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TB CARE I

TB CARE I and PEPFAR - ZIMBABWE

**TB CARE I, Year 2
PEPFAR, Year 1**

Annual Report

October 1, 2011 - September 30, 2012

October 30, 2012

LIST OF ABBREVIATIONS

ACF	Allocable Cost Factor
ART	Antiretroviral therapy
DOTS	Directly Observed Treatment Short Course Strategy
DRS	Drug Resistance Survey
DR TB	Drug Resistant TB
HSS	Health Systems strengthening
IC	Infection control
Global Fund	The Global Fund To Fight AIDS, Tuberculosis and Malaria
KNCV	KNCV Tuberculosis Foundation
MDR	Multidrug Resistant TB
M&E	Monitoring and Evaluation
MOH&CW	Ministry of Health and Child Welfare
NTP	National Tuberculosis Control Program
OR	Operations Research
PMDT	Programmatic Management of Drug Resistant TB
PMU	Program Management Unit
R&R	Recording and reporting
The Union	The International Union Against TB and Lung Disease
USAID	United States Agency for International Development
WHO	World Health Organization

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EXECUTIVE SUMMARY

The goal of the TB CARE I program in Zimbabwe, a TB high burden country, is to strengthen TB control in the country by supporting the NTP national level to provide policy direction and to effectively coordinate program implementation and strengthening human resource capacity to provide TB and TB/HIV services at service delivery level in 5 rural provinces.

International Union Against Tuberculosis and Lung Disease (The Union) was the lead partner, with the World Health Organization (WHO) and the KNCV Tuberculosis Foundation (KNCV) as collaborating partners. A total budget of \$4,443,000, consisting of TB CARE I (\$3,493,000) and PEPFAR (\$950,000) was allocated for the project.

This report covers the combined performance of the two closely related TB CARE I and PEPFAR projects. The most significant achievements and major activities are summarised below:

UNIVERSAL AND EARLY ACCESS

The sputum transport system became fully functional in the 5 targeted rural districts during the second half of the financial year. The introduction of the system resulted in doubling of the number of TB suspects with a sputum examination in the 5 districts, from 1244 in the 3rd quarter to 2525 in the 4th quarter. This is anticipated to make a significant impact on case finding. Financial provision has been made in APA3 to expand the transport system to 32 additional districts.

A total of 1036 community TB treatment supporters were mobilized in 10 districts. The lessons learned will inform the development of a standard national community TB treatment support program and subsequent expansion nationally.

PROGRAMMATIC MANAGEMENT OF DRUG RESISTANT TB (PMDT)

PMDT guidelines are now in place, for the first time. This is a much welcome development as it covers a major gap in the programmatic management of drug resistant TB. As a follow up, PMDT training materials were drafted during the 4th quarter of APA2 and are being finalized.

The first national course in the clinical management of multidrug resistant (MDR) TB was conducted for 31 clinicians from all the 8 provinces and 3 main cities. This development has provided clinical capacity at provincial levels for the management of MDR TB. This is expected to reduce the MDR mortality by reducing the long delays currently being experienced in initiating MDR treatment.

TB/HIV

The year saw the beginning of a roll out of integrated care of persons with TB and HIV co-infection, following a successful pilot conducted by The Union's HIV Care for TB Patients Living with HIV (IHC) project for patients with TB and HIV co-infection. Thirteen (13) integrated care clinics were established in 9 urban areas. Lessons learned from the 13 clinics will inform further expansion on a wider scale.

HEALTH SYSTEMS STRENGTHENING (HSS)

Support supervision: A total of 30 out of 37 districts were visited and supported by provincial teams during the year under review, and 804 peripheral health facilities were visited and supported by district teams. The

support supervision visits and on-site mentoring motivated the health workers, especially at peripheral health facilities, and this has helped create stronger health teams.

Management training: A total of 29 (11 female and 18 males) district health workers from all 8 rural provinces and 2 cities were trained in health management and finance with the support of the International Management Development Program (IMDP). Most of the participants were young district leaders who had not received any management training before and welcomed the opportunity to learn the basic principles of management.

TB and TB/HIV management training: A total of 896 health workers (431 males and 465 females) were trained in TB case management and TB/HIV care. With this training, nearly all health facilities in the supported provinces now have at least one health worker trained in TB management. This is expected to further improve TB control performance in the country.

M&E, OPERATIONS RESEARCH AND SURVEILLANCE

Data audit: Data verification missions were conducted to assess data quality in 5 districts, selected on account of either poor or particularly good surveillance reports. The exercised made it possible to better target districts for training, support supervision and mentorship in recording and reporting.

Performance review workshops: A total of 24 district performance review sessions were held during the year. Discussions focussed mainly on key performance indicators - notifications, treatment outcomes and TB/HIV collaborative activities. The meetings were very useful in identifying priority areas and health facilities for further support supervision and training in all areas of TB and TB/HIV management. One national TB program performance review meeting was held and recommended, among other issues, a) mobilisation of resources to procure more Xpert MTB/Rif instruments; b) expediting the establishment of a surveillance system for TB among HCW c) establishment of an electronic TB register nationally and d) establishment of a formal TB partnership forum.

Feedback: TB and TB/HIV data analysis and feedback including comparative performance indicators by province and district was conducted. This generated much interest and competitiveness among provincial and district health managers.

Operations Research

Of the 12 planned studies from previous quarters, 7 made progress: 1 is at data analysis stage, 2 are collecting data and 4 are waiting for protocol approval by the Medical Research Council of Zimbabwe (MRCZ). These studies will provide useful evidence for interventions to further strengthen TB control in the country.

BACKGROUND

Zimbabwe is one of the 22 high burden countries in the world that together account for approximately 80% of all new TB cases arising each year. The estimated number of new cases in 2011 in Zimbabwe was 70,000 (WHO TB report, 2012) of which only 41305 (59%) were diagnosed. The TB epidemic is driven by a parallel HIV epidemic estimated at 15% prevalence for adults aged 15-45 years. Approximately 76% of TB patients are co-infected with HIV and should be on ART, but only 45% were recorded to be on ART in 2010. A total of 4736 TB patients were reported to have died in 2010 (10% TB death rate). The burden of MDR or XDR-TB is not known in the country. The last TB drug resistance survey was conducted in 1994/95 when MDR-TB was reported in 1.9% of new TB cases and 8.3% of previously treated cases.

The goal of the TB CARE I program in Zimbabwe is to strengthen TB control in the country by contributing towards increased case finding, increased treatment success rate, strengthened TB/HIV collaborative activities, reduced TB transmission among health workers and increased capacity to diagnose and treat MDR TB cases.

TB overall implementation strategy in Zimbabwe comprised:

- Strengthening NTP national level capacity to provide policy direction and to effectively coordinate program implementation. This was achieved through development of plans, guidelines training materials, monitoring and evaluation and operations research.
- Strengthening human resource capacity to provide TB and TB/HIV services at service delivery levels (provincial, district, health facility and city) through training, support supervision and procurement of essential equipment for TB and HIV diagnosis, treatment and care.

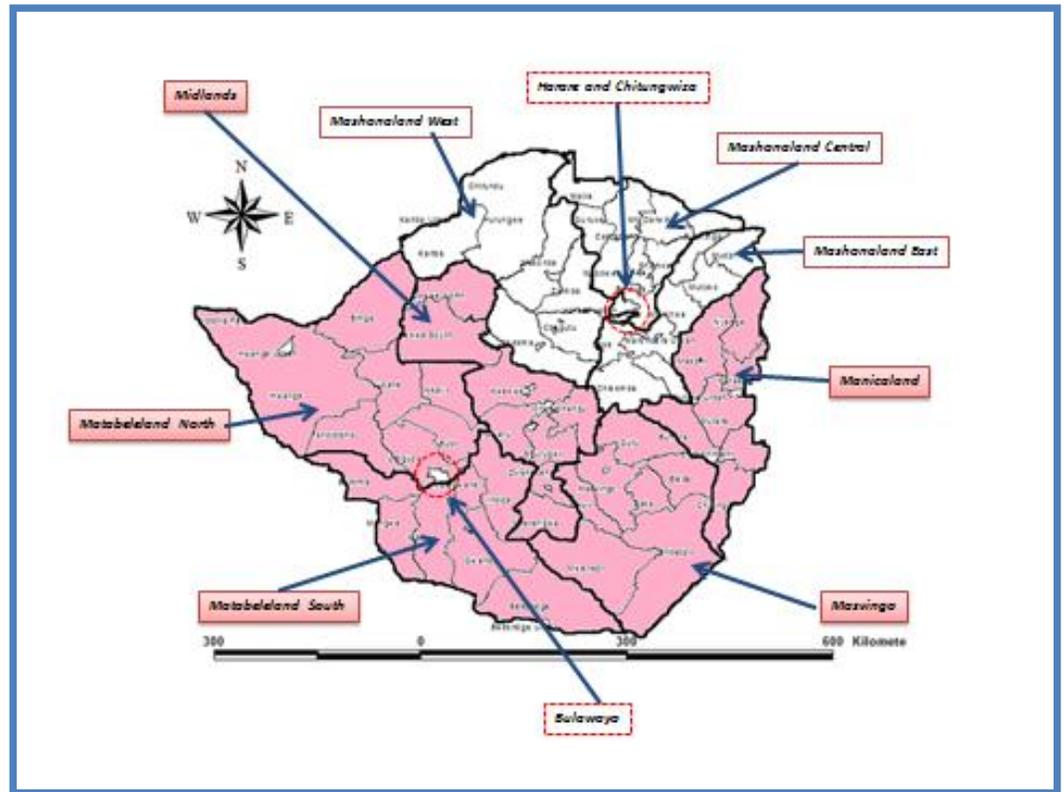
The supported activities were based on a priority list of challenges and gaps submitted by the NTP, and covered 7 of the 8 TB CARE technical areas. All planned TB control activities were implemented by the NTP officers and health workers at the provincial/city, district and primary levels of health care, while the TB CARE team provided technical and financial support. Project support was targeted at 5 of the 8 rural provinces, the three largest urban areas and 7 small urban areas. The areas supported, representing a population of approximately nine million out of the national total of 13 million, are illustrated in the country map below (Figure 1).

The Union, the coordinating partner since 2008, has established an in-country team to ensure efficient and smooth implementation of the planned activities. The World Health Organization (WHO) and the KNCV Tuberculosis Foundation (KNCV) were collaborating partners. The team consisted of the following:

- 1) A TB CARE Country Director who was responsible for overall technical management and direction of TB CARE in Zimbabwe, including the development of annual operational plans, and writing of internal and external project reports.

2) A Senior Administrator was responsible for administration, finance and logistics activities for TB CARE in the country. He established project accounts, administrative systems and managed project funds in accordance with the USAID requirements, The Union and the Government of Zimbabwe.

Figure 1: Map of Zimbabwe showing the TB CARE I and PEPFAR supported areas.



3) A training coordinator who worked with the NTP on a daily basis to plan, organize and

implement health worker training, and facilitated in selected training sessions.

4) An M&E coordinator who worked with the NTP at the national and provincial/city levels to strengthen TB recording and reporting and monitor program performance.

5) An administrative assistant who supported administration and finance management.

6) The team received frequent technical support from The Union head office team including the Director of the Departments of TB Control and Prevention and HIV, The Union's HIV Program Coordinator and administrative and finance support from the Project Administrator.

7) A senior TB consultant visited the program once during the year to give technical support in national program management.

This team continued to work in close cooperation and liaison with the NTP, the AIDS & TB Unit, MOH and Child Welfare, the local USAID Mission and other partners.

Funding consisted of TB CARE I - \$3,493,000 and PEPFAR - \$950,000, making a total of \$4,443,000. The PEPFAR funds were specifically allotted for the integrated care of TB and HIV co-infected patients in 13 health centres in 9 urban areas. The project budget was divided into five technical areas namely, Universal access 9%; laboratory 6%; Infection control 3%; Programmatic management of drug resistant tuberculosis (PMDT) 5%; TB/HIV 5%; Health systems strengthening (HSS), 47%; Monitoring and Evaluation (M&E) / Operations research 25%. Project achievements and main activities are summarized below by technical area.

UNIVERSAL AND EARLY ACCESS

The key expected outcomes in this technical area were a) increasing the quality of TB services delivered among all care providers (supply) and b) reduced patient and service delivery delays (timing). Planned main activities to achieve the outcomes included the following, funded by either TB CARE I or PEPFAR: a) expansion of sputum transport system to rural areas and small urban areas, following a successful pilot in the main urban areas, b) activities to strengthen community TB care, c) strengthening childhood tuberculosis and d) determining the factors in provider and patient delays in the delivery of TB and TB/HIV services.

Tables 1 and 2 summarize the results of expected outcomes, challenges encountered during implementation and the way forward.

Table 1: Universal and Early Access - TB CARE outcomes

Expected Outcomes	Outcome Indicators	Baseline		Target	Result	Challenges and Next Steps to Reach the Target
		Data	Year	Year 2	Y2	
1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.2 Eligible children younger than 5 years (contacts of ss+ adults) that were put on IPT Indicator Value: Percent Numerator: Number of eligible children younger than 5 (contacts of ss+ adults) who start (given at least one dose) IPT during the reporting period. Denominator: Total number of eligible children younger than 5 (contacts of ss+ adults) during the same reporting period.	Not available	2010	30%	Data not available.	The recording and reporting tools for this indicator were part of the broader revision of the NTP recording and reporting tools and these tools will be finalised at a stakeholders meeting to be held during the last week of October 2012
	1.2.5 Patients receiving community-based support by trained supporter during treatment Indicator Value: Percent Level: Provincial Source: TB register Means of Verification: Numerator: Number of TB patients receiving community-based support by trained supporter during treatment Denominator: Total number of patients notified	30% Numerator 6653 Denominator 22177 (2010)	2010	50%	1169/9371 (13%)	The recording and reporting tools for this indicator were part of the broader revision of the NTP recording and reporting tools and these tools will be finalised at a stakeholders meeting to be held during the last week of October 2012. The new tools will capture this information at notification. Follow up activity slowed down in the 3rd and 4th quarter when NTP and was reviewing the approach to community TB support.
	1.2.6 Proportion of sputum specimens and results transported to the laboratory by the sputum motorcycle system Indicator Value: Percent Level: Provincial Source: TB suspect register Means of Verification: Numerator: Number of sputum specimens transported with results received through the motorcycle transport system Denominator: Total number of sputum specimens examined and results received	Not available	2010	TBD (new service)	Five Rural Provinces (July to September)=> 1781/2571 (69%) Cities (Oct 2011 - June 2012)=> 7329/22417)= (33%)	Additional motorcycles will be procured in APA3 to service health facilities with limited access to TB diagnostic services.
1.3 Reduced patient and service delivery delays (Timing)	1.3.1 Patient Delay Indicator Value: Number (of days or weeks)	Not available	2010	N/A	No data yet	The study is earmarked to commence in November 2012 once the approval has been granted by MRC. The results of the study are expected to inform program planning and patient management
	1.3.2 Provider Delay Indicator Value: Number (of days or weeks)	Not available	2010	N/A	No data yet	
	1.3.5 Encounters with a provider before diagnosis Indicator Value: Number of encounters	Not available	2010	N/A	No data yet	

Table 2: Universal and Early Access - PEPFAR outcomes

Expected Outcomes	Outcome Indicators & definition	Baseline	Target	Result	Comments
		Y	Y2	Y2	
1.1 Increased demand for and use of high quality TB services and improve the satisfaction with TB services provided (Population/Patient Centred Approach)	1.1.4 Number of TB patients enrolled into the integrated TB/HIV care program	0 (2011)	2012	823/2000 (41%)	The project implementation started late (April 2012). Only 9 out of 13 sites reported. Training and sites visits will be conducted to ensure proper and early reporting for all sites. One report came too late and the other three sites did not report and will be followed up immediately.
	1.1.5 Reduced barriers for TB screening of HIV infected patients Numerator: Number of OI/ART clinics providing TB screening services for OI/ART patients in the selected urban areas Denominator: Total number of OI/ART clinics in the selected urban areas	No data (2011)	2012	56/56 (100%)	There is no standard primary data collection tool, Roll out is planned for January after pilot evaluation by NAP.
1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.2 Eligible children younger than 5 years (contacts of ss+ adults) that were put on IPT Indicator Value: Percent Numerator: Number of eligible children younger than 5 years (contacts of ss+ adults) who start (given at least one dose) IPT during the reporting period at the project site. Denominator: Total number of eligible children younger than 5 (contacts of ss+ adults) during the same reporting period.	No data (2011)	2012	59/72 (82%)	Draft data collection tools have been developed and will be finalised next quarter.
	1.2.5 Introduction of directly observed treatment at clinics Indicator Value: Percent Numerator: Number of TB patients (All forms of TB) observed daily at a health facility at the project sites in the selected urban areas Denominator: Total number of TB patients undergoing treatment in the selected urban areas	No data (2011)	2012	545/ 823 =66%	Some patients still prefer family based DOT support. Continuous health education and IEC material will be provided for health facility staff and patients.
	1.2.6 Pulmonary TB patients without a recorded smear microscopy result among adult patients Indicator Value: Number	No data (2011)	2012	21/ 622=3%	The sputum specimens are still being transported from some sites to distant laboratories. Additional microscopy centres will be established to improve access.

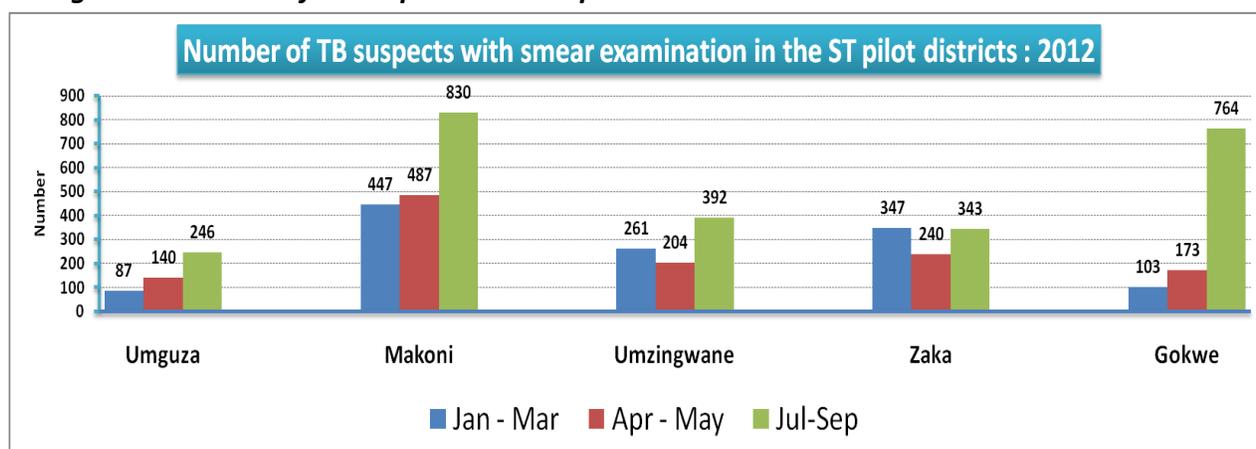
KEY ACHIEVEMENTS

The activities resulted, among other things, in increased access to TB diagnostic services and progress towards improved community care of TB patients.

Access to sputum microscopy

Expansion of the sputum transport system to rural areas commenced during the second half of the year and was targeted at one district in each of the 5 provinces. A total of 1781 specimens and 1505 results were transported during the fourth quarter alone in the 5 supported rural districts. The number of suspects with sputum smear examinations in the 5 districts increased significantly, and doubled in the 4th quarter compared to the 3rd quarter (Figure 2).

Figure 2: Number of TB suspects with a sputum smear examination result in the 5 districts



Based on this favorable response, financial provision has been made in APA3 to expand the transport system to 32 additional districts.

Access to community TB care support

A total of 1036 community health workers were mobilized in 10 districts (figures 3 and 4). Activities focused on updating the community health workers on patient support and elucidating existing practices and challenges in the implementation of community TB support, with a view to inform the development of a standard national community TB treatment support program.

The community DOT supporters were provided with IEC materials, stationery for data collection and reporting, and T-shirts, hats and bags.

The national TB screening tool was translated into Ndebele and Shona – the country’s two main languages – to facilitate TB screening and referrals at community level. An Additional 6000 TB screening tools were printed for the health facilities to promote TB screening at all entry points at the facilities.

Existing IEC materials were adapted for printing in order to improve community awareness of TB signs and symptoms.

An OR research proposal for the provider and patient delay studies was developed and submitted to the Medical Research Council of Zimbabwe and the approval is awaited. The study is expected to commence in November once the approval has been granted, and it is anticipated to inform programming to improve access to and quality of TB services.

Figure 3: DOT supporters meeting: Tsholotsho district, Matabeleland North province



Figure 4: Community TB supporters in Manicaland province

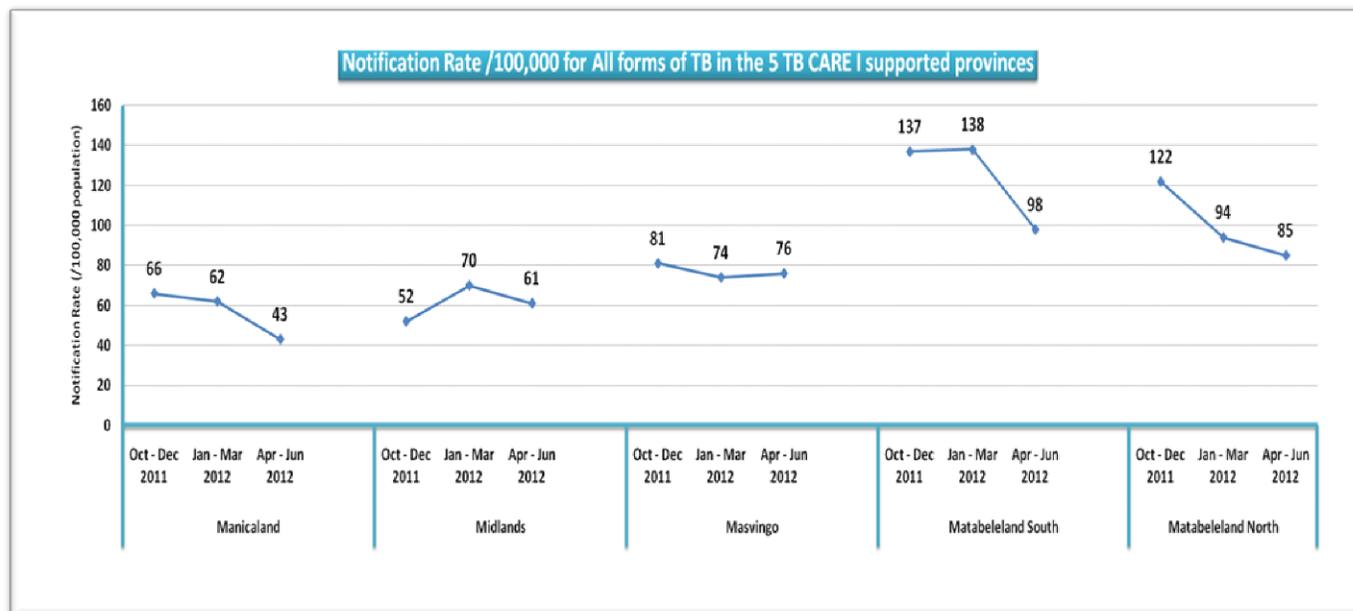


CHALLENGES, OBSERVATIONS AND NEXT STEPS

- ▶ The development and finalization of the data collection tools was delayed resulting in inadequate capacity to report on some key project indicators measuring universal access. However, the tools are at a draft stage and they will be finalized before December 2012.

- ▶ There was a general decline in TB notifications despite intensified efforts aimed at increasing case detection (Figure 5). This decline was observed in all provinces. The program is working with NTP to determine the cause of the decline. In addition a national TB prevalence survey is planned to commence in the year 2013. This should help define the size of the TB problem and intervention targets.

Figure 5: TB notification rate by province (5 supported provinces), October 2011 to June 2012



LABORATORY

The expected outcomes in the laboratory technical area were a) the promotion of optimal use of new approaches to the laboratory confirmation of TB and incorporation in national strategic lab plans, and b) strengthening the capacity, availability and quality of laboratory testing needed to support the diagnosis and monitoring of TB patients. The main planned activities involved procurement and commissioning of a total of 3 Xpert MTB/Rif units and establishment of additional laboratories in the new integrated TB/HIV care sites. Outcome results at the end of the program year and the way forward are summarized in tables 3 and 4.

Table 3 – TB CARE - Laboratory

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target	Result	Comments
		Data	Year 2	Y2	
2.3 Ensured optimal use of new approaches to the laboratory confirmation of TB and incorporation in national strategic lab plans	2.3.3 Rapid tests conducted Indicator Value: Number of tests Numerator: Annual number of tests (separately for GeneXpert MTB/RIF conducted nationally)	0 (2010)	500	No data yet	The unit will be delivered to a reference laboratory where the unit will initially be used in a study to inform the finalisation of an algorithm for use of the Xpert MTB/Rif technology in Zimbabwe. Testing is expected to start mid December
	2.3.4 Rapid tests conducted Indicator Value: Number of tests Numerator: Annual number of tests for GeneXpert MTB/RIF conducted in TB CARE areas	0 (2010)	200		

Table 4 – PEPFAR - Laboratory

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target	Result	Comments
		Year	Data	Y2	
2.1 Ensured capacity, availability and quality of laboratory testing in country needed to support the diagnosis and monitoring of TB patients	2.1.3 [Other] Reduced barriers for TB microscopy screening and treatment monitoring Indicator Value: number Numerator: Number of new microscopy centres established	0 (2011)	9 (2012)	0	It has been found necessary to reassess the sites that require laboratories and this has caused a delay in implementation. The reassessment process will be completed by 1st week of November and implementation will start from mid November.
	2.1.4 Cure Rate Description: The percentage/number of a cohort of new confirmed TB cases registered in a specified period that successfully completed treatment with bacteriologic evidence of ("cured") Indicator Value: Percent/percentage Percentage calculation: Numerator: number of registered confirmed TB cases cured Denominator: Total number of cases confirmed TB cases registered	76% (Num = 2607 Den = 3419) - Quarter 1 to Quarter 3; for 5 TB CARE supported provinces (2010	80% (Num = 400 Den = 500 (The final result will be available at the end of 2013)	No results yet	Outcomes are traditionally reported after at least one year later. The project is working on a recording and reporting approach that will facilitate earlier reporting.
2.3 Ensured optimal use of new approaches to the laboratory confirmation of TB and incorporation in national strategic lab plans	2.3.1 New technologies have been introduced Indicator Value: Number of selected urban areas using the gene Xpert machine	0 (2011)	2 (2012)	2 sites have been selected; the machines have not been installed yet.	The training materials and reporting forms for Gene Xpert were not yet finalised. The reporting tools will be finalised next quarter. Installation of the instruments is planned for mid November.

KEY ACHIEVEMENTS

The key achievement was the procurement of three Xpert MTB/RIF 4-module instruments and 1500 cartridges. The instruments will be distributed according to a national plan drawn up by the NTP, the laboratory services and TB CARE. Installation is planned for November and testing to commence in December 2012.

CHALLENGES AND NEXT STEPS

The Xpert MTB/RIF technology is new in the country and implementation capacity is inadequate for the expected rapid increase in instruments in the near future. The program has made financial provision in APA 3 for technical assistance from one of the TB CARE trained consultants to support the national committee

INFECTION CONTROL

The aim in this technical area was to promote a) scaled-up implementation of TB-IC strategies, and b) strengthened TB IC monitoring & measurement. Key activities for achieving these outcomes included supporting the establishment of infection control systems in the integrated care clinics and development of recording and reporting tools to capture infection control data.

Results of expected outcome at the end of the program year and the planned way forward are summarized in tables 5 and 6.

Table 5 – TB CARE – Infection Control

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target		Result	Comments
		Data	Data	Year	Y2	
3.2 Scaled-up implementation of TB-IC strategies	3.2.2 Key facilities with IC focal person, implementation plan, budget, and monitoring system Indicator Value: Percent Numerator: The number of selected categories of key facilities (37 district hospitals and 5 provincial hospitals) with all three (a+b+c) interventions in place. Denominator: Total number of key facilities of the selected categories	Not available(2010)	42 (100%)	2012	42/42 (100%)	Collaborating with Zimbabwe Infection and Prevention Control Program (ZIPCOP) on indicator (b) and (c).
3.3 Strengthened TB IC Monitoring & Measurement	3.3.1 Annual reporting on TB disease (all forms) among HCWs is available as part of the national R&R system Indicator Value: Yes/No	No (2011)	Yes	2012	No	The revised tools will be finalised at a stakeholders meeting during the last week of October. National routine reporting of this indicator is expected to commence in January 2013

Table 6 – PEPFAR – Infection Control

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target	Result	Comments
		Year	Year	Y2	
3.2 Scaled-up implementation of TB-IC strategies	3.2.2 Key facilities with IC focal person, implementation plan, budget, and monitoring system Indicator Value: Percent Numerator: The number of selected categories of key facilities with all three (a+b+c) interventions in place. Denominator: Total number of key facilities of the selected categories	0 (2011)	13 (2012)	1/13 (8%)	8 of the 9 reporting sites do not yet have a full infection control package (a+b+c). Support visits will be conducted to the remaining 12 sites for capacity building in infection control.
3.3 Strengthened TB IC Monitoring & Measurement	3.3.1 Annual reporting on TB disease (all forms) among HCWs is available as part of the R&R system Indicator Value: Yes/No	No (2011)	Yes (2012)	No	The draft tools will be finalised next quarter at a stakeholders meeting. This activity will be prioritised in the coming quarter.

KEY ACHIEVEMENTS

A package of tools including tools for monitoring infection control related data was developed. The IC tools, together with other tools in the package will be presented to the main stakeholders for ratification in November 2012.

Two officers (1 male/1 female) were trained in advanced infection control conducted by the Medical Research Council of South Africa. One of the participants is now facilitating TB infection control training at NTP national level, while the other is responsible for infection control at the National TB Reference laboratory.

An infection control-trained architect was engaged to support renovations at the 13 integrated care sites established through PEPFAR funding.

CHALLENGES AND NEXT STEPS

A national infection control policy including monitoring of TB and HIV infection control among health care workers is still not available. The TB care Program is working closely with the NTP and the CDC -funded Zimbabwe infection control and prevention project (ZIPCOP), who have the main responsibility for strengthening infection control in the country, to have the policy finalized

PROGRAMMATIC MANAGEMENT OF DRUG RESISTANT TB (PMDT)

Activities in this technical area were directed at improving treatment success of MDR TB. Key activities involved support for a survey to determine the size of the drug resistance problem in the country, finalization of the PMDT guidelines, development of the PMDT training material and conducting a clinical MDR course for provincial and district health workers.

Outcome results are summarized in table 7.

Table 7 – TB CARE - PMDT

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target		Result	Comments
		Data	Year 2	Year	Y2	
4.1 Improved treatment success of MDR	4.1.4 MDR TB patients who have completed the full course of MDR TB treatment regimen and have a negative sputum culture Indicator Value: Percentage Numerator: Number of MDR TB patients in a cohort who completed a course of MDR treatment and who fit the WHO criteria for cure or completed treatment Denominator: Total number of MDR patients who started treatment in the cohort	100% (1 out of 1) 2010	(24 out of 27) 87%	2012	No patients have completed treatment yet.	No patients have completed a full course of treatment yet. The Drug Resistance Survey Protocol was approved by the Medical Research Council of Zimbabwe. The pilot run started in September 2012 in 6 pilot sites.. A total of 31 clinicians were trained in advanced MDR treatment to facilitate access to MDR care at provincial level

KEY ACHIEVEMENTS

PMDT TOOLS

- ▶ The PMDT guidelines, partially funded through TB CARE were finalized, printed and disseminated during the year.

Training

- ▶ As follow up to the development of the PMDT guidelines, a consultant has been engaged through TB CARE funding to support the development PMDT training materials. Draft training materials were being reviewed by the NTP at the close of the year. A final document is expected in November 2012.
- ▶ A comprehensive course on the clinical management of drug resistant tuberculosis was conducted through TB CARE funding. A total of 31 medical practitioners (23 males and 8 females) from all provinces, main cities and the university medical school participated in the course held in Harare during the year (Figures 6 and 7). The training will greatly facilitate decentralization and early treatment and care of patients with MDR TB.

Figure 6: Presentation of certificates by the Union TB and HIV departments Director after the advanced MDR course in Harare.



Figure 7: Group photo of participants and facilitators during the advanced MDR course in Harare



Drug Resistance Survey (DRS)

The DRS finally got off the ground. A pilot of the survey commenced in 6 sites in September 2012. The full survey will take place during APA3.

CHALLENGES AND NEXT STEPS

1. The current size of the MDR problem is unknown; it was last assessed in 1995. There is a discrepancy between the number of MDR patients diagnosed and those treated due to lack of technical capacity and the centralized nature of service provision.
2. There was no dedicated PMDT officer at the NTP; the current officer also functions as the PPM officer
3. TB CARE has contributed towards addressing the challenges through financial and technical support for the DRS; development of PMDT tools, clinical training for MDR management; and provision for a specific MDR officer post has been made in APA3 to support the NTP.

TB/HIV

The main expected outcomes in the TB/HIV technical area were a) strengthened prevention of TB/HIV co-infection b) improved diagnosis of TB/HIV co-infection and c) improved treatment of TB/HIV co-infection. Key activities were focused on promotion of TB/HIV collaborative activities and expanding care of TB and HIV co-infected persons.

The outcome results are indicated in table 8.

Table 8 – TB CARE – TB/HIV

Expected Outcomes	Outcome Indicators and definitions	Baseline	Target	Result	Comments
		Data	Year 2	Jan - Mar Quarter 2011	
5.3 Improved treatment of TB/HIV co-infection	5.3.1 Registered HIV infected TB patients receiving ART during TB treatment Indicator Value: Percent Numerator: All HIV-positive TB patients, registered over a given time period, who receive ART (are started on or continue previously initiated ART) Denominator: All HIV-positive TB patients registered over the same given time period.	Num =3529 Deno =12078 29% 2009	50%	(61%) 3428/5598	The latest available data is for the period January to June 2011 because the indicator is being reported in the treatment outcome data collection tools, one year in retrospect. The NTP recording and reporting tools have been revised to capture this indicator at notification. The revised tools will be finalised at a stakeholders meeting to be held October 29 - 2 November 2012.
	5.3.2 HIV-positive TB patients who receive CPT Indicator Value: Percent Numerator: Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment Denominator: Total number of HIV-positive TB patients registered over the same given time period.	Num = 8918 Deno =12078 74% 2009	95%	(96%) 5364/5598	The latest available data are for the period January to June 2011 because the indicator is being reported in the treatment outcome data collection tools, one year in retrospect. The NTP recording and reporting tools have been revised to capture this indicator at notification. The revised tools will be finalised at a stakeholders meeting to be held October 29 - 2 November 2012.

Table 9 – PEPFAR – TB/HIV

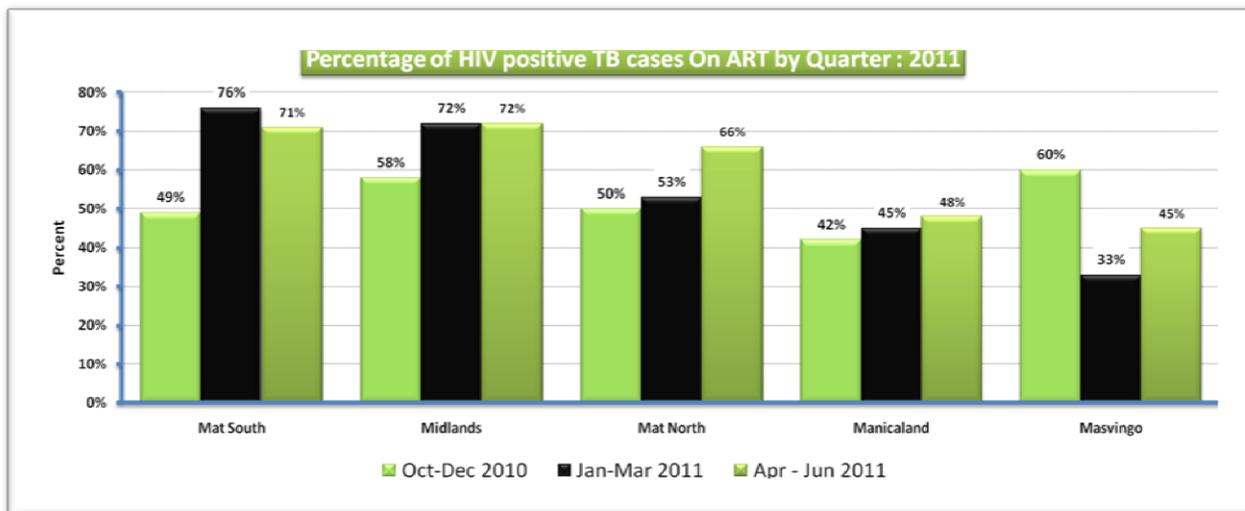
Expected Outcomes	Outcome Indicators and definitions	Baseline	Target	Result	Challenges and Next Steps to Reach the Target
		Data	Y2	Y2	
5.1 Strengthened prevention of TB/HIV co-infection	5.1.2 Facilities that are providing HIV prevention messages at TB services Indicator Value: number Numerator: Number of facilities providing HIV prevention messages at TB services	No data (2011)	13	(100%) 13/13	Delayed development of IEC materials has partially affected the quality of service delivery in this area. Adaptation of existing IEC materials is in progress and this will be finalised by the end of 2012.

	5.1.3 Facilities that are providing TB prevention messages at HIV Care services Indicator Value: number Numerator: Number of facilities providing TB prevention messages at HIV care services	No data (2011)	13	(100%) 13/13	Delayed development of IEC materials has partially affected the quality of service delivery in this area. Adaptation of existing IEC materials is in progress and this will be finalised by the end of 2012.
5.2 Improved diagnosis of TB/HIV co-infection	5.2.1 HIV-positive patients who were screened for TB in HIV care or treatment settings Indicator Value: Percent Numerator: Number of HIV-positive patients seen at HIV testing and counselling or HIV treatment and care services who were screened for TB symptoms, over a given time period. Denominator: Total number of HIV-positive patients seen at HIV testing and counselling or HIV treatment and care services, over the same given time period.	No data (2011)	80%	(47%) 4680/9952	There is no national standardised primary data collection tool to collect this indicator and this may have affected the accuracy of the results. Roll out of the new data collection tools that are currently being piloted is planned for January after pilot the evaluation by NAP.
	5.2.2 TB patients with known HIV status Indicator Value: Percent Numerator: Total number of all TB <u>patients</u> registered over a given time period who were tested for HIV (after giving consent) during their TB treatment Denominator: Total number of TB patients registered over the same given time period.	87% (12060/13916) - Quarter 1 to Quarter 3; for 5 TB CARE supported provinces (2010)	90% (Num = 1800 Den = 2000)	(94%) 775/ 823	Continuous patient education will be supported in the next quarter through the development and printing of IEC materials. Patients education will capture the few remaining patients that opted out of HIV testing.
	5.2.4 TB <u>suspects</u> screened for HIV Indicator Value: Percent Numerator: Total number of all TB suspects registered over a given time period tested for HIV (after giving consent). Denominator: Total number of TB suspects registered over the same given time period.	Not available	90%	(57%) 674/1189	Data accuracy remains a challenge because HIV screening among TB suspects is not routinely reported. In future the program will actively collect data from the registers.
5.3 Improved treatment of TB/HIV co-infection	5.3.1 Registered HIV infected TB patients receiving ART during TB treatment at the project site Indicator Value: Percent Numerator: All HIV-positive TB patients, registered over a given time period, who receive ART (are started on or continue previously initiated ART) at the project site Denominator: All HIV-positive TB patients registered over the same given time period.	44% (4228/ 9726) - Quarter 1 to Quarter 3; for 5 TB CARE supported provinces (2010)	55% (825 /1500 (basing on previous data approximately 75% of patients are HIV-positive)	(64%) 589/914	This data is reported in retrospect and does not directly reflect on the work of project. The project will be working more closely with the centres to obtain current ART uptake data.
	5.3.2 HIV-positive TB patients who receive CPT Indicator Value: Percent Numerator: Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment at the project site Denominator: Total number of HIV-positive TB patients registered over the same given time period at the project site.	91% (8804 /9726) - Quarter 1 to Quarter 3; for 5 TB CARE supported provinces (2010)	(95%) 1425/ 1500 (basing on previous data approximately 75% of patients are HIV-positive)	(77%) 704/914	Challenges in the supply chain of cotrimoxazole were reported throughout the country. Adequate stocks have since been ordered to address this challenge.

KEY ACHIEVEMENTS

- ▶ The proportion of HIV-positive TB patients put on cotrimoxazole prophylaxis (CPT) has increased to over 90% in all supported provinces. The proportion of HIV-positive TB patients receiving ART has gradually increased. Figure 8 illustrates the situation during APA1 because reporting has so far been done one year in retrospect. There was progressive increase in TB and HIV co-infected patients receiving ART.

Figure 8: Percentage of HIV-positive TB Patients receiving ART by quarter, 2011



Official data are for APA2 not yet available, but experience in the field indicates a continuing increase in the proportion of HIV-positive TB patients receiving ART.

- ▶ A package of TB/HIV tools including tools for IPT and Infection control were developed. The package will be presented to the main stakeholders for ratification in November 2012.
- ▶ A project for the integrated care of TB and HIV co-infected patients was introduced during the second half of the year, with funding from PEPFAR. Based on a pilot conducted by The Union in 3 clinics in Harare and Bulawayo, the concept of integrated care was expanded to 13 other clinics in 9 urban areas. Practical orientation and training of staff from the target clinics - a total of 217 people (138 Females and 79 Males) was conducted, with a focus on integrated care. Two Xpert MTB/Rif equipment and 1,000 cartridges were procured to facilitate diagnosis. Preparations for clinic renovations were commenced and several items of equipment were procured. A total 823 patients had been enrolled in the project by the end of the third quarter.
- ▶ A study protocol by Midlands province on "Factors associated with low ART coverage among TB patients" is expected to be completed by December 2012, and is expected to provide evidence for further interventions to improve the care of co-infected patients.

CHALLENGES AND NEXT STEPS

TB/HIV data is current being officially reported in retrospect with the treatment outcomes. This has made it difficult to assess current progress. However, draft TB/HIV tools have been developed to address this challenge and the tools are expected to be finalized in November 2012.

HEALTH SYSTEMS STRENGTHENING

The aim of the activities in this technical area was to ensure that TB control components (drug supply and management, laboratories, community care, HRD and M&E) formed part of national plans, strategies and service delivery of these components. Main activities involved human resource strategy development, training, and follow up support supervision. Tables 10 and 11 illustrate the expected outcome results of the HSS related activities.

Table 10 – TB CARE - HSS

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
		Data	Year 2	Y2	
6.2 TB control components (drug supply and management, laboratories, community care, HRD and M&E) formed integral part of national plans, strategies and service delivery of these components	6.2.2 Status of HRD strategic plans implemented Indicator Value: Score (1-3) based on definition.	0 (2010)	2	Score = 2	TB CARE facilitated HRD strategy implementation through 1) supporting development of the PMDT training curriculum 2) Conducting in-service training on TB case management, PMDT and M&E 3) International training for NTP staff 4) Support supervision visits. Further provision to support HRD strategy implementation has been included in the APA3 plan.
	6.2.3 People trained using TB CARE funds in year 2 Indicator Value: Number of people Numerator: Number of people trained disaggregated by gender and type of training.	738 (466 females 272 males)	550	834 (390 males and 444 females)	Training during the quarter focussed on districts or groups identified to have urgent training needs. Key next steps include activities to assess impact of training at various levels of care
	6.2.1 Supervisory visits conducted according to country supervisory standards Indicator Value: Percent Numerator: Number of annual supervisory visits conducted disaggregated by two levels. Denominator: Number of annual supervisory visits planned disaggregated by two levels.	Province to district = 100% (15 / 15) District to primary care facility 100% (111/111) 2011	Province to district 100% (15 visits out of 15 planned) District 100% (111 visits out of 111 planned)	Province to district: (65%) 10/15 District to health centres: (65%) 72/111	82 out of 126 planned visits were conducted broken down as follows: (10 conducted out of planned 15 for provincial to district support visits & 72 out of 111 for district to peripheral health facility support visits) Time was not adequate to conduct all planned visits due to late plan approval and commencement of activities

Table 11 – PEPFAR - HSS

Expected Outcomes	Outcome Indicators	Baseline		Target	Result	Challenges and Next Steps to Reach the Target
		Data	Year	Year 2	Y2	
6.2 TB control components (drug supply and management, laboratories, community care, HRD and M&E) formed integral part of national plans, strategies and service delivery of these components	6.2.1 Supervisory visits conducted according to project supervisory standards Indicator Value: Percent Numerator: Number of annual supervisory visits conducted to the 13 project sites. Denominator: Number of annual supervisory visits planned for the 13 project sites.	0 (2011)	2011	6	(100%) 6/6	

	6.2.3 Health care workers trained using PEPFAR funds Indicator Value: Number Numerator: Number of project sites health care workers trained on TB/HIV and OI/ART management using PEPFAR funds disaggregated by gender	0 (2011)	2011	390 (195 males 195 females)	216 (138 Females and 79 Males) (65%) 216/390 - This figure includes other health workers in the same urban areas	There was inadequate time to train all targeted health workers. The remaining trainings will be conducted before the end of 2012.
	6.2.4 Health care workers trained using PEPFAR funds Indicator Value: Number Numerator: Number of project sites health care workers trained on Rapid HIV Testing and Counselling using PEPFAR funds disaggregated by gender	0 (2011)	2011	390 (195 males 195 females)	0	There was inadequate time to conduct this training. The training will be conducted before the end of December.
	6.2.5 Clinics offering TB and ART services Indicator Value: Number Numerator: Number of project sites clinics offering TB and ART initiation and follow up services in the selected urban areas		2011	16	(75%)12/16	The following clinics are not yet accredited for OI/ART: ~Chinotimba ~Phakama ~Tshabalala ~Dangamvura. Provincial teams have been granted authority to assess and accredit the ART sites. It is anticipated that the process of accreditation will be complete by the end of December 2012

KEY ACHIEVEMENTS

Human resource development:

- ▶ *HRD planning:* a human resource strategic plan and implementation for the period 2012 - 2014 was developed and has formed the basis for further TB CARE human resource development support.
- ▶ *Management training:* A total of 29 (11 female and 18 males) district health workers from 10 provinces completed a one-week health management and finance course conducted by the International Management Development Program (IMDP). Most of the participants were young district leaders who had not received any management training before (Figure 9). The training focused on various management concepts, strategies and skills related to leading TB projects and program management in general. Topics included leadership development, management of health services and project management. The impact is yet to be assessed.

Figure 9: participants working on an exercise during the IMDP course in Harare



TB and TB/HIV management training: A total of 896 health workers (431 males and 465 females) were trained in TB case management and TB/HIV care during the year. The training focused on TB case detection, TB treatment, Childhood TB, Community TB support, TB case holding, TB and HIV collaborative activities, TB medicines and supplies, and recording and reporting. With this training, nearly all health facilities in the supported provinces now have at least one health worker trained in TB management. This is expected to further improve TB control performance in the country.

Support supervision

- ▶ A total of 30 districts, out of 37 planned, were visited at least once by provincial teams during the year (visits could not be arranged in time for the remaining 7). The support visits targeted districts that had major performance challenges. The provincial teams reached 152 health facilities in the districts. The support supervision visits have promoted a more effective health delivery system through quality assurances (verifying the recording and reporting system), health facility problem solving, logistics supplies and continuing education (Figures 10 and 11).
- ▶ By the end of September 2012, 804 peripheral health facilities out of a total of 949 in the 5 supported provinces had been visited for support supervision by district teams. Health facility staff has been equipped through these visits by on site mentorship, local data verification and analysis, use of data for decision making, problem identification and management. The regular support supervision visits and on site mentoring motivated the health facilities especially at peripheral health facilities which do not often get visited by higher level staff, and this helped create stronger health teams.

Figure 10: NTP and TB CARE team conducting support supervision in Makoni district in Manicaland Province



Figure 11: The provincial coordinator from Matabeleland South province demonstrating the use of a TB plot chart for health workers at Mawabeni clinic, Umzingwane district



Policy formulation

One TB Expert Committee meeting was held in September 2012 and attended by key stakeholders. The meeting focused on the major policy issues including implementation of DOT in rural areas, decentralization of DR TB treatment and IPT for HIV-positive patients. The DOT issue will be considered at a later meeting after more detailed evidence has been gathered, while the latter two were endorsed by the meeting for implementation.

MONITORING & EVALUATION, SURVEILLANCE AND OPERATIONS RESEARCH

The main expected outcomes in this technical area were a) improved capacity of the NTP to analyze and use quality data for management of the TB program and b) improved capacity of the NTP to perform operations research. The main activities included data verification, development of guidelines for data collection analysis and use, TB and TB/HIV control performance reviews, procurement of communication and M&E equipment and supporting operations research activities in the provinces.

Expected outcome results are illustrated in tables 12 and 13.

Table 12 – TB CARE – M&E

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
		Data 2011	Year 2	Y2	
7.2 Improved capacity of NTPs to analyze and use quality data for management of the TB program	7.2.2 NTP provides regular feedback from central to lower levels Indicator Value: Percent per quarter Numerator: Number of quarterly feedback reports prepared and disseminated disaggregated by three levels. Denominator: Total number of recipient units/facilities at each level x 3 quarters	National to province = 5 /20 quarterly feedback reports in 5 provinces Province to district = 0 out of the expected 148 quarterly feedback reports in 37 districts District to health facility = 0 out of the expected 3928 feedback reports in 949 health facilities	Nat. to prov. = 20 feedback reports out of the expected 20 quarterly feedback reports in 5 prov. Prov. to dist. = 148 out of the expected 148 quarterly feedback reports in 37 dist. Dist. to HF = 0 out of the expected 949 feedback out of the expected 3928 feedback reports in 949 HFs	<u>National to province</u> (75%) 15/20 <u>Province to district</u> (75%) (111/148) <u>District to health facility</u> (100%) 949/949	Data collection, Analysis and Utilisation Guidelines are at the pilot stage. The guide is expected to facilitate TB data transmission and feedback between different levels and health facilities. The feedback was done through reports and review meetings. So far there is no mechanism for Rural health centres, where most of the activity data are generated, to report to the districts. Development of the data use guidelines is expected to address this gap. Data-based feedback for rural health centres will commence when they start reporting.
7.3 Improved capacity of NTPs to perform operational research	7.3.1 OR studies completed and results incorporated into national policy/guidelines Indicator Value: Number (of OR studies and instances reported separately)	0	3	0	Of the 12 initially planned studies, 7 made progress as These studies will provide useful evidence for interventions, to strengthen TB control at both national and local levels.

Table 13 – PEPFAR – M&E

Expected Outcomes	Outcome Indicators	Baseline	Target		Result	Challenges and Next Steps to Reach the Target
		Data	Data	Year	Y2	
7.2 Improved capacity of NTPs to analyze and use quality data for management of the TB program	7.2.3 Local TB and HIV data analysis and use for planning Numerator: Number of quarterly review meetings conducted	0 (2011)	2	2012	(50%)1/2	There was inadequate time to hold the second data analysis meeting
	7.2.4 Number of quarterly project sites narrative reports with recommendations for actions to be taken based on data analysis	0 (2011)	42	2012	(64%) 27/42	3 sites in Harare and 1 in Masvingo did not report. The sites that did not report will be visited for support in recording and reporting immediately

KEY ACHIEVEMENTS

M&E and Surveillance

- ▶ With TB CARE support, the NTP conducted quarterly data analysis, compiled reports and disseminated the findings. Recommendations were made for gaps identified in each province for example the need to conduct operations research to establish the need for high death rate in the southern region of the country (Matabeleland North, Matabeleland South and Bulawayo provinces); the need to improve on data management and use as well as strengthening of TB/HIV collaborative activities particularly the initiation of HIV-positive patients on ART (in all provinces). The quarterly data analysis exercise has contributed towards an improved TB program through the following ways:
 - Quick identification of inaccurate or suspicious data submitted to national level and subsequent feedback to respective districts to take action on the gaps identified and to report back
 - The feedback reports have stimulated interest and competitiveness among provincial and district managers in the TB program. Comparison of data across districts has encouraged provinces and districts to institute measures to address the sometimes glaring gaps that were exposed by the quarterly data analysis reports.
- ▶ A total of 15 data verification visits were conducted to all 5 supported provinces. The exercise showed a steady improvement in the quality of data in 4 of the 5 districts visited, whilst there were major data quality issues in one district (e.g. patients who had signs and symptoms of TB were not recorded as suspects, the treatment outcomes did not tally with what was reported in form 7, some smear positive patients were recorded in the laboratory but not registered in the district TB register). The results of the data quality verification exercises were also presented in performance review and planning meetings the benefits of districts not yet visited.
- ▶ All the 37 supported districts in the 5 provinces conducted annual TB/HIV performance review meetings. These meetings provided a platform for district level and health facility staff to review data quality and performance indicators.
- ▶ One national TB program performance review meeting was held. The meeting was attended by national, provincial and district level TB control program officers and partners in TB HIV control and care. Among the key recommendations were: 1) Mobilisation of resources to procure more Xpert MTB/Rif instruments; 2) expediting the establishment of a surveillance system for TB among HCW 3) establishment of an electronic TB register nationally and 4) establishment of a formal TB partnership forum.

Operations research

Of the 12 initially planned studies, 7 made progress, while 5 were not able to meet any agreed deadlines and dropped out. The status of the progressing studies at the end of the year is summarized below:

- a. The maximum time that sputum samples can be kept at room temperature and still give reliable results->Collecting data
- b. Factors associated with Tuberculosis treatment delay among sputum positive patients in Chegutu district ->Protocol submitted to MRCZ

- c. Factors associated with low ART provision amongst TB/HIV patients in Midlands province -> Protocol approved by the MRCZ
- d. Prevalence of smear-negative culture positive TB among adult HIV-positive patients attending Mpilo hospital HIV clinic -> Protocol submitted to MRCZ
- e. Risk Factors for Tuberculosis Immune Reconstitution Inflammatory Syndrome (TB IRIS) at Beatrice Road Infectious Diseases Hospital (BRIDH), Harare city in 2011 ->Protocol submitted to MRCZ
- f. Does the type of treatment supporter influence tuberculosis treatment outcomes in Zimbabwe? -> Data analysis stage
- g. What is the extent of TB treatment delay and the associated patient and health system factors under the Zimbabwe National TB program? -> Protocol submitted to MRCZ.

These studies are expected to provide useful evidence for interventions to further strengthen TB control in the country.

CHALLENGES AND NEXT STEPS

Operations research progress was very slow. The focus was on provinces to conduct research relevant to their locality. However despite training, capacity to develop research proposals remained a challenge. Working with one of the collaborating partners, the program adopted an individual mentorship approach which proved to be productive.