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TB CARE I



**TB CARE I - Zambia
Year 4 Report**

October 1, 2013 –September 30, 2014

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Cover: TB CARE I Laboratory Technical Officer, Anderson Mokola, operating the GeneXpert MTB/RIF machine at Lubuto Clinic in Ndola

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List of Abbreviations

ACSM	Advocacy Communication and Social Mobilization
CDL	Chest Disease Laboratory
CIDRZ	Centre for Infectious Diseases Research in Zambia
DOTS	Directly Observed Therapy Short course
ICF	Intensified Case Finding
IPT	Isoniazid Preventive Therapy
MCDMCH	Ministry of Community Development Mother and Child Health
MDR-TB	Multi-drug resistant TB
MGIT	Mycobacteria Growth Indicator Tube
MoH	Ministry of Health
NFM	New Funding Mechanism
NTP	National TB Control Program
TB CAP	Tuberculosis Control Assistance Program
TB IC	Tuberculosis infection control
TDRC	Tropical Diseases Research Centre
TRP	Technical Review Panel

Executive Summary

TB CARE I Zambia was successfully implemented by the four in-country partners, FHI360, KNCV Tuberculosis Foundation (KNCV), Management Sciences for Health (MSH) and the World Health Organization (WHO). TB CARE I partnered with both the Ministry of Community Development Mother and Child Health (MCDMCH) and the Ministry of Health (MoH) at national, provincial and district level. The project successfully closed out activities in four of the six target provinces by September 30, 2014. Two provinces will continue to receive support in the next fiscal year with PEPFAR funding. TB CARE I will also continue to partner with the Centre for Infectious Diseases Research in Zambia (CIDRZ) in the Southern part of the country.

TB CARE I support was provided in seven technical areas. Some of the key achievements in Universal Access, Laboratory activities and Surveillance are shared below:

Universal access

National Health Strategic Plan and Global Fund Concept note development:

The TB CARE I partnership was instrumental in the development of the national TB strategic plan for 2014-2016 and actively participated in development of the Global Fund concept note for TB/HIV under the new funding model (NFM). The country received local and international support from WHO, FHI360 and KNCV. The concept note was submitted in June 2014 and the country further submitted a revised version in July 2014, following review by the Technical Review Panel (TRP). The proposed grant amount for allocated funding is \$132,733,184 and the above allocation funding is \$19,720,468.

Laboratories

Establishment of TB diagnosis with Xpert MTB/RIF technology:

The project successfully supported testing of 10,898 individuals for TB using the seven Xpert MTB RIF machines and accessories in two provinces where the WHO 3 I's initiative was implemented. Active TB disease was diagnosed in 1,323 (12%) and Rifampicin resistance in 49 out of the diagnosed cases (4%). The project began receiving Xpert test results in September 2013. The project also developed standard operating procedures for data collection during the quarterly quality assurance visits that were agreed upon by the two implementing partners.

TB specimen referral for presumptive MDR-TB

TB CARE I implemented a specimen referral system in five provinces. The project engaged a courier company to support the transportation of the specimens, procured specimen packaging and transportation materials, trained clinicians, nurses, laboratory staff and courier company staff on use of standard procedures for specimen referral, and conducted monitoring visits with NTP staff members. The number of referred samples had increased from a baseline line of 145 (for a six month period in 2013) to 227 (collected from January to June 2014 from the five provinces). The turn-around time for culture and drug susceptibility testing had also decreased from six months to two months.

Surveillance

National TB prevalence survey:

The NTP received significant support for the implementation of the first national TB prevalence survey. The survey implementation began in August 2013 and technical support was provided by local and international consultants. The project provided support for the digitalization of three mobile x-rays, the procurement of equipment for liquid culture, laboratory commodities for microscopy and field sample collection and transportation. Following field implementation, technical support was provided. The target sample size was 54,400 participants from 66 clusters nationwide that included urban and rural areas.

Introduction

TB CARE I began the final year of project implementation with the four implementing partners, FHI360, KNCV, MSH and WHO to support the National TB Control Program (NTP) under the MCDMCH. TB CARE I continued to provide laboratory support to the moH through the National Reference Laboratory/Chest Diseases Laboratory (CDL) and the Tropical Diseases Research Centre (TDRC). TB CARE I partnered with the Centre for Infectious Diseases Research in Zambia (CIDRZ) to implement TB/HIV activities for the WHO 3 I's global initiative on Intensified Case Finding, Infection Control and Isoniazid Preventive Therapy in four provinces, namely the Copperbelt, Central, Lusaka and Southern provinces. The total obligated amount for Year 4 of project implementation was \$2,475,261.

The TB CARE I partners provided significant technical support to the NTP in key technical areas. The support provided in the fourth year through the project contributed to a number of important deliverables, including the development of a country National TB strategic plan for 2014-2016, development of a Global Fund concept note, finalization of an Advocacy Communication and Social Mobilization (ACSM) strategy, development of standard operating procedures and data collection methodology for the WHO 3 I's implementation sites, implementation of a sputum sample referral system in five provinces, revision of national sputum microscopy guidelines, adaptation of multi-drug resistant TB (MDR-TB) training materials for health care workers (HCWs), and provision of quality assurance for field implementation and data management for the first national and digital TB prevalence survey. The project also completed a smooth transition of interventions introduced under the Ndola District TB IC demonstration project to the districts, and continued to support the implementation of the 3 I's activities in four provinces, and to strengthen the capacity of the districts in those provinces to utilize and maintain the newly introduced Xpert MTB/RIF technology for routine TB diagnosis.

The main achievements realized in each technical area during the fourth year, and reported challenges, are discussed in more detail in the following section.

Core Indicators

TB CARE I has seven core indicators that the program as a whole is working to improve across all countries. Table 1 summarizes the core indicator results across the life of the project for TB CARE I Zambia as well as the Tuberculosis Control Assistance Program (TB CAP), the precursor to TB CARE I, which our coalition also led.

Table 1: TB CARE I core indicator results for Zambia

		C1. Number of cases notified (all forms)	C2. Number of cases notified (new confirmed)	C3. Case Detection Rate (all forms)	C4. Number (and percent) of TB cases among healthcare workers	C5. Treatment Success Rate of confirmed cases	C6. Number of MDR cases diagnosed	C7. Number of MDR cases put on treatment
	2005	53,569	48,045	78%	N/A	85%		
TB CAP	2006	51,179	45,925	78%	N/A	85%		
	2007	50,415	44,582	78%	N/A	85%		
	2008	47,333	42,097	78%	N/A	87%		
	2009	48,510	43,066	78%	N/A	87%		
	2010	48,616	42,306	79%	N/A	88%		
TB CARE I	2011	48,594	41,958	80%	N/A	88%	100	U
	2012	45,269	38,861	80%	N/A	88%	79	U
	2013	45,793	38,775	80%	N/A	89%	80	U

The NTP observed a decrease in the number of cases notified among all forms of TB (14% over nine years) and a decrease in the number of confirmed cases of TB (19%). Collecting MDR-TB data has been a challenge because of the current treatment method of hospital-based care. Hospital records are not easily accessible to the district or provincial TB focal person and the NTP has not fully established a reporting format for MDR-TB in the country.

Universal Access

The TB CARE I partners FHI360, WHO provided technical support for the implementation of Universal Access activities that included DOTS enhancement in prisons and the private sector, finalization of the Advocacy Communication and Social Mobilization (ACSM) national strategy and quality assessment visits for intensified case finding efforts in fifteen facilities and three prisons.

Technical Outcomes

- 1.1 Increased demand for and use of high quality TB services and improve the satisfaction with the services provided (Population/Patient Centered Approach)

#	Outcome Indicators	Indicator Definition	Baseline (Year 3/ timeframe)	Target	Result
				Y4	Y4
1.1.1	Number of facilities where quality of services is measured		15/18 under 3 I's	18	18 (all the facilities under the 3 I's received assessment visits for the quality of TB services being provided with project support)
1.1.3	TB personnel trained on the Patients' Charter	Patient Charter implementation. The patient charter for TB outlines the right and responsibilities of people with TB. The charter outlines 15 rights under care Dignity, Information, Choice and Confidence. The Charter implementation is divided into adoption (0) , piloting (1) and scale up (3)	Yes (2012)	Yes (40)	0 In 2014, the training planned to introduce the Patients' Charter through ACSM activities was not conducted because of limited time to implement this activity before project close out. During implementation of the Patient Centered Approach in 2013, the Patients' Charter was a key tool introduced in North Western province and the project planned to support the introduction of the charter to other provinces

- 1.2 Increased quality of TB services delivered among all care providers (Supply)

#	Outcome Indicators	Indicator Definition	Baseline (Year 3/ timeframe)	Target	Result
				Y4	Y4

1.2.1	Private providers collaborating with the NTP	Number of private providers collaborating with the NTP	Year 3 (2012)	0	0 There are no private providers that the project recorded that provided reports on TB case information to the NTP. However, DOTS training was conducted for private sector providers to enable them to provide anti-TB treatment in line with NTP requirements)
1.2.2	TB cases diagnosed by private providers	Number of new cases of TB diagnosed by private providers		50	Not yet measured. The NTP does not provide disaggregated data on TB cases diagnosed by the private sector with the current recording and reporting tools.
1.2.3	Status of PPM implementation	Status of the PPM Strategy and intervention. 0= The country has no PPM activities 1=The country has piloted at least one PPM intervention 2=The country has a PPM Strategy 3= The Country has started implementation of the PPM Strategy	1 (Year 3)	2 (The country has a PPM strategy)	2 (The country has a PPM strategy)
1.2.4	Children younger than 5 (contacts of ss+ adults) that were put on IPT	The number of children under five years of age who are contacts of SS+ adults and were put on Isoniazid Preventive Therapy (IPT)	N/a	100	0 The project did not record any children that were put on IPT.
1.2.5	Childhood TB approach implemented	Childhood TB is an important component of an NTP's strategy. This indicator measures the level to which childhood TB is addressed in the NTP's strategy. Score based on the following: 0 = Childhood TB is not	2012	3	3

		<p>mentioned in the NTP Strategic Plan</p> <p>1 = Childhood TB is mentioned in the strategic plan, but no activities are implemented on childhood TB</p> <p>2 = Childhood TB activities are being piloted or are implemented in select sites</p> <p>3 = Childhood TB is an integral part of the NTP strategic plan and regular activities.</p>			
1.2.6	Number of TB cases (all forms) diagnosed in children 0-14	This indicator measures the number of TB cases (all forms) diagnosed in children 0-4 years of age. When childhood TB is a priority, being able to report on and measure changes in case notification by age group is important.	n/a	900	3,110 NTP national reported data for Number of TB cases (all forms) diagnosed in children is from 0-14
1.2.8	CB-DOTS program is implemented	<p>This indicator measures the level of implementation of Community-based (CB) DOTS from introduction to piloting and scaling up.</p> <p>Score based on below:</p> <p>0 = There is not a CB-DOTS program in the country and there are no plans prepared for this purpose.</p> <p>1 = There is not a CB-DOTS program in the country but plans are ready for piloting.</p> <p>2 = NTP has piloted CB-DOTS in selected geographic areas. An implementation plan including a timeline and budget with activities should be in the plan.</p> <p>3 = NTP has scaled-up the implementation of CB-DOTS to additional geographic areas and data are available at the national level on CB-</p>	2012	3	3 The project supported CB DOTS in all target provinces with a focused support in two provinces implementing 3 Is activities. 124 TB treatment supporters were engaged in intensified case finding, patient follow-up care and contact tracing in the two provinces.

		DOTS referrals and patients on treatment in CB-DOTS areas.			
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Key Results

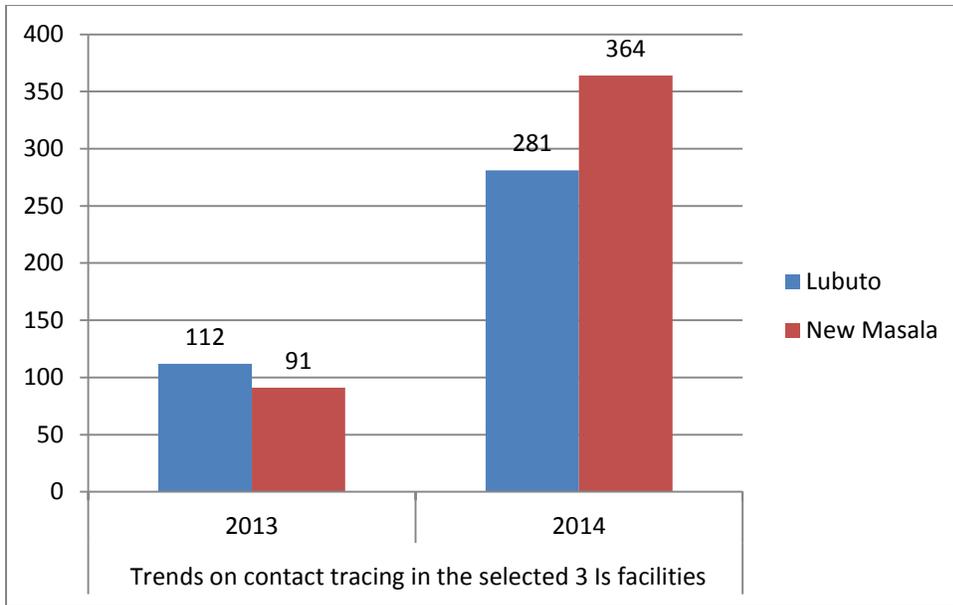
DOTS enhancement through Intensified Case Finding:

14 TB CARE I facility based staff members enhanced facility and community DOTS activities that included intensified case finding (ICF) in 15 facilities and three prisons. Community level support was provided by 124 community volunteers who were trained in DOTS with project support and were provided with tools and incentives including bicycles and sputum cooler boxes used to conduct community sensitization, contact tracing and patient follow-up care. The volunteers work contributed to enhanced screening of presumptive TB at 13 health facility sites where sputum collection points were established with project support. The treatment supporters also worked with health care workers in the ART, anti-natal and post-natal clinics to ensure TB screening was done in these departments. The table below provides the number of people traced by the treatment supporters this year that included TB patient contacts and lost to follow-up.

Numbers of contacts traced by TB treatment supporters in 13 health facilities in 2014

Province	Health facility	Number of community members traced
Central province	Liteta Hospital	198
	Mwachisompola clinic	196
	Ngungu clinic	37
	Kapiri Urban Clinic	377
Copperbelt province	Lubuto Clinic	364
	New Masala	305
	Chipokota Mayamba	184
	Buchi Clinic	281
	Chimwemwe Clinic	382
	Luangwa Clinic	812
	Kamfinsa Clinic	683
Grand total		3,819

Graph showing contacts traced by treatment supporters at Lubuto and Masala clinic in 2013 and 2014



Intensified TB case finding (ICF) being conducted at a sputum collection point at Liteta Hospital, Chibombo district, Central province



Mr. Nsimbi Nkunika (left front) - TB Treatment Supporter conducting community sensitization in TB at a Traditional Healer’s palace

Advocacy Communication and Social Mobilization

TB CARE provided technical and logistical support towards a workshop held in June 2014 to harmonize the revised national TB/HIV strategic plan (NSP) and the advocacy communications and social mobilization strategy and guidelines. A total of 15 participants (6 females) attended the workshop. A final draft of a national ACSM strategy and a scale up plan to implement ACSM activities countrywide were developed during the workshop and presented to the NTP. Patient Centered Approaches were included in the ACSM strategy following the implementation made in North Western province during Year 3 of project implementation when the Charter and other Patient Centered Tools were introduced to Zambia.

Private provider participation in DOTS

During the first three years of project implementation, TB CARE I did not fully engage the private sector to provide quality TB services in partnership with the NTP. However, in the fourth year, the project has provided capacity building support by training 38 private sector health care providers (23 females, 15 males) in DOTS. The NTP is planning to assign a dedicated staff member to support private public mix DOTS activities to enhance the private sector involvement in TB control in a harmonized way with NTP requirements.

Laboratories

Technical Outcomes

- 2.1 Ensured capacity, availability and quality of laboratory testing to support the diagnosis and monitoring of TB patients

#	Outcome Indicator	Indicator Definition	Baseline (Year/	Target	Result
				Y4	Y4

			timeframe)		
2.1.1	A national strategic plan developed and implemented for providing the TB laboratory services needed for patient diagnosis and monitoring, and to support the NTP	Indicator Value: Score based on below: 0 = Laboratory strategic plan is not available 1 = Laboratory strategic plan is ready but no annual implementation plan and budget available for the current year 2 = Laboratory annual implementation plan and budget is available for the current year 3 = NTP annual report for the current year includes a section demonstrating progress with the implementation of the laboratory strategic plan.	0 (Year 3)	2	3
2.1.2	Laboratories with working internal and external quality assurance programs for smear microscopy and culture/DST	Laboratories have successfully established a mechanism for performing internal quality control for smear microscopy and culture/DST (e.g. performing control samples etc) and are enrolled in an EQA program, which is supervised by a higher-level laboratory (i.e. by proficiency testing, blinded re-checking and supervision visits). Participating laboratories should have met WHO standards for QC/EQA results. Both laboratories, supervising and participating, have to keep data on results for verification. Indicator Value: Percent	64% in 2010).	80% (national target from baseline of 64% in 2010). 100% expected for TB CARE I supported sites.	100% for TB CARE I sites
2.1.3	Laboratories demonstrating acceptable EQA performance	Description: Performance of EQA is just as important as having EQA established. This WHO indicator measures the percent of laboratories enrolled in EQA for smear microscopy and/or culture/DST that successfully passed EQA in the last reporting period. Indicator Value: Percent	95% (2012)	95%	124/149 83%

2.2 Ensured availability and quality of technical assistance and services

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
2.2.1	Confirmed link with an SRL through a memorandum of agreement	The country has a written memorandum of agreement with an SRL as confirmation of a formal link with that SRL. Indicator Value: Yes/No		Yes	Yes
2.2.2	Technical assistance visits from an SRL conducted	A selected SRL conducts TA visits to national reference laboratories. TA visit reports should be provided by the SRL. Suggestions for improvement made by SRL should be successfully implemented. Indicator Value: Yes/No	2012 (No)	Yes	Yes Funds were provided to SRL by TB CARE I to conduct Technical Assistance to the National TB reference laboratory (NTRL)

2.3 Ensured optimal use of new approaches for laboratory confirmation of TB and incorporation of these approaches in the national strategic plan.

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
2.3.1	Diagnostic sites offering advanced technologies for TB or drug-resistant TB	Number of diagnostic sites, in which GeneXpert MTB/RIF, HAIN MTBDRplus or liquid culture/DST are implemented and routinely used for diagnosis, stratified by testing type. Indicator Value: Number	(2012) HAIN MTBDR plus (2) GeneXpert (1) LED Microscopy (17)	HAIN MTBDR plus (3) GeneXpert (8) LED Microscopy (50)	HAIN MTBDR plus (3) GeneXpert (8) LED Microscopy (62)
2.3.2	Rapid tests conducted	Description: Number of rapid tests conducted using GeneXpert MTB/RIF. Indicator Value: Number of tests Level: TB CARE areas	387 (Year 3)	15,000	10,898 (these were the number of successful tests)
2.3.3	Patients diagnosed with GeneXpert	Description: This indicator measures the number and percent of patients diagnosed using GeneXpert (disaggregated by RIF-resistance) Indicator Value: Percent/Number	94 (Year 3)	1,448	1,323 MTB+ (12% of presumptive cases with successful tests) 49 Rif+ (4% of MTB+ cases)

Key Results

Ensured optimal use of new approaches for laboratory confirmation of TB and incorporation of these approaches in the national strategic plan

TB CARE I enhanced the use of new diagnostic tools at three national reference laboratories that participated in the first national TB prevalence survey by procuring three Mycobacteria Growth Indicator Tube (MGIT) machines and accessories to conduct liquid culture and drug susceptibility testing (DST) on sputum samples from a target of 54,400 survey participants.

Following procurement and installation of seven Xpert MBT/RIF machines and accessories, the project provided support for the recruitment of 14 staff members, seven laboratory officers and seven TB/HIV technical officers to support the Xpert MTB/RIF technology. During Year 4, 10,898 presumptive TB cases were successfully tested using Xpert MTB/RIF technology out of which 1,323 were MTB+ cases (positivity rate of 12%) and 49 were Rif+ (Rif resistance rate of 4%).

TB CARE I also procured one HAIN MTBDR plus machine to provide rapid drug susceptibility tests for presumptive MDR-TB. This machine will be installed at the Tropical Diseases Research Centre following renovations that are underway. TB CARE I provided support for the renovation of the national reference laboratory/Chest Diseases Laboratory (CDL) where a second HAIN MTBDR plus machine (that was procured in 2013 by the NTP with partner support) was installed. Thus, two machines are currently available (one in each of the reference laboratories) to provide rapid DST results.

Biosafety training:

15 provincial laboratory supervisors from the ten administrative provinces in the country received training in biosafety measures during the fourth year of the project. The main goal of the training was to enable MOH staff to apply laboratory biosafety measures and practices in their daily work. The training covered waste disposal management, handling of disinfectants and biohazard spills, and how to optimize utilization of available space within the TB laboratories at various levels of care. The training provided an opportunity for laboratory staff to develop action plans for their provincial level laboratories and set timelines for implementation of biosafety measures.

Infection Control

Technical Outcomes

3.1 Increased TB-IC political commitment

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
3.1.1	National TB IC guidelines that are in accordance with the WHO TB IC policy have been approved	The TB-IC guidelines must have been approved by the NTP or MOH, and must be consistent with the 2009 WHO Policy on TB-IC. The guidelines should cover controls in healthcare facilities, congregate settings and households/communities.	Yes	Yes	Yes

3.2 Scaled-up implementation of TB-IC strategies

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
3.2.1	"FAST "strategy has been adapted and adopted	NTP must have adopted a FAST strategy that prioritizes the following four core interventions to implement TB IC a) active identification of coughing patients, b) rapid diagnosis, c) separation of TB suspects and infectious TB patients, and d) early onset of effective treatment of TB patients. (FAST - "Find cases Actively, Separate safely, and Treat effectively")	2 (FAST Strategy has been piloted)	2 (FAST Strategy has been piloted)	2 (FAST Strategy has been piloted)

3.2.2	Facilities implementing TB IC measures with TB CARE I support	Facilities that received support for implementation of TB IC measures through TB CARE out of the number of facilities planned to receive support for TB IC implementation.	35% (15/43 facilities). This is the baseline from Year 2	100% (43/43 facilities) and the expected result from the WHO 3 I's sites is 100% (37/37)	100% (43/43 facilities) and 99% from the WHO 3 I's sites (36/37) One facility called Kalonga Open Air Prison did not receive support for TB IC implementation
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3.3 Strengthened TB-IC monitoring & measurement

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
3.3.1	Annual reporting on TB disease (all forms) among HCWs is available as part of the national R&R system	NTP reports the number of HCWs (Any full-time, part-time or non-paid worker engaged in facility-based health care provision) who acquired TB disease (all forms) in the reporting period as part of their existing recording and reporting system.	No	Yes	No (Following implementation of a pilot project in Ndola District, recommendations for national scale up of screening have been made and recording tools proposed)

Key Results

During the fourth year of project implementation, TB CARE I extended infection control activities to 26 of the 27 targeted facilities. A total of 647 health care workers (340 females, 307 males) were trained during that period. Facility based TB IC plans were developed in each of the 27 facilities, with support from the District Community Medical Office (DCMO), in order to support the implementation of infection control measures. TB IC guidelines and other IEC materials were also printed and distributed in all the eight provinces receiving support for IC activities.

Following the introduction of TB IC activities, monitoring visits were made (using a standard checklist) to some facilities that had developed IC plans in year three and year four of project implementation. 56 out of 80 facilities received a monitoring visit. The visits were made to assess the compliance of the health facilities with established TB IC guidelines and measures. During the monitoring visits it was

observed that most facilities have maintained good infection control practices with an IC focal point person available, IEC materials displayed, improved ventilation in work stations, and improved sputum turn-around time. In the two provinces implementing 3 I's activities (Copperbelt and Luapula), a compliance of 78% was recorded. However, the reported challenges included a high turn-over of staff members in the district hospitals due to frequent staff transfers, lack of orientation of new staff by those trained in TB IC, and limited involvement of senior management who were not trained in IC. These challenges may have contributed to the low compliance rates reported in two provinces -- Muchinga (44%) and Northern province (42%). Continued orientation of facility-level staff members in IC and involvement of senior management in the facilities will enhance compliance to the TB IC measures.

A total of 109 community volunteers (75 females, 34 males) were trained in community based TB IC in the fourth year of implementation of the project. The training was conducted using the 'TB Infection Control at the Community Level' training handbook. This training increased the knowledge and enhanced the skills of the community volunteers in IC as they carried out intensified case finding activities in the community.

National TB IC consultants, provincial and district TB focal persons implemented activities in collaboration with TB CARE I staff members, including facility level training in IC and joint monitoring visits. This provided the NTP with a core group of national TB IC trainers to continue implementing IC activities even as the project closed-out activities in four provinces. The project recommended that the IC consultants should be supported to continue IC activities and District TB focal persons should be supported by the DCMOs to conduct the monitoring visits.



TB IC Training in Luwingu District, Northern province, 2014



TB Infection Control Officer - Ms. Lillian Kashela (left) and Kapiri District TB/HIV/Leprosy and STI Officer - Mr. Sylvester Chanda (right) providing facilitation support during TB IC training in Ndola, in 2014

Programmatic Management of Drug Resistant TB (PMDT)

Technical Outcomes

4.1 Improved diagnosis and treatment success of MDR TB

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
4.1.2	MDR TB patients who are still on treatment and have a sputum culture conversion 6 months after starting MDR-TB treatment	MDR TB patients who are still on treatment and have a sputum culture conversion 6 months after starting MDR-TB treatment. The cohort is patients put on treatment in a calendar year.	Data not available (Year three/2013)	>80%	N/A
4.1.3	MDR TB patients who have completed the full course of MDR TB treatment regimen and have a negative sputum culture	MDR TB patients who have completed the full course of MDR TB treatment regimen and have a negative sputum culture.	Data not available (Year three/2013)	>75%	Data not available
4.1.4	A functioning National PMDT coordinating body	National PMDT coordinating body has been established, is recognized by the MoH and is functioning	Yes	Yes	Yes
4.1.5	MDR TB patients diagnosed by GeneXpert	Number of MDR TB patients diagnosed by GeneXpert in the WHO 3 Is supported sites.	N/A (Year three/2013)	50	49 (Rif res cases). These are cases diagnosed with Xpert and not yet confirmed with culture and DST
4.1.6	MDR TB patients diagnosed by GeneXpert and confirmed by culture DST	Numerator: Number of GeneXpert diagnosed MDR TB patients confirmed by DST. Denominator: Total number of MDR TB patients diagnosed by GeneXpert.	N/A (Year three/2013)	250 (>90%)	3/49 (4.47%)

Key Results:

There were no key results under this technical area at the end of the fiscal year. Activities were planned for October 2014 and they included adaptation of training materials for MDR-TB and training of trainers (ToT) from all ten administrative provinces by the NTP with project support.

TB/HIV

Technical Outcomes

5.1 Strengthening prevention of TB/HIV co-infection

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
5.1.1	New HIV patients screened for TB who were treated for latent TB infection during the reporting period	Numerator: Total number of newly-diagnosed HIV-positive clients in whom active TB has been excluded who start (given at least one dose) treatment of latent TB infection during reporting period. Denominator: Total number of newly-diagnosed HIV-positive clients during reporting period.	2013 Year three/2013	30%	0% (The NTP guidelines for IPT/ICF were not printed. However, recording and reporting tools were printed during the second quarter of APA 4)

1.2 Improved diagnosis of TB/HIV co-infection

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
5.2.1	HIV-positive patients who were screened for TB in HIV care or treatment settings	Numerator: Number of HIV-positive patients seen at HIV testing and counseling or HIV treatment and care services who were screened for TB symptoms at least once during year. Denominator: Total number of HIV-positive patients seen at HIV testing and counseling or HIV treatment and care services, over the same given time period.	2013	100%	25% (8,582/33,806)
5.2.2	TB patients (new and re-treatment) with an HIV test result recorded in the TB register	Numerator: Total number of all TB patients registered over a given time period with an HIV test results recorded in the TB register. Denominator: Total number of TB patients registered over the same time period.	2012 87% (39,666/45,594)	87%	89% (40,755/45,793)

5.2.3	TB patients (new and re-treatment) recorded as HIV-positive	Numerator: Total number of all TB patients registered over a given time period who are recorded as HIV positive Denominator: Total number of TB patients registered over the same time period	2012 68% (31,004/45,594)		(63%) National level data (28,849/45,793)
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1.3 Improved treatment of TB/HIV co-infection

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
5.3.1	HIV-positive TB patients started or continued on antiretroviral therapy (ART)	Numerator: All HIV-positive TB patients, registered over a given time period, who receive ART (are started on ART) Denominator: All HIV-positive TB patients registered over the same given time period.	60% (2012) 17,111/28,519	70%	(65%) 19,347/29,765 National level data TB CARE I geographic region (70%) (7,054/10,138)

Key Results

Facility monthly TB/HIV meetings:

TB CARE I has supported facility level monthly TB/HIV meetings in thirteen out of fifteen facilities that are implementing 3 Is activities in Central and the Copperbelt provinces. These meetings have provided a forum for building consensus and reaching agreements on key strategic approaches and interventions, such as the screening for TB from the facility departments that include the out-patient, ART, in-patient and maternal and child health (MCH), and the referral of co-infected patients for early access to ART.

Training in ART management:

TB CARE I leveraged with another PEPFAR funded project ZPCT II to support training of 23 health facility staff members in the ART management. The training provided the staff members with information on the new guidelines for initiation of ART in eligible individuals, including all TB patients and the staff will be able to implement ART management more effectively.

Health System Strengthening (HSS)

Technical Outcomes

6.2 TB control components (drug supply and management, laboratories, community care, HRD and M&E) form an integral part of national plans, strategies and service delivery

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
6.2.1	TB CARE-supported supervisory visits conducted	This indicator measures TB CARE's support of NTP's supervisory activities by comparing the number of planned visits in the TB CARE work plan (denominator) to what is actually conducted (numerator)	2012	100%	17% (one out of six visits were made)
6.2.2	People trained using TB CARE funds	Health care workers at all levels trained on any area of TB control using TB CARE funds.		516	1127 (647 of the trained people were trained in TB IC through on-site facility level training).

Key Results:

The table below provides a distribution of the technical areas that people were trained in during the year:

	# trained males APA 4	# trained females APA 4	Total # trained in APA 4
Universal Access	49	55	104
Laboratories	183	84	267
TB IC	307	340	647
PMDT	0	0	0
TB/HIV	62	47	109
Grand Total	601	526	1127



TB CARE I Zambia staff during training for all staff, October 2014

Monitoring & Evaluation, Surveillance and OR

Technical Outcomes

7.2 Improved capacity of NTPs to analyze and use quality data for management of the TB program

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
7.2.1	Data quality measured by NTP	Any aspect of data quality has been measured in the last year (internal consistency, timeliness, completeness, accuracy, etc.) at national, intermediate/regional or peripheral levels. If yes, list the dimensions being measured.	Yes/2012	Yes	Yes
7.2.2	NTP provides regular feedback from central to intermediate level	NTP prepares and disseminates regular, written and comparative feedback from central to intermediate levels based on analysis of national surveillance and programmatic data. Comparative feedback is when results from various areas are displayed and compared with each other to	Yes/2012	Yes	Yes

		provide context for good/poor results. Intermediate levels are any level between the health facility/peripheral level and national level (i.e. regional, district or zonal level).			
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7.3 Improved capacity of NTPs to perform operations research

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
7.3.1	OR studies completed	TB CARE I-supported OR studies completed in the last 12 months.	0/ 2012	2	0. The project was not able to complete the OR studies following protocol development. With the project close-out, the studies will be planned for future NTP support under another mechanism.

Key Results

National TB/HIV Technical review meeting

TB CARE I provided technical and logistical support to the NTP during the national TB/HIV data review meeting that was held in July, 2014 with 51 participants that include national, provincial and district government health care workers supporting TB activities and local partners. Representatives from the ten administrative provinces made presentations and discussions were held on their programmatic TB and HIV data. The NTP also provided updates on national level activities that included national prevalence survey, the 3 I's implementation in four provinces and the Global Fund TB/HIV concept note.

National TB Prevalence survey:

The NTP received significant support for the implementation of the first national TB prevalence survey. The survey implementation began in August 2013 and technical support was provided by local and international consultants. The project provided support for the digitalization of three mobile x-rays, the procurement of equipment for liquid culture, laboratory commodities for microscopy and field sample collection and transportation. The sample size target was 54,400 participants from 66 clusters nationwide that included urban and rural areas.



TB CARE I project Director - Dr. Seraphine Kaminsa and USAID Senior Technical Advisor - Dr. George Sinyangwe at prevalence survey cluster site called Kakolo School.



TB CARE I Senior Clinical Care Officer – DR. Modupe Amofa-Sekyi, Centre for Infectious Diseases Research Centre Representative – Ms. Brenda Kayumba, WHO National Program Officer – Dr. Mwendaweli Maboshe, Tropical Diseases Research Centre – Mr. Mathias Tembo, USAID Senior Technical Advisor - Dr. George Sinyangwe, CDC TB Specialist Mr. Namushi Mwananyambe and TB CARE I Project Director - Dr. Seraphine Kaminsa during prevalence field visit to the Tropical Disease Research centre

Drug supply and management

Technical Outcomes

8.1 Ensured nationwide systems for a sustainable supply of drugs

#	Outcome Indicator	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y4	Y4
8.1.1	National forecast for the next calendar year is available	A national forecast of both first and second line TB drugs for the next fiscal year has been conducted. If yes, indicate when it was done and by whom (i.e. NTP, TB CARE, other partner).	Yes (Year 3)	Yes	Yes

Key Results

The project did not implement the planned activity under this technical area because the technical visit that was planned for was not conducted. The funds were reprogrammed.

TB CARE I's support to Global Fund implementation

Zambia participated in the Global Fund New Funding Mechanism and submitted a combined TB/HIV concept note in June 2014 for a three year implementation period from January 2015 to December 2017. The concept note received review by the Technical Review Panel and was re-submitted in July 2014. The country anticipates to receive the proposed grant amount for both allocated funding of \$132, 733,184 and \$19, 720,468 above allocation funding.

The TB CARE I partnership participated in the concept note development process and the development of the new national TB strategic plan, 2014-2016. The partnership also facilitated the in-country contribution by consultants who conducted the epi-analysis and the budget review.