you like to participate in a satellite teleconference?	Yes..... 1 No..... 2 Don't know..... 88		
1091.	Where do you have internet access?	At Home..... 1 At Work..... 2 Both..... 3 Neither..... 0 Don't know..... 88 No response..... 99		
1092.	Do you use email?	Yes..... 1 If yes, what is your email address? _____ No..... 0		
1093.	Please rate your ability to use the following computer programs ***Scale 0 worst / 5 best***	Word processing..... # Excel..... # PowerPoint..... # Outlook or Outlook Express..... # Internet Explorer..... # SPSS..... # SAS..... # Web design programs..... #		

SECTION 10: HEALTH WORKER QUESTIONNAIRE (CONTINUED)				
#	Questions	Responses	Skip	Answer
1094.	What is your primary area of practice/work location?	Clinic – public..... 1 Clinic – private..... 2 Home health agency..... 3 Hospital – inpatient..... 4 Hospital – outpatient..... 5 Other (specify) ..... 6 _____		
1095.	In what language do you prefer written and oral materials to be communicated?	English..... 1 Chichewa..... 2 Portuguese..... 3 Other (specify) ..... 77 _____		
1096.	Please rank the locations where you prefer to attend educational programs (1-6)	Hospital..... # Hotel or conference center..... # Resort..... # Office..... # Home (via online, CD, or written materials)..... # Restaurant/dinner..... #		
1097.	What is the most important factor regarding your willingness to attend the conference?	The speaker..... 1 A foreign expert..... 2 Topic..... 3 Program site..... 4 Day..... 5 Time..... 6 Pay..... 7 Course fee..... 8 Other (specify) ..... 77 _____		
1098.	How far would you be willing to travel to attend an educational activity?	15 minutes..... 1 30 minutes..... 2 1 hour..... 3 2 hours..... 4 More than 2 hours..... 5 Internationally – one day..... 6 Other (specify) ..... 77 _____		

Thank you for your time! The survey is complete.

	1	2	3	4	5
Serial Number					
Date					
Patient's Initials					
Sex					
Age					
Name of treatment unit (health center)					
Address					
Sputum - New or Follow Up					
Results					
Sputum Specimen COLLECTED---DATE					
Sputum Specimen COLLECTED---TIME					
Sputum Specimen RECEIVED---DATE					
Sputum Specimen RECEIVED---TIME					
Slide FIXED---DATE					
Slide FIXED---TIME					
If fixed at Non-Microscopy Site DATE SLIDE RECEIVED at Microscopy Site					
If fixed at Non-Microscopy Site TIME SLIDE RECEIVED at Microscopy site					
DATE Slide READ					
TIME Slide READ					
Date results sent to HC					
Date started on TB medicine					
Date of First Appt. for Cough or Other TB Symptoms					
Date of 2nd Appointment					
Date of 3rd Appointment					
Date of 4th Appointment					
Comments					

	6	7	8	9	10
Serial Number					
Date					
Patient's Initials					
Sex					
Age					
Name of treatment unit (health center)					
Address					
Sputum - New or Follow Up					
Results					
Sputum Specimen COLLECTED---DATE					
Sputum Specimen COLLECTED---TIME					
Sputum Specimen RECEIVED---DATE					
Sputum Specimen RECEIVED---TIME					
Slide FIXED---DATE					
Slide FIXED---TIME					
If fixed at Non-Microscopy Site DATE SLIDE RECEIVED at Microscopy Site					
If fixed at Non-Microscopy Site TIME SLIDE RECEIVED at Microscopy site					
DATE Slide READ					
TIME Slide READ					
Date results sent to HC					
Date started on TB medicine					
Date of First Appt. for Cough or Other TB Symptoms					
Date of 2nd Appointment					
Date of 3rd Appointment					
Date of 4th Appointment					
Comments					

	11	12	13	14	15
Serial Number					
Date					
Patient's Initials					
Sex					
Age					
Name of treatment unit (health center)					
Address					
Sputum - New or Follow Up					
Results					
Sputum Specimen COLLECTED---DATE					
Sputum Specimen COLLECTED---TIME					
Sputum Specimen RECEIVED---DATE					
Sputum Specimen RECEIVED---TIME					
Slide FIXED---DATE					
Slide FIXED---TIME					
If fixed at Non-Microscopy Site DATE SLIDE RECEIVED at Microscopy Site					
If fixed at Non-Microscopy Site TIME SLIDE RECEIVED at Microscopy site					
DATE Slide READ					
TIME Slide READ					
Date results sent to HC					
Date started on TB medicine					
Date of First Appt. for Cough or Other TB Symptoms					
Date of 2nd Appointment					
Date of 3rd Appointment					
Date of 4th Appointment					
Comments					

	16	17	18	19	20
Serial Number					
Date					
Patient's Initials					
Sex					
Age					
Name of treatment unit (health center)					
Address					
Sputum - New or Follow Up					
Results					
Sputum Specimen COLLECTED---DATE					
Sputum Specimen COLLECTED---TIME					
Sputum Specimen RECEIVED---DATE					
Sputum Specimen RECEIVED---TIME					
Slide FIXED---DATE					
Slide FIXED---TIME					
If fixed at Non-Microscopy Site DATE SLIDE RECEIVED at Microscopy Site					
If fixed at Non-Microscopy Site TIME SLIDE RECEIVED at Microscopy site					
DATE Slide READ					
TIME Slide READ					
Date results sent to HC					
Date started on TB medicine					
Date of First Appt. for Cough or Other TB Symptoms					
Date of 2nd Appointment					
Date of 3rd Appointment					
Date of 4th Appointment					
Comments					

	21	22	23	24	25
Serial Number					
Date					
Patient's Initials					
Sex					
Age					
Name of treatment unit (health center)					
Address					
Sputum - New or Follow Up					
Results					
Sputum Specimen COLLECTED---DATE					
Sputum Specimen COLLECTED---TIME					
Sputum Specimen RECEIVED---DATE					
Sputum Specimen RECEIVED---TIME					
Slide FIXED---DATE					
Slide FIXED---TIME					
If fixed at Non-Microscopy Site DATE SLIDE RECEIVED at Microscopy Site					
If fixed at Non-Microscopy Site TIME SLIDE RECEIVED at Microscopy site					
DATE Slide READ					
TIME Slide READ					
Date results sent to HC					
Date started on TB medicine					
Date of First Appt. for Cough or Other TB Symptoms					
Date of 2nd Appointment					
Date of 3rd Appointment					
Date of 4th Appointment					
Comments					

Compatibility Report for V2.Sputum Registry Review January 2007.xls
Run on 1/18/2007 0:33

The following features in this workbook are not supported by earlier versions of Excel. These features may be lost or degraded when you save this workbook in an earlier file format.

Minor loss of fidelity	**# of occurrences**
Some cells or styles in this workbook contain formatting that is not supported by the selected file format. These formats will be converted to the closest format available.	5

NAME OF HEALTH CENTER

Team Leader—
Prior to leaving the health facility, please confirm that you have the following documents completed. Place a check mark in each box that is completed. Write N/A if the facility did not provide the service(s).

For EVERY facility, your team MUST complete

☐ Section 1
☐ Section 2
☐ Section 3
☐ Section 4
☐ Section 5
☐ Sputum registry review
☐ Clinical Observation of five patients

If the following services are offered at this health facility you MUST also complete the corresponding section:

☐ LABORATORY – Section 6
☐ RADIOLOGY – Section 7
☐ PHARMACY – Section 8
☐ HIV Testing and/or HIV/AIDS care and treatment services – Section 9

☐ Health Care Worker Questionnaires – Section 10

TYPE	# AT HOSPITAL	# AT HEALTH CENTER	TOTAL
Clinical Officer	1		
Nurse	3	2	
Medical Assistant	1	1	
Lab Assistants	1		
Pharmacy Tech	1		
Radiology Tech	1		
VCT Counselor	1		
HSAs	3	3	
TB Environmental Officer			6
TOTAL	12	6	
# of hospitals			4
# of health centers			32
TOTAL Interviews			240

ANNEX 6

Memorandums of Understanding

MEMORANDUM OF UNDERSTANDING

by and Among the

MINISTRY OF HEALTH,

Mulanje and Phalombe District health Offices

And

PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE), registered under the DEVELOPMENT, PROMOTION AND IMPLEMENTATION OF HEALTH EDUCATION AND HEALTH SERVICE PROGRAMMES IN MALAWI

Registered on June 30, 1989

WHEREAS, Project HOPE being the principal activity of the People-to-People Health Foundation, Inc. It is an independent, international non-profit health education organization founded in 1958. Project HOPE has conducted programmes in over 90 countries worldwide. Today Project HOPE is operating in 35 countries. The Foundation's guiding philosophy is that good health is essential for social and economic development, and ultimately for dignity of human beings. Project HOPE strives to improve health standards throughout the world through partnerships and education, teaching people to help themselves. The programmes developed and implemented by Project HOPE are designed to foster independence from donor assistance.

Project HOPE primarily initiates programmes at specific request of the host country designs them to the responsive to local needs and priorities. In the planning and implementation of the programmes, Project HOPE works closely with the appropriate local organizations, including the Government - Ministry Of Health (MOH), local non-governmental organizations(NGOs), Universities, schools of Health Sciences, health facilities and the community at large in both rural and urban settings; and

WHEREAS, Project HOPE has been operating in Malawi since 1989, working mainly on the private sector Agricultural estates. Project HOPE augments the efforts of the Ministry Of Health. It provides health education to communities by specifically working with the population at the grass root level. In all its activities, Project HOPE is guided by the Ministry Of Health policies and works in collaboration with Ministry Of Health district teams, thus ensuring sustainability of programmes run by Project HOPE.

Project HOPE has been working in Malawi for a period of over 16 years on different health programmes in the areas of Promotion of safe Motherhood; Prevention of HIV/AIDS and Peer Education; Child Survival; Operations Research on Malaria prevention through use of impregnated bed nets; Operations Research on anaemia reduction in pregnant women and recently delivered women; HIV/AIDS prevention and promotion of Family Planning; women's health (Cervical Cancer Screening programme); Youth Workforce project for youth affected by

HIV/AIDS in Blantyre district; HIV/AIDS Education and policy in the Work place; Community Health And Partnerships (CHAPS) and Saving newborn Lives (SNL) programmes. Currently Project HOPE is implementing a Village Health banking Programme in Blantyre, Thyolo, Mulanje and Phalombe districts and a TB/HIV/AIDS project in Mulanje and Phalombe districts.

The funds used by Project HOPE in these programmes have been from donors such as USAID Washington and the local USAID Mission office, Department for International Development (DFID), European Union (EU), the United States Department of Labour and Project HOPE International.

WHEREAS, Project HOPE will continue providing health education to communities in collaboration with Ministry Of Health and all partners and within the existing Ministry Of Health Policies.

NOW THEREFORE BE IT RESOLVED that the Ministry of Health – Mulanje and Phalombe District Health Offices and **PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE),** hereby agree as follows:

PARTIES TO THIS MEMORANDUM OF UNDERSTANDING

The parties to this Memorandum of Understanding are the:

a. **Ministry of Health** ("MOH") Mulanje and Phalombe District Health Offices, represented by the District health Officers for Mulanje and Phalombe Districts; and

b. **PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE),** registered under the **DEVELOPMENT, PROMOTION AND IMPLEMENTATION OF HEALTH EDUCATION AND HEALTH SERVICE PROGRAMMES IN MALAWI**, registered on June 30, 1989 ("Organisation"), represented by TIMOTHY ELIAM KACHULE, acting in his duly authorized capacity as COUNTRY REPRESENTATIVE.

STATEMENT OF PURPOSE OF THIS MEMORANDUM OF UNDERSTANDING

1. The District Health Offices are responsible for regulating all health and health-related services or activities which are undertaken in the districts
2. The Organization wishes to comply with all legal and administrative requirements specified by the Government of Malawi generally and the MOH specifically.
3. Project HOPE started its operations in Malawi in 1989
4. Project HOPE has always had its Country Agreement renewed by the Ministry Of Health since it started operating in Malawi
5. Project HOPE has always been operating within the prevailing Ministry Of Health policies in Malawi.
6. Project HOPE has participated on several National Task Forces on Health and is on several Committees.

7. Project HOPE is a duly registered NGO with the Board for Non-Governmental organizations in Malawi

The purpose of this Memorandum of Understanding is to:

i. formalise the relationship by and between the Mulanje and Phalombe District Health Offices and the Organisation; and

ii. establish the terms and conditions upon which the Organisation shall provide any health and health-related services in Mulanje and Phalombe districts or any other health-related activity which in any way affects the Malawian population.

INTERPRETATION OF MOU

In this MOU, unless the context otherwise indicates:

c. All words and expressions to any one gender shall be capable of being construed as a reference to the other gender.

d. The words signifying the singular shall include the plural and vice versa.

e. Words and phrases defined in this MOU shall bear the meaning assigned to them throughout this MOU.

f. Words and phrases used in this MOU which are defined or used in any statute which applies to the subject matter, professional person, goods or services provided for in this MOU shall be construed in accordance with the applicable statute or regulations.

g. Headings of articles are for convenience only and shall not aid in the interpretation or modification of articles within the MOU.

h. Prior drafts of this MOU or oral agreements shall not be taken into account in the interpretation of the contents of this MOU.

DURATION OF MOU

This MOU shall commence on the date of the last signatory of a party to this MOU and shall terminate five years thereafter.

In the event that the District Health Officers determines that additional services are required in terms of this MOU or the District health Officers wishes to extend or renew this MOU beyond the termination date specified , the DHOs shall give the Organisation written notice of any proposed extension or renewal not less than 60 (sixty) days prior to the termination of this MOU.

In the event that the Organisation wishes to accept the DHOs offer to extend or renew this MOU, the Organisation shall give written notice of its acceptance of the DHOs offer no later than 30 (thirty) days after receipt of the DHOs offer.

COORDINATION

In implementing the TB/HIV Programme in Southern Malawi, Mulanje and Phalombe districts, the following will apply:

Both districts will identify a Coordinator who will be the main linking between Project HOPE and the District Health Offices. The Coordinators will be working very closely with the Programme Manager.

MISSION HOSPITALS

The Mission Hospitals will be involved fully in the implementation of this project and their facilities will also be used during training and will be supervised on activities related to this project by all those designated to carry out such duties.

Government through the District Health Offices will look into how best to support the services at Mission Hospitals in relation to TB/HIV among others such as proposing seconding some Laboratory Technicians to such facilities as well as looking into some infrastructural developments for quality delivery of health services.

In selection of participants for various trainings under this project, the Mission Hospital management will be consulted for identification of participants at any point in time.

PARTICIPATION IN PROGRAMME ACTIVITIES

The programme Manager in collaboration with the District Coordinators and various section Heads within the District Health Offices (Clinical, Nursing and Environmental) will identify participants to any activity to be undertaken by the programme. The proposed participants will have to be approved by the District Health Officers.

The District Coordinators will be responsible for communication with all the concerned participants and organize travel means to any programme activity.

TRAININGS

All training activities will be conducted by Project staff in collaboration with District counterparts relevant to each activity with support from externally sourced resources with mutual involvement of both parties in sourcing the external support.

ALLOWANCES

For the duration of this MOU all training and other project activities will use the following rates for allowances(for meals and incidentals):

Community Members (Volunteers) if drawn from their communities:

Day Meetings
K300.00

Overnight meetings
Pay for bed and Breakfast
Provide transport
K750/day

Health Workers

Day meetings
K500

Overnight Meetings within the districts (Out of the Cities)
Pay for bed and breakfast
Provide transport
K1,000/day

Overnight Meetings in the Cities (Blantyre, Lilongwe, Mzuzu, Zomba and Lake districts)
Pay for bed and breakfast
Provide transport
K1,300/day

NOTE: No money will be paid to participants for Accommodation and Breakfast nor a substitute for.

FACILITATION

All facilitators to any training will receive the same rate with all the participants with 2 additional days (1 day for preparations and 1 day for report writing)

All Project HOPE staff will go by the Organization's Policies and Guidelines.

REPORTING

After each training activity, the District Coordinator will be required to produce a written report of acceptable quality to the District Health Officer with copies to the Programme Manager and the relevant section at Ministry Of Health.

The programme trainer will be required to produce a written report of acceptable quality to the Programme Manager.

INDEMNITY

Project HOPE shall exercise due care and diligence in the performance of its obligations and duties in terms of this MOU and shall be liable to the District health Offices where it has failed to exercise due care and diligence.

The Organisation acts as an independent contractor and not as an agent or employee of the MOH and has no authority or right to bind the MOH and shall be liable for any action where it seeks to bind the MOH.

The Organisation hereby acknowledges and confirms that it:

- shall exercise due care and diligence in the performance of its obligations in terms of this MOU;
- shall be liable to the MOH and any patients served by the Organisation where it has failed to exercise due care and diligence; and
- hereby indemnifies and holds the MOH harmless against any claim of any nature whatever and however arising out of the wilful or negligent actions or omissions of the Organisation or a person acting for or on behalf of the Organisation.

BREACH OF MOU

Project HOPE and the District health offices shall be deemed to be in breach of this MOU where it fails to meet any term or provide any service required under of this MOU.

The District Health officers and the Project HOPE Country Representative shall advise on any breach to this MOU and that the concerned party shall be given 7 days or any other reasonable time period to rectify the breach.

GENERAL

This MOU replaces any previous written or verbal agreement, memoranda of understanding or contracts entered into by the MOH Mulanje and Phalombe District Health Offices or the Organisation with respect to the subject matter of this MOU.

This MOU constitutes the entire contract between the parties and may only be altered or varied in writing.

No alteration of, variation of or amendment to this MOU shall be of any force and effect unless it is reduced to writing and signed by the parties and the parties are required to enter into an amendment to this MOU promptly where there is a change in circumstances.

No indulgence or leniency which either party may grant or show the other shall in any way prejudice the granting party or preclude the granting party from exercising any of its rights in the future.

DOMICILIA CITANDI ET EXECUTANDI

The District Health Officers chooses for the purpose of this MOU the domicilium citandi et executandi of the MOH Mulanje and Phalombe district health offices as follows:

Physical Address:	Mulanje District Health Office Mulanje Boma Mulanje Phalombe District health Office Phalombe Boma Phalombe
Postal Address:	Mulanje district health Office P.O. Box 227 Mulanje Phalombe district health Office P.O. Box 79. Phalombe

The Organisation chooses for the purpose of this MOU its domicilium citandi et executandi as follows:

Organisation Physical Address:	**PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE)** North Road Kanjedza Limbe Project HOPE TB/HIV Programme Office Mulanje Boma (Old Hospital) Mulanje
Organisation Postal Address:	**PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE)** Private Bag 588 Limbe Project HOPE TB/HIV Programme P.O. Box 378 Mulanje

SIGNATORIES TO MOU

IN WITNESS WHEREOF, the authorised representatives of the parties and their witnesses, as designated below, hereby signed this MOU on the date specified below.

8

SIGNATORIES TO MOU

IN WITNESS WHEREOF, the authorised representatives of the parties and their witnesses, as designated below, hereby signed this MOU on the date specified below.

WITNESSES:

MINISTRY OF HEALTH

Dr. Frank Chimbwandira – Mulanje DHO

Date: 5/4/07.

Mr. Raphael Piringu - Phalombe DHO

Date: 5/04/07

Mr. B. Nkasala - Phalombe D C

Date: 05/04/2007

Rev. Moses Owen Chimphepo - Mulanje D C

Date: 11/04/07

Dr. Roland van de Ven - Director Mulanje Mission Hosp

Date: 12/04/2007

Dr Antem Director Holy Family Hosp.

WITNESSES:

PEOPLE-TO-PEOPLE HEALTH FOUNDATION INC (PROJECT HOPE),

1. Patrick Chipungu – TB/HIV Prog. Manager — Date: 05/04/07

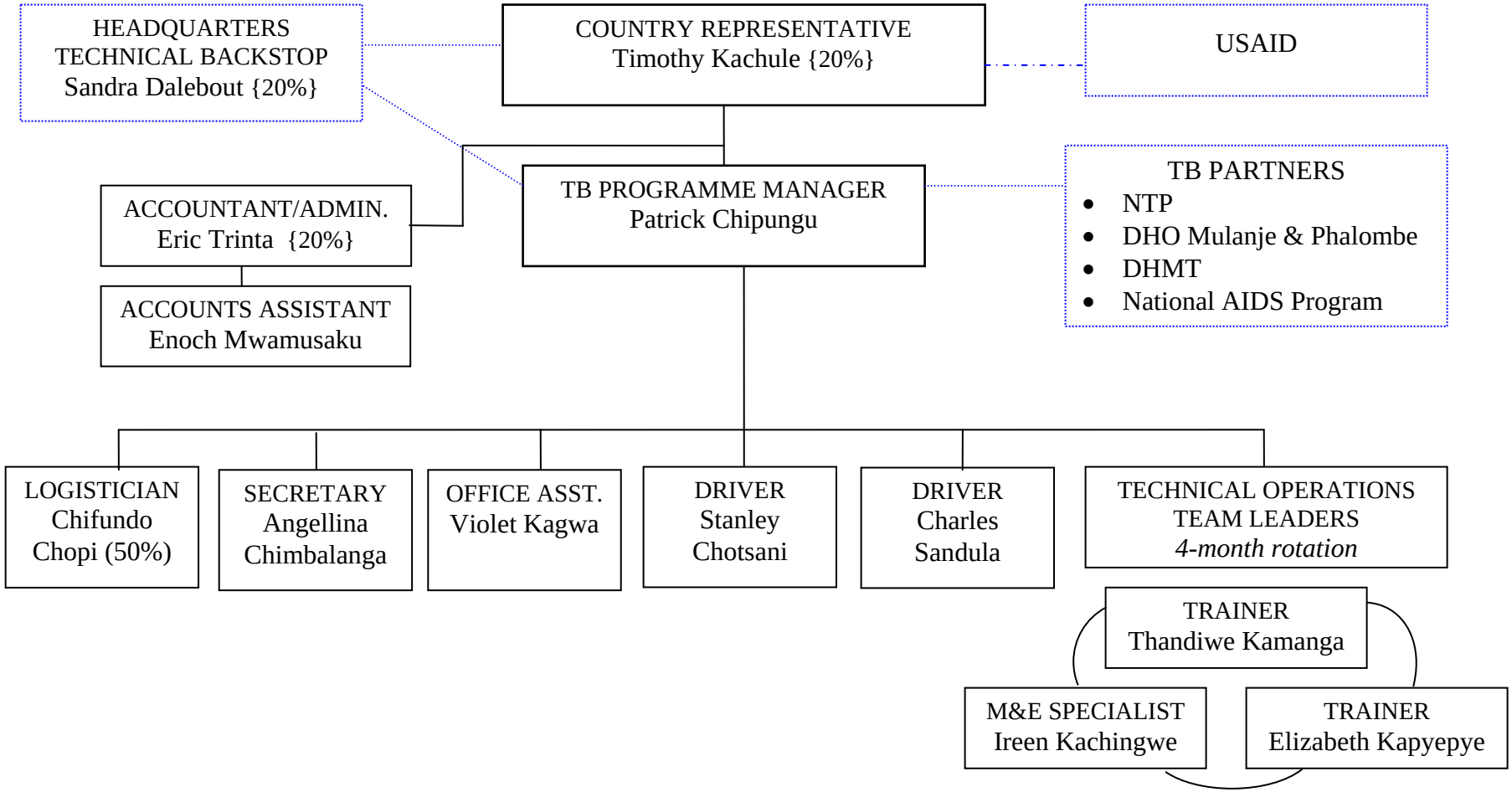
2. Timothy E. Kachule – Country Representative — Date: 04/04/07

3. Dr. Renslow Sherer, Director Infectious Disease Unit , Project HOPE HQ, USA. — Date: _____

ANNEX 7

Organogram

Project HOPE TB Program
Organogram



{LOE = 100% unless otherwise indicated}

ANNEX 8

Resumes

TIMOTHY ELIAM KACHULE

COUNTRY REPRESENTATIVE
PROJECT HOPE/MALAWI

Mr. Kachule is responsible for overall day-to-day management and administration of Project HOPE's offices in Malawi; providing direction to and supervising project staff; and liaising with project partners at district and national level. He serves as the liaison between Project HOPE headquarters and various partner/donor organizations in Malawi. Prior to this assignment, Mr. Kachule served as Programme Manager for four years, and was responsible for coordinating the direction, supervision and implementation of Project HOPE's Saving New Born Lives, Cross Border HIV/AIDS Behavioural Change, and Community Health and Partnerships projects. During the previous four years, Mr. Kachule served as Programme Coordinator for Project HOPE's Maternal Anaemia Project, Child Survival Programme, and HIV/AIDS Peer Education Programme. Prior to coming to Project HOPE in 1995, Mr. Kachule was District Orthopaedic Clinical Officer and HIV/AIDS Coordinator for the Ministry of Health and Population.

EDUCATIONAL BACKGROUND

- **Diploma in Clinical Medicine and Certificate in Orthopaedics**, Malawi College of Health Sciences, Lilongwe, Malawi, 1992
- **Certificate as Medical Assistant,** Malawi College of Health Sciences, Lilongwe, Malawi, 1986
- **PEAK Fellowship,** sponsored by University of Michigan, 2004
  - Essentials Planning for HIV/AIDS Programmes
  - Participatory Monitoring and Evaluation of Community Based Programmes
- **Continuing education courses and certifications,** 1999 – 2004
  HIV/AIDS, Monitoring & Evaluation, Behaviour Change Communication, Quality Assurance, Training of Trainers, IMCI, STI, Family Planning, Programme Designing, Monitoring and Evaluation.

PROFESSIONAL EXPERIENCE

Project HOPE/Malawi **2004 - Present**
Country Representative **Limbe, Malawi**
Programme Manager, Village Health Banks

Responsible for overall day-to-day project management and administration, provide direction to and supervise project staff; prepare workplans, budgets, and reports; review submission of monthly financial reports; liaise with project partners at district and national level; participate in proposal writing; and serve as liaison between Project HOPE Headquarters and various partner/donor organizations in Malawi.

Under the Village Health Banking programme, responsible for planning, implementing, monitoring and evaluating VHB programme activities, including directing the development of administrative, financial, and technical information systems of the VHB services; directing the development of training materials for the credit and health components of the VHB programme; executing appropriate training for the VHB programme personnel; and collaborating with other NGOs and government institutions involved in micro-finance services and activities.

Project HOPE/Malawi **2000 to 2004**
Programme Manager **Limbe, Malawi**

Community Health And Partnerships –
Managed the implementation of CHAPS project in Mulanje and Phalombe Districts, covering a population of 660,000 and involving personnel of 48 health facilities; provided technical assistance and support to the District Health Management Team and health personnel at the health facilities to strengthen service delivery, especially in Mother and Child Health Care and Reproductive Health; coordinated with all stakeholders, including the private sector in areas of health, as the chairperson of the District Health Board; directed and supervised 20 programme staff.

Cross Border HIV/AIDS Behavioural Change and *Saving New Born Lives Projects –*
Responsible for planning, implementing, monitoring and evaluating the project activities of the Saving New Born Lives (SNL) project in Mulanje and Phalombe Districts and the HIV/AIDS Cross Border Behavioral Change project in Mulanje District; directed and supervised staff under the two projects; provided support and technical assistance to the District Health Management Team and health personnel in 48 government health facilities in the two districts. Acted as liaison between Project HOPE and the stakeholders in the districts served.

Project HOPE/Malawi **1995 to 2000**
Programme Coordinator **Limbe, Malawi**

HIV/AIDS Peer Education Programme –
Overall supervision and management of a peer education project for Mulanje and Thyolo districts covering a total population of about 75,000 on private sector agricultural estates. Responsible for planning, implementing, monitoring and evaluating project activities and coordinating with government and other NGOs working in the area. Supervised five technical and support staff.

Child Survival Programme –
Participated in child survival project design; managed and implemented the project interventions in Mulanje and Thyolo Districts; analyzed data for midterm and final surveys; participated in designing curricula and training of various health and community members. Collaborated with government and estate counterparts in project implementation.

Maternal Anaemia Project –
Managed the operations of the maternal anaemia project that served a population of 102,000 in Thyolo District. Participated in project design; conducted midterm and final surveys; analyzed baseline, qualitative, productivity data; directed and supervised specific interventions, such as Information Education and Communication (IEC) and Iron supplementation.

Community Health Partnership –
Assisted the Programme Manager in coordinating the implementation of the CHAPS programme in Mulanje and Phalombe Districts; conducted training for health personnel in malaria, acute respiratory tract infections, diarrhoeal diseases, HIV/AIDS and environmental health; participated in capacity building for health personnel in the district in areas of supervision, management and quality assurance.

Ministry of Health and Population, **1992 to 1995**
Mwanza District Hospital **Mwanza, Malawi**
District Orthopaedic Clinical Officer and
HIV/AIDS Coordinator

Managed all orthopaedic conditions in the district of a population of 300,000. Performed other clinical duties such as patient consultations, ward rounds, and conducting surgical and gynaecological operations. Coordinated with organizations working on HIV/AIDS in the district; planned, implemented, monitored HIV/AIDS activities including training.

Dedza District Hospital **1986 to 1990**
Medical Assistant **Dedza, Malawi**
General outpatient management, Anaesthetic Assistant, AIDS educator, District Dental Assistant.

COUNTRIES OF PROFESSIONAL WORK *Malawi*

LANGUAGE SKILLS **Chichewa:** Native Speaker **English:** Fluent

RELEVANT PUBLICATIONS / PRESENTATIONS

HIV/AIDS Behavioural Change project activities update. **Paper presented at Regional HIV/AIDS Programme (RHAP) Southern Africa and Family Health International (FHI) Workshop for Implementing Agencies.** September 2002. Capetown, South Africa.

Maternal Anaemia Programme in Malawi. **Paper presented at a workshop organized by The Child Survival Collaborations and Resources Group - The Core Group. The Path to Maternal and Child Health, The PVO Role in Improving Iron and Vitamin A Status.** May 1998. Washington, D.C., United States of America.

Cost-sharing for Health Services - A private Sector Agricultural Estates Experience. **Paper presented at National Symposium on Drug Revolving Funds (DRF) workshop.** 1998. Mangochi, Malawi.

PATRICK RICHARD CHIPUNGU

TB PROGRAM MANAGER, PROJECT HOPE/MALAWI

In his current position, Mr. Chipungu is responsible for the overall day-to-day project management of the Tuberculosis Control Program being implemented in Mulanje and Phalombe Districts in the Southern Region of Malawi. His previous position was Lecturer and Dean of the Faculty of Clinical Sciences at Malawi College of Health Sciences. He spent many years working in district hospitals as a Clinical Officer, in which role he was responsible for the care of people with TB, and with HIV infection. Mr. Chipungu holds a Bachelor's degree in Health Sciences Education (BSc. HSE), and a Diploma in Clinical Medicine.

EDUCATIONAL BACKGROUND

- **BSc in Health Sciences Education, Mzuzu University, Malawi , 2003**
- **Diploma in Clinical Medicine, Lilongwe School of Health Sciences, Malawi, 1998**
- **Continuing education courses and certifications, 1997 to 2006**
  Home Based Care, STIs, antiretroviral therapy, HIV disease, quality assurance, obstetrics, IMCI, and neonatal care, among others.

PROFESSIONAL EXPERIENCE

Tuberculosis Program Manager
Project HOPE/Malawi **Nov 2006 - present**
Overall responsibility for the planning, implementation, monitoring and evaluation of the Tuberculosis Control Program in two districts of Southern Malawi. Direct the development of training materials; direct the design and development of the health information systems; provide direction to and supervise project staff; prepare work plans and reports, monitor budget and review monthly financial reports. In conjunction with the Country Director, liaise with project partners at district and national levels.

Deputy Dean of Clinical Sciences and
Acting Campus Director
Malawi College of Health Sciences **Jan - Nov 2006**
Responsibilities included handling of student admissions, progression, disciplinary issues, and graduation; curricula review; lead in budget preparation; coordination of clinical meetings. As Campus Director, provided leadership for all academic and administrative services; developed strategic and annual business plans for all departments.

Lecturer in Reproductive Health
Malawi College of Health Sciences **2003 - 2006**
Lecture in obstertrics and Gynaecology, Master Trainer in Infection Prevetnion STI, Safe Motherhood, Family Planning, Post Abortal Care ect. Responsible for planning learning experiences for students, student placement and supervion, assessment.

Head of Clinical Medicine Programme
Malawi College of Health Sciences **1999 - 2003**
Responsibilities included handling of student admissions, progression, disciplinary issues, and graduation; curricula review; lead in departmental budget preparation; provided departmental leadership for all academic and administrative services; developed strategic and annual business plans for Clinical departments. Student Counselling, handle deciplinary matters. Supervise students in all desciplines during practical attachments

Clinical Officer

Mangochi District Hospital **1997 to 1999**
Thyolo District Hospital **1994 to 1997**
Zomba Central Hospital **1993 to 1994**

Responsible for conducting ward rounds, prescribing treatment, patient education, and evaluating the effectiveness of the treatment and well being of the patients.

COUNTRIES OF PROFESSIONAL WORK *Malawi*

LANGUAGE SKILLS **Chichewa:** Native Speaker **English:** Fluent

RENSLOW D. SHERER, JR., MD

DIRECTOR OF INFECTIOUS DISEASE PROGRAMS

Dr. Sherer leads Project HOPE's Infectious Disease Programs and is an internationally recognized expert on HIV/AIDS care and treatment. Dr. Sherer has been a primary caregiver for persons with HIV disease at Cook County Hospital in Chicago since 1982 and has extensive experience and expertise in HIV prevention, in model care, and in health care provider training. He has numerous national and international publications and presentations on the clinical and social impact of the HIV pandemic. He has participated in HIV/AIDS evaluations in South Africa and China. Dr. Sherer has been a member of the Department of Health and Human Services Guideline Panel on the Use of Antiretroviral Agents since its inception in 1996, and is also a member of the panel that developed guidelines on the treatment of HIV/AIDS in low-resource areas for indigent populations.

EDUCATIONAL BACKGROUND

1973	B.A., Princeton University
1970 – 1971	King's College, London

Medical Education Doctor of Medicine, Rush University, 1977

Certification Diplomate, American Board of Internal Medicine, 1981

Academic Affiliation Associate Professor of Medicine, Rush Medical College, Chicago, Illinois
September, 1994 – present

Clinical Associate, University of Chicago, September, 2003 - present

PROFESSIONAL EXPERIENCE

2003 -present	Director, Infectious Disease Programs, Project HOPE
2003 -present	Section of Infectious Diseases, University of Chicago Hospitals.
1998 – 2003	Director, Coordinated HIV Services, Cook County Bureau of Health Services.
1992 – 1998	Director, Cook County Hospital HIV Primary Care Center Cook County Bureau of Health Services.
1988 – 2003	Senior Physician, Division of Infectious Disease, Cook County Hospital.
1981 – 1988	Attending Physician, Division of General Medicine/Primary Care, Department of Medicine, Cook County Hospital.
1983 – 1996	Co-founder and Co-Director, Sable/Sherer Clinic, Cook County Hospital Acting Director, Cook County Hospital AIDS Service, 1986 - 1988

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PROFESSIONAL AFFILIATIONS (partial list of extensive affiliations)

Member, HHS Guidelines Panel for the Use of ART in Adults, 1996 - present.

Member, Global AIDS Learning and Education Network (GALEN) International HIV Curriculum, 1996 – present.

Member, Free ART Guidelines Panel, Peoples Republic of China, 2004 – present.

Co-Principal Investigator, Midwest AIDS Training and Education Center (MATEC), University of Illinois Medical Center, 1990 – present.

Co-Principal Investigator, National Resource Center for the AIDS Education and Training Centers; Principal Investigator at the CORE Center, Chicago, July 1999 – 2003.

Chairman, Institute for Healthcare Improvement Breakthrough Initiative on HIV/AIDS, under contract from the Health Resources and Services Administration, March 2000 – present.

Co-Chairman, Americas Regional HIV/AIDS Training Center
Mexico City, Mexico, March, 2006 - present

PUBLICATIONS (partial listing of extensive publication history)

Sherer RD. Darunavir (TMC 114): A Viewpoint. Drugs 2006;66(3). In press.

Bronson JD, Teter C, Sherer RD, Alegre JC, Novotny K, Walsh S. Families of orphans and vulnerable children (OVC) in Mozambique: High prevalence of unmet needs for economic support, health education, and psychosocial support. In: Program and Abstracts, Third International AIDS Society Conference, Rio de Janeiro, Brazil, July, 2005. #TuPe11.9C04.

Alegre JC, Bronson JD, Sherer RD, Teter C. Tolerant attitudes of domestic violence towards women in Mozambique. In: Program and Abstracts, Third International AIDS Society Conference, Rio de Janeiro, Brazil, July, 2005. #TuPe5.6P02

Csiszar J, Thaublib-Kiriat J, Teter C, Begovac J, Jevtovic J, Sherer R. Health worker training in the western Balkans: Report of the first phase of rapid scale up. In: Abstracts, Third International AIDS Society Conference, Rio de Janeiro, Brazil, July, 2005. # MoPe11.2C16.

Teter CJ, Gui X, Ping DL, Sherer R. Rapid scale up of health worker HIV training and capacity building, Hubei Province, China: Interim report. In: Program and Abstracts, Third International AIDS Society Conference, Rio de Janeiro, Brazil, July, 2005. #MoPe11.2C12

Sherer RD, Fath MJ, Da Silva BA, Nicolau AM, and Miller NL. The importance of potency and durability in HIV patient antiretroviral therapy preferences: A telephone survey. AIDS Patient Care and STDs 2005;19:794-802.

Sherer RD, Bronson JD, Teter CJ, Wykoff RF. Microeconomic loans and health education to families in impoverished communities: Implications for the HIV pandemic. Jl Int Assoc Phys AIDS Care 2004;3:110-114.

Sherer R, Gui X, Teter C, Ping DL, et al. Training 23,000 health care workers in Hubei Province, Peoples Republic of China. In: Program and Abstracts, Seventh International Congress on Drug Therapy in HIV Infection, Glasgow, Scotland, November, 2004, #355.

King MS, Bernstein BM, Walmsley SL, Sherer R, Feinberg J, Sanne I, Cernohous P, Montaner JS, Brun SC, Sun E. Baseline HIV-1 RNA level and CD4 cell count predict time to loss of virologic response to nelfinavir, but not lopinavir/ritonavir, in antiretroviral therapy-naive patients. J Infect Dis. 2004 Jul 15;190(2):280-4.

Sherer R, Stieglitz K, Narra J, Jasek J, Green L, Moore B, and Cohen M. HIV Multidisciplinary Teams Work: Support Services Improve Access to and Retention in HIV Primary Care. AIDS Care 2002;14(S):S31-S44

Whitman S, Murphy J, Cohen M, and Sherer R. Marked Declines in HIV-related mortality in Chicago in women, African Americans, Hispanics, young adults, and injection drug users from 1995-1997. Arch Int Med 2000;160:365-69.

Max B and Sherer R. Management of Adverse Effects of Antiretorviral Therapy and Medication Adherence. Clin Inf Dis 2000;30(Suppl 2):S96-116.

Sherer R and Cohen M. The CORE Center for Prevention, Care, and Research of Infectious Disease. Chicago Medicine 1998;101:12-17.

Sherer R. Delta in the Real World. (Ed.) Lancet 1996;348:278-279.

Melnick SL, Sherer R, Louis TA, Hillman DA, Rodriguez E et al. Survival and Disease Progression According to Gender of Patients Enrolled in the Terry Beirn Community Programs for Clinical Research on AIDS (CPCRA). JAMA 1994;272:1915-1921

Ansell DA, Tzyy-Chyn H, Straus M, Cohen M, and Sherer R. HIV and Syphilis Seroprevalence among clients with Sexually Transmitted Diseases Attending a Walk-In Clinic at Cook County Hospital. Sexually Transmitted Diseases 1994;21:93-96.

Sherer R. Physician Use of the HIV Antibody Test: The Need for Consent, Counseling, Confidentiality, and Caution (Ed) JAMA 259:254, 1988.

Sherer R, Sable R, Sonnenberg M, Cooper S et al. Disseminated Infection with *Mycobacterium Kansasii* in AIDS. Ann Int Med 105:710, 1986.

SANDRA MORGAN DALEBOUT, MPH

TECHNICAL ASSOCIATE

In her 14-year career, Ms. Dalebout has developed and managed reproductive health and infectious disease programs in Latin America, Africa, Asia, and the US. Programmatic experience includes family planning, emergency contraception, STI prevention, treatment and care of people living with HIV, and Tuberculosis control. She holds a Master's Degree in Public Health with a concentration in Health Behavior and Health Education. She has a wide range of experience in program design and implementation with a focus on monitoring and evaluation, and community based education programs. She has co-authored articles published in scientific journals and posters which were presented at International Conferences on AIDS.

EDUCATIONAL BACKGROUND

- **Masters of Public Health,** Health Behavior & Health Education, University of North Carolina, Chapel Hill, NC, May 1994. Masters Paper: "A Program Plan to Reduce Alcohol Use and Abuse Among Urban Native American Teens".
- **Bachelor of Arts**, International Studies & Spanish, Virginia Polytechnic Institute & State University, Blacksburg, VA, May 1988.

PROFESSIONAL EXPERIENCE

Project HOPE, Millwood, VA. Infectious Diseases Technical Associate. April 2006 – Present. Provide technical support to infectious disease programs worldwide, with a particular emphasis on Latin America and Africa. Write and edit concept papers and proposals and participate in development of new infectious disease programs, including HIV prevention, care and treatment, tuberculosis, and avian influenza programs. Provide program management of USAID funded projects including Orphans and Vulnerable Children program in Mozambique and Namibia and TB Control program in Malawi. Write and edit abstracts, reports, public relations pieces, and publications.

Interim Director, Monitoring & Evaluation. July 2006 – October 2006. Reviewed proposals to ensure quality monitoring and evaluation incorporated into program design. Provided direction and assistance to field and headquarters staff on monitoring and evaluation issues on infectious disease and maternal and child health programs. Analyzed data and wrote report on baseline survey data for Orphan and Vulnerable Children project in Namibia and Mozambique.

Family Health International (FHI), Clinical Research Division (CRD), Research Triangle Park, NC. Research Associate/Clinical Research Monitor. October 2000 – September 2004. Collaborated with study team to develop and manage clinical research studies in accordance with Good Clinical Practices. Monitored research sites to ensure protocol and regulatory compliance. Co-wrote study proposals for funding sources including NIH and USAID. Co-wrote study protocols and wrote detailed study manuals. Created data collection forms and questionnaires. Developed innovative, cutting edge electronic monitoring tools to facilitate monitoring data in real time. Managed study activities and timelines. Assisted in site selection. Served as primary liaison with site clinical research coordinators. Managed pivotal study that led to FDA scientific committee approval of the over-the-counter switch of Plan B® emergency contraceptive pills. Research topics included emergency contraceptive pills, comprehensibility of contraceptive effectiveness, and spermicide efficacy.

Finance & Development Manager. June 2000 - October 2000. Managed budget for Clinical Research Division, including a $5 million NIH contract with 13 subcontracts. Coordinated proposal development for submissions to governmental and private funders, including several multi-million dollar proposals, for both contracts and grants. Developed project budgets for proposals and yearly budgets for ongoing programs. Hired, trained, and supervised financial staff.

Clinical Operations Specialist. June 1998 - June 2000. Tracked, monitored, and reported financial aspects of grants, contracts, and cooperative agreements exceeding $23,000,000 with over 60 individual projects. Redesigned Excel programs for improved tracking of project expenditures and staff time over life of project. Developed budgets for proposals. Trained and assisted program staff in creating and monitoring program budgets. Created Excel programs to facilitate project planning and budgeting and track study recruitment.

Community Wholistic Health Center (CWHC), Hillsborough, NC. April 1997 - April 1998. Program Director. Managed community education program. Collaborated with local non-profit organizations and community providers to co-sponsor events and classes. Co-founded and managed the Wholistic Healing Clinic for People Living with HIV/AIDS, a free bi-monthly clinic providing massage therapy, acupuncture, yoga, and hypnotherapy. Recruited and trained volunteer therapists. Served as guest lecturer for an AIDS policy class at Duke University.

Center for Natural and Traditional Medicines (CNTM), Washington, DC. August 1996 - March 1997. Program Director. Worked with traditional healers around the world to advocate for a place at the table in planning and carrying out international HIV/AIDS prevention programs. Set criteria for selecting new projects, developed program budgets, scheduled and monitored project activities, evaluated current programs, and wrote project reports. Managed grant financial and reporting requirements.

National Council for International Health (NCIH), Washington, DC. June 1995 - June 1996. HIV/AIDS Information Coordinator. Served as information coordinator for network of international agencies working in HIV/AIDS, including networks of people living with HIV/AIDS. Created and administered management information database in Access. Assisted with content and editing of a bi-monthly newsletter, *AIDSLink*, distributed to nearly 500 organizations throughout the world.

Family Health International (FHI), AIDSTECH Division, Research Triangle Park, NC. January 1991 - June 1992. Program Analyst. Assisted with the development, implementation, monitoring, and coordination of AIDS prevention projects in Latin America and Asia. Initiated and developed FHI's first integrated database management information system used to produce summary reports, track expenditures, monitor project activities, and track process and outcome data. Initiated and produced quarterly regional project update reports.

U.S. Agency for International Development (USAID), Tegucigalpa, Honduras. May 1988 - April 1990. Procurement and Contracts Assistant. Responsible for monthly procurement and delivery of humanitarian assistance (food, medical supplies, clothing, and shelter) for 45,000 refugees to over 30 locations. Created computerized monitoring system to ensure delivery and shipment of items, information used in a bi-monthly report to the US Congress. Prepared all contractual documentation for Contracts Office.

TRAINING

- **ACTS, A Rapid System for HIV Counseling & Testing**, May 2006.
- **Human Participant Protections Education for Research**, National Institutes of Health, November 2003.
- **Licensed Massage Therapist**, Medical Arts Massage School, November 2000. Nationally Certified in Therapeutic Massage and Bodywork, January 2003. Licensed by the State of Virginia (# 0019004788).
- **Fundamentals of Clinical Research (CRA)**, Association of Clinical Research Professionals, January 2001.
- **Scientific Ethics for CDC/ATSDR**, January 2001.
- **Logistical Framework**, January 1992.
-

AWARDS

Certificate of Appreciation, U.S. Agency for International Development, Honduras, 1991.

PUBLICATIONS - PAPERS

- Steiner, Markus J, Dalebout, Sandra, Condon, Sean, Dominik, Rosalie, Trussel, James. *Understanding Risk: A Randomized Controlled Trial of Communicating Contraceptive Effectiveness*. *Obstetrics & Gynecology*, Volume 102, Number 4, October 2003.
- Raymond, EG, Chen, PL, Dalebout, SM. *"Actual Use" Study of Emergency Contraceptive Pills Provided in a Simulated Over-the-Counter Manner*. *Obstetrics & Gynecology*, Volume 102, Number 1, June 2003.
- Raymond EG, Dalebout SM, Camp SI. *Comprehension of a Prototype Over-the-Counter Label for an Emergency Contraceptive Pill Product*. *Obstetrics & Gynecology*, Volume 100, No. 2, August 2002.
- Sandra Morgan, Douglas Hudson, *Wholistic Healing Clinic for People Living with HIV/AIDS*, Community Wholistic Health Center, Carrboro, NC, 1998. Poster presented at the University of North Carolina School of Public Health Conference, March 1988.
- Mary Guinn Delaney, Kelly Forrest, Sandra Morgan, eds., *HIV/AIDS: International Perspectives on Legal Issues and Human Rights*, National Council for International Health, Washington, DC, December 1995.
- Kelly Forrest, Sandra Morgan, eds. *AIDSLink* newsletter # 36, special edition on traditional healers and medicines, National Council for International Health, Washington, DC, November/December 1995.
- M. Welsh, S. Boring, R. Oliver, B. Kliesen, N. Lamson, W. Githens, L. Fox. *Peer Education and AIDS Prevention: Accessing and Influencing a Targeted Population*. Family Health International, Durham, NC, 1992. Poster presented at the July 1992 VIII International Conference on AIDS.
- Lia Barth, F. Gutierrez, S. Boring, C. Brooke. *Reducing the Risk of HIV Infection: An Operations Research Project on Educational Strategies to Prevent AIDS in Costa Rican Young People*. Family Health International, Durham, NC, 1992. Poster presented at the July 1992 VIII International Conference on AIDS.
- Hernandez, T. Craige, L. Fox, S. Boring, S. Lamm. *Solidarity and Life: AIDS Prevention and Education for Women with HIV/AIDS in Netzahualcoyotl City, Mexico*. Family Health International, Durham, NC, 1992. Poster presented at the July 1992 VIII International Conference on AIDS.
- B.D. Lopez, M. Pacio, J. Villarama, L. Manalo, C. Ruzol, C. Calica, R. Roddy, S. Boring. *Upgrading Social Hygiene Clinics in the Philippines.* Family Health International, Durham, NC, 1992. Poster presented at the July 1992 VIII International Conference on AIDS.
- Michael Welsh, P. Lamptey, C. Brokenshire, N. Lamson, J. Spilsbury, E. Weiss, S. Weir, S. Boring, *Peer Education: A Critical Assessment of an Approach to AIDS*. Family Health International, Durham, NC, 1991. Poster presented at the July 1991 VII International Conference on AIDS.

RICHARD BUMGARNER, PHD

HEALTH ECONOMICS AND FINANCE, NON-COMMUNICABLE DISEASE
AND TB PROGRAM SPECIALIST

Mr. Bumgarner has been involved with global, high level exposure and responsibility with health policy and disease management issues, health and public sector economics and financing, public-private partnerships, public advocacy and strategy campaigns with global impact and in-depth, multi-sector country expertise.

He has in depth knowledge of Indonesia, China, India and working experience in 50+ other countries; global exposure at senior policy levels in health policy, health finance, non-communicable disease programs and TB program strategy and monitoring and evaluation.

EDUCATIONAL BACKGROUND

- Ph.D. (cand.); Maxwell School of Public Affairs, Syracuse University, NY, 1967-1970
- Masters in International Public Administration; Maxwell School of Public Affairs, Syracuse University, NY USA – 1965-67
- Bachelor of Arts; Gonzaga University; Spokane, Washington, 1961-1965

PROFESSIONAL HISTORY

Senior TB Advisor, Project HOPE, People to People health Foundation, Millwood, VA, USA, 2002-present.

Consultant, Oxford Health Alliance (UK), 2006 – present.

Consultant, Arabella Philanthropic Advisers, Washington DC, 2006- present.

Consultant, PriTest Inc., biotech company in Seattle WA, strategic marketing and policy advisory services. 2005- present

Consultant, Johns Hopkins University, Zinc Task Force, Financing options and strategies. 2006

Consultant, World Bank, Immunization financing and policy studies in Latin America Region, 2003 – 2004.

Consultant, World Health Organization, Research study on aging in China and the advance of chronic non-communicable diseases. Paper presented at Oxford 2020 Vision conference in 12/03. Independent member of Oxford 2020 meetings on NCDs in 2004.

Consultant, Secretariat to Global Commission on Macroeconomics and Health (CMH) – (i) global strategy for implementation of CMH follow-up; (ii) advisory services to China's CMH follow-up including Ministries of Finance, Health, Planning Commission and Development Research Centre of State Council. (2002 – 2004).

Consultant, Malaria Vaccine Initiative (MVI), PATH, 2002 – 2004 - providing strategic advice and research on issues and options for financing of a malaria vaccine.

Consultant to Richard Feachem, Executive Director, Global Fund for AIDS, TB and Malaria, 2002, prepared financial prospectus for Global Fund's Board.

Consultant, Commissioner of Health, New York City for study to merge and reorganize the Department of Public Health and the Department of Mental Health (2002)

Rockefeller Foundation **2000 - 2004**
Consultant
Provide support on behalf of Foundation to the Global Alliance for Vaccines & Immunization (GAVI). Member, GAVI Task Force on Financial Sustainability; adviser, health financing and economics

Institute for Global Health **2001 – 2002**
Consultant
Global Commission on Macroeconomics and Health. Working Group II; author: "Global Public Goods and the Role of the International Organizations"

Rockefeller Foundation **2000 - 2001**
Consultant
Global TB Drug Facility (GDF); Originator of GDF concept and member of core prospectus writing team to establish facility to ensure the uninterrupted access to quality TB drugs for DOTS implementation. This institution was launched by WHO and the STOP TB Partnership in March 2001; adviser to Foundation on policy and strategy for global TB control.

HEALTHRadius, Inc. **1999 - 2001**
Member, Board of Directors **Bellevue, WA**
(an electronic, medical records service offering Internet-based, legally-certifiable personal health data for immunizations and other conditions to public health authorities, doctors and health plans, health institutions and families.

The Compass Project **1999 - 2001**
Member, Executive Board,
A foundation for training in "staged diabetes management"

STOP TB Partnership Initiative, WHO **1998 - 1999**
Originator of concept, head and secretariat member **Geneva**
This Initiative, hosted by WHO and supported by the World Bank, UNICEF, bilateral donors, non-governmental organizations, disease control agencies, private foundations and countries with high TB burdens, has the mandate to accelerate and sustain successful efforts of global TB control through technical direction, capacity building, advocacy, resource mobilization and surveillance.

Global Tuberculosis Programme, WHO **1992 - 1998**
Deputy Director **Geneva**
Played leading role in development of detailed technical strategy and eventual naming thereof – "DOTS" – which became the global norm; oversaw, with Director, build-up and expansion of Programme to become one of WHO's largest and most effective; oversaw GTB's advocacy and education capacity; was leading media spokesperson with multiple appearances on BBC, CNN and in US electronic and print media; responsible for GTB's technical and management advisory boards; led major technical reviews of TB programs in China, India, Mexico, and other countries.

The World Bank **1985 - 1992**
Principal Health Sector Officer, China Department (& previously in Population, Health & Nutrition Department
Leader & primary author, World Bank Health Sector Review entitled "*China: Long Term Issues and Options in the Health Transition*" 2 volumes, 1990.
Manager
Preparation, negotiation and implementation, *Infectious and Endemic Disease Control Project.*, US$130

million credit begun in 1991 for reform of strategy and control of Tuberculosis in 12 provinces of China covering half China's population and control of schistosomiasis in all endemic areas. Project principles adopted as national policy.

Manager

Preparation, negotiation and implementation, *Integrated Regional Health Development Project*, US$55 million credit begun in 1988, for reform and integration of health services in 3 urban/rural regions in Zhejiang, Jiangxi and Shaanxi provinces, covering about 15 million population. Project developed and strengthened systems of regional health management and planning through establishing regional boards of civil society and government authorities from multiple sectors together with health authorities, for logical analysis and planning of all regional health investments.

Manager

Implementation. *Rural Health and Medical Education Project* covering investments in multiple rural areas of projects and investments in 13 national medical universities, reform and strengthening of curriculum, teaching methods, teaching and research equipment and a large program of foreign fellowships. Project included founding of China's first graduate level school of public health; special components of project established or strengthened most parts of the Chinese Academy of Preventive Medicine and the National Centre for Health Statistics.

LANGUAGE SKILLS

French: Basic

Indonesian: Basic

Italian: Basic

MARIJA JONCEVSKA, PHD

REGIONAL LABORATORY SPECIALIST
RUSSIA/EURASIA REGION, PROJECT HOPE

Dr. Marija Joncevska will provide technical laboratory expertise to this project. Dr. Joncevska has over 10 years of global experience in assessing, monitoring, and evaluating TB laboratory services, as well as developing training packages for TB laboratory technicians and on TB control program management.

EDUCATIONAL BACKGROUND

2000	Ph.D. degree in Microbiology, Skopje University "St. Cyril and Methodius"
1992	Master degree, Medical Faculty - Skopje, University "St. Cyril and Methodius"
1991	Completed three year training program in Medical Microbiology
1987	Completed Postgraduate studies in Pulmonology
1981	MD graduate at Medical Faculty in Skopje

ADDITIONAL TRAINING

2002	WHO Training Course For TB Consultants – Sondolo, Italy
2001	WHO Training course for TB Managers - WHO Collaborating Centre, Warsaw.
1999	Completed 7 month Fellowship program in Public Health at George Washington University – School of Public Health and Health Services, Washington DC, USA. Completed academic courses in: Epidemiology & Preventive Medicine; Biostatistical application for Public Health; International Health Policy Analysis and Development; International Health Project Development and Evaluation; Public Health aspects of TB Control in USA.
1997	Completed 2 weeks training for Heads of National Reference TB Laboratories at WHO Collaborating Centre in Warsaw.

WORKING EXPERIENCE

2004	Employment at Project HOPE as Regional Laboratory Specialist for Central Asian Republics
2002	Employment at KNCV (Royal Netherlands Tuberculosis Association) as a Sr Consultant
2000	Member of the Commission for TB Control at the Ministry of Health of Republic of Macedonia
1999	Head of the National Reference TB Laboratory - Macedonia
1991	Organisation of TB laboratory network in Republic of Macedonia
1987	Medical doctor at Hospital Department - National Institute for Lung Diseases and TB
1985	First employment at the National Institute for Lung Disease and TB of Macedonia

COUNTRY MISSIONS

April 2005	GDF Baseline survey of Laboratory service in Tajikistan (GFATM)
January 2005	Laboratory Assessment of Uzbekistan Tuberculosis Program – USAID/Project HOPE TB Control Project
December 2004	GLC-WHO Monitoring mission to Karakalpakstan – Uzbekistan
November 2004	Laboratory Assessment of Kazakhstan Tuberculosis Program – USAID/Project HOPE TB Control Project
November 2004	Laboratory Assessment of Kyrgyzstan Tuberculosis Program – USAID/Project HOPE TB Control Project
October 2004	Laboratory Assessment of Tajikistan Tuberculosis Program – USAID/Project HOPE TB Control Project

July 2003	Assessment of TB laboratory service in Moldova, development of five year plan for upgrading laboratory network (GFATM)
May 2003	Monitoring visit to the Central Board of Health - Tuberculosis Control Program of Zambia (KNCV/CIDA Project)
April 2003	Assessment of TB laboratory service in Pakistan (Dots Expansion Working group, Laboratory Strengthening Subgroup – StopTB partnership)
April 2002	Member of the MCNV-KNCV monitoring team for implementation of the National TB Control Program in Vietnam
March 2002	Member of the Evaluation team for NoTB Baltic Project in Latvia, Estonia and Lithuania
March-October 2002	Evaluation of TB laboratory component of USAID supported projects in Estonia, Latvia, Russian Federation, Kazakhstan, Uzbekistan, Kosovo and Ukraine
November 2000	Training and advisory mission for TB Laboratory service in Albania, WHO Euro Project for TB Control in Macedonia, Albania and Kosovo

EXPERIENCE IN TRAINING

2007	Developed training package “Culture and DST for M tuberculosis”
2006	Developed training package “Basic training in smear microscopy”
2003	Lecturer/facilitator on WHO/KNCV Training Course for Managers in TB Control, WHO Collaborating Centre - Warsaw.
2003	Facilitator on the second WHO/Project Hope/USAID regional training in Tuberculosis Control Program Management – Almaty, Kazakhstan
2002	Facilitator on the first WHO/Project Hope/USAID regional training in Tuberculosis Control Program Management – Almaty, Kazakhstan
2000	Director/facilitator WHO Training Course for Laboratory Technicians – Skopje, Macedonia.
1997	Facilitator on WHO Training Course on “ Managing TB on District Level” – Bitola, Macedonia

NATIVE LANGUAGE Macedonian

FOREIGN LANGUAGES English, Serbian-Croatian, Russian

MARY ANN SEDAY, MPH, PhD (ABD)

DIRECTOR, MONITORING & EVALUATION

Mary Ann Seday joined Project HOPE as the Director of Monitoring and Evaluation in October 2006. She is responsible for designing and implementing an organization-wide routine M&E system, and building individual and organizational capacity for M&E. Ms. Seday has extensive international experience spanning the Latin America and Caribbean and the Southern Africa Regions. She offers eight years of experience providing direct technical assistance in Monitoring and Evaluation to international, regional, national and local partners. She currently holds a Master of Public Health degree; is a PhD candidate in International Health and Development; and is fluent in Spanish.

EDUCATIONAL BACKGROUND

- **PhD Candidate - International Health and Development**, Tulane University School of Public Health and Tropical Medicine, 2008
- **MPH - International Health and Development**, Tulane University School of Public Health and Tropical Medicine, 1998
- **BS - Communication Studies**, Northwestern University, 1987

PROFESSIONAL EXPERIENCE

Project HOPE **10/06 – Present**
Director, Monitoring & Evaluation **Millwood, Virginia**

- Design and implement organization-wide routine M&E system, including data warehouse.
- Build individual and organizational capacity for M&E.
- Support the proposal development process.

UNAIDS **3/06 – 10/06**
Programme Advisor to the Pan-Caribbean HIV/AIDS Partnership (Short-term Assignment) **Georgetown, Guyana**

- Provided technical and managerial support, and broker technical assistance, in the areas of planning, financial, programmatic management, monitoring and evaluation, and research.
- Provided leadership to the accelerated implementation team, identifying bottlenecks inhibiting national and regional program implementation and mobilizing the programmatic response.
- Developed regional action research agenda for AIDS-related stigma and discrimination.
- Contributed to the evaluation of various program activities including: Youth Family Life Education curriculum; a regional mass media campaign on stigma and discrimination; and a regional HIV/AIDS workplace program.

MEASURE Evaluation/ORC Macro International **6/04 – 12/05**
Resident Technical Advisor-USAID Caribbean Regional Program **Port of Spain, Trinidad**

- Coordinated/collaborated with international, regional, national, and civil sector organizations to develop technical partnerships for common goals and objectives for capacity building in M&E.
- Provided direct technical assistance and capacity building to nine National AIDS Programs
- Developed USAID/MEASURE five-year strategic plan for M&E and annual work plans.
- Managed US $ 1.5 million regional program.
- Provided technical assistance to the National AIDS Program/Ministry of Health of Guyana to develop the National M&E Framework in the context of PEPFAR.
- Co-managed a facility survey in nine countries in the Caribbean Region, including selecting local implementing partner, data collection, quality assurance, and data analysis.
- Planned, organized, and conducted regional-level workshops for National HIV/AIDS Programming.

MEASURE Evaluation **8/01 – 6/04**
Evaluation Consultant **New Orleans, Louisiana**

- Developed protocols and participated in strategic planning with local implementing partners of PLACE Methodology Surveys, Bio-Behavioral Surveillance Surveys, and Data Assessment Activities in 6 countries in Sub-Saharan Africa.
- Performed fieldwork required for evaluation of monitoring systems in 5 countries of the USAID Regional HIV/AIDS Program-Southern Africa including, conducting interviews, assessing information management systems, and creating reports of findings.
- Provided capacity building in program management and M&E to partner agency program staff and implementing agency field staff in Sub-Saharan Africa.
- Coordinated writing of NIH grant proposal for Youth Sexual Reproductive Health Education Study in Brazil.
- Analyzed data and created reports for USAID sponsored Service Provision Assessments in Bangladesh.

RESEARCH AND CONSULTANCIES: 1994 – 2002

- Office of Public Health-HIV Surveillance, New Orleans, Louisiana, R*esearch Assistant*, 4/01-8/02
- Louisiana State University, New Orleans, Louisiana, *Research Assistant*, 1/01-11/01
- PASCA (Proyecto Acción SIDA de Centroamérica), El Salvador/Guatemala, *Research Consultant*, 9/00
- PASMO (Pan-American Social Marketing Association), Guatemala City, Guatemala, Qualitative *Research Consultant to a Media Campaign*, 6/00
- The Population Council Guatemala City, Guatemala, *Project Assistant*, 8/99-2/00
- WWF-Biodiversity Support Program Guatemala/Chiapas, Mexico, *Statistical Consultant*, 1/99-12/00
- Centers for Disease Control and Prevention Atlanta, Georgia, Division of HIV/AIDS Prevention-Community Assistance, Planning and National Partnerships Branch, Association of Schools of Public Health (ASPH), *Intern*, 5/98-8/98
- The Behrhorst Clinic Foundation Chimaltenango, Guatemala, *Volunteer Consultant-HIV prevention project*, 5/97-8/97
- Lurie Cancer Center, Northwestern University Chicago, Illinois, *Clinical Research Coordinator*, 8/94-12/97

COUNTRIES OF PROFESSIONAL WORK

Bangladesh, Brazil, El Salvador, Guatemala, Guyana, Mexico, Trinidad

LANGUAGE SKILLS

English: Native **Spanish:** Fluent
Portuguese: Basic **French:** Basic written and understood

RELEVANT PUBLICATIONS / PRESENTATIONS

- Population Council-Guatemala. "NGO Strengthening Program: Processes and Lessons Learned." Internal Publication. Population Council-Guatemala, 1999.
- Hurtado E, Seday MA, Sánchez A, Molina E. "The Mid-Term Evaluation of the NGO Strengthening Program." Internal Report. Population Council-Guatemala, 1999.
- Seday MA, Kissinger P, Niccolai L, et al. "The effect of outreach counseling on high-risk sex behaviors among HIV-infected persons." Working paper. Tulane School of Public Health and Tropical Medicine, 1998.

HECTOR JALIPA, MD, MPH

AFRICA REGIONAL HIV/AIDS/TB SPECIALIST

Dr. Hector Jalipa is the HIV/AIDS Specialist in the Infectious Diseases Unit for programs in the Africa Region. Dr. Jalipa has 20 years experience in the prevention, treatment, and public health control of infectious diseases in Africa. Before he joined Project HOPE, he served as Technical Director and Program Manager in several capacities with World Vision in infectious disease and maternal child health programs in Kenya, Mozambique, and Ethiopia. He has experience as a provider of health care to people with HIV and with TB in Africa, Thailand and the Philippines. He has additional experience in training and education, national HIV prevention programs, TB programs, PMTCT, and care for orphans and vulnerable children. In Nairobi on his last assignment, Dr. Jalipa started a micro-credit program to support families of people living with HIV. Dr. Jalipa holds a medical degree from the University of Manila and an MPH from Harvard University, and is fluent in Portuguese and English.

EDUCATIONAL BACKGROUND

- **MPH in Health Policy and Management**, Harvard University, School of Public Health, Boston, MA, 1992
- **Doctor of Medicine,** University of Santo Tomas Manila, Philippines, 1976
- **Bachelor of Science**, Silliman University Dumaguete, Philippines, 1972

PROFESSIONAL EXPERIENCE

Project HOPE, Millwood, VA, USA **Maputo, Mozambique**
Regional HIV/AIDS Specialist January 2007 to present
Responsible for technical content, quality, and evaluation of HIV/AIDS education and training programs in the Orphans and Vulnerable Children (OVC) Village Health Bank (VHB) program in Mozambique and Namibia. Contribute to design, planning, implementation, and analysis of evaluation activities to ensure achievement of objectives. Coordinate activities and communicate with other Project HOPE country and regional staff. Actively participate in the development, implementation and revision of programs in Mozambique, Namibia, and other emerging HOPE countries.

Kingdom Capital Ltd. **Nairobi, Kenya**
Managing Director July 2006 to December 2006
Established the systems of a microfinaning organization for HIV+ people in the slums of Nairobi. Responsibilities included negotiating with GOK, developing strategies, standards, and protocols, training staff and clients, disbursing loans, banking, networking and marketing.

World Vision International, Monrovia, CA, USA **Nairobi, Kenya**
Africa HIV/AIDS Programme Group Team Leader October 2004 to July 2006
Provided leadership for HIV/AIDS programme group with special focus on strategic development, staff management, quality assurance, M/E, networking, capacity-building, and programme development.
Supervisor – Director of Africa HIV/AIDS Programme (Johannesburg)

Africa Regional HIV/AIDS Advisor February 2001 to 2004
Provided advice to 25 national country programmes on the HIV/AIDS initiative with emphasis on strategic programme development, networking, and capacity-building.
Supervising office – Office of the Vice President (Nairobi)

Africa Regional Health Advisor November 1998 to January 2001
Provided technical support to the health and nutrition programmes in the region especially in the area of capacity-building, strategic programme development and support to Complex Humanitarian Emergency. Supervising office – Office of the Vice President (Nairobi).

Africa Region Relief Health Coordinator January 1995 to 1998
Designed and established the health and nutrition interventions of complex humanitarian emergencies in Africa, including resource mobilisation, documentation, M/E and capacity building.
Supervising office – Africa Relief Regional Office (Johannesburg).

UNICEF – Somalia Programme **Nairobi, Kenya**
Health and Nutrition Consultant April to July 1995
Managed the review process of the 1995 Health and Nutrition programme strategy and implementation plan. Strengthened the EPI and MCH programmes and prepared the country health/nutrition strategy for year 1996. Designed a strategy for collaborative initiatives with NGOs involved in the delivery of health services with the aim of strengthening and standardising delivery of services.

Managed the Health and Nutrition studies/evaluation process by providing technical support to the MCH evaluation and PHC cost sharing/community based health care management.

World Vision International–Kenya **Nairobi, Kenya**
Regional Health Coordinator, Eastern and Southern Africa June 1992 to December 1994
Researched and developed the health and nutrition strategic programmes for Eastern and Southern Africa including resource mobilisation and monitoring of on-going projects. Established the health and nutrition programmes in South Sudan, Rwanda and Angola and trained senior staff in relief health care programming.

World Vision–Mozambique **Maputo, Mozambique**
Manager, Health and Nutrition Programme 1987-1991
Developed the health programme strategy, mobilised resources and managed the three large-scale multimillion dollar primary health care and emergency projects in Tete and Quelimane provinces including budget, staff, documentation, monitoring and evaluation.

USAID–Angola **Luanda, Angola**
NGO Assessment Team November 1988
Member of the assessment team (health, agriculture and logistics) organised by USAID to investigate the needs of the country's health sector with the aim of assisting INGOs to develop their intervention strategies for Angola.

World Vision–Ethiopia **Addis Ababa, Ethiopia**
Manager, Training Department 1986-1987
Developed the curriculum on community-based development and organised the training of World Vision staff and community partners on participatory inductive methodology and technical programme content. Managed the training department, including curriculum development, researched and implemented the training programme.

Manager, Health Programme 1984-1986
Managed the feeding centres for the severely malnourished in Ajibar and Ibnat including clinical treatment, therapeutic and supplementary feeding, development of feeding protocols and staff training.

World Vision–Thailand Refugee Camps, **Ban Vinai and Sakaeo**
Medical Coordinator 1980-1984
Coordinated the interventions of partner NGOs involved in health programme for Hmong and Cambodian refugees (Van Vinai camp, pop. 60,000 and Sakaeo camp, pop. 40,000) including the development of standards and protocols, documentation and reporting. Represented the programme in health forums and national network. Carried out consultations in OPD and wards. Developed the training curriculum and carried out training of hospital medics and public health practitioners.

Philippine Government Ifugao **Philippines**
Chief of Hospital 1979-1980
Managed the 25-bed Tinoc Emergency Hospital, including budget preparation and disbursements, clinical referrals, and in-patient care. Carried out ward rounds and out-patient clinics.

LANGUAGE SKILLS

Portuguese: Native Speaker **English:** Fluent

RELEVANT PUBLICATIONS / PRESENTATIONS

1) Njau, B., Jalipa, H., et al., Influence of Peers and Significant Others on Sexuality and Condom Use Among Youths 15-24 years Old in Northern Tanzania, African Journal of Aids Research, November 2006.
2) Jalipa, H. Mugubi, R., Income Generating Activity for PLWHAs, International AIDS Conference, Toronto, Canada, August 2006.
3) Jalipa, H., Health Programme Interventions in Somalia, Annual Conference of Christian Medical and Dental Society, Nairobi, Kenya, 1995.
4) Jalipa, H., Primary Health Care Intervention in Emergency/Relief, Annual Convention of the Society of Emergency Medicine, Stockholm, Sweden, 1993.

ANNEX 9

Training and Technical Guidelines

Training and Technical Guidelines Attached

MOH Malawi. "CALL TO ENHANCE INCREASE TB CASE FINDING AND INCREASE ACCESS OF ARVS TO TB AND HIV COINFECTED PATIENTS IN MALAWI." 26 August 2006.

NPT Malawi, Dr. Felix Salaniponi, "Request for Funds to print District TB Management Training Modules", 20 February 2007.

In addition, the following training and technical guidelines are available upon request. Due to their length, we are referencing and not enclosing them at this point:

MOH Malawi. "Towards Sustainable and Equitable Tuberculosis Control" National Tuberculosis Programme. Five Year Development Plan. 2006/7 – 2010/11 (11 August 06 version)

MOH Malawi. "Press release: Malawi declares TB to be a national emergency." 25 March, 2007.

MOH Malawi. NTP Health Provider TB Training Manual 2007

International Union Against Tuberclosis and Lung Diseases. Microscopy Training Manual 2000.

WHO. National TB Data 2004. Malawi.

The STOP TB Strategy. Building on and enhancing DOTS to meet the TB-related Millenium Development Goals. 2005

WHO. Improving the diagnosis and treatment of smear negative pulmonary and extrapulmonary TB among adults and adolescents. Recommendations for HIV-prevalent and resource constrained settings. 2007.

WHO. HIV Testing for Life: HIV Testing for all TB patients. 2007.

WHO. Engaging all health care providers in TB control. 2006.

WHO. Advocacy, communication, and social mobilization to fight TB. 2006.

Cited publications

MOH Malawi: Towards sustainable and equitable Tuberculosis Control. National Tuberculosis Programme Five Year Development Plan, 2006/7 – 2010/11 (11 Aug 06 version.

Harries A. Human resources for control of TB and HIV-associated TB. Int Jl Tub Lung Dis 2005;9:128-137

Phalombe District Socio-Economic Profile, March 2006, Phalombe District Assembly.

Mulanje District Socio-Economic Profile, July 2002, Mulanje District Assembly.

South Region report for 2004, provided by the Regional TB Officer

UNDP Human Development Report 2006.

UNICEF Country Statistics, Malawi, 2006.

WHO Global Health Atlas, 2002.

2006 Report on the Global AIDS Epidemic, UNAIDS, Annex 1: Country Profiles and

Health Systems Strengthening and Orphan Care and Support. Malawi Global Fund Application, Round 5, March 17, 2005. Accessed from the internet March 23, 2007: http://www.theglobalfund.org/search/docs/5MLWH_1141_0_full.pdf

Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.

Kemp,J. Mann G. Nhlema B. Salaniponi F. Squire B Improving Access to DOTS for the Poor in Malawi; presentation 2004 Equi-TB Knowledge Perogramme and NTP.

World Health Organization, Global TB Control: surveillance, planning, financing. WHO report 2005, Geneva WHO (WHO/HTM;TB/2005.349).

Warndorff et al. Trends in TB drug resistance in Karunga district, Malawi. Int Jl TB Lung Dis 2000;4:752-7.

Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.

Zachariah R et al. Can we get more HIV positive TB patients on ART in a rural district of Malawi? Int J Tubercul Lund Dis 2005;(3):238-247.

Malawi HIV and AIDS Monitoring and Evaluation Report 2005, Department of Nutrition, HIV and AIDS, December 2005.

Makobme S et al. Who is accessing ART during national scale up in Malawi? Trans Roy Soc Trop Med Hyg 2006;100(10):975-9.

Makombe SD et al. Outcomes of TB patients who start ART under routine program conditions in Malawi. Int J Tuberc Lung Dis 2007;11(4):412-416.

Limbamba E et al. Scaling up ART in Africa: Learning from TB control programs – the case of Malawi. Int J Tuberc Lund Dis 2005; 9(10): 1062-1071.

Zachariah R et al. Acceptance of ART among patients infected with HIV and TB in rural Malawi is low and associated with cost of transport. Plos ONE 1(1):e121. doi:10.1271/journal.pone.00000121

Kwanjana JH et al. TB/HIV seroprevalence in patients with TB in Malawi. Malawi Med J 2001;13:7-10.

MOHP (2003) Malawi Health Facility Survey Report. Planning Unit, Llongwe, Malawi.

Harries A et al. Resources for TB control in Malawi. Bull WHO 2001;79:329-336.

Mundy Cj et al. The operation, quality, and costs of a district hospital laboratory service in Malawi. Trans R Soc Trop Med Hyg 2003;97:403-8.

Harries A et al. When are follow up sputum smears actually examined in patients treated for new smear-positive pulmonary TB? Int Jl Tub Lund Dis 2004;8:440-444.

Manders IJLTB 2001;5:838-842

Banerjee A IJLTD 2000;4:333-339

Sinfield et al. Risk factors for TB infection and disease in young childhood contacts in Malawi. Ann Trop Paediatr 2006;26:205-213.

Zachariah R et al. How can the community contribute in the fight against HIV/AIDS and TB? An example from a rural district in Malawi. Trans R Soc Trop Med Hyg 2006;100:167-75.

Mwaungulu FB et al. Bull WHO 2004;82:354-64.

Sangala WT et al. Screening for pulmonary TB: an acceptable intervention for antenatal care clients and providers? Int J Tub Lung Dis 2006;10:789-794.

Makombe SD et al. Outcomes of TB patients who start ART under routine program conditions in Malawi. Int J Tuberc Lung Dis 2007;11(4):412-416.

WHO Report 2007: Global Tuberculosis Control, pgs 41 and 173

Hargreaves and Chimzizi presentations at ProTEST Lessons Learned Workshop Durban 2003. www.who.int/docstore/gtb/TBHIV/ Durban_feb03/

Improvement Collaboratives (IC), developed by the Institute for Healthcare Improvement (IHI), is a major new approach designed to achieve dramatic improvements in the quality and outcomes of care in a short period of time by fostering active learning among improvement teams and by regularly tracking and communicating results of the improvement efforts.
[1]

Brouwer et al, Traditional healers & pulmonary tuberculosis in Malawi. Intl J Tub Lung Dis1998 Mar;2(3):231-4

Ref. No. NTP / 074, 25 August 2006, Dr. W.O.O. Sangala, Secretary for Health

Chimzizi, Harries, et al. Scaling up HIV/AIDS and joint HIV-TB services in Malawi [Notes from the Field] Intl J TB LD May 2005, pp 582-584

LQAS Manual (March 2002); LQAS Trainer's Guide (2003)

Telegrams: MINMED, Lilongwe

Telephone: Lilongwe 01 789 400

Communications should be addressed to:
Secretary for Health & Population

In reply please quote Ref.No.

MINISTRY OF HEALTH & POPULATION
P.O. Box 30377
LILONGWE
Malawi

SECRETARY FOR HEALTH

Ref. No. NTP / 074 25th August, 2006

The Director
Kamuzu Central Hospital,
P.O. Box 149
Lilongwe

The Director
Queen Elizabeth Central Hospital
P.O. Box 95
Blantyre

The Director
Zomba Central Hospital
P.O. Box 21
Zomba

The Director
Mzuzu Central Hospital
Private Bag 209
Mzuzu

All District Health Officer

All Medical Officers In-Charge
CHAM Hospital

cc : All Directors,
Ministry of Health

All Zonal Health Supervisors

All Zonal TB Officers

WHO Representative, Country Office

Director Light House

Director MACRO

The Coordinator, Reach Trust

Director NAPHAM

CALL TO ENHANCE INCREASE TB CASE FINDING AND INCREASE ACCESS OF ARVS TO TB AND HIV COINFECTED PATIENTS IN MALAWI

This circular is a call to all the above addresses to enhance increase TB case finding and increase access of ARVs to TB and HIV co-infected patients.

1. **Problem of Low Case detection rate and Poor access of ARVs for Patients with TB and HIV Coinfection**

Malawi is not meeting its Millinium Development goals (MDGs) because it is detecting fewer TB cases (only 40% instead of 70% as recommended by WHO). The broad reason in failing to meet this objective is due to barriers in accessing TB diagnosis whose causes include structural and institutional barriers or systems related barriers. Further, although Malawi has an excellent ART delivery Programme and TB control programme by the regional standards, it is a paradox that whilst 77% of TB and HIV coinfected people (22,000 cases) are all eligible for

ARVs, only 8,000 cases (4%) access ARVs. TB and HIV coinfected patients are not accessing ARVs optionally.

2. **Strategies to enhance accessing TB diagnosis and therefore increase TB case detection rate.**

Based on lessons learnt from the Mtsiliza village model in Lilonge of collecting sputum specimen at village level we would like to deploy a deliberate policy for immediate implementation in all health facilities and some targeted villages:-

(a) All TB patients with sputum positive index case should have their household member-contact screened for TB

(b) All HIV patients should be screened for TB and TB patients offered counseling and testing (CT).

(c) Implement a deliberate policy of expedited (rapid) TB diagnostic pathway which in this concept we have called "a universal access to TB diagnosis" at all health facilities in Malawi. This is a new innovation and a shift of the paradigm where patients with chronic productive cough (more than three weeks) demand services to be screened by simply walking to a dedicated "TB corner" or ward or section to collect sputum containers for sputum check up. They do not have to stand in a routine OPD que!

(d) Implement a deliberate policy replicating the Mtsiliza Community TB Core model for collection of sputum at a designated village which is couriered to the health facility with TB diagnostic facility for sputum examinations and the results communicated back to patients for action. This should be started in targeted villages as decided by the respective DHMTs.

3. **Strategies to enhance increase access of ARVs to TB and HIV coinfected Persons**

(a) All TB patients be offered counseling and testing (CT) at the point of TB diagnosis

(b) All TB and HIV coinfected persons access ARVs by linking with ARV package of the patient delivered in advance at the health centre/facility, where the patient will continue to take his/her TB treatment and ARV monitoring.

(c) Harmonize the recording and reporting system in the VCT sites with TB wards/TB registry.

4. Challenges for Implementing the strategies

This is a basic innovation that is working very well in the Mtsiliza model in Lilongwe. The challenge is for the health workers especially those with hands on including clinical officers, environmental health officers, medical assistants, nurses, TB officers, laboratory technicians, health surveillance assistants (SA) to be communicated clearly about this new innovation and shift of paradigm. The health workers will need skills in communication and knowledge to initiate this activity. Staff must also appreciate the importance of maintaining a recording and reporting systems for purposes of monitoring and evaluation. This can be conducted in briefing sessions and training.

5. What opportunities are there to implement this activity?

(a) Mtsiliza model village in Lilonge on sputum collection at village level has demonstrated the feasibility to increase access to TB diagnosis and therefore increase in case finding. Analysis of the records at Mtsiliza indicate that up to 24 sputum cases have been identified in 12 months since starting this initiative. The same area detected only between 1-2 people with sputum positive TB and sometimes non per year in the period before this initiative started in the area. This is therefore an area of best practice for this initiative,

which I would recommend attractively for DHMTs to pay a visit.

(b) Most of the current DIPs have committed to various health workers training. This is an important activity which can be tailored in these trainings.

(c) The National TB Control Programme is available for mentoring and technical guidance in the implementation of this innovation where necessary.

6. Implementation of the foregoing strategy will add value in the continued efforts to reduce the burden of ill health due to tuberculosis.

7. I therefore urge all the addresses to take this call seriously and prioritize in your DIPS for implementation.

Dr. W. O. O. Sangala
SECRETARY FOR HEALTH

Ministry of Health

National TB Control Programme
Community Health Sciences Unit

vate Bag 65, Lilongwe, MALAWI

mail : fclix@comw.net
er-net : tbcontrol@malawi.net
l correspondences to : TB Programme Director

Switch board : (265) 01 753 043
Direct : (265) 01 757 475
(265) 01 752 308
Cell : (265) 08 823 006
: (265) 08 824 538
Tel/Fax : (265) 01 756 828
Residence : (265) 01 761 835

20th February, 2007

The TB Project Manager
Project Hope Malawi
P.O. Box 378
Mulanje

Dear Sir,

REQUEST FOR FUNDS TO PRINT DISTRICT TB MANAGEMENT TRAINING MODULES

I write to kindly request your office for financial assistance to print the above stated modules to be used for this year's first round of District TB Management training scheduled to take place from 5th to 17th March, 2007.

We usually conduct this course in the second quarter and would normally have ample time to go through the MOH channel to print enough copies for this training, but we have delayed due to the fact that we had to adapt the new WHO generic modules to the Malawi situation.

As per the earlier communication, we sourced three quotations to print 50 copies each of a set of 14 modules (700 copies). The cheapest quotation costs MK853, 890.00 (Koma Express Printers).

Looking forward to your continued support,

Yours sincerely,

Dr. Felix M.L. Salaniponi
Director, TB control Programme

ANNEX 10

Budget

Standard Form 424A

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistan Number (b)	Estimated Unobligated Funds Federal (c)	Non-Federal (d)	New or Revised Budget Federal (e)	Non-Federal (f)	Total (g)
1. Headquarters	NA	0	0	331,305	4,350	335,655
2. Field	NA	0	0	1,162,338	504,851	1,667,189
3. NA	NA	NA	NA	NA	NA	NA
4. NA	NA	NA	NA	NA	NA	NA
5. TOTALS	NA	0	0	1,493,643	509,201	2,002,844

SECTION B - BUDGET CATEGORIES					
	GRANT PROGRAM-FUNCTION OR ACTIVITY				TOTAL
6. Object Class Categories	Federal (1)	Non-Federal (2)	(3)	(4)	(5)
a. Personnel	404,844	0	NA	NA	404,844
b. Fringe Benefits	204,551	0	NA	NA	204,551
c. Travel	91,318	0	NA	NA	91,318
d. Equipment	9,861	94,851	NA	NA	104,712
e. Supplies	26,792	413,217	NA	NA	440,009
f. Contractual Services	41,341	0	NA	NA	41,341
g. Construction N/A	0	0	NA	NA	0
h. Other	297,165	0	NA	NA	297,165
i. Total Direct Charges (sum of 6a-6h)	1,075,872	508,068	NA	NA	1,583,940
j. Indirect Charges	417,771	1,133	NA	NA	418,904
k. TOTALS (sum of 6i and 6 j)	1,493,643	509,201	NA	NA	2,002,844
7. Program Income					

USAID Form 424A (9-96)

Standard Form 424A (cont'd.)

SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. Headquarters	4,350	NA	0	4,350
9. Field	504,851	NA	0	504,851
10. NA	NA	NA	NA	NA
11. NA	NA	NA	NA	NA
12. TOTAL (sum of lines 8-11)	509,201	NA	0	509,201

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	398,539	99,635	99,635	99,635	99,635
14. Non-Federal	100,670	25,168	25,168	25,168	25,168
15. TOTAL (sum of lines 13 and 14)	499,209	124,802	124,802	124,802	124,802

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR LIFE OF THE PROJECT						
	Future Funding Periods (Years)					
(a) Grant Program	(b) First	(c) Second	(d) Third	(e) Fourth	(f) Fifth	(g) TOTALS
16. Headquarters	153,840	54,120	53,007	54,646	15,693	331,305
17. Field	244,698	242,924	267,210	212,753	194,753	1,162,338
18. NA	NA	NA	NA	NA	NA	NA
19. NA	NA	NA	NA	NA	NA	NA
20. TOTAL (sum of 16-19)	398,539	297,043	320,217	267,398	210,446	1,493,643

SECTION F - OTHER BUDGET INFORMATION			
21. Direct Charges:	1,583,940	22. Indirect Costs:	418,904
23. Remarks:			

PROJECT HOPE - The People-to-People Health Foundation, Inc.
MALAWI-CHILD SURVIVAL ILLUSTRATIVE BUDGET

FIELD BUDGET	YEAR 1 Budget & Expenditures		YEAR 2 Budget		YEAR 3 Budget		YEAR 4 Budget		YEAR 5 Budget		TOTAL	
	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal
I. PERSONNEL	41,063										41,063	0
Country Representative			4,147		4,313		4,486		4,665		17,611	0
Country Accountant			2,880		2,995		3,115		3,240		12,230	0
Programme Manager			11,400		11,856		12,330		12,823		48,410	0
Trainers (2)			14,993		15,593		16,216		8,433		55,235	0
Sr. Data Manager			6,300		6,552		6,814		5,315		24,981	0
Logistician			3,150		3,276		3,407		0		9,833	0
Accounts Assistant			5,400		5,616		5,841		4,556		21,412	0
Office Assistant			1,500		1,560		1,622		1,265		5,948	0
Secretary			3,600		3,744		3,894		3,037		14,275	0
Drivers (2)			5,400		5,616		5,841		4,556		21,412	0
TOTAL	**41,063**	**0**	**58,770**	**0**	**61,121**	**0**	**63,566**	**0**	**47,890**	**0**	**272,410**	**0**
II. FRINGE BENEFITS												
Malawi Contracted Employees	**28,296**		**33,395**		**35,064**		**36,818**		**38,658**		172,231	0
III. TRAVEL & PER DIEMS												
International												
Country Representative to the U.S.	4,290		4,419		4,551		4,688		0		17,948	0
In-country												
Project staff	16,773		5,150		5,305		5,464		5,628		38,318	0
Total-Travel & Per Diems	**21,063**	**0**	**9,569**	**0**	**9,856**	**0**	**10,151**	**0**	**5,628**	**0**	**56,266**	**0**
IV. EQUIPMENT												
Vehicle	0	88,000									0	88,000
Microscopes (5)	0	6,851									0	6,851
Total-Equipment	**0**	**94,851**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**94,851**

	YEAR 1 Spent thru Feb 07		YEAR 2 Budget		YEAR 3 Budget		YEAR 4 Budget		YEAR 5 Budget		TOTAL	
	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal
V. SUPPLIES												
Computer Configuration & Printers	16,902										16,902	0
Office Furniture	5,330										5,330	0
Fax machine	200										200	0
Office & Computer Supplies	0										0	0
Motorcycles (2)	0										0	0
Printing Supplies for Evaluations	1,097				1,000				2,000		4,097	0
Medical Supplies	0	5,000		**150,000**		**150,000**		**105,000**		**0**	0	410,000
Total-Supplies	**23,529**	**5,000**	**0**	**150,000**	**1,000**	**150,000**	**0**	**105,000**	**2,000**	**0**	**26,529**	**410,000**

VI. CONTRACTUAL SERVICES												
TB Laboratory Trainer	0		0		0		0		0		0	0
BCC Specialist	0		3,150		0		0		0		3,150	0
Baseline Survey Supervisors & Enumerat	3,758		0		0		0		0		3,758	0
Final Survey Supervisors & Enumerators	0		0		0		0		3,757		3,757	0
Mid-Term Evaluation Consultant	0		0		15,338		0		0		15,338	0
Final Evaluation Constant	0		0		0		0		15,338		15,338	0
Total-Contractual Services	**3,758**	**0**	**3,150**	**0**	**15,338**	**0**	**0**	**0**	**19,095**	**0**	**41,341**	**0**
VII. OTHER DIRECT COSTS												
Training	20,232		54,484		46,616		17,458		11,802		150,592	0
Rent	5,325		4,410		4,631		4,862		1,200		20,427	0
Utilities	674		578		606		637		669		3,163	0
Insurance	2,000		2,100		2,205		2,315		2,431		11,051	0
Subscriptions	114		110		110		110		105		549	0
Legal Fees	500		500		500		500		500		2,500	0
Printing & Reproduction	5,597		5,150		5,305		5,464		5,628		27,142	0
Communications	5,644		2,060		2,122		2,185		2,251		14,262	0
Vehicle Maintenance	16,288		5,145		5,402		5,672		5,911		38,418	0
Bank Charges	422		258		265		273		281		1,499	0
Materials Handling	0		0		1,500		1,050		0		2,550	0
Postage	833		0		0		0		0		833	0
Freight/Shipping	2,000		0		6,000		6,300		0		14,300	0
Repairs/Maintenance	2,072		0		0		0		0		2,072	0
Currency Exchange	1,582		0		0		0		0		1,582	0
Total-Other Direct Costs	**63,280**	**0**	**74,794**	**0**	**75,262**	**0**	**46,827**	**0**	**30,777**	**0**	**290,940**	**0**
VIII. TOTAL - DIRECT COSTS	180,990	99,851	179,678	150,000	197,641	150,000	157,361	105,000	144,048	0	859,717	504,851
IX. INDIRECT COSTS	63,708	0	63,246	0	69,570	0	55,391	0	50,705	0	302,621	0
35.2%												
X. GRAND TOTAL	244,698	99,851	242,924	150,000	267,210	150,000	212,753	105,000	194,753	0	1,162,338	504,851

Minor computational differences may occur due to rounding.

8/2/2007

PROJECT HOPE - The People-to-People Health Foundation, Inc.
MALAWI-CHILD SURVIVAL ILLUSTRATIVE FIELD BUDGET NOTES

I. PERSONNEL

U.S. and Malawi contracted employees salaries are based upon salary histories and agreed upon rates.
Per Foundation practice, 4% merit increase is projected each year for employees contracted in Malawi.
As the budget is in dollars, no inflation is calculated on salaries and benefits.
The salary figure is found under personnel and the benefits (vacation/holiday, housing, medical severance/indemnization, and relocation) are found under fringe benefits.

Year 1 calculations for employees working in Malawi are shown below:

Title		Country Representative	Country Accountant	Programme Manager	Trainers (2)	Sr. Data Manager
Total level of effort	%	20%	20%	100%	100%	100%
Salary		4,147	2,880	11,400	14,993	6,300
Vacation/Holiday		346	240	950	1,249	525
Severance/Indemnization		346	240	950	1,249	525
Housing		1,452	1,008	3,990	5,248	2,205
Medical		15	15	100	400	100
Relocation	%	-	-	500	0	0
Total Salary		**4,147**	**2,880**	**11,400**	**14,993**	**6,300**
Total Benefits		2,158	1,503	6,490	8,146	3,355
Total		**6,305**	**4,383**	**17,890**	**23,139**	**9,655**

Title		Logistician (1)	Accounts Assistant	Office Assistant	Secretary (1)	Driver (2)
Total level of effort	%	50%	100%	100%	100%	100%
Salary		3,150	5,400	1,500	3,600	5,400
Vacation/Holiday		263	450	125	300	450
Severance/Indemnization		263	450	125	300	450
Housing		1,103	1,890	525	1,260	1,890
Medical		100	300	300	100	100
Relocation		0	500	500	0	-
Total Salary		**3,150**	**5,400**	**1,500**	**3,600**	**5,400**
Total Benefits		1,728	3,590	1,575	1,960	2,890
Total		**4,878**	**8,990**	**3,075**	**5,560**	**8,290**

II. FRINGE BENEFITS

Local Malawi benefits include one month equivalent of base salary per year for vacation/ holiday pay and one month for severance/indemnization. The housing benefit is calculated at 35% of annual base salary. Medical benefits are calculated at $100 per year per employee. For staff projected to be hired outside of the project area in year one of this project a one-time relocation expense of $500 is calculated.
Please refer to above line "Total Benefits" for demonstration of first year costs for Fringe Benefits.

III. TRAVEL & PER DIEMS (3% inflation added to future years)

International Travel

Country Representative or designee to attend essential training. Costs based upon discounted round trip economy class airfare from Malawi to US at the the rate of $2,500 per ticket for a period of 10 days at a per diem rate of $179 per day (calculated at 1/2 time in DC and 1/2 in Virginia). Years one through **four.**

In-country Travel

On-site/local transportation and per diem cost for the project staff is estimated at $5,000 per year in target areas. Additional in Year 1 for baseline surveys, project start up meetings, and laboratory assessment.

IV. EQUIPMENT (Items over $5,000 each)

The cost of the items shown below to be purchased in Malawi is based on HOPE's previous purchases and local quotes.

Two 4x4 vehicle is projected to be purchased locally in year 1 at $44,000 each. This vehicle will be used for transportation throughout the districts HOPE anticipates to serve.

The cost of the 5 microscopes was £3,465.00 (GBP) = $6,851 US.

V. SUPPLIES (Items under $5,000 each)

The cost of the items shown below to be purchased in Malawi is based on HOPE's previous purchases.
Seven complete new computer configurations including printers are required for the program activities and are estimated at $2,500 each and projected to be purchased in Malawi in year 1.
Office furniture is required for seven new staff members that are projected to be hired in year 1
The estimated cost for this furniture is $700 per employee
One fax machine is projected to be purchased locally in year 1 at $200 for use in sending and receiving documentation from HOPE Center and other locations within the project area.
Office and computer supplies are estimated based upon HOPE's experience in Malawi at $1,000 per year. (This programs' share of support of office supplies in the Country Office is projected at $250 per year. The Project Office supply expenses is projected at $750 per year.)
Baseline and Final Survey (500 surveys x .10 cents/page x 20 pages/survey)
Midterm Evaluation (250 surveys x .10 cents/page x 20 pages/survey)
Pharmaceuticals and lab materials totaling $100,000 per year for years 1-4 and $10,000 in year 5.
The specific types of medical supplies to be provided will be determined annually.
These supplies are part of the Project HOPE's contribution toward this program.
These supplies are projected to be received from US manufacturers and shipped to Malawi
No inflation is added to future years.

VI. CONTRACTUAL SERVICES (3% inflation added to future years)

The following costs are estimated based upon Project HOPE's experience in Malawi.

	Fee	Travel/perdiem	Year 1	Year 2	Year 3	Year 4	Year 5
TB Laboratory Trainer	2,800		2,800				
BCC Specialist	3,150		0	3,150			
Baseline Survey Supervisors & Ei	3,757		3,757				
Final Survey Supervisors & Enum	3,757						3,757
Mid-Term Evaluation Consultant	10,500	4,838			15,338		
Final Evaluation Constant	10,500	4,838					15,338
TOTAL	**34,464**		**6,557**	**3,150**	**15,338**	**0**	**19,095**

VII. OTHER DIRECT COSTS:

TRAINING:
Reference the attached Training Worksheet for a breakdown of all training and workshop activities throughout the life of this project.

Year 1	20,232
Year 2	54,484
Year 3	46,616
Year 4	17,458
Year 5	11,802
Total	150,592

Office rent for the Project HOPE Country office is estimated at $600 per month.
Utilities for the Project HOPE Country Office and Field Office is estimated at $550 per year
Communications costs between HQ and the Country Office is estimated at $2,000 per year.
Communication expenses are estimated for telephone, fax, express mail, cell phone, email, and internet access. An inflationary rate of 5% has been added for years 2 through 5.
Legal and audits fees are estimated at $500 per year
Business /Vehicle insurance is estimated at $2,000 per year for liability insurance.
This is based upone the current rate of $1000/vehicle per year and $500/motocycle per year.

A sum of $100 has been set aside for subscriptions.
General photocopy is estimated at $300 per year
Vehicle maintenance is estimated for gas, oil and repairs at approximately $4,900 per year after the new vehicles are purchased and increased by 5% per year due to the wear on the vehicle as more repairs are expected to be needed. No additional inflation added.
These figures are based on documentation received from the local field staff.
Bank charges to process wire transfers and for other business expenses are estimated at $400 per year.
Shipping is estimated at $12,000 per year to cover the cost of sending the donated medical supplies to the program site. A 5% inflationary rate has been added for years 2 through 5.

VIII. TOTAL DIRECT COSTS (shown on the illustrative budget)

IX. INDIRECT COSTS

Indirect costs are calculated per HOPE's current NICRA of 35.2%.

PROJECT HOPE - The People-to-People Health Foundation, Inc.
MALAWI-CHILD SURVIVAL ILLUSTRATIVE BUDGET

HEADQUARTERS BUDGET	YEAR 1 Budget & Expenditures		YEAR 2 Budget		YEAR 3 Budget		YEAR 4 Budget		YEAR 5 Budget		TOTAL	
	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal	Federal	Non-Federal
I. PERSONNEL	57,281										57,281	0
Regional Director			2,002		2,079		2,162		719		6,962	0
Assistant Regional Director			952		988		1,028		342		3,309	0
Operations Accountant			1,426		1,481		1,540		921		5,367	0
Administrative Support			971		1,008		1,048		209		3,236	0
M & E Technical Backstop			1,213		1,260		1,310		653		4,437	0
Technical Director			3,640		3,780		3,931		784		12,135	0
Technical Specialist			1,080		1,121		1,166		0		3,368	0
Laboratory Specialist			4,550		4,725		4,725		3,267		17,267	0
Technical Associate, HQ Contact			6,673		5,198		5,405		1,797		19,073	0
Total-Personnel	**57,281**	**0**	**22,507**	**0**	**21,640**	**0**	**22,316**	**0**	**8,691**	**0**	**132,434**	**0**
II. FRINGE BENEFITS												
Headquarters	8,834		7,033		6,762		6,974		2,716		32,320	0
Total-Fringe Benefits	**8,834**	**0**	**7,033**	**0**	**6,762**	**0**	**6,974**	**0**	**2,716**	**0**	**32,320**	**0**
III. TRAVEL & PER DIEMS												
Headquarters	7,215		9,006		9,276		9,554		0		35,051	0
Total-Travel & Per Diems	**7,215**	**0**	**9,006**	**0**	**9,276**	**0**	**9,554**	**0**	**0**	**0**	**35,051**	**0**
IV. EQUIPMENT												
Laptop for field staff	2,825		0		0		0		0		2,825	0
Microscopes (5)	7,037		0		0		0		0		7,037	0
Total-Equipment	**9,861**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9,861**	**0**
V. SUPPLIES												
Continuing Educational Materials	262	606		624		643		662		682	262	3,217
Total-Supplies	**262**	**606**	**0**	**624**	**0**	**643**	**0**	**662**	**0**	**682**	**262**	**3,217**
VI. CONTRACTUAL SERVICES												
None budgeted at HQ	0		0		0		0		0		0	0
Total-Contractual Services	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII. OTHER DIRECT COSTS												
Printing & Reproduction	248		255		263		271		0		1,038	0
Communications	300		309		318		328		0		1,255	0
Postage	196		202		208		215		0		822	0
Shipping	396		408		420		433		100		1,756	0
Bank charges	300		309		318		328		100		1,355	0
Total-Other Direct Costs	**1,440**	**0**	**1,483**	**0**	**1,528**	**0**	**1,574**	**0**	**200**	**0**	**6,225**	**0**
VIII. TOTAL DIRECT COSTS	**84,894**	**606**	**40,029**	**624**	**39,206**	**643**	**40,418**	**662**	**11,607**	**682**	**216,155**	**3,217**
IX. INDIRECT COSTS 35.2%	68,947	213	14,090	220	13,801	226	14,227	233	4,086	240	115,151	1,133
X. GRAND TOTAL	**153,840**	**819**	**54,120**	**844**	**53,007**	**869**	**54,646**	**895**	**15,693**	**922**	**331,305**	**4,350**

Minor computational differences may occur due to rounding.
8/2/2007

PROJECT HOPE - The People-to-People Health Foundation, Inc.
MALAWI-CHILD SURVIVAL ILLUSTRATIVE HEADQUARTERS BUDGET NOTES

I. PERSONNEL

Headquarters employees salaries are based upon salary histories and agreed upon rates.
Per Foundation practice, a 4% merit increase is estimated each year for headquarters employees.

Title		**Year 1**	**7 months**		
		Regional	Asst. Reg.	Operations	Adm.
Total level of effort	%	Director	Dir.	Accountant	Asst.
Salaries		2.00%	2.0%	3.00%	4.00%
Benefits		1,283	610	823	747
Total		401	191	257	233
		1,684	801	1,080	980

Title						
		M & E	Technical	Technical	Technical	Laboratory
Total level of effort	%	Tech. Backst	Director	Specialist	Associate	Specialist
Salaries		2.0%	4.0%	2.0%	20.0%	5.0%
Benefits		1,167	2,800	1,038	6,417	1,517
Total		365	875	324	2,005	474
		1,531	3,675	1,363	8,422	1,991

Year 2

Regional Director	Asst. Reg. Dir.	Operations Accountant	Adm. Asst.
3.0%	3.0%	5.0%	5.0%
2,002	952	1,426	971
626	297	446	303
2,628	1,249	1,871	1,274

M & E Tech. Backstop	Technical Director	Technical Specialist	Technical Associate	Laboratory Specialist
2.0%	5.0%	2.0%	20.0%	15.0%
1,213	3,640	1,080	6,673	4,550
379	1,138	337	2,085	1,422
1,593	4,778	1,417	8,759	5,972

Year 3-4

Regional Director	Asst. Reg. Dir.	Operations Accountant	Adm. Asst.
3.0%	3.0%	5.0%	5.0%
2,079	988	1,481	1,008
650	309	463	315
2,729	1,297	1,943	1,323

M & E Tech. Backst	Technical Director	Technical Specialist	Technical Associate	Laboratory Specialist
2.0%	5.0%	2.0%	15.0%	15.0%
1,260	3,780	1,121	5,198	4,725
394	1,181	350	1,624	1,477
1,654	4,961	1,472	6,822	6,202

Year 5

Regional Director	Asst. Reg. Dir.	Operations Accountant	Adm. Asst.
1.0%	1.0%	3.0%	1.0%
719	342	921	209
225	107	288	65
943	448	1,209	274

M & E Tech. Backstop	Technical Director	Technical Specialist	Technical Associate	Laboratory Specialist
1.0%	1.0%	0.0%	5.0%	10.0%
653	784	-	1,797	3,267
204	245	0	561	1,021
858	1,029	-	2,358	4,288

II. FRINGE BENEFITS

Fringe benefits for headquarters staff are calculated at 31.25% of salary to include health, dental and life insurance, long-term disability, travel/accident insurance, workman's compensation, pension plan, social security and payroll taxes.

III. TRAVEL & PER DIEMS (3% inflation added to future years)

Headquarters travel to Malawi is estimated at one trip per year during years one through four.
Includes travel from Kazakstan to Malawi for our laboratory specialist, estimated at $4,200.
Airfare travel is estimated at $2,500 based upon discounted economy class fare.

Per diems are estimated at the official U.S. Government rate of $186 per day for Blantyre, Malawi as found in the "Maximum Travel Per Diem Allowances for Foreign Areas".
Because of travel connections, the person must overnight going and coming from Malawi in Johannesburg, South Africa and the per diem rate is $223 per day. During each trip 12 days (10 in Blantyre and 2 days in Johannesburg).

IV. EQUIPMENT (Items over $5,000 each)

Laptop computer was purchased for field country representative.
5 microscopes will be purchased for field microscopy sites.

V. SUPPLIES (Items under $5,000 each)

Items purchased in the U.S. and used at the HOPE Center for program purposes has a materials handling expense (1%) added to the cost of the item. Cost shown below are based on HOPE's purchasing department experience.
Continuing educational materials and supplies are estimated at $50 per month and will be used by the technical backstopping personnel located at the HOPE Center. 3% inflation is added to future years.

VI. CONTRACTUAL SERVICES

All contractual services are shown on the Field Budget.

VII. OTHER DIRECT COSTS (in most cases below, 3% inflation added to future years)

The following costs are estimated based upon Project HOPE's experience while working in Malawi:
Printing and reproduction expenses are estimated for monthly, quarterly and annual reports related to this project at $600 per year.
Communication expenses are estimated for telephone, fax and mail at $50 per month. Free means of communication including email and Skype are used as much as possible for cost savings.
Postage is estimated at $400 per year and shipping at $150 per year.
Bank charges are incurred at a rate of approximately $250 per year.

VIII. TOTAL DIRECT COSTS (shown on the illustrative budget)

IX. INDIRECT COSTS

Indirect costs are calculated per HOPE's current NICRA of 35.2%.
Indirect cost base excludes equipment items greater than $1,000, Subcontracts greater than $25,000 and GIK

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Training Costs by Year

	# of Days	# of Participants per session	# of sessions	Cost per participant	Total	Year 1	Year 2	Year 3	Year 4	Year 5
Baseline Assessment Preparation	2	30	2	$ 56.20	$ 6,744	6,744	0	0	0	0
Final Assessment Preparation	2	30	2	$ 56.20	$ 6,744					6,744
TB health workers - DOTS protocols & TB/HIV co-infection	3	25	6	$ 56.20	$ 25,290	8,430	8430	8,430	0	0
Training for Existing Microscopists	10	6	1	$ 56.20	$ 3,372		2,248	1,124	0	0
Training for New Microscopists	10	12	3	$ 56.20	$ 20,232		13,488	6,744	0	0
HSA Training	2	28	8	$ 56.20	$ 25,178	0	12,589	12,589	0	0
HIV/AIDS health care worker training	3	30	5	$ 56.20	$ 25,290	5,058	5,058	5,058	5,058	5,058
VCT Provider Training	1	20	4	$ 13.56	$ 1,085	0	271	271	0	0
Advanced DOTS--TB Treatment Wrkshp	2	25	6	$ 56.20	$ 16,860		5,620	5,620	5,620	0
Evidence-based Problem Identification & Management & Supervisory Methods	5	15	1	$ 13.56	$ 1,017		2,260	2,260	2,260	0
Traditional Healer TB and HIV Screening & Referral	1	50	10	$ 13.56	$ 6,780		2,260	2,260	2,260	0
Drug Seller TB & HIV Screening & Referral	1	50	10	$ 13.56	$ 6,780		2,260	2,260	2,260	0
Total Cost					**$ 145,371**	**$ 20,232**	**$ 54,484**	**$ 46,616**	**$ 17,458**	**$ 11,802**

ANNEX 11

Other

- List of Hospitals, Dispensaries and Health Centers in Mulanje District

Tuberculosis Control in Southern Malawi

Detailed Implementation Plan

List of Hospitals, Dispensaries and Health Centers in Mulanje District

TA	Health Facility	Type	Distance from Boma (KM)	Distance in Minutes
Boma	Mulanje District	Hospital	0.5	5
Chikumbu	Chisitu	Health Centre	10	20
	Mulanje Mission	CHAM	6	20
Laston Juma	Namphungo	Health Centre	40	40
	Namulenga	Health Centre	31	30
	Thuchila	Health Centre	23	25
Laston Njema	Chisambo	Estate Clinic	20	30
	Lujeri	Estate Clinic	25	45
	Limbuli	Estate Clinic	18	45
	Muloza	Health Centre	35	45
	Namasalima	Health Centre	30	30
Mabuka	Likanga	Estate Clinic	15	60
	Milonde	Health Centre	21	60
	Bondo	Health Centre	17	40
	Chinyama	Health Centre	40	60
	Dzenje	Health Centre	29	60
	Eldorado	Estate Clinic	8	20
	Esperanza	Estate Clinic	2	5
	Glenorchy	Estate Clinic	5	20
	Lauderdale	Estate Clinic	3	15
	Mbiza	Health Centre	34	60
	Mimosa	Health Centre	14	20
	Mimosa Tea Research	Estate Clinic	14	15
	Mulanje Canning	Estate Clinic	8	20
	Mpala	Health Centre	17	30
	Sayama	Estate Clinic	5	25
	Thembe	Health Centre	24	20

Nkanda	Chambe	Health Centre	18	60
	Kambenje	Health Centre	18	60
	Mulomba	Health Centre	60	90
Nthiramanja	Chonde	Health Centre	23	30
	Naphimba	Health Centre	30	40

List of Hospitals, Dispensaries and Health Centers in Phalombe District

TA	Health Facility	Type	Distance in Minutes	Distance from Boma (km)
Boma	Phalombe	Health centre	5	0
Chiwalo	Nambazo	Health centre	60	52
Jenala	Holy Family	CHAM	20	5
Kaduya	Mkhwayi	Health centre	40	30
Nkhumba	Kalinde	Health centre	35	20
	Mwanga	Health centre	45	42
Nazombe	Mpasa	Health Centre	20	8
	Chitekesa	Health centre	60	42
	Migowi	Health centre	25	11
	Chiringa	Health centre	40	30
	Chiringa Maternity	Maternity Unit	43	32
Nkhulambe	Nambiti 1	Health Centre	30	35
	NAmbiti 2	Health Centre	30	37
	Nkhulambe	Health centre	60	45
	Sukasanje	Health centre	60	50

Checklist for conducting monitoring visits to smear microscopy lab

National TB Program: _____ District: _____

Laboratory: _____ Population covered: _____

Lab technician in charge: _____ Other lab staff: _____

Monitoring specialist: _____ Date: _____

Indicators	Yes	No	Comment
1. Input			
1.1 Standard laboratory organization and layout			
1.2 Laboratory staff qualification and number according to the workload			
1.3 Functioning binocular microscope			
1.4 Small laboratory equipment and supplies			
1.5 Staining reagents available			
1.6 Sufficient amounts in stock			
1.7 Laboratory register and forms available			
1.8 Written Standard Operating Procedures			
2. Process			
2.1 Properly organized workflow			
2.2 Standard smear preparation			
2.3 Standard Ziehl Neelsen staining			
2.4 Implementation of internal quality control procedures			
2.5 Correct recording and reporting			
2.6 Slide keeping and storage			
2.7 Implementation of safety measures			
3. Output			
3.1 Results from the last proficiency testing			
3.2 Smear positive cases among suspects			
3.3 Completed smear examinations according to the standard requirements			