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A SUMMATIVE EVALUATION OF THE PILOT FACILITIES PROVIDING TB-DOTS IN THE PRIVATE SECTOR



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Submitted to: Bradley Corner, CTO
Office of Health, Population, and Nutrition
United States Agency for International Development/Ethiopia
Addis Ababa, Ethiopia

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DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

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ACRONYMS

AA	Addis Ababa
AFB	Acid-Fast Bacilli
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy/Treatment
CPT	Cotrimoxazole Preventive Treatment
CT	Counseling and Testing
DOTS	Directly Observed Therapy, Short Course
E	Ethambutol
EC	Ethiopian Calendar
EH	Ethambutol Hydrochloride
FMOH	Federal Ministry of Health
HIV	Human Immunodeficiency Virus
INH	Isonicotinyl Hydrazine
IPT	Isoniazid Preventive Therapy
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
NTP	National TB Program
PICT	Provider-initiated Counseling and Testing
PPM	Public-Private Mix
PSP-E	Private Sector Program-Ethiopia
Q	Quarter
RHB	Regional Health Bureau
RHZ	Rifampicin, isoniazid, and pyrazinamide
RHZE	Rifampicin,isoniazid, pyrazinamide and ethambutol
SOP	Standard Operating Procedure
STM	Streptomycin
TB	Tuberculosis
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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EXECUTIVE SUMMARY

The rapid growth of the HIV/AIDS epidemic in Ethiopia has resulted in an equally dramatic rise in tuberculosis (TB) cases. With a national case detection rate of 34%, the country is now ranked 8th in TB prevalence among High Burden Countries. The federal government of Ethiopia has been working on multiple fronts to reduce morbidity and mortality from TB. Current efforts to control TB are aimed at achieving two global targets: detecting 70% of the estimated TB cases globally and curing 85% of the detected cases. In order to reach these goals, there has been an increased interest in Public-Private Mix (PPM) Directly Observed Therapy–Short Course (DOTS) implementation.

In April 2006, the USAID Private Sector Program (PSP) provided support to the national technical working group in developing PPM guidelines and selection criteria for private health facilities, as well as providing training for health workers on TB, TB/HIV, physician-initiated counseling and testing, acid-fast bacilli (AFB) and rapid testing. Service provision in the private health facilities (PPM-DOTS) was then initiated. The selection of pilot sites was limited to 11 health facilities in Addis Ababa and nine health facilities in Oromiya (four hospitals and 16 higher clinics).

An assessment of the 20 health facilities was conducted in December 2007. The main objective of the evaluation was to assess the overall performance of the PPM-DOTS sites and propose a set of recommendations for program scale-up and replication. An evaluation team comprising PSP-E staff, Abt headquarters staff, and regional health bureau (RHB) staff designed the data collection tools and subsequently conducted the assessment. The assessment combined qualitative and quantitative data in the form of questionnaires, quarterly reports, and other secondary information. The team also made use of feedback and observations from regular supportive supervision visits, monitoring reports, and quarterly reports.

The main areas covered by the evaluation include human resources and staffing, drugs and logistics, case detection and treatment outcomes, laboratory and waste disposal, infrastructure, monitoring and evaluation (M&E), and data quality. The results of the assessment and the subsequent recommendations are as follows:

1. **Staffing:** The 11 participating private facilities in Addis Ababa have a total of 42 resident physicians, approximately four per facility. The total number of doctors working at the nine pilot facilities in Oromiya is 25, nearly three doctors per facility. The total number of nurses was 101 (52 in Addis Ababa and 49 in Oromiya), or five per facility. All 20 PPM-DOTS pilot sites have at least a laboratory technician and counselor working on a full-time basis. Despite the large number of staff available in the pilot sites, attrition among doctors is very high.
2. **Drugs and logistics:** Nearly all facilities had a sufficient amount of first-line anti-TB drug combinations RHZE, RHZ, and EH at the time of the assessment. The shelf-life of available drugs was extremely short, which may suggest challenges with drug supply chain management. It is well documented from the public sector that drug stock-outs have the potential to hamper the delivery of quality TB services at the selected sites. Efforts should be made to improve drug logistics and forge better public-private partnerships.
3. **Case detection and treatment outcomes:** At the time of the assessment, a total of 1,441 TB patients (all forms) were diagnosed and registered as new cases. The TB morbidity burden is highly concentrated among 15-34 year olds, which is comparable to national TB burden rates and the 2006-2007 Oromiya region annual report. The proportion of smear positive cases is lower than the regional averages and requires further study. Treatment success (cured and treatment completed) was 58% in our pilot sites, which is much lower than the 85% standard set by the World Health Organization (WHO). The huge disparity in treatment success rates might be explained by a high transfer-out rate in the early phases.

4. Laboratory, waste disposal, and infrastructure: All the pilot facilities had the basic diagnostic investigation (sputum AFB) test in their laboratory. Three (15%) of the facilities had standard operating procedures for AFB. Eighteen (90%) of the clinics had a functional sink with running water in the laboratory. Four (20%) of laboratories had a covered dustbin for sputum cups and syringe disposal.
5. Infrastructure: Since PPM is a relatively new initiative in Ethiopia, more effort should be put into bridging the technical and institutional capacity gaps between public and private, building trust among health providers to accept referrals from each sector and facilitating joint in-service training. The public sector sometimes fails to acknowledge the diagnosis and subsequent treatment performed in private facilities.
6. M&E and data quality: Recording and reporting formats and registries were not consistently available at the sites. Only seven facilities in Addis Ababa and four facilities in Oromiya kept complete records and reports. A high turnover rate of trained health professionals could account for some of this. There was also a serious problem with errors in recording. Regular coaching on data recording and reporting should be available. Reports and registries must be readily available at all times as well.

I. INTRODUCTION

The role of the private sector in expanding access to priority health services has received considerable attention in Ethiopia. The federal government of Ethiopia, in collaboration with development partners, has been working hard to explore innovative ways of achieve national and international health targets for tuberculosis (TB), malaria, and HIV/AIDS. Recently, the country has become increasingly interested in developing and implementing public-private partnerships in TB and HIV/AIDS services. TB has been recognized as a major public health problem in Ethiopia. The federal government maintains a policy of free TB treatment to all patients who need it. It is widely acknowledged that if the country has to increase its case detection rate from 34% to 75% by 2015, all relevant actors, public and private, must be involved (Federal Ministry of Health [FMOH] 2005, TLCP Manual).

Involving the private sector will help to maximize Public-Private Mix (PPM) Directly Observed Therapy–Short Course (DOTS) coverage and a more efficient use of existing resources. In fact, a major factor behind the increased interest in PPM-DOTS is the failure to reach and sustain a case detection rate that will lead to a global detection rate of 70% within the DOTS expansion in public health care facilities. Current efforts to control TB are aimed at achieving two global targets through rapid expansion of DOTS: detecting 70% of the estimated TB cases globally and curing 85% of the detected cases. The ultimate goal of encouraging efforts to achieve PPM-DOTS in diverse setting is to ensure that the large numbers of TB patients under private care can access care and are managed as recommended under DOTS (World Health Organization [WHO] 2003, First Meeting of the Public-Private Mix).

Despite the interest in PPM, very little is known about the capability of the private health sector in Ethiopia. Much of what is known is based on anecdotal or single facility case evidence. This report provides information on a summative evaluation of a one-year pilot project that was implemented from November 2007 to November 2008 by the USAID Private Sector Program-Ethiopia (PSP-E) with the assistance of the Addis Ababa and Oromiya Regional Health Bureaus (RHBs).

The rest of this report is divided into four parts. Section 2 outlines the background and purpose of the evaluation. Section 3 describes the technical approach, including the evaluation design and data collection process. Section 4 outlines how data were collected, tabulated, and analyzed. Section 5 describes and discusses results, and Section 6 presents conclusions and recommendations.

2. BACKGROUND

The rapid growth of the HIV/AIDS epidemic in Ethiopia has resulted in an equally dramatic rise in TB cases. The social and economic burden of TB in Ethiopia is enormous. Poverty, difficult living conditions, and limited access to treatment have made the population especially vulnerable to TB and the country is now ranked eighth among High Burden Countries. The incidence of all forms of TB and smear positive TB is 344 and 152 cases per 100,000 population, respectively. TB prevalence and mortality of all forms is estimated to be 546 and 73 cases per 100,000 population, respectively (WHO 2007). The HIV/AIDS epidemic has exacerbated the TB problem and demands concerted and urgent action.

The private sector plays a significant role in health care delivery in Ethiopia. For instance, in 2002, the private for-profit sector employed 55% of the general practitioners, 65% of specialists, and 79% of the laboratory technicians available in the country (FMOH 2006, PPM Implementation Guidelines). The large pool of private sector health providers can also play an important role in detecting TB and other public health problems.

There were several attempts, between 2000 and 2005, to forge public-private partnerships for TB control in Ethiopia. For example, Ethiopia participated in the regional proposal development workshop in Nairobi, Kenya, in June 2003. Eight countries – Ethiopia, Ghana, Kenya, Nigeria, South Africa, Uganda, Zambia, and Zimbabwe – developed a proposal to initiate PPM-DOTS. However, a paucity of resources hindered PPM-DOTS implementation in the region. The limited capacity of national TB programs (NTPs) to take on new initiatives was also a major obstacle (WHO 2004, Public-Private Mix for DOTS, Global Progress).

In Ethiopia in 2005, with appropriate input from all NTP stakeholders, a PPM concept paper was developed, a policy dialogue workshop was conducted, and a national PPM technical working group was established. In April 2006, the PSP provided support to the national technical working group in developing PPM guidelines and selection criteria for private health facilities, as well as providing training for health workers (medical doctors, nurses, and laboratory technicians) on TB, TB/HIV, physician-initiated HIV counseling and testing (PICT), and acid-fast bacilli (AFB) and rapid testing. Service provision in the private health facilities was then initiated. The selection of pilot sites was limited to Addis Ababa and Oromiya regions, as these regions possess higher numbers of private health facilities. Moreover, the geographical proximity allowed for close monitoring of programmatic activities and the drawing of lessons from pilot sites before the scaling-up of PPM throughout the country. Eleven health facilities in Addis Ababa and nine health facilities in Oromiya (four hospitals and 16 higher clinics) were selected based on criteria developed by the national technical working group shown in Table I.

TABLE I. SELECTION CRITERIA FOR 20 PILOT SITES

SUGGESTED SELECTION CRITERIA	
A. Facility's Willingness To Participate In PPM-TB and TB/HIV Care	▪ Accepts Training, Logistics And Reporting Requirements
B. Ability To Increase Access To Care For TB and TB/HIV Patients	▪ Location, And Socioeconomic Status Of Clients
C. Facility Already Has A High Case Load And Is Therefore Likely To See More TB and TB/HIV Cases	
D. Good Infrastructure	▪ Well-Ventilated Rooms, Adequate Waste Disposal, Etc.
E. Human Resources	▪ Availability Of Sufficient Numbers Of Health Care Staff
F. Availability Of Complementary Services	▪ VCT [voluntary counseling and testing] And Other Services Which Facilitate Comprehensive Care

In November 2006, PSP-E in collaboration with the FMOH started implementing a one-year DOTS service in 20 private facilities in the two regions. The purpose of the pilot was to: (a) assess the potential opportunities of expanding access to TB DOTS coverage in the private sector; (b) assess the willingness and ability of the private sector to deliver TB/DOTS activities ; and (c) understand operational issues such as reporting, supervision, and quality related to delivering TB care.

Before delivering TB services, each of the selected facilities had to meet the federal government minimum requirements for delivering TB/HIV services. The requirements include a license from the respective health bureau, being geographically accessible to TB/HIV patients, observing safety precautions, possessing and adhering to national TB protocols and standards, and having signed a Memorandum of Understanding (MOU) with the FMOH. The FMOH outlined the roles and responsibility of each of the parties. Table 2 shows the distribution of the facilities by region and by level of care.

TABLE 2. NUMBER OF FACILITIES, BY LEVEL AND REGION

Level of Facility	Addis Ababa RHB	Oromiya RHB	Total
Specialized hospitals	2	0	2
General hospitals	1	1	2
Higher clinics	8	7	15
Medium clinics	0	1	1
Total	11	9	20

The FMOH and RHBs were responsible for providing anti-TB drugs, laboratory reagents, and recording and reporting forms. In addition, the institutions provided supportive supervision and program monitoring. PSP-E was responsible for training providers in the pilot sites, coordinating supervision, and reporting to the RHBs and FMOH.

It has been one year since PPM-DOTS was implemented in Ethiopia. Evidence is now available on programmatic and partnership issues based on the experiences and lessons learned from existing PPM sites. These lessons will contribute greatly to the successful scale-up of PPM in the country.

3. TECHNICAL APPROACH

The technical approach applied for the evaluation, formation of the evaluation team, designing the evaluation tool, conducting the data collection, analysis, and interpretation is discussed below.

3.1 OBJECTIVES OF THE EVALUATION

The main objective of the evaluation was to assess the overall performance of the PPM-DOTS sites and propose a set of recommendations for program scale-up and replication.

More specifically, the assessment aimed to:

- Evaluate the program’s overall performance including service delivery, training, systems development, collaboration, and networking;
- Evaluate the human resource capacity of the pilot sites;
- Assess the level of logistics management;
- Review the data quality, recording, and reporting mechanisms of the pilot sites;
- Assess the quality of laboratory services, waste disposal, and external quality assurance;
- Observe the infrastructure at each facility (e.g., ventilation, adequate spacing, lighting, cleanliness, etc.);
- Evaluate the functionality and regularity of supportive supervision and monitoring mechanisms of the program; and,
- Identify major gaps, challenges, and lessons learned for future consideration.

3.2 EVALUATION TEAM

The evaluation team consisted of two project staff, a nurse from the RHB, staff from the town health offices, and a senior technical advisor from the headquarters in Washington, D.C.

TABLE 3. ROLES AND RESPONSIBILITIES OF THE EVALUATION TEAM MEMBERS

Name/title	Role	Responsibility
Gilbert Kombe (senior advisor)	Lead evaluator	Oversight of all activities to ensure that evaluation is conducted as planned
Wondwossen Assefa (TB/HIV Advisor)	Data collection and analysis	Gather and review data Provide support and guidance to data analysis and dissemination Participate in report writing
Dawit Assefa (TB/DOTS consultant)	Technical writing	Contribute to the technical write-up of the findings
Faris Hussein (Program Coordinator)	Technical writing	Contribute to the technical write-up of the findings
Wasihun Andualem (Monitoring and Evaluation Advisor)	Data analysis	Analyze quantitative data and coordinate analysis of qualitative data Participate in report writing
Abinet Leykun (Program Director)	Project liaison and advisor	Coordinate data collection with pilot sites

3.3 DESIGN OF THE EVALUATION

A one-day consultative technical meeting was held in the PSP-E office to discuss methodology design, evaluation tools, team set-up, and a plan of action. The evaluation tools were designed by the PSP-E technical team in collaboration with the RHBs. (See Annex I.) A four-person team from PSP-E conducted the evaluation with formal participation of the collaborating institutions including the Addis Ababa and Oromiya RHBs, the town health offices, and private facilities in December 2007. In each of the facilities, a questionnaire was administered to eligible facility managers and health staff. Eligible staff were those in charge of the services included in the evaluation.

The evaluation used applied both quantitative and qualitative methods to assess all 20 pilot sites. The quantitative assessment consisted of structured questions while the qualitative assessment involved key informant interviews with facility owners, clinic managers, town health officers, and direct observation of the facilities.

4. DATA COLLECTION, TABULATION, AND ANALYSIS

Completed questionnaires, quarterly reports, and other secondary data were reviewed for accuracy by the PSP-E technical team. An experienced data entry clerk with prior in-depth orientation on the tools and information was recruited prior to the evaluation. The quantitative data was entered using Statistical Package for Social Sciences (SPSS) version 12. The qualitative information was categorized and analyzed according to different response themes in order to facilitate interpretation and triangulation.

The team also gathered additional information from regular supportive supervision visits, monitoring reports, and quarterly reports to PSP-E. Moreover, the team considered insights of facility observations regarding inventory of equipment, utilization of facilities (patient flow), status of facilities (ventilation, lighting, adequacy of space, client handling, and treatment procedures), and recording and reporting practices of health professionals.

The analysis and report writing was also undertaken by a team composed of PSP-E staff (experts from the program, the TB/HIV team, the counseling and testing team, and the monitoring and evaluation [M&E] team) using an agreed outline of the report. While the report writing was taking place, a weekly meeting on PPM-DOTS pilot sites was established to discuss pressing issues and address problems and challenges identified in the assessment. These meetings further discussed the progress of the joint action and the resulting input was incorporated into this report.

5. FINDINGS AND DISCUSSION

The findings and discussion examines eight focal areas of the evaluation: human resources and staffing, drugs and logistics, case detection and treatment outcomes, laboratory and waste disposal, referral networks, infrastructure, M&E, and data quality.

5.1 HUMAN RESOURCES AND STAFFING

During the joint supervision conducted at the site, structured interview questionnaires were used to gather data related to the human resource pool at the 20 private facilities. The results of the data are summarized in Table 4.

TABLE 4. NUMBER OF HEALTH PROFESSIONALS WORKING AT ADDIS ABABA AND OROMIYA PPM-DOTS PILOT PRIVATE FACILITIES

Type of Health Professional	Addis Ababa Sites	Oromiya Sites	Total
Doctor	42	25	67
Nurse	52	49	101
Lab technician	28	24	52
Counselor	15	17	32
Pharmacist	7	-	7
TOTAL	144	115	259

As indicated in Table 4, the total number of doctors working in both the Addis Ababa and Oromiya PPM-DOTS pilot facilities is 67. The 11 participating private facilities in Addis Ababa have a total of 42 resident physicians. This equates to roughly four doctors per facility. Similarly, the total number of doctors working at the nine PPM-DOTS facilities in Oromiya is 25, an approximate distribution of less than three doctors per facility.

The total number of nurses working in the 20 PPM-DOTS facilities was 101. The number was evenly split between Addis Ababa (52 nurses) and Oromiya (49). Data indicates that there are about five nurses per facility in both Addis Ababa and Oromiya.

All 20 PPM DOTS pilot sites have laboratory technicians and counselors working on a full-time basis. There are 28 laboratory technicians working at the 11 pilot facilities in Addis Ababa and 24 laboratory technicians working at the nine pilot sites in Oromiya, for a combined total of 52. The presence of 52 laboratory technicians indicates that at least two are available at each facility to cover day and/or evening clients. Table 4 further shows that each pilot facility has at least one counselor to facilitate a TB/HIV co-management strategy.

Staff development, in general, is a critical component of any DOTS program. National guidelines require that all higher clinics have at least one resident, two nurses, and a lab technician working full time. Given that all pilot sites average three full-time doctors, five full-time nurses, and two full-time laboratory technicians, each of the pilot sites meets the national requirements for adequate manpower. Regardless of this fact, challenges of maintaining a competent and sufficient workforce remain problematic. This problem is confounded by high staff turnover. Like the public sector, the private sector is in great need of in-service training activities to update providers on new activities such as the Stop TB Strategy, including the management of TB linked to HIV/AIDS, multi-drug resistant TB, and PPM-DOTS.

The assessment also looked at the number of health workers trained and attrition among health workers during the pilot phase. Data in Table 5 indicates that all 20 facilities had sent a doctor, a nurse, and a lab technician for two weeks of training on modules related to TB-HIV management. As such, a total of 60 health personnel (three per facility) were trained at the onset of the program. The table further shows that essential topics related to TB-HIV management were covered during the training. This included TB DOTS, PICT, Voluntary Counseling and Testing (VCT), HIV basics, and rapid HIV test and AFB staining.

TABLE 5: TRAINING COVERAGE AND ATTRITION RATE OF HEALTH PERSONNEL AT THE 20 PILOT FACILITIES

Staff Type	Region	TB DOTS, PIHCT & HIV basics		VCT, HIV basics		Rapid HIV test & AFB staining	
		Number of Staff Trained	Number of trained staff departed	Number of Staff Trained	Number of trained staff departed	Number of Staff Trained	Number of trained staff departed
Doctors	Addis	11	9				
	Oromiya	9	7				
Nurses/Counsellors	Addis			11	6		
	Oromiya			9	6		
Lab Techs	Addis					11	5
	Oromiya					9	6
Total		20	16	20	12	20	11

While each pilot facility had trained health personnel to provide TB care, not all trained staff stayed at the site for the duration of the pilot. Staff attrition rates, measuring the number of those leaving the private sector as percentage of total staff, was very high. As Table 5 indicates, attrition rates were 80% among doctors, 60% among nurses, and 55% among lab technicians.

5.2 DRUGS AND LOGISTICS

Assessing the supply and shelf-life of TB drugs and laboratory reagents was another major area of evaluation. Table 6 presents the stock of anti-TB drugs at the time of the assessment. It is very encouraging to see that 16 out of the 18 (90%) facilities had a sufficient amount of the first-line anti-TB drug combination RHZE, RHZ, and EH at the time of the assessment. However the supply of the combination drug RH and Isonizide Ethambutol was not sufficient to last for more than three months. Vitamin B6, a complementary drug used to minimize the neurological side effects of INH, was not available in all the facilities assessed.

TABLE 6: STOCK OF ANTI TB DRUGS AT THE TIME OF THE ASSESSMENT

	RHZE Boxes 672/box	RHZ Boxes 672/box	EH boxes 672/box	RH Boxes 672/box	INH Boxes 672/box	STM Vials Box 50/b	Vit B6
1	4	7	13	1.5	4	9	0
2	24	10.5	61	2.25	2	11	0
3	27	14	68	1.5	2	17	0
4	5	15	6	0	2	14	0
5							
6	17	30	47	2	2	19.5	0
7							
8	29	11	54	2	2	15	0
9	15	29	42	1	2	3	0
10	6	12	27	1	2	16	0
11	8	41	11	1	1	17	0
12	18	16	23	3	2	17	0
13	15	28.5	28.5	2	2	17.5	0
14	10	24	24	2	2	19	0
15	14	15	15	2	2	20	0
16	15	16.25	16.25	1	0	3	0
17	13	18	18	1	1	14	0
18	26	16	16	1	0	3	0

While the combination drugs RHZE, RHZ and EH were all in sufficient quantity, a close examination of the drugs' expiration dates revealed that all available boxes had a very short half life. The extent of the drug supply management problem, as reflected by a large stock of drugs nearing their expiration date, is shown in Table 7. As indicated, only the combination drug RHZ had a shelf life of six months in 18 of the 20 facilities assessed. All of the other anti-TB drugs had shelf lives of less than six months: E and EH have an average shelf life of three to six months while RHZE, E, and STM had a shelf life of less than three months. No facilities presented a stock of expired drugs at the time of the assessment. However, INH and STM had only one or two month shelf lives in 16 out of 18 facilities.

TABLE 7: SHELF LIFE OF ANTI-TB DRUGS AT THE TIME OF SUPPORTIVE SUPERVISION

Anti TB drugs	Facilities with stock of 6- month or greater shelf life	Facilities with stock of 3-6- month shelf life	Facilities with stock of less than 3-month shelf life	Facilities with expired drugs	Facilities with no stock of the anti-TB drug
RHZE	0	0	18	0	2
RHZ	18	0	0	0	2
EH	0	18	0	0	2
RH	0	0	0	0	2
H	0	0	0	0	2
E	0	18	18	0	2
STM	0	0	18	0	2
Vit B-6	0	0	0		2

Given the aforementioned, one must note that drug supply management and supply chain management is deficient and has the potential to hamper the delivery of quality TB services in the private sector. However, it must also be noted that drug supply management is an inherent problem in the health care system in general and, as such, is faced by public health facilities as well.

Following this evaluation in December 2007, PSP-E engaged the Addis Ababa RHB in improving the delivery system of anti-TB drugs to the pilot facilities. Subsequent visits to several of these facilities have shown that many now maintain a sufficient stock of anti-TB drugs with an acceptable half life.

Similar efforts were also made to increase Oromiya RHB’s role in and ownership of the program initiative. As a result, there is now a strong commitment on the part of these entities to facilitate the supply of anti-TB drugs to private facilities involved in TB-HIV care.

5.3 CASE DETECTION AND TREATMENT OUTCOMES

At the time of assessment, a total of 1,478 TB patients (all forms) were diagnosed and registered as new cases in the 20 facilities. The sex composition of patients is comparable, 737 male (49.9%) and 741 female (50.1%). Figures 1 and 2 suggest that, although there is seasonal fluctuation of patient flow, the overall trend of TB patients to the private facilities shows a slight increment.

FIGURE 1. TREND OF QUARTERLY TB PATIENT FLOW BY SEX IN PPM-DOTS PILOT SITES, ADDIS ABABA, 2007

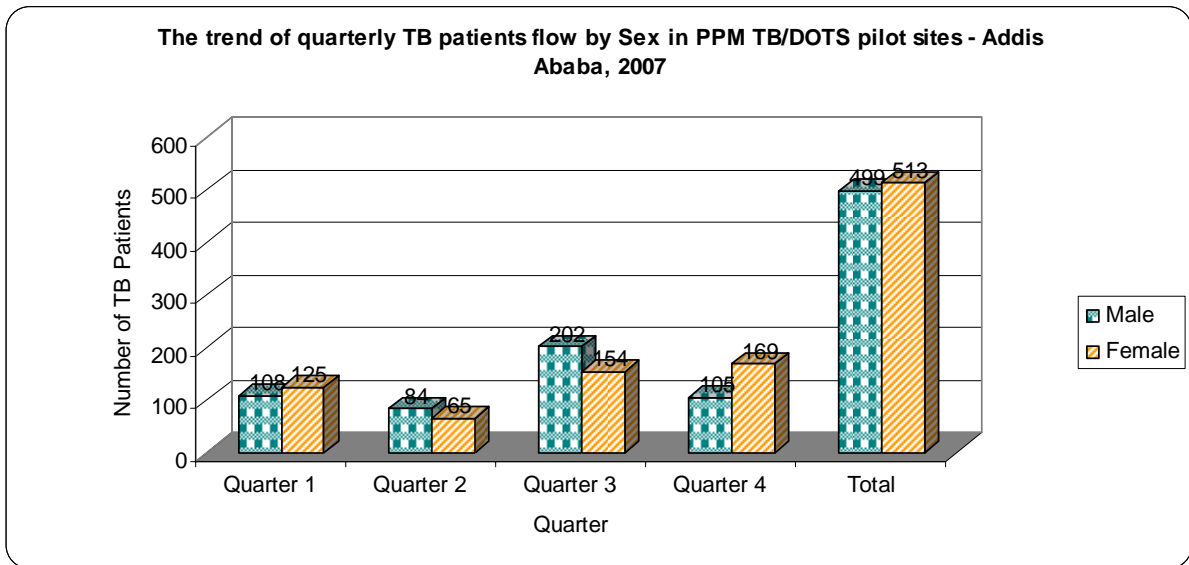
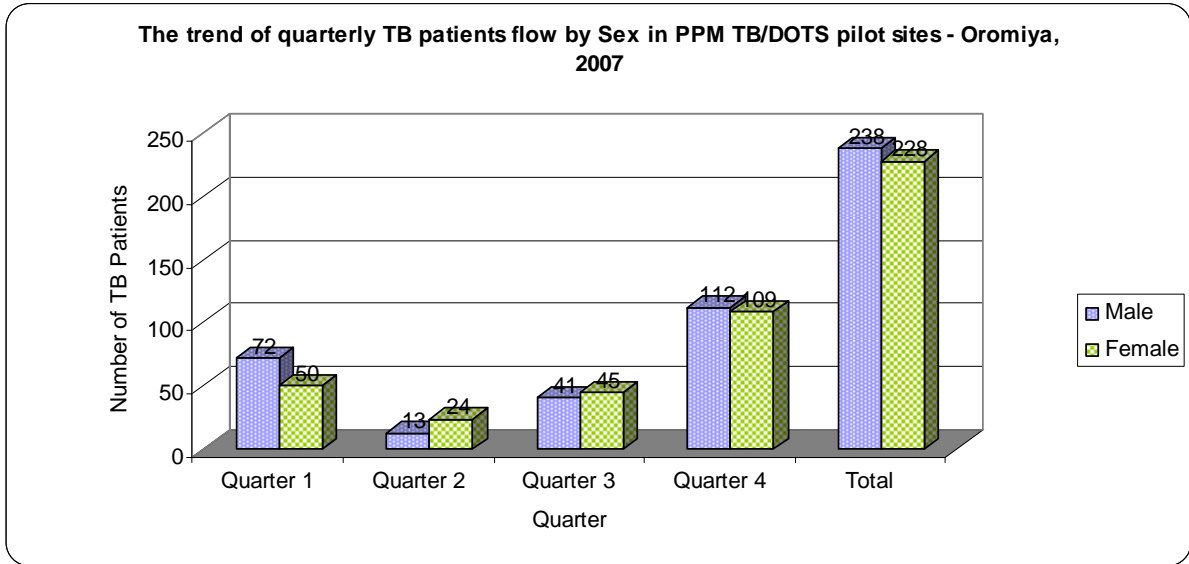
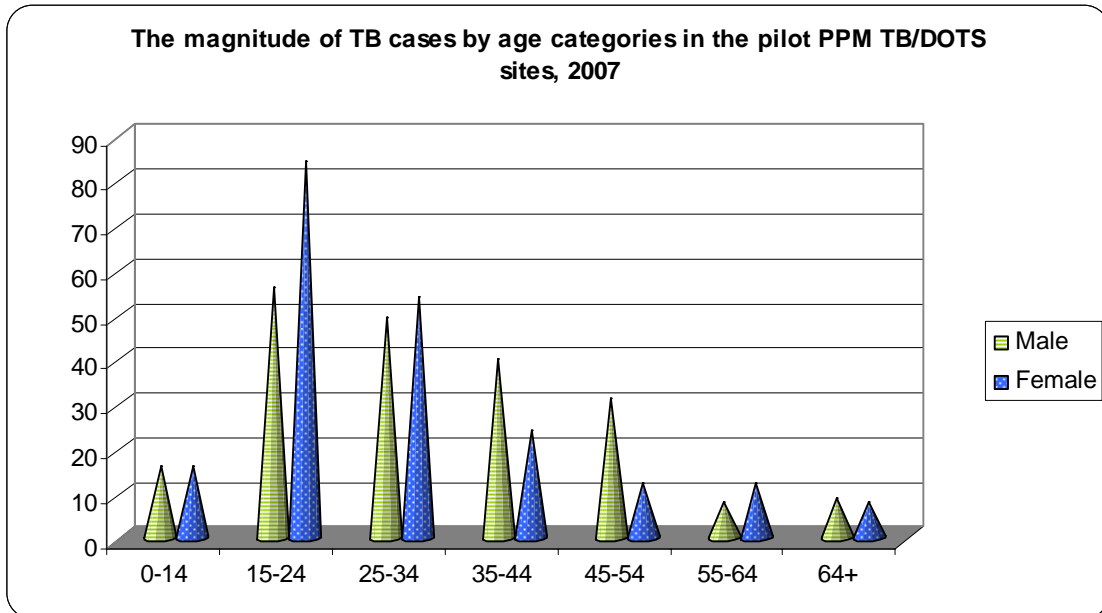


FIGURE 2. TREND OF QUARTERLY TB PATIENT FLOW BY SEX IN PPM-DOTS PILOT SITES, OROMIYA, 2007



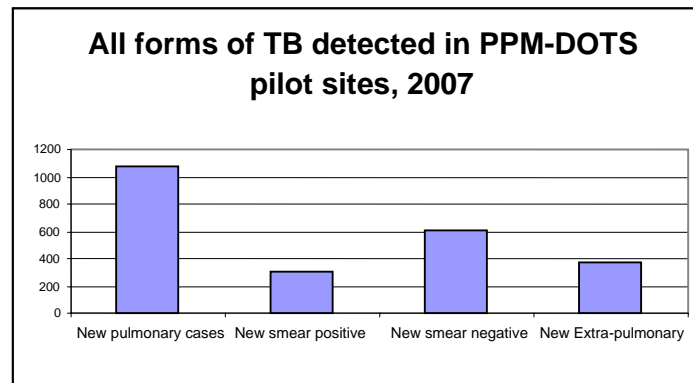
Data from the evaluation indicate that the TB morbidity burden is highly concentrated in the 15-34 year age range (Figure 3). Furthermore, they show that morbidity in these two regions is comparable with national TB burden rates. The findings are also consistent with the results of the 2006-2007 Oromiya region annual TB report.

FIGURE 3. MAGNITUDE OF TB CASES BY AGE CATEGORIES IN THE PILOT PPM-DOTS SITES, 2007



Of the TB cases, 613 (42.5%) were pulmonary smear negative, 25.7% were extra-pulmonary, and 21.2% were pulmonary smear positive (Figure 4). Data from an unpublished External Quality Control report of Addis Ababa RHB in 1999 suggested that 38% of cases were extra-pulmonary TB, 35% were pulmonary negative, and 23% were pulmonary positive cases.¹ It is quite surprising to see that the proportion of smear positive cases in the pilot study is lower than the regional averages. Given that our major objective is to contribute to the overall case detection of the nation, which is directly associated with the proportion of smear positive cases, further study is required.

FIGURE 4. ALL FORMS OF TB DETECTED IN PPM-DOTS PILOT SITES, 2007



The treatment outcome of TB cases is one of the major indicators of the TB control program (Table 8). Treatment success (cured and treatment completed) was 58% in our pilot sites. The standard set by WHO is a national target of 85%; the targets for the Addis Ababa and Oromiya regions are 81% and 86%, respectively. The huge disparity in treatment success rates might be explained by a high transfer-out rate in the early phases; the rate at our pilot sites was 21.3% while the recommended standard rate is less than 5%. The transfer-out rate in the Addis Ababa and Oromiya regions was reported to be only 4.1% and 6.2% respectively in 1999 EC (Ethiopian calendar).

The defaulter rate in the pilot sites is 5.8%, which is comparable to the 5.0% maximum standard set by WHO. Addis Ababa and Oromiya regions' annual defaulter rate was found to be 5.4% and 6.6% respectively. The death rate in the pilot PPM-DOTS sites is relatively high (14.4%) compared to that documented in the annual report (5.9% and 5% for Addis Ababa and Oromiya, respectively). This relatively high death rate may be due to the characteristics of patients seen in the private sector. Since the population prefers to visit private health facilities during serious morbidities and medical complication, the death rate may rise proportionally in the private sector.

The treatment failure of PPM-DOTS sites is 0.3%, which is slightly lower than Oromiya region figure (1%) and Addis Ababa (0.98%).

¹ Oromiya RHB annual TBL review meeting: 4/10/2007, Adama

TABLE 8: TREATMENT OUTCOME AND CURE RATE BY REGION, 2007

	Q1		Q2		Q3		Q4		Total
	AA	OROMIA	AA	OROMIA	AA	OROMIA	AA	OROMIA	
Treatment completed	0	2	54	20	169	0	46	0	291
Cure rate	10	1	18	5	35	0	11	0	80
Treatment failure	0	0	0		1	1	0	0	2
Defaulter	0	7	12		17	5	8	7	37
Death	3	5	20	1	36	3	16	8	92
Transfer out	5	14	29	1	43	6	18	20	136
Transfer in	0	0	1	1	2	1	6	1	12

5.4 LABORATORY AND WASTE DISPOSAL

The quality of laboratory services in TB control programs is important given that the diagnosis and treatment of the disease is entirely dependent upon the laboratory investigation. Data from the evaluation shows that all pilot facilities had the basic diagnostic services (sputum AFB) test in their laboratory. The evaluators noted that few facilities do not request a full sputum AFB test during diagnosis and follow-up (3 sputum for diagnosis and second, fifth, and seventh month sputum for follow-up cases). Only three (15%) of the facilities had standard operating procedures for AFB. Eighteen (90%) of the clinics had a functional sink with running water in the laboratory. Four laboratories (20%) had a covered dustbin for sputum cups and syringe disposal. Of those that had no covered dustbin, another eight were identified as having an acceptable waste disposal system.

5.5 REFERRAL NETWORKING

Inter- and intra-facility referral linkages of TB patients is crucial because this disease has association and synergy with other morbidities like HIV/AIDS, as explained before. Moreover, good referral networking would augment the treatment outcome rate and minimize the defaulter rate of the national TB control program.

Since PPM-DOTS is a new initiative in Ethiopia, there were some problems encountered during the early stage of the pilot phase as far as private-public referral is concerned. More specifically, the public sector sometimes refrains from acknowledging the diagnosis and subsequent treatment completed in private facilities. This seriously hampers the referral system in the TB control program and the forging of public-private partnerships while also serving as an inconvenience to referred patients.

A lack of advocacy and communication within and between the public and private sectors has also contributed to this problem. Many public sector providers feel that the private sector is not yet part of the TB control program.

5.6 MONITORING AND EVALUATION

One of the major components of M&E is recording and reporting. The pilot PPM-DOTS program used different M&E instruments to keep track of records, report monthly and quarterly progress, record regular supportive supervision, and monitor the program. Some of the key TB/HIV recording and reporting formats and registries are:

- Unit TB Registers
- TB Transfer/Referral Forms
- Quarterly TB Case Finding Report Forms
- Quarterly TB Treatment Outcome Report Forms
- AFB Laboratory Registers
- TB/HIV Registers (Cotrimoxizole Preventive Treatment, CPT)
- Isoniazid Preventive Therapy (IPT) Registers
- ART Registers
- TB/HIV Referral Forms
- Quarterly TB/HIV Report Forms

Each of the aforementioned recording and reporting formats and registries were provided to the facilities at the start of the pilot project. Training on the instruments as a package with other training types for health professionals was also provided. The revised Unit TB Register, the only registry which could capture co-infection (TB and HIV) services, was not available at the time of service provision in the pilot sites. This registry was later developed taking into account the burden of TB and HIV in patients.

Apart from the provision of registries and formats and training of health professionals, regular supportive supervision was provided to the sites. One of the critical areas looked at was availability and quality of data recording and reporting at the pilot sites. As Table 9 demonstrates, the recording and reporting formats and registries were not consistently available at the sites. Each quarter, the facilities should be refilled with registries from regional and/or sub-city/*woreda* health offices. In Addis Ababa, only a few facilities were provided with TB, lab, and TB/HIV registries in the first and second quarters of 2006/2007. Out of the nine private facilities in Oromiya, six had all the registries and formats in all quarters except the third. This was due to a critical shortage of the registries in almost all facilities in the region.

Supportive supervision was meant to solve these critical shortages of recording and reporting formats and registries. However, there was an issue with *woreda* health offices delivering registries and formats to facilities in a timely fashion.

TABLE 9. AVAILABILITY OF RECORDING AND REPORTING REGISTRIES/FORMATS

	Q1		Q2		Q3		Q4	
	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA
TB Registry	3	6	9	6	11	1	11	6
Lab Registry AFB	2	5	8	5	10	0	10	4
TB HIV Registry	0	0	0	2	0	0	0	0
Case Finding Form	3	2	8	1	10	2	10	2
Treatment Outcome Form	3	2	7	2	9	2	9	2

Completeness of the registries and records was another major quality issue considered during the evaluation. As Table 10 indicates, very few facilities kept track of complete records. In fact, at best, only seven facilities in Addis Ababa and four facilities in Oromiya kept complete records and reports. One of the potential reasons for this low quality of record management is a high turnover rate of trained health professionals.

Though we recognize that the problem of attrition of health professionals is nationwide, much effort has been made to fill the gap. This has been done in collaboration with regional and woreda health offices through refresher training, on-the-job training and coaching, supportive supervision, and immediate fixing of problems whenever possible.

TABLE 10. NUMBER OF SITES REPORTING COMPLETENESS OF RECORDING AND REPORTING OF REGISTRIES

	Q1		Q2		Q3		Q4	
	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA
TB Registry (complete recording)	1	3	4	3	4	0	4	1
TB Registry (partial recording)	1	3	4	3	6	1	6	4
Lab Registry AFB (complete recording)	1	3	5	4	7	0	7	1
Lab Registry AFB (partial recording)	0	1	4	0	4	2	4	2

Table 11 presents the frequency of pilot PPM-DOTS sites in Addis Ababa and Oromiya that commit errors in record keeping. Six of the 11 facilities in Addis Ababa frequently or very frequently committed errors in the TB registries. All facilities committed errors in keeping the AFB Lab Registry. In Oromiya, on the other hand, only one or two facilities committed errors frequently or

very frequently in record keeping. The difference between the two regions could be due to the frequent visits and supportive supervisions on the part of PSP-E staff. Nevertheless, about five facilities (two found in Jimma) in Oromiya need serious follow-up and assistance by orienting, coaching, and assisting on how to keep track of essential records.

TABLE 11. RECORDING AND REPORTING FREQUENCY OF ERRORS (REGISTRIES)

	Q1		Q2		Q3		Q4	
	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA	AA	OROMIYA
TB Registry (very frequent)	0	1	3	1	3	0	3	1
TB Registry (frequent)	1	0	1	0	3	0	3	0
TB Registry (not frequent)	1	1	5	1	5	0	5	1
Lab Registry AFB (very frequent)	0	2	0	1	0	2	0	2
Lab Registry AFB (frequent)	0	0	0	0	0	0	0	0
Lab Registry AFB (not frequent)	1	0	9	0	11	0	11	0

5.7 DATA QUALITY CHALLENGES

- The service providers in TB-DOTS units are not aware of basic operational definitions (case detection, treatment outcome, etc.), which are critical indicators to measure the success of the program.
- The case detection data came partly from quarterly reports and partly from a registry – which were not the same.
- Treatment outcome was registered starting from the first quarter that facilities start delivering services, which was not applicable in the first two quarters.
- Inconsistency of data recording and reporting is observed among private facilities, which could result in misleading conclusions and inappropriate program implementation. For example, the reported cases of TB in the quarterly reports, registries, and data collection obtained during the evaluation was not the same.
- Quarterly reporting forms (quarter TB/HIV report format and treatment outcome format) were unavailable in some facilities. This problem was addressed immediately. However, there was a problem with record completeness and reporting registries/formats in many facilities due to lack of frequent follow-up and supportive supervision.
- During the evaluation, there was a rush to collect data based on the designed questionnaire. Moreover, the evaluating team did not regularly communicate regarding design changes. This resulted in incompleteness and inconsistency.
- It would have been good to recruit experienced, external data collectors who could spend adequate time to collect all the necessary information from each facility.

5.8 LESSONS LEARNED

- Full participation and engagement of all health cadres in the system (from regional, zonal, and woreda levels) is important in the effective and sustainable implementation of public-private partnerships. This ensures local ownership and commitment to the program.
- Limiting catchments areas for the private health facilities in DOTS service improves adherence and minimizes treatment defaulter.
- Human resource issues include high attrition rates and inadequate competencies. Training needs in the private and public health sectors are similar and will continue to pose a challenge in the future.
- Technical and financial support to local health offices on programmatic activities is crucial for the provision of quality care in the private health sector.

6. CONCLUSIONS AND RECOMMENDATIONS

Four conclusions can be drawn from this evaluation. First, drug logistics remain a serious concern. It is encouraging to see that the Addis Ababa RHB is taking positive steps to assure a supply of drugs with much longer expiration dates than those seen on the shelves in the facilities and RHB in Oromiya. PSP-E should assist federal, regional, and zonal health bureaus in their effort to establish better logistics management systems.

Second, pilot facilities had low rate of smear positive rates. PSP-E in collaboration with the FMOH, RHBs, and participating facilities should conduct a laboratory validation exercise in all pilot facilities using the conventional smear staining method with the bleach-concentration methods.

Third, staff attrition is a problem is likely to persist into the future. PSP-E, RHBs, and the FMOH should think creatively about how to address the problem. It is not satisfactory to wait until the next training session, which may be months away. For example, it may be necessary to design and implement on-the-job training solutions which could use consultants who are kept on agreements and can work at clinic sites to train new lab technicians, focal nurses, or physicians.

Private sector should start exploring ways to minimize the effect of high attrition rates through non-monetary incentives, such as: introducing certificates of appreciation and citations for better-performing institution and/or health personnel at different forums; providing participating health personnel with publications related to TB and HIV; and facilitating improved and /or more frequent training packages to participating health personnel.

Finally, record keeping among private providers varied widely. Several facilities were unable to keep complete records because of unavailability of the registers. In future, all basic TB/HIV registries and formats (recording and reporting) should be made available to each of the pilot sites, and a team of PSP-E staff comprising M&E, program, and TB/HIV experts should conduct quarterly supportive supervision and coaching on data recording and reporting. Furthermore, issues pertaining to the accurate completion of recording and reporting forms should be included in the package of health professionals' training as well regular supportive supervision provided to the participating facilities.

ANNEX A.



Summative evaluation of Pilot Sites providing Tuberculosis DOTS in the private sector in Ethiopia

Facility Questionnaire

December 2, 2007

INTRODUCTION

(Greetings) I am here on behalf of RHB and USAID/PSP Ethiopia to obtain information on the provision of tuberculosis (TB) DOTS services during the pilot phase in your institution. PSP in collaboration with FMOH/RHB is conducting a summative evaluation of 20 pilot sites that participate in providing TB services in the private sector. The purpose of the evaluation is to assess the performance and results of the pilot sites in services in the private sector. The evaluation thus, will provide RHB, FMOH, USAID, PSP/Ethiopia and other key stakeholders valuable information to use in planning for scaling up of TB services in Ethiopia. We are gathering information from this facility on staffing, type of service offered, number of patients served, and the clinical outcomes of the pilot period. Please note that any information you give will not be divulged to anyone else and will only be used for the intended purpose.

BACKGROUND INFORMATION

Date: _____ (day/month/year)		
Interviewer's name:		
Name of Facility:		
Region		
Zone		
Woreda		
Level of Facility:	<input type="checkbox"/> Specialized Hospital	<input type="checkbox"/> Higher Clinic
	<input type="checkbox"/> Health Clinic	<input type="checkbox"/> Medium Clinic
	<input type="checkbox"/> Others (specify)	
Facility Category:		
Interviewees:		
Name		Title and position
1		
2		

2. HUMAN RESOURCES

In this health facility, did the following staff types provide TB services during the pilot phase?

Type of Service		TB DOTS	
Staff type	Total number of staff	Total number trained before TB DOTS pilot phase	Number of trained staff who left the facility during the pilot phase
Doctors			
Nurses			
Lab technicians			
Counselors			
Pharmacist			

3. Patient Profile and Volume

What is the total number of patients by age seen during the pilot phase?

Pilot Quarters			Months														
			1	2	3	4	5	6	7	8	9	10	11	12			
Sex	Male	0-14															
		15-24															
		25-34															
		35-44															
		45-54															
		55-64															
		64+															
	Female	0-14															
		15-24															
		25-34															
		35-44															
		45-54															
		55-64															
		64+															

4. Clinical Outcome

Please tell us the clinical outcomes of the patients identified above during each of the quarters

	1	2	3	4
New pulmonary cases				
Smear Positive				
Smear negative				
Extra-pulmonary				
Re-treatment				
Smear Conversion				
Month 2				
Month 5				
Month 7				
Smear Non-Conversion				
Month 2				
Month 5				
Month 7				
Smear Conversion not done				

Suggestions to add from Wondwossen – from Indicators for TB Service

Correct use of treatment protocols by diagnosing clinicians, including prescription of the correct medications at the appropriate dosages for proper length of time for the intensive and continuation phases of treatment

Direct observation of therapy by regularly supervised health workers or other trained individuals

Drug collection during intensive phase

Drug collection during continuation phase

Prevention of default and treatment interruption and follow-up of lost patients when necessary

Recognition and management of adverse reactions to medication

Monitoring response to treatment with smear examinations at the end of the second month, during the fifth month, and the final month of 6 and 8 month regimens

5. Treatment Outcomes

Please indicate the period on when the pilot phase was initiated

Please identify the period when your facility started the pilot phase

Category 1 (Oct-Dec 1999)

Category 2 (Jan-Mar 1999)

Category 3 (Apr- Jun 1999)

Category 4 (Jul-Aug 1999)

6. Treatment Outcomes

Please report on the treatment outcomes for each of the following variables.

Treatment completed				
No. of cured pts (cure rate)				
Treatment failure (8 + 5 mo)				
Defaulter				
Death				
Transfer out				
Transfer in				

7. Laboratory

Has Regional Lab completed EQC sample collection and verification?

	Q1	Q2	Q3	Q4
EQC collected				
EQC results				

Qualitative Issues

Waste disposal

Ventilation

Protection

Incinerator

Running Water

Sink

Lab SOP as the basis for questions?

8. CLINICAL GUIDELINES/PROTOCOLS

Did your facility have TB/DOTS guidelines/ protocol during the pilot phase? Please circle Yes or NO

Recording and Reporting

Did your facility have the following standardized registers during the pilot phase?

	Q1		Q2		Q3		Q4	
	Y	N	Y	N	Y	N	Y	N
TB registry								
Lab register – AFB								
TB/HIV Register								

Please review the registers and report on the completeness, frequency of errors and types of errors for each of the registers.

		Q1		Q2		Q3		Q4	
		Y	N	Y	N	Y	N	Y	N
TB registry	Completeness								
	Frequency of errors								
	Types of errors								
Lab TB registry	Completeness								
	Frequency of errors								
	Types of errors								

Did your facility have the following standardized quarterly reports during the pilot phase?

	Q1		Q2		Q3		Q4	
	Y	N	Y	N	Y	N	Y	N
Case finding - form								
Treatment outcome - form								

Referrals

How many patients were referred?

	Q1	Q2	Q3	Q4
Number of patients				

Drugs, Logistics and Supplies

Please indicate which of the following drugs and reagents were available, expired, stock-out during each of the quarters.

	1	2	3	4
	Available Stock out Expired	Available Stock out Expired	Available Stock out Expired	Available Stock out Expired
Drugs				
INH				
RHZE				
RHZ				
RH				
EH				
STM				
Reagents				
Methyl blue				
Acid alcohol				
Carbon fusion				

Qualitative issues:

Storage _____

Drug shelf life _____

Drug supply system (timely provision; from where, and how frequent) _____

Clear procedure for requesting new drug supplies _____

Issues with disposal of expired drugs _____

Supervision

How many times did you receive supervision from the following institutions?

	Q1	Q2	Q3	Q4
RHB				
WoHO				
PSP				
FMOH				
Were there recommendations	Yes		No	
Was there a written report?	Yes		No	
Did you make changes?	Yes		No	