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**TB CARE I**

# **ZIMBABWE**

**Year 1  
Annual Report  
October 1, 2010 – September 30, 2011**

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## List of Abbreviations

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

## Executive Summary

TB CARE I implementation strategy in Zimbabwe comprises: a) strengthening of the national level management capacity to provide policy direction and coordinate program implementation, and b) supporting service delivery levels - provincial/city, district and primary levels of health care in five provinces and the three largest cities, benefitting a population of approximately nine million people - to effectively implement TB control interventions, including TB/HIV collaboration. The International Union Against Tuberculosis and Lung Disease (The Union) is the lead partner, with the World Health Organization (WHO) and the KNCV Tuberculosis Foundation (KNCV) as the collaborating partners. All TB control activities were implemented by national health workers, while the TB CARE I team provided technical and financial support. The project worked in five technical areas namely, Universal access, TB/HIV, Programmatic management of drug resistant tuberculosis (PMDT), Health systems strengthening (HSS), and Monitoring and Evaluation (M&E)/ Operations research (OR)/Surveillance.

The total USAID buy-in amount was \$2,750,000. The TB CARE I administration consisted of four staff employed by The Union, namely a Country Project Director, a Senior Administrator, a Training Coordinator and an M&E Coordinator.

The major achievements, by technical area were as follows:

*Universal and Early Access:* The outcomes of increasing case detection and improved treatment outcomes were achieved. The case notification rate increased markedly from a baseline of 340/100,000 to 430/100,000 of population. The cure rate improved modestly from a baseline of 63% in 2008 to 68%. However it should be noted that this covers a period before the commencement of the TB CARE I support. The main challenge is inadequate access to laboratory services.

*Programmatic Management of Drug Resistant TB (PMDT):* Establishment of the drug resistance baseline was not completed; however the protocol for the drug resistance survey (DRS) was completed and now awaits approval by the Research Council of Zimbabwe. The survey is earmarked to start in 2012. A total of 152 cases of multidrug resistant tuberculosis (MDR) were notified from a total of 9,041 smear positive notifications, compared to an unknown number in the previous years. Thirty patients were started on MDR TB treatment between January and September 2011, bringing the total number of patients on treatment in Zimbabwe at the end of September 2011 to 57. The main challenge is lack of information on the extent of drug resistance in the country, but TB CARE is supporting the NTP to address the challenge.

*TB/HIV:* The proportion of HIV positive TB patients started on ART increased from 28% in 2009 to 38% in the first three quarters of the project. The key challenge is that national policy requires that only doctors initiate ART, and there are not enough of them to meet the demand. The number of provincial and district level health care facilities with a written infection control policy document for TB that is consistent with national guidelines increased from an assumed zero to 85% in facilities selected for this assessment.

*Health Systems Strengthening:* Two sets of guidelines - MDR Guidelines and Data Collection, Analysis and Use Guidelines – are nearing completion. However, the national infection

control guidelines remain uncompleted even after a long time in preparation due to delays in the nursing department, which is working on the guidelines. Inadequate numbers of appropriately qualified government health personnel is the main challenge facing the NTP and TB CARE.

*M&E, Operations Research and Surveillance:* The project set out to increase the number of district quarterly reports that indicate clearly major actions arising from the quarterly data. From a baseline of zero, the number has increased to 16 out of the total of 37 districts. A key challenge is the low usage of data for management at local levels. This will be addressed through the roll out of guidelines being developed.

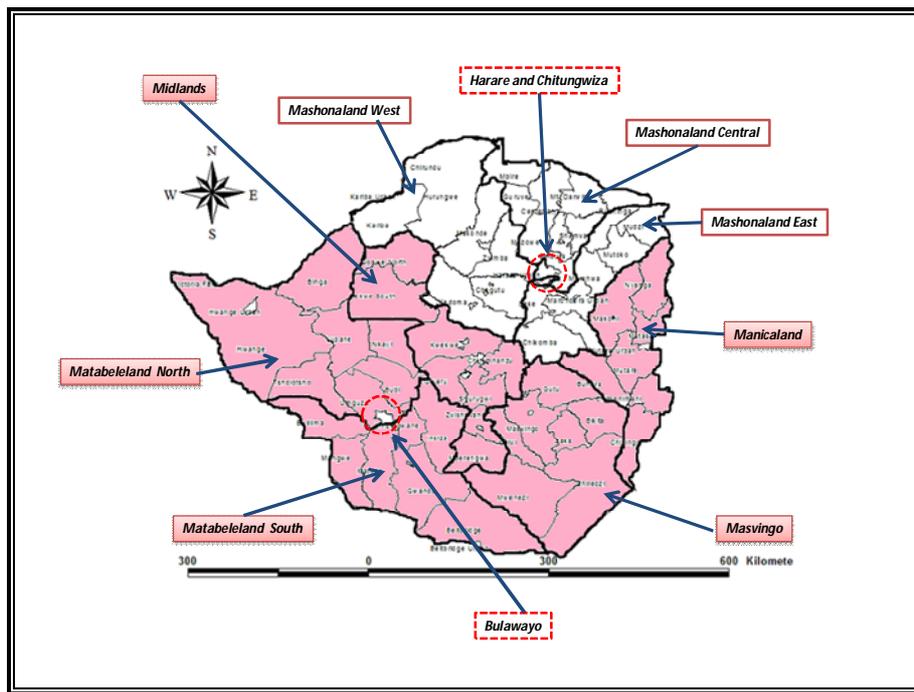
In the area of operations research, all 11 provinces (8 rural and 3 urban) commenced preparations for operations research and have each selected a research topic and have draft research protocols, to be completed in Year 2. The topics are: The maximum time that sputum samples can be kept at room temperature and still give reliable results; Risk factors for mortality in TB patients in Bulawayo City; State of TB control services in Hwedza district; Risk factors for delay in uptake of ART in TB/HIV coinfecting patients in Gwanda district; Risk factors for delays in sputum pathways; The magnitude and factors associated with failure in accessing treatment promptly in TB patients in Chegutu and Kadoma districts; Factors associated with low ART provision amongst TB/HIV patients in Midlands province; Characteristics of patients who transfer out in Mashonaland Central province; Role of TB culture in intensified case finding in HIV patients at an HIV clinic; Risk factors for mortality in new smear positive TB patients initiated on TB treatment in Harare; Evaluation of voluntary community based support on TB/HIV program activities in Shurugwi district; The burden of TB IRIS in Harare City.

## 1. Introduction

### 1.1 Background

The objective of the Zimbabwe TB CARE project was to a) strengthen national level capacity to manage the TB control programme, and b) strengthen service delivery level capacity in five of the eight rural provinces selected by the NTP. The project also supported the three largest urban areas to strengthen TB case detection by facilitating sputum sample transport. 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: Map of Zimbabwe showing the TB CARE I supported areas**



The following table shows the provinces supported by TB CARE I and their respective populations.

**Table 1: TB CARE I area populations**

Province	Estimated Population (2010)
Manicaland	1,698,927
Masvingo	1,429,846
Matabeleland South	707,164
Matabeleland North	763,358
Midlands	1,585,295
<b>Total rural</b>	<b>6,184,590</b>
Bulawayo city	732,715
Chitungwiza city	350,044
Harare	1,579,679
<b>Total urban (Sputum transport support only)</b>	<b>2,662,438</b>
<b>Grand total (out of 13 million)</b>	<b>8,847,028</b>

The project was coordinated by The Union, with KNCV and WHO as collaborating partners. Activities were implemented through the Zimbabwe National TB Programme structures. The total project budget was \$2,750,000 split between five technical areas namely, Universal and early access (45%), Programmatic Management of Drug-resistant TB (9%), TB/HIV (9%), Health Systems Strengthening (9%), monitoring and evaluation (26%), and Operations research and surveillance (2%). The indicators for monitoring progress were collected through the routine NTP Monitoring and Evaluation system.

The TB CARE administration consisted of four staff employed by The Union namely a Country project Director, a Senior Administrator, a Training coordinator and an M&E coordinator. The team received technical support from The Union head office team including the Director of the Departments of Tuberculosis and HIV, The Union's HIV Program Coordinator and administrative and finance support from the Project Administrator. A senior TB consultant visited the program once for a total of two weeks to give additional technical support.

## 1.2 Achievements

Project achievements are summarized below. It should be noted that there are other partners, mainly The Global Fund To Fight AIDS, Tuberculosis and Malaria (Global Fund), contributing to the control of tuberculosis in the country; therefore changes in TB control indicators may not be attributable solely to TB CARE-funded activities. It will also be noted that although most of the activities were completed, the period that has elapsed between the activities and the end of the period under review is very short (approximately six months) and therefore some outcomes are yet to be realized.

## 2. Universal and Early Access

### 2.1 Key Results

Activities in this technical area were aimed at achieving increased TB case detection and increased cure rates. Key results are illustrated in Table 2.

**Table 2: Outcome indicators for Universal and Early Access**

Expected Outcomes	Outcome Indicators	Baseline (5 supported provinces)	Target	Result (5 TB CARE I supported provinces)	Comments
Increased TB case detection	Number of TB cases notified per 100,000 population	340 (2010)	370	430	Period covered is 9 months of the TB CARE I year ie October 2010-June 2011
Intensified TB patient treatment, supervision and support	Proportion of new sputum smear positive TB patients cured	63% (WHO, 2008, no data for 2009)	70	68%	Period covered is October 2009 to June 2010 ie before the start of TB CARE I support

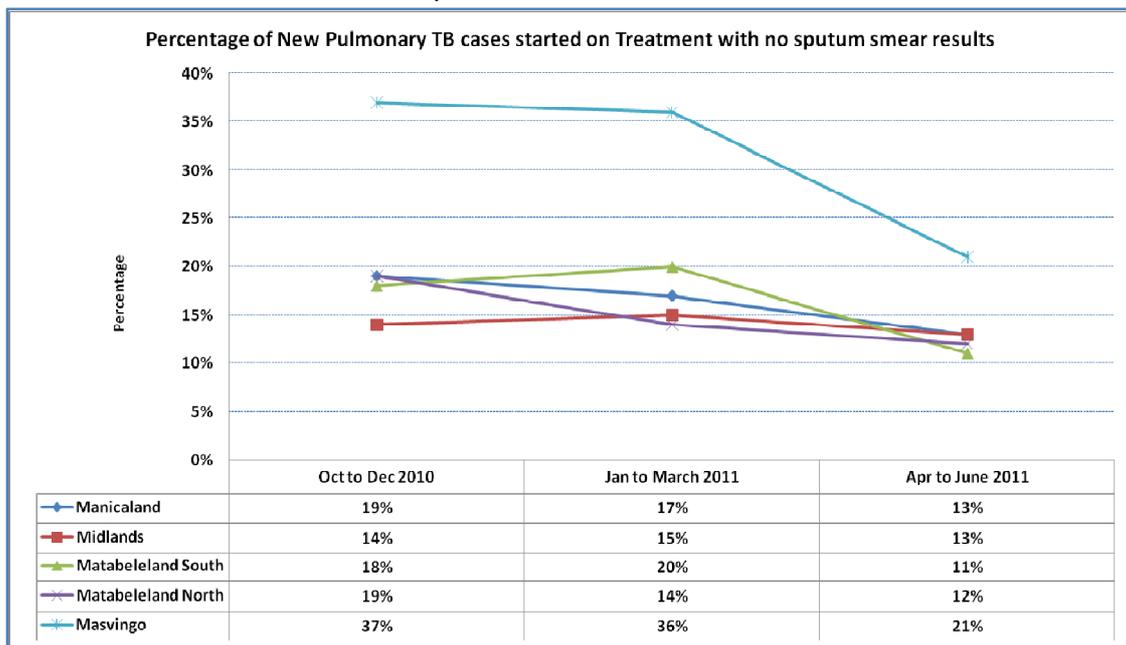
- There was a marked increase in the notification rate from a baseline of 340 in 2010 to 430/100,000 of the population in the period October 2010 – June 2011 in TB CARE I-supported provinces. It is not immediately clear whether the change is due to improved case finding, improved reporting, an epidemiologic increase in the number of cases or a combination of the above or other factors. The project will make a follow up to clarify the position. There was also a modest increase in the cure rate from a baseline of 63% in 2008 to 68% for TB CARE I areas and a treatment success rate of 76% compared to a national equivalent of 79% for the period October 2009 to June 2010, the latest project period for which data was available.
- Of the 19,064 new cases notified in TB CARE I-supported areas 4,383 cases were confirmed sputum positive. The national figures were 47,865 and 11,686 respectively.

## 2.2 Other notable results

The following achievements in this technical area will contribute further to increased case finding and cure rates:

- The proportion of new pulmonary TB cases that started on TB treatment without sputum smear or culture results has been declining steadily during the period October 2010 to June 2011. This is illustrated in Figure 2.

**Figure 2: Percentage of New Pulmonary TB cases started on treatment without a sputum smear result, October 2010 to June 2011**

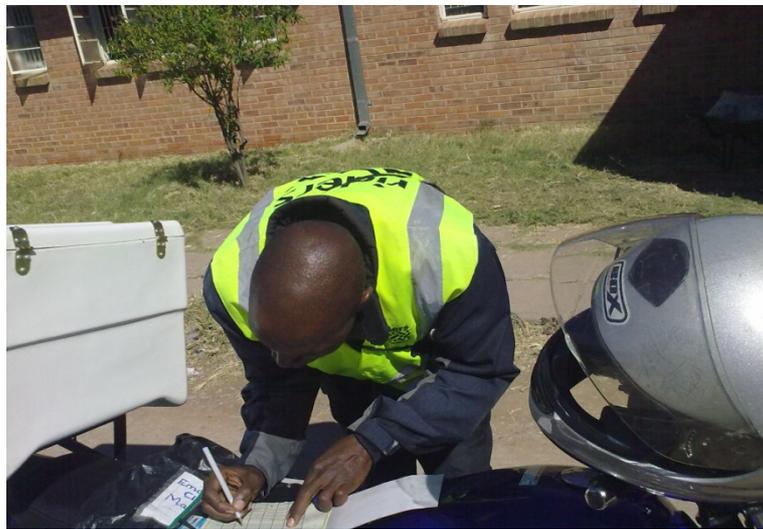


- Twenty-eight training workshops were conducted in different topics. Nineteen of these were in the general management of TB and TB/HIV. A total of 808 health workers were trained (308 males and 500 females).
- A total of 10 support supervision visits were conducted from the five provinces to districts, 74 from district to health facilities by senior provincial and district health workers respectively. Feedback meetings and joint formulation of the way forward with target staff at the end of support supervision visits indicate appreciation of

weaknesses and strengths by the staff concerned. Long term benefits will be monitored and evaluated through changes in TB and TB/HIV control indicators.

- Twenty-six performance review meetings at national, provincial and district levels were conducted and areas for improvement agreed.
- Between October 2010 and June 2011 the project transported 16,855 sputum specimens, 28,797 blood, urine, stool and DBS specimens, and approximately 41,200 results. The system has greatly reduced sputum turnaround time from the clinics to the laboratory and back from two weeks to no more than four days. All results are now received from the laboratories in contrast to the period before the project when some results were not received.

**Figure 3: Trained Rider for sputum collection, filling in the sputum transport record book at Emakhandeni Clinic in Bulawayo**



- Procurement of five motorcycles (one per province) to complement the existing inadequate transport system. These motorcycles are being deployed as a pilot exercise in selected rural districts where the project has no previous experience.

### 2.3 Challenges and Next Steps

The coverage for microscopy services in the five provinces is inadequate with an average of one microscopy centre per 130,000 population. More microscopy centres are planned with support from the Global Fund funding.

Transport to ferry sputum specimens from the peripheral health facilities to microscopy centres is inadequate. Some patients were requested to find their own way to the nearest microscopy centres for sputum smear examinations and some were not able to do so due to prohibitive transport costs or various other reasons.

The country has not taken a clear policy position on the use of biosafety cabinets and some laboratories do not perform sputum microscopy, citing risk of TB infection, despite overwhelming evidence that it is safe to do sputum microscopy on a bench in well ventilated laboratories. The NTP is in discussion with laboratory services on the matter.

Most of these challenges were recognised during the planning stage and the TB CARE activities sought to address some of them.

### 3. Programmatic Management of DR TB

The thrust of TB CARE I support was to contribute towards determination of the magnitude of the multidrug resistant tuberculosis, and establishment of a functional national system for surveillance, diagnosis and treatment of DR TB patients. Key outcome indicators were a) Percentage of sputum positive PTB patients who have DR TB and b) Proportion of notified TB cases tested for DR TB.

#### 3.1 Key Achievements

Progress made is illustrated in Table 3

**Table 3**  
**Outcome indicators for PMDT**

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
Magnitude of DR-TB in the country determined (baseline)	Percentage of sputum positive PTB patients who have DR-TB	No recent data. Last survey in 1995	To be determined	The protocol for the DRS has been developed and field work is planned for year 2.	Results of the DRS will help determine future baselines and targets
Functional national system for surveillance, diagnosis and treatment of DR TB patients in place	Proportion of notified TB cases tested for DR_TB	Nil	To be determined	152 patients were tested for MDR TB out of a total of 9,041 sputum positive patients between January and September 2011	Thirty patients were put on MDR TB treatment between January and September 2011, bringing to 57 the total number of patients on treatment in Zimbabwe at the end of September 2011.

#### 3.2 Other achievements

- MDR TB prevention and risk groups for MDR are emphasized in all TB and TB/HIV training.
- TB CARE has supported finalization of MDR TB guidelines which are nearing completion.

#### 3.3 Challenges and Next Steps

The DRS process involved many partners with different funding conditions resulting in cancellation of some funding sources.

DR-TB data is not systematically collected nationally and this has resulted in some gaps in data and information on MDR-TB. The M&E system has been developed, but has yet to be rolled out through training and distribution of tools and thereafter routine reporting.

#### 4. TB/HIV

Support in this technical area was aimed at strengthening clinical management of TB/HIV co-infected patients and scaling up implementation of TB infection control in health care facilities. The results are summarised below.

##### 4.1 Key Achievements

The provinces registered an increase in the proportion of TB patients with positive HIV test results initiated on ART, and there was a move towards strengthened infection control. This is illustrated in table 3.

**Table 4**  
**Outcome indicators for the TB/HIV technical area**

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
Strengthened clinical management of TB/HIV co infected patients	Percent of TB patients, co-infected with HIV who are started on ART	28% (WHO, 2008, no data for 2009)	50%	38% for period Oct 2010-June 2011 i.e. 3 quarters	Recording and reporting (RR) for this indicator is acknowledged to be unsatisfactory. NTP and TB CARE I are working to improve the RR approach.
Scaled up implementation of TB infection control in health care facilities	Proportion of provincial and district level health care facilities with a written infection control policy for TB that is consistent with national guidelines	Nil recorded	50%	85% (35 institutions out of a total of 41)	Support supervision in year 2 will include ensuring utilization of the plans to reduce infection control.

##### 4.2 Other achievements

- Conducted a national TB/HIV training course for 29 (20 males, 9 females) participants from all eight rural provinces and one city; the course was facilitated by international and local TB/HIV experts.
- Five infection control training workshops were conducted - one per province. The training included development of infection control plans by 35 districts. A total of 148 health workers (31 males and 117 females) were trained.

### 4.3 Challenges and Next Steps

- Initiation of ART is done only by medical doctors and clinical officers, and there are inadequate staff to meet the need. Discussion within the NTP indicates willingness by the program for task shifting to increase access to ART services, but this is not yet official policy.
- The recording and reporting system captures the ART uptake indicator at the time of TB cohort treatment outcome analysis, which is one year in retrospect. There is therefore no opportunity to benefit from quarterly changes during the year. Additionally in this case, the indicator is for the period before TB CARE I. NTP has agreed to change so as to report ART uptake together with notifications.
- National infection control guidelines are not yet completed despite a long period in preparation due to delays in the nursing department that is working on the guidelines. With TB CARE I support, two health workers have recently completed an advanced international TB infection control course. This is expected to improve the pool of infection control personnel who will support infection control programming including the development of guidelines.

## 5. Health Systems strengthening

### 5.1 Key Achievements

The key expected outcome was availability of operational standards for areas that TB CARE I is supporting namely Universal access, PMDT, Infection control, TB/HIV, M&E and Surveillance. With MDR and Data use guidelines nearing completion, only infection control guidelines have no clear timelines for completion.

*Table 5: Outcome indicators for Health systems strengthening*

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
TB service delivery standards, norms or guidance developed	Number of TB CARE technical areas where standards, norms or guidelines have been developed	3 (ie National TB guidelines, TB/HIV guidelines, M&E framework)	6	5	The project will focus on supporting the NTP for the finalisation of the IC guidelines

### 5.2 Other achievements

- Installation and maintenance of internet services for the five provincial health offices
- Payment of subscriptions for the electronic version of the International Journal of Tuberculosis and Lung Disease (IJTLD) for the NTP head office, eight provinces and three cities
- Conducted NTP human resources situation analysis as a background to the development of a human resources strategy and implementation plan

- Revived the TB expert committee and conducted one meeting.

### 5.3 Challenges and Next Steps

Lack of appropriately qualified health workers in sufficient numbers to control TB is the main challenge. TB CARE I is supporting the NTP to improve capacity through training and providing resources for support supervision and development of technical guidelines.

## 6. M&E, OR and Surveillance

### 6.1 Key achievements

The key expected outcomes were a) TB recording and reporting data utilised for TB control management decisions and b) Evidence-based TB control interventions.

**Table 6: Outcome indicators for M&E, OR and Surveillance**

Expected Outcomes	Outcome Indicators	Baseline	Target	Result	Comments
TB recording and reporting data utilised for TB control management decisions	Proportion of quarterly R&R reports that indicate clearly major actions arising from the quarterly data	0	50%	0	Analysis ongoing
Evidence-based TB control interventions	Number of provinces with at least one operations research conducted	0	2	0	All 8 rural and 3 urban teams have commenced preparations for operations research

### 6.2 Other achievements

- An international review of the NTP was conducted. The results will guide TB control programming to the end of the current strategic plan (2014).
- Local data use guidelines have been developed and these will be piloted in three districts before being rolled out nationwide. The guidelines include a new reporting template to facilitate reporting by peripheral health facilities.
- Eleven provincial health workers received brief training to conduct operations research and started development of research protocols – one each for the eight provinces and three main cities. The following topics for the research protocols were selected:
  1. *The maximum time that sputum samples can be kept at room temperature and still give reliable results*
  2. *Risk factors for mortality in TB patients in Bulawayo City*
  3. *State of TB control services in Hwedza district*

4. *Risk factors for delay in uptake of ART in TB/HIV coinfecting patients in Gwanda district*
5. *Risk factors for delays in sputum pathways*
6. *The magnitude and factors associated with failure in accessing treatment promptly in TB patients in Chegutu and Kadoma districts*
7. *Factors associated with low ART provision amongst TB/HIV patients in Midlands province*
8. *Characteristics of patients who transfer out in Mashonaland Central province*
9. *Role of TB culture in intensified case finding in HIV patients at an HIV clinic*
10. *Risk factors for mortality in new smear positive TB patients initiated on TB treatment in Harare;*
11. *Evaluation of voluntary community based support on TB/HIV program activities in Shurugwi district*
12. *The burden of TB IRIS in Harare City.*

### 6.3 Challenges and Next Steps

There is minimal local use of data for programme management. This will be addressed by rolling out the local data use analysis and use guidelines under preparation.

## 7. Financial Overview

**Table 7**  
**Finances (in U.S. Dollars)**

<b>Country</b>	Zimbabwe
<b>Year</b>	2010-2011
<b>Lead Partner</b>	The Union
<b>Coalition partners</b>	WHO, KNCV
<b>Other partners</b>	
<b>Total obligated amount</b>	2,750,000
<b>Total budgeted amount</b>	<b>2,750,000</b>

Total Expenditures	Budgeted Amount	Expenditures this Quarter	Accruals this Quarter	Cumulative Expenditures	Remaining Amount	Level of Spending
ATS						
JATA						
FHI						
KNCV	86,450	33,384	0	66,727	19,723	77%
MSH						
<b>The Union</b>	<b>2,254,742</b>	<b>1,182,336</b>	<b>490,193</b>	<b>2,254,743</b>	<b>-1</b>	<b>100%</b>
WHO	161,308	12,068	0	77,355	83,953	48%
ACF	247,500	61,875		247,500	0	100%
<b>TOTAL</b>	<b>2,750,000</b>	<b>1,289,664</b>	<b>490,193</b>	<b>2,646,324</b>	<b>103,676</b>	<b>96%</b>

The implementation of the program activities commenced in April 2011 instead of October 2010 due to the delayed approval of the work plan and budget. It was therefore not possible to carry out all the program activities during the remaining period of the year. The remaining funds have been rolled into APA 2 and implementation of the program activities has already started. It is planned to spend all the remaining funds by December 31, 2011.