



USAID
FROM THE AMERICAN PEOPLE

TB CARE I

TB CARE I - BOTSWANA

Year 3

Annual Report

October 1, 2012 –September 30, 2013

October 30, 2013

Table of Contents

Executive Summary	4
Introduction	5
Core Indicators	6
Summary of Project Indicators and Results	7
Universal Access	10
Laboratories	11

List of Abbreviations

AFB	Acid Fast Bacilli
ART	Anti-Retroviral Therapy
CDC	Center for Disease Control and Prevention
CHBC	Community Home Based Care
CMLT	Chief Medical Laboratory technician
CSOs	Civil Society Organizations
CTBC	Community TB Care
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Short Course
DR	Drug Resistance
DRS	Drug Resistance Survey
DST	Drug Susceptibility Testing
EQA	External Quality Assurance
GFATM	Global Fund for Aids, Tuberculosis and Malaria
HCW	Health Care Workers
IC	Infection Control
KNCV	KNCV Tuberculosis Foundation
LED	Light emitting diode
MDR	Multi Drug Resistance
MDR-TB	TB Multi Drug Resistant Tuberculosis
M&E	Monitoring and Evaluation
MGIT	Mycobacteria Growth Indicator Tube
MOH	Ministry of Health
NTP	National TB Program
NTRL	National Tuberculosis Reference Laboratory
OR	Operational Research
PMDT	Programmatic Management of Drug-resistant Tuberculosis
PPM	Public-Private Mix
QMR	Quarterly Monitoring Report
SADC	Southern Africa Development Community
SLD	Second Line Drug
SNRL	Supra National Reference Laboratory
SOP	Standard Operating Procedures
SRs	Sub-recipients
SS+	Sputum Smear positive
SS-	Sputum Smear negative
TA	Technical Assistance
TFM	Transitional Funding Mechanism
TB	Tuberculosis
USAID	United States Agency for International Development

Executive Summary

KNCV is the lead partner and sole implementer in Botswana of the TB CARE I project. The total buy in from the country USAID mission was in the amount of \$300,000 for this fiscal year (October 2012-September 2013). The Botswana team is comprised of two staff members: one Senior Technical Advisor to the National Tuberculosis Control Program (NTP) and one Chief Medical Laboratory Technician-EQA (CMLT-External Quality Assurance). The Senior Technical Advisor's role was to support the NTP in all six technical areas of the core Stop TB strategy (Programmatic Management of Drug Resistant Tuberculosis (PMDT), Laboratory strengthening, TB/HIV collaborative activities, Monitoring and Evaluation (M&E), Community TB Care and TB infection control) with a main focus on Community TB Care (CTBC). The CMLT supports the National Tuberculosis Reference Laboratory (NTRL) in accreditation (quality management systems), roll out of new diagnostics-LED Fluorescent microscopy and the GeneXpert MTB/RIF test, External Quality Assurance (EQA) for the Botswana national AFB microscopy laboratory network and training of laboratory technicians from peripheral laboratories.

As in the previous year, the project's main focus was on two technical areas in Year 3: Laboratories and Universal Access; specifically Community TB Care. Key results during the year included:

- The Botswana National Tuberculosis Reference Laboratory maintained its accreditation to ISO 15189 international Standard after a successful surveillance audit from the South African National Accreditation Systems (SANAS). A memorandum of understanding selecting the same laboratory as a SADC Regional Supranational Reference Laboratory was signed after a successful follow-up assessment by SADC consultant.
- In collaboration with partners, GeneXpert was rolled out to 20 facilities and 63 (29 Females) health care workers (HCW) were trained in the use of the testing platform.
- LED Fluorescent smear microscopy EQA was successfully started at eight high volume laboratories, three LED smear microscopy workshops were conducted and 18 (6 female) Laboratory technicians were trained in a bid to improve the quality of smear microscopy in the country. Panel Tests was prepared and sent to 100% of facilities; these are awaiting feedback. Blinded rechecking is ongoing with 100% coverage of laboratories.
- Botswana also successfully hosted a regional GeneXpert roll-out workshop attended by 96 international participants.
- The program organized two rounds of training for community TB care providers and CSOs on community TB care and revised indicators for the Global Fund transitional funding mechanism (GF/TFM). A total of 85 participants (F=50, M=35) from GF/TFM sub recipients (SR) were trained in implementation, as well as the timeliness and completeness of community TB care activity reporting to the Global Fund. Quality of reports from SRs has improved thereafter.

Introduction

TB CARE I in Botswana with sole implementation by KNCV was awarded a budget of \$US300, 000 focused on the provision of technical support from both local in-country and periodic international expert technical advisors in two key technical areas of Universal access and Laboratories. The in-country senior technical advisor supported the NTP in all areas of Stop TB strategy. With national coverage TB CARE I provided technical assistance in Laboratories to support:

- 1) The national TB laboratory network in continued implementation of the EQA program;
- 2) The National Tuberculosis Reference Laboratory to maintain accreditation and its Regional Supranational status
- 3) The validation and roll out of new novel laboratory diagnostics including LED microscopy, Gene Xpert, Line probe assay and First and Second line liquid drug susceptibility testing.

Through a core project mechanism TB CARE I hosted a Regional Gene Xpert workshop. With OGAC support TB CARE I through an international consultant (Dr Jerod Scholten) and in country staff supported the grant negotiations for the release of the Transitional Funding Grant from Global Fund. In collaboration with the Regional Consultant from TB Care I South Africa, TB CARE I supported the NTP in addressing TB control in the mining sector in Botswana.

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-Botswana. Results for 2013 will be reported on next year.

Table 1: TB CARE I core indicator results for Botswana

Indicators	2010 (Baseline)	2011 (Year 1)	2012 (Year 2)
C1. Number of cases notified (all forms)	7,013	6, 603	TBC
C2. Number of cases notified (new confirmed)	6,560	5, 865	TBC
C3. Case Detection Rate (all forms)	70%	71%	75%
C4. Number (and percent) of TB cases among HCWs	No Data	No data	No data
C5. Treatment Success Rate of confirmed cases	79%	81.0%	81.5%
C6. Number of MDR cases diagnosed	106	46	52
C7. Number of MDR cases put on treatment	94	44	43

Summary of Project Indicators and Results

Table 2: TB CARE I-Botswana Year 3 indicators and results

Expected Outcomes	Outcome Indicators	Indicator Definition	Baseline or Y2 (timeframe)	Target	Result	Comments	
				Y3	Y3		
Universal Access							
#	1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.9 Population covered with CB-DOTs	2. The NTP has piloted CB DOTs in selected geographical areas. An implementation plan including timelines and budget should be in the plan 3. NTP scaled the implementation of CB DOTs to additional geographical areas with similar implementation plan as mentioned above	1243319.08/2,038,228.00 (61%)	1528671/2,038,228.00 (75%)	1,304,465.92/2038228.00* (64%)	CTBC challenges include some district not enrolling patients which are perceived as reluctance of HCW and patient preferences for facility based DOT and poor recording and reporting. *updated census figures 2012
Laboratories							
	2.1 Ensured capacity, availability and quality of laboratory testing to support the diagnosis and monitoring of TB patients	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,	52	52	52	

			which is supervised by a higher-level laboratory (i.e. by proficiency testing, blinded rechecking and supervision Visits). Participating laboratories should have met WHO standards for QC/EQA				
		2.1.3 Laboratories demonstrating acceptable EQA performance	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	52	52	52	
		2.1.4 NRL maintains ISO accreditation Description: The NRL has been accredited to ISO 15189 by the South Africa Accreditation	NTRL has implemented a quality management system and is accredited.	yes	yes	yes	

		<p>system, accreditation has to be maintained through successful evaluations each year</p> <p>Indicator Value: Yes/No</p> <p>Level: National</p> <p>Source: National Reference Laboratory</p> <p>Means of Verification: Accreditation certificate</p> <p>Numerator: N/A</p> <p>Denominator: N/A</p>					
	<p>2.3 Ensured optimal use of new approaches for laboratory confirmation of TB and incorporation of these approaches in national strategic laboratory</p>	<p>2.3.1 Diagnostic sites offering advanced technologies for TB or drug-resistant TB</p>	<p>Number of diagnostic sites, in which GeneXpert MTB/RIF, HAIN MTBDR plus or liquid Culture/DST are implemented and routinely used for diagnosis, stratified by testing type.</p>	<p>1 GeneXpert MTB/RIF, 0, HAIN MTBDR plus 0, liquid Culture/DST</p>	<p>20 GeneXpert MTB/RIF, 1 HAIN MTBDR plus 1, liquid Culture/DST</p>	<p>20 Xpert</p>	

Universal Access

TB CARE I provided technical support for the expansion of the Community TB Care program in APA 3 working with the Botswana National Tuberculosis Program (BNTP) and partners. The focus in APA 3 was in strengthen collaboration between the NTP's CTBC program and the HIV department's CHBC program and also ensuring the successful implementation of the TFM funds which were targeting CTBC activities.

Key Results

In order to address inadequate coverage of CTBC which was at 61% to a target of 75% TB Care I supported NTP in the expansion and improving implementation of the community TB care program by facilitating two rounds of training targeting community supporters and CSOs on community TB care, community TB infection control and the revision of indicators for the Global Fund transitional funding mechanism (GF/TFM). A total of 85 participants (F=50, M=35) from GF/TFM sub recipients (SR) were trained. Following fund disbursement, TB CARE I provided technical support to the SRs in implementation, timely and complete reporting of community TB care activities to the Global Fund.

TB CARE I also organized a three-day stakeholders consultative meeting to finalize the harmonization of CHBC and CTBC operational guidelines. The draft operational guideline was completed incorporating key components of CTBC, ART and other programs. This aimed to facilitate the harmonization of the two services both at program and implementation level. Through these efforts with also the funding from the TFM there has been an improvement for CTBC coverage from 61% to 64%.

However the target of 75% could not be met due to continued lack of funding. The Global fund TFM could only support continuation of the existing CSOs working with continuing programs. In a addition although the harmonization of the CTBC and CHBC programs has made much progress there has been a new strategic direction from the MoH to also ensure that other chronic disease e.g. diabetes and hypertension to be included in the community care package. This has therefore led to delays in the full implementation of this integrated approach and slowed the roll out of CTBC coverage. Patient acceptance of CTBC has also been noted to be a challenge in some high burden areas which could be due to poor patient education.

Thus to help improve the community care model working with partners TB CARE I actively supported NTP to develop a research proposal to evaluate the extent to which the different approaches (models) of Community TB Care (CTBC) in Botswana have contributed to the attainment of TB control targets in the country. The protocol has been approved by National Ethical Review Board, data collection tool finalized and logistic arrangement made to commence the field work. This research will guide NTP/MoH to adopt an appropriate CTBC approach to be scaled up, taking into consideration the decline in funding in the near future.

TB Care has also provided technical support in finalization and dissemination of National PPM guideline for engagement of private sector in TB control. Eighty-nine health care workers from the private sector (physicians, nurses and pharmacists) were trained on the new PPM guideline.

Laboratories

TB CARE I through in-country and periodic international expert consultants continued to take the lead in building capacity for culture, first and second line drug susceptibility testing using liquid media and molecular techniques. In addition TB CARE I supported the National Tuberculosis Reference Laboratory (NTRL) with its continued maintenance of accreditation through strengthening of the quality management system. In collaboration with partners, TB CARE I also supported the roll out of GeneXpert.

Key Results

Through the continued support from TB CARE I in strengthening of the laboratory implementation of the quality management system the NTRL maintained its accreditation status to the ISO 15189 international standard in September 2013. TB CARE I provided technical oversight to the implementation of EQA activities which saw the 100% implementation of the EQA by all laboratories in the country's TB laboratory network. District support visits were conducted in the Francistown district covering 5 facilities. Through TB CARE I technical support training of 18 (6 Females) laboratory technicians in LED Fluorescent microscopy was conducted. The initial blinded rechecking for 8 of the 11 FM sites was successfully rolled out with results expected in early APA 4. Working in collaboration with CDC introduction of new tools was supported with roll out of GeneXpert to 20 sites (14 CDC supported and 6 MoH) where 63 healthcare workers (29 Females) have been trained. TB CARE I staff contributed to the development of a draft roll-out plan for GeneXpert implementation. The plan incorporated the anticipated cost projections for the next 5 years by considering all costing items and a revised diagnostic algorithm. TB CARE I Supported in conducting sites assessment using a TB CARE I structured checklist for the deployment of GeneXpert machines, revised and disseminated Xpert training package, M & E tools, and GeneXpert algorithms to MoH and CDC supported sites.

Strengthening of DST capacity for first and second line testing to decrease turnaround times of results continued with a mission from the Regional Laboratory Consultant who provided technical input into the process to help reduce contamination challenges at the NTRL. The validation of the first and second line testing was finally completed and samples for EQA sent to an SRL.

Challenges still remain with the supply chain system for the NTRL's culture and DST commodities, TB CARE I has in collaboration with CDC, Supply chain Management systems and the National Health laboratories the development of a supply plan and framework contracts for ensuring timely procurement of essential reagents, however this process is still on-going and desired results are yet to be achieved.