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TB CARE I

TB CARE I - GHANA



Year 3

Annual Report

October 1, 2012 –September 30, 2013

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List of Abbreviations

AIDS	:	Acquired Immunodeficiency Syndrome
ART	:	Anti-Retroviral Therapy
CCM	:	Country Coordinating Mechanism
CPs	:	Condition Precedents
CPT	:	Cotrimoxazole Preventive Therapy
DOTS	:	Directly Observed Therapy Short Course
DVD	:	Digital Versatile Disc
EQA	:	External Quality Assurance
FLD	:	First Line Drugs
GCDG	:	Great Consolidated Diamond Ghana
HCW	:	Health Care Workers
HIV	:	Human Immunodeficiency Virus
HSS	:	Health System Strengthening
IEC	:	Informational Education Communication
IPT	:	Isoniazid Preventive Therapy
KNCV	:	The Royal Dutch Tuberculosis Foundation
M&E	:	Monitoring and Evaluation
MDG	:	Millennium Development Goals
MDR-TB	:	Multi-Drug Resistance Tuberculosis
MSH	:	Management Sciences for Health
MTB	:	Mycobacterium Tuberculosis
MTB +Ri	:	Mycobacterium Tuberculosis positive Rifampicin Indeterminate
MTB +Rr	:	Mycobacterium Tuberculosis positive and Rifampicin Resistance
MTB +Rs	:	Mycobacterium Tuberculosis positive and Rifampicin Sensitive
NACP	:	National AIDAS Control Program
NTP	:	National Tuberculosis Control Program
OR	:	Operation Research
PMDT	:	Programmatic Management of Drug Resistance
PRs	:	Principal Receipts
RDQA	:	Rapid Data Quality Assessment tool
SLD	:	Second Line Drug
SOPs	:	Standard Operating Procedures
STTA	:	Short Term Technical Assistance
TA	:	Technical Assistance
TB	:	Tuberculosis
TB-HIV	:	Tuberculosis co-infected with Human Immunodeficiency Virus
TB-IC	:	Tuberculosis Infection Control
TOTs	:	Trainer of Trainers
USAID	:	United State Agency for International Development
WHO	:	World Health Organization

Executive Summary

Ghana has a population of nearly 25 million people. Females constitute 51.8% of the Ghana's population while 38% are children aged 0-14 year. The 2012 World Health Organization (WHO) Global Tuberculosis Report estimated that TB prevalence rate for Ghana is 92/100,000 and incidence rate 79/100,000 population. TB case detection rate continues to show an upward trend moving from 70% in 2011 to 78% in 2012. Furthermore, from national notification trends and global WHO reports over time, estimated TB incidence is seen to be declining. This finding will be better informed by results of an on-going nationwide survey of the prevalence of pulmonary TB disease. Even when the results of the National Tuberculosis will be known intensified TB case detection will continue to be the priority intervention of the National Tuberculosis Control Program (NTP) and its partners

The treatment success rate for the 2011 cohort was 86 and default (lost to follow up) was 3 percent in 2011. The reason for not achieving treatment success rate above 90% (NTP target) is largely due to the high TB mortality rate. The current mortality stands at 7%.

The Ghana NTP is implementing the 2009-2013 Strategic Plan. Because the current plan is coming to the end of its life span, the NTP in collaboration with TB CARE I commissioned a comprehensive external review to assess implementation of planned interventions and their outcomes and impacts and generate recommendations as inputs to the development of a successor strategic plan. .

During the year under review TB CARE I provided high quality technical assistance (TA) to the National NTP aimed at improving the overall tuberculosis (TB) control services. Providing high quality TA in the implementation of the Global Fund Round 10 Grant Interventions remained TB CARE I's highest priority. TB CARE I's activities continued to be implemented within the framework of the NTP Central Unit targeting the entire country population. Targeted support for improved TB case notification and TB monitoring and evaluation (M&E) was provided in the Eastern, Ashanti, Northern and Upper East Region. The implementation of hospital based TB case detection interventions using standard operating procedures (SOPS) for TB case detection in the six hospitals in Eastern Region was expanded.

Management Sciences for Health (MSH) is the lead partner for TB CARE I with KNCV and WHO as collaborating partners. The obligated budget for the annual plan of activities (APA/Year 3) was USD1,442,450 supporting activities in six of eight technical areas namely: Universal Access, Laboratories, , Programmatic Management of Drug-Resistance TB, TB-HIV, Health Systems Strengthening (HSS) and Monitoring and Evaluation and Surveillance. TB infection control activities were implemented within the frame work of Universal access. The most significant achievements for TB CARE I during the year under review were as follows:

1. An assessment for the implementation of hospital TB case detection activities using SOPs for TB case detection was conducted. The results showed that with TB CARE I support a total of 519 TB cases were detected in the six hospitals in Eastern Region between January and December 2012. This means additional 163 TB cases were detected relative to the 2011 baseline of 356 TB cases representing a 46% increase. Through the implementation of intensified hospital based TB case detection activities capacity of clinicians to manage TB complications was built. This was aimed at reducing TB mortality. Total number of TB patients dying during TB treatment in these six hospitals reduced from 87 in 2011 (baseline year) to 54 in 2012. This represented a 37% decline in TB deaths.

Lessons learned and best practices for implementing intensified hospital based TB case detection using SOPs in these six hospitals have been disseminated to all the 26 districts in Eastern Region and 27 districts in Ashanti region. Further dissemination was conducted during the 2013 NTP mid-year review meeting that attracted over 80 participants drawn from all the 10 regions of Ghana. Due to the positive impact of this intervention the NTP has directed that country roll out should be embarked upon. This is the main thrust of the APA 4 work plan.

Increasing TB case detection among children aged 0-14 years, contact tracing and improving clinical care of TB patients will be prioritized during the roll out.

2. External Quality Assurance (EQA) Quality performance in the 22 microscopy centers in the Eastern Region that were assessed before and after training of laboratory staff showed remarkable improvements. Nine microscopy centers (41% of the 22 centers that were assessed before and after training) achieved EQA performance of 85% or above in all parameters.
3. Support for the installation and the capacity on the use of the GeneXpert technology in the four sites was provided and built. Between March and September 2013, a total of 780 successful tests were performed of which 135 (17%) patients were MTB positive and 21 (16%) were MTB positive and Rifampicin Resistant.
4. Technical Assistance to develop the MDR-TB training curriculum was provided. Two MDR-TB training sessions have been conducted using the new MDR-TB training curriculum. Between March and September 2013 and as a result of these two training sessions 14 MDR-TB patients have been put on second line drugs (SLD). This represents a 250% increase in number of MDR-TB patients put on SLD as only 4 patients were put on SLD during all of 2012.
5. A total of 483 health professionals comprising 192 (38%) females were trained using TB CARE I funds. This represents a 25% increase over the target. This over achievement of the target was a result of the introduction of on-site training where health staff were trained in their respective districts and health facilities.
6. A comprehensive review of the TB Program by external consultants was successfully conducted. The major strengths observed by external consultants was that the estimated TB incidence, prevalence and mortality in Ghana have all been declining steadily since the mid-1990s, but more rapidly since the early 2000s. Ghana had already achieved the core Millennium Development Goal (MDG) target of halting and beginning to reverse the incidence of TB, as well as the expanded Stop TB Partnership targets of cutting TB prevalence and mortality by 50 percent relative to 1990 rates. At the current trend, Ghana is also on track to achieve the STOP TB Partnership TB incidence target by 2015. The main challenges are as follows:
 - High TB mortality rate despite a relatively low HIV prevalence in the general population
 - A wide gap between confirmed MDR-TB patients and those put on SLD
 - Weak TB-HIV collaboration at national, regional, district and to some extent at the health facility level
 - Support of first line Drugs (FLD) and SLD continue to come from the Global Fund. The government budget remains unused
7. An innovative approach for conducting data validation through regional quarterly review was introduced in 27 districts of Ashanti region. Districts swapped their TB treatment registers to assess data accuracy. Through this process it was discovered that all 27 districts together over reported their TB case finding by 6% during the first quarter of 2013 while over reporting in the second quarter was even higher (13%).
8. An Operational Research to assess the effectiveness of the TB referral and feedback systems was successfully conducted. The results show that out of the 116 TB patients that were referred to other health facilities before start of TB treatment from the three main hospitals in Lower Manya Krobo District in Eastern Region, 31 (27%) did not reach their destinations. This means that the current referral system has flaws and requires urgent review to avoid further loss to follow up of TB cases.

Introduction

The objective of TB CARE I in Ghana is to provide high quality technical assistance (TA) to the National Tuberculosis Program (NTP) aimed at improving the overall tuberculosis (TB) control services. Providing high quality TA in the implementation of the Global Fund Round 10 Grant Interventions is the highest priority for TB CARE I. TB CARE I project activities are implemented within the framework of the NTP Central Unit thus targeting the entire country population of about 25 million. Ghana's population comprise 51.28% females and 38% are children aged 0-14 years. Five districts from the Eastern Region have been selected as demonstration districts for the implementation of intensified hospital TB case detection using standard operating procedures (SOPS) for TB case detection. The Eastern Region has a population of 2.802,551 million constituting 10.5% to the national population .

Management Sciences for Health (MSH) is the lead partner for the Ghana TB CARE I Project. KNCV Tuberculosis Foundation (KNCV) and the World Health Organization (WHO) are collaborating partners.

In November 2012 an APA 3 work plan budget of USD1,092,000 was approved. An additional USD450,450 was approved in May 2013 for the APA3B work plan. This makes a total buy-in for APA 3 work plan to USD1,442,450.

Universal Access, laboratory, Programmatic Management of Drug Resistant TB (PMDT), TB-HIV, Health Systems Strengthening (HSS) and Monitoring and Evaluation and Surveillance were the key technical areas for the APA 3 work plan. TB infection control was implemented within the framework of improving TB case detection in health facilities in Eastern Region.

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

Table 1: TB CARE I core indicator results for Ghana

Indicators	2010 (Baseline)	2011 (Year 1)	2012 (Year 2)
C1. Number of cases notified (all forms)	15,145	15,849	15,2013
C2. Number of cases notified (new confirmed)	14,124	14,971	14,377
C3. Case Detection Rate (all forms)	68	70	78
C4. Number (and percent) of TB cases among HCWs	6	18	U
C5. Treatment Success Rate of confirmed cases	86	87	86
C6. Number of MDR cases diagnosed	4	7	38
C7. Number of MDR cases put on treatment	U	2	2

Summary of Project Indicators and Results

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

Expected Outcomes	Outcome Indicators	Indicator Definition	Baseline or Y2 (timeframe)	Target	Result	Comments	
				Y3	Y3		
Universal Access							
1.1	Increased demand for and use of high quality TB services and improve the satisfaction with TB services provided (Population/Patient Centered Approach)	1)Number key HCW trained on how to use and disseminate the TB guidelines in their respective regions	Number key HCW actually trained on how to use and disseminate the TB guidelines in their respective regions relative the number who were planned to be trained	0	30	0	The completion of the TB guidelines delayed because the NTP was developing other manuals, guidelines and SOPs. The TB guidelines being the master document of the NTP it was prudent that all documents are completed so that the TB guidelines cover all these other documents in one document with appropriate references made to the specific documents, chapters and pages. The Draft TB guidelines are being edited and will be delivered to the NTP Manager for approval.
		2)TB Case detection documentary DVD developed and handed over to the NTP for National wide dissemination	Total number of DVD copies produced by a consultant who was hired to produce the TB documentary	0	10	10	These have not been officially delivered to the NTP as we are waiting the feedback from the USAID mission
1.3	Reduced patient and service delivery delays (Timing)	Provider Delay	Description: Percent of the TB patients started on TB treatment within 4 days of sputum smear	50%	80%	94%	We focused on the number of TB patients who died during TB treatment in the 6 pilot hospitals in Eastern Region in 2012. In 2012 a total of 54 TB patients died before completing TB

			<p>results</p> <p><u>Numerator:</u> Number of TB patients who started TB treatment within 4 days of receiving sputum smear results and died during TB treatment in the 6 pilot hospitals in Eastern Region</p> <p><u>Denominator:</u> Total TB patients who were registered for TB treatment in the 6 pilot hospitals in Eastern region (2012) who died during TB treatment</p>				<p>treatment and out these 51 were started on TB treatment within 4 days of receiving their diagnosis results. This suggests that in these hospitals provider delay is not the contributing factor to TB deaths</p>
Laboratories							
2.2.	Ensured the availability and quality of technical assistance and services	Number of TB diagnostic centers achieving 85% performance for microscopy EQA	<p>Description: Number of microscopy centers that achieving 85% EQA performance in all parameters after training relative to the number that were assessed before training</p>	1	10	9	

2.3B	Ensured optimal use of new approaches for laboratory confirmation of TB and incorporation of these approaches in national strategic laboratory plans	Patients diagnosed with GeneXpert	Total number of patients who had MTB positive results after GeneXpert test relative to the success test performed	0	50	135(17%)	This covers the period between March and September 2013
Infection Control							
3.2	Scaled-up implementation of TB-IC strategies	Facilities implementing TB IC measures with TB CARE support		6	9	7	Two hospitals not trained yet
Programmatic Management of Drug-Resistant TB (PMDT)							
4.1B	Improved treatment success of MDR TB	Percentage of MDR TB patients who are still on treatment and have a sputum culture conversion 6 months after starting MDR-TB treatment	Numerator: Number of MDR-TB patients who are still on treatment have a sputum culture conversion 6 months after starting MDR-TB treatment Denominator: Total number of MDR-TB patients who are started on MDR-TB treatment	?	?	6 months not yet available for assessment	Between March and September 2013 a total of 14 MDR-TB patients have been put on SLD. The results for the 6 months culture are not yet out

			in 2013				
TB/HIV							
5.2	Improved diagnosis of TB/HIV co-infection	TB patients (new and re-treatment) with an HIV test result recorded in the TB register	<p>Numerator: Number of TB patients (new and re-treatment with an HIV test result recorded in the TB register in 2012</p> <p>Denominator: Total number of TB patients registered for TB treatment in 2012</p>	80%	90%	78%	In percentage term in 2012 78% of the TB patients were tested for HIV while in 2011 it was 79%. The reason for the decline was due to the that fact in 2012 there was a country wide stock out of HIV test kits as the Global Fund stopped funding the procurement of HIV test kits to the National AIDS Control Program (NACP) . This was beyond the control of the NTP and TB CARE I
Health System Strengthening							
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	People trained using TB CARE funds		400	300	483 (192 were females)	(25% increase over the target). The overachievement of the target was a result of introducing an innovative approach of training health care workers in their respective districts and health facilities
Monitoring, Evaluation & Surveillance							

7.2	Improved capacity of NTPs to analyze and use quality data for the management of the TB program	Data quality measured by NTP		Yes	yes	yes	Data quality measured through routine supportive supervision using Rapid Data quality audit tool and through an innovative approach of conducting regional review meeting where districts participants swaps TB treatment registers to validate each other's data
7.3 and 7.3B	Improved capacity of NTPs to perform operations research	OR studies completed		2	2	1	One OR complete, the second one still on-going
		OR study results disseminated		2	2	1	One already disseminated

1. Universal Access

Management Sciences for Health (MSH) was the only partner working on this technical area

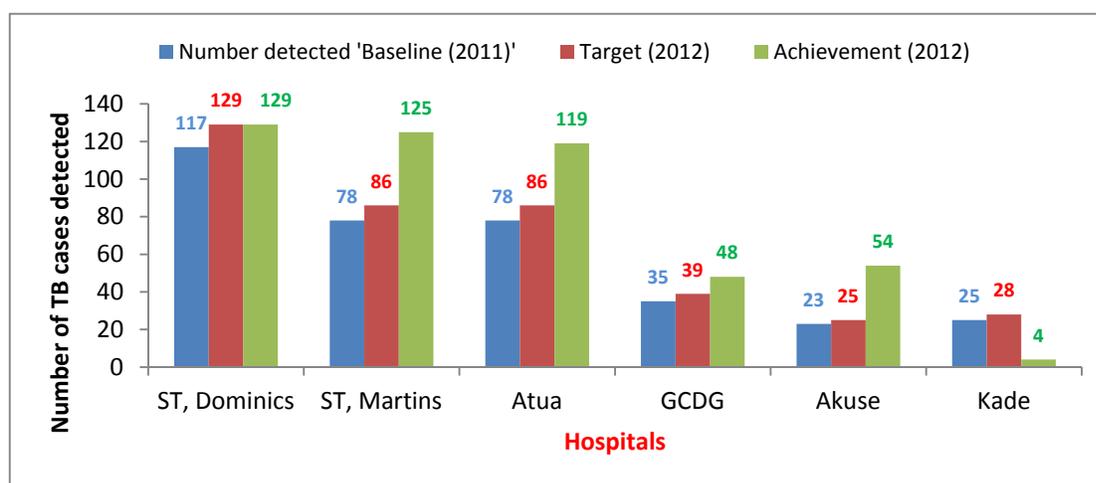
Key Results

1.1 Implementation of the Standard Operating Procedures (SOPs) for TB case detection

TB Case Detection

A review of the implementation of the hospital based TB case detection intervention in the six hospitals in the Eastern was conducted. The results showed that between January and December 2012, a total of 519 TB cases were detected which was far above the baseline figure (356) of 2011. This simple and cost effective intervention resulted into the detection of additional 163 TB cases in these six hospitals representing a 46% increase relative to the baseline. Between January and June 2013, a total of 273 TB cases were detected, representing 46% of the set target for 2013. There are positive signs that the 2013 targets will be achieved and even exceeded by a wide margin. Lessons learned and best practices have been disseminated to all the 26 districts and 27 districts of Eastern and Ashanti regions respectively. At the 2013 NTP mid-year review stakeholder meeting held in Kumasi from September 25-27, 2013 the results of implementing intensified hospital TB case detection were also disseminated. The stakeholder meeting attracted over 80 participants from all 10 regions of Ghana. Countrywide roll out will be achieved through the implementation of APA 4 activities as per the NTP's request and guidance. Figure I show intervention outcomes.

Figure 1: SOPs intervention outcomes-Comparing baseline, target and achievement

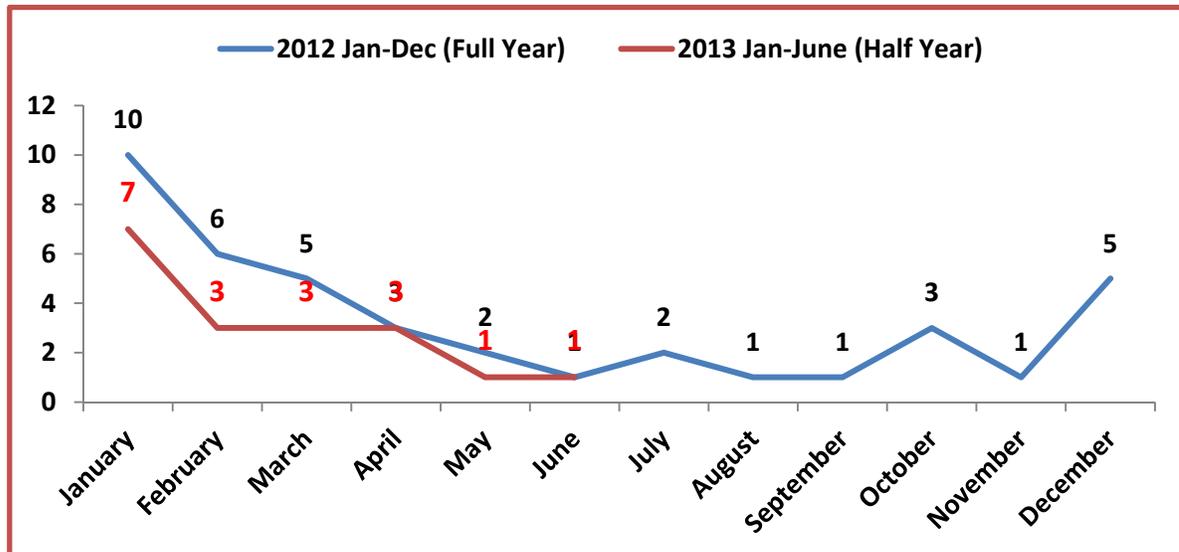


The target was to detect 392 TB cases in 2012 across all intervention areas. The actual TB cases detected in 2012 were 519. An additional 163 TB cases were detected relative to the baseline.

TB Mortality:

A review of TB deaths occurring during TB treatment in the six hospitals implementing SOPs for TB case detection showed that, in 2012, a total of 54 TB patients died whilst on treatment. Although TB deaths are still higher than the national average, there was a 37% decline, compared to the number (87) of TB cases that died in 2011.

Figure 2 TB Deaths in 2012 and January to June 2013 in the six hospitals in the Eastern Region



For the 54 TB patients who died in 2012, provider delay was assessed. In here provider delay is defined as period from the date of TB diagnosis to date of starting TB treatment. In Eastern Region, provider delay of more than 4 days is considered unacceptable. The results showed that; of the 54 TB patients who died during TB treatment, only three (3) had provider delay of more than four (4) days. This means that provider delay is not a major factor contributing to TB deaths in these six hospitals.

Challenges

- As high as 50% of the TB patients detected in the six hospitals are referred to other hospitals before start of TB treatment with no feedback to indicate whether they have reached their destinations or not.
- There is still under diagnosis and under reporting of TB in children aged 0-14 years.
- Though there has been a decline of TB deaths, it is still unacceptably very high. Potential reasons for the high TB deaths are: A) Delay in seeking care by patients as many presumptive TB cases prefer going to prayer camps for spiritual healing than hospitals. B) Weak capacity of clinicians to manage TB complications. C) Not all HIV positive TB patients are offered Antiretroviral therapy (ART).

1.2 TB cases detection awareness Documentary

A TB cases detection awareness documentary has been produced and is currently under review by the USAID mission. Once launched, the documentary will be used for advocacy and training of health professionals in various health facilities across the country. The TB documentary will also be broadcast and shown in local radio and television stations.

1.3 2013 World TB Day National Launch

Results of the implementation of the SOPs for TB case detection in the six hospitals of Eastern Region were displayed at the TB CARE I booth during the World TB Day National Launch held in Kumasi on March 22, 2013. The booth was visited by a cross section of people including some very important invited dignitaries such as the USAID Mission Director (Ms. Cheryl Anderson).

Figure 3: The USAID Mission Director being briefed by the TB CARE I Country Director on TB case detection project results at the TB CARE I booth



Figure 4: Secondary school students performing traditional dance at the World TB Day Launch in Kumasi



1.4 The finalization of the TB Guidelines

The near final TB guidelines for Ghana have been produced and they are being edited. They will soon be delivered to the NTP Manager for approval.

There was a considerable delay in finalizing the TB guidelines largely because the NTP advised TB CARE I to slow down as they were also developing a number of TB manuals and SOPs. The TB guidelines being a master document for the NTP all other documents should be consulted and properly referenced in the guidelines.

2. Laboratories

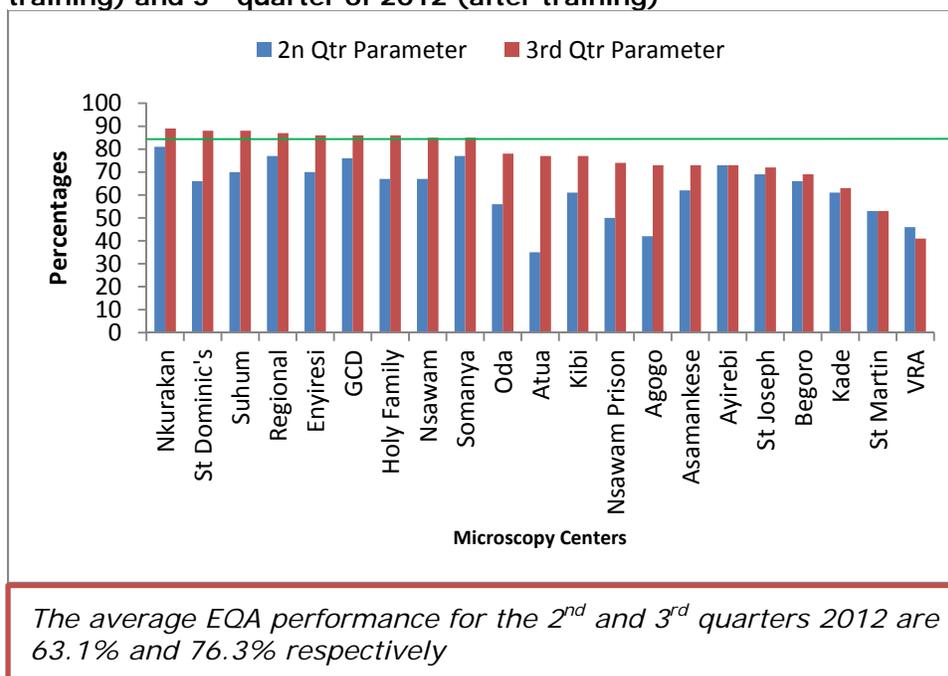
Management Sciences for Health (MSH) was the only partner working on this technical area

Key Results

2.1 External quality assurance (EQA) of the sputum microscopy

In May 2012 TB CARE I supported training of 24 lab staff from 22 microscopy centers focusing on building their capacity in quality improvements of sputum microscopy. In July 2013 EQA assessors from the national and the regional level undertook laboratory monitoring visits to the 22 microscopy centers where lab staff trained in 2012 were working. The EQA assessors performed blind rechecking of slides for the third quarter of 2012. The results of the blind rechecking of the third quarter 2012 were compared with results for the EQA performance prior to training. The results showed that 9 of the 22 microscopy centers (that were assessed before and after training) achieved EQA performance of 85% or above. This was an improvement from the results prior to training when not even a single microscopy center achieved 85%. Figure 5 illustrates EQA results for the 22 microscopy centers that were assessed before and after training.

Figure 5: EQA Performance for the 2nd quarter of 2012 (before training) and 3rd quarter of 2012 (after training)



2.2 GenXpert installation, training and initial evaluation

In February 2013; TB CARE I provided short technical assistance (STTA) on installing and building the capacity of lab staff and clinicians on the use of GeneXpert technology in four hospitals. In September 2013, a second STTA mission was undertaken to perform an initial evaluation of the GeneXpert technology. Figure 6 shows the GeneXpert results from the four sites (March-September 2013).

Figure 6: GeneXpert test results for the four sites (March - September, 2013)

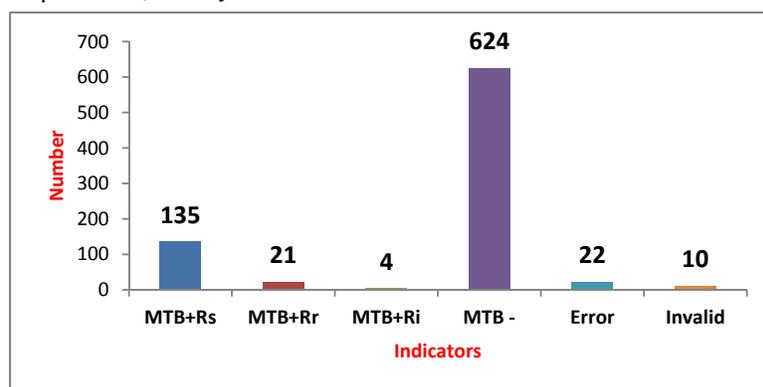


Table 3: GeneXpert tests conducted in the TB CARE supported sites

Patients diagnosed with GeneXpert in TB CARE supported sites (Number as of September 30th, 2013)	
Presumptive new TB	816
Total successful tests	780
Number of MTB+ cases diagnosed using Xpert	135
Number of Rif+ (and MTB+) diagnosed	21
TB positivity rate	17%
Rif resistance rate	16%

During the initial evaluation of the GeneXpert technology, all sites with the machines were visited, lab staff received refresher training and clinicians were oriented to the eligibility criteria for the GeneXpert and the new algorithms for diagnosis and management of TB. Below are some of the observed challenges:

- There is high turnover of staff and uncoordinated relocation of trained lab staff. Staff who were trained on GeneXpert were transferred to sites without the machines while lab staff who have not been trained on the use of the GeneXpert technology were transferred to sites with the machines
- Poor laboratory biosafety practices
- No systematic transportation plan of sputum sample to Xpert sites and feedback of results.
- Weak Integration of TB/HIV activities in the health facilities
- Xpert machines underutilized leading to GeneXpert cartridge wastage due to expiration
- No supervision from the central level to sites with Xpert machines

3. Infection Control

Management Sciences for Health (MSH) was the only partner working on this technical area

Key Results

TB infection control activities were implemented within the framework of implementing the SOPs for TB case detection. While the overall administrative infection control measures in health facilities showed some improvements, reporting health care workers with active disease remains a challenge because of lack of policy guidance from the Ministry of Health and Ghana Health Service, particularly when TB is still a disease with strong stigma among health care workers.

4. Programmatic Management of Drug Resistant TB (PMDT)

In this technical area MSH and KNCV were the main partners.

Key Results

4.1 PMDT training at the center of excellence, Kigali Rwanda

Two (2) doctors were supported to participate in a PMDT Training at the center of Excellence in Kigali-Rwanda. These two doctors are now part of the National MDR-TB trainer of trainers (TOTs). So, far two training sessions have been conducted and this has resulted into an increase of MDR-TB patents put on SLD. Between March and September 2013 total of 14 MDR-TB patients have been put on SLDs.

4.2 Renovation of the in-patient ward for MDR-TB patients

Ghana currently has no center where MDR-TB patients with complications can be admitted. In view of this development, the renovation of an in-patient ward of Korle Bu Teaching Hospital is being supported. A room which was originally a female ward has been identified and renovations will be completed in APA 4.

5. TB/HIV

In this technical area MSH and WHO were the main partners.

Key Results

The year under review, TB CARE I continued to support the NTP in the implementation of TB/HIV activities and the analysis of TB/HIV data. In 2012 (January-December), a total of 15,213 TB patients were registered of whom 11,825 (78%) were tested for HIV. Among those tested for HIV, 2,552 (22%) tested HIV positive. Among those who were HIV positive, 2,029 (80%) and 1,033 (40%) were offered CPT and ART respectively. The quality of data has improved as data validation using the Rapid Data quality Audit tool is being during all support visits to all regions, districts and health facilities

Challenge

Some challenges were observed during the year under review and these include:

- There is still weak TB/HIV collaboration and coordination at national, regional, district and to some extent at facility level.
- In 2012, there was a countrywide stock out of HIV kits due to diminishing Global Fund support to the National AIDS Control Program (NACP).
- There was also some reported stock out of ARVs in some centers resulting into rationing of ARVs. Again this was a result of reduced Global Fund support to the NACP for treatment and care services.

6. Health System Strengthening (HSS)

In this technical area MSH and KNCV were the main partners.

Key Results

6.1 MDR TB Curriculum

MDR-TB curriculum has been developed with support from the external consultants who worked with local experts. The MDR-TB curriculum has 5 modules as listed below:

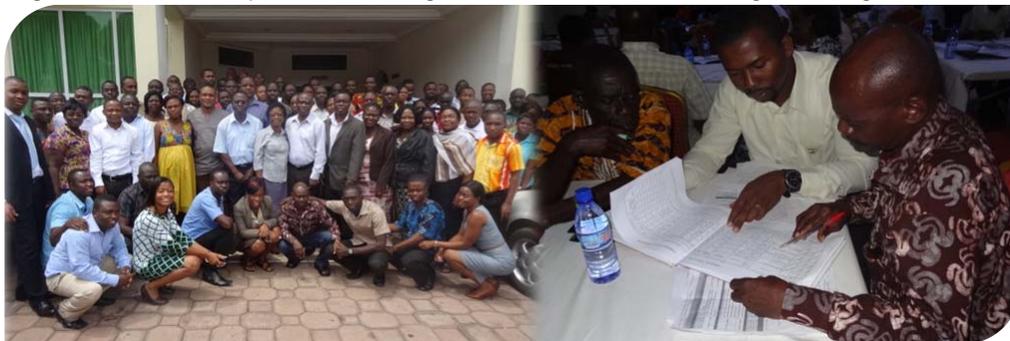
- a. Organization of PMDT in Ghana
- b. Identifying and diagnosing presumed MDR-TB patients
- c. Management of MDR-TB
- d. Training, supervision and health education
- e. Recording, reporting and data analysis

Following the development of the MDR-TB curriculum the national TOT has been established. So far two training sessions have taken place using the new MDR-TB curriculum. This has resulted into the increased number of MDR-TB patients put on second line drugs (SLD). Between March and September 2013 a total of 14 MDR patients have been started on SLD compared to only 4 in 2012.

6.2 Health Care Worker (HCW) trained using TB CARE I funds

During the year under review, a total of 483 HCWs comprised of 291 males and 192 females were trained using TB CARE funds. This represents a 25% increase from the target of 385. Most of these trainings were in Universal Access (51%) and M&E and Surveillance (38%) technical areas.

Figure 7: Health professionals that attended data validation training in Ashanti Region (Left). Participants reviewing data from a district TB register (Right).



6.3 Support to the country coordinating mechanism (CCM) of the Global Fund

The Country Directory Director continued to chair the HIV/TB oversight committee of the Ghana CCM. During the year under review he led a team that conducted site visits to principal Receipts (PRs) for the purpose of improving grant performance and supporting the PRs to address various Condition Precedents (CPs). The TB CARE I also chaired 4 HIV/TB oversight committee meetings where dashboards are reviewed before submission to the main CCM committee.

7. Monitoring & Evaluation, Surveillance and OR

In this technical area MSH, WHO and KNCV were the main partners

Key Results

7.1 Comprehensive Review

A comprehensive review of the TB program by external consultants was conducted in March 2013. Consultants were drawn from WHO, USAID Washington, Global Fund Geneva as well as from in-country organizations such as the Noguchi Memorial Institute for Medical Research and the Ghana Health Service. The comprehensive review was conducted to assess the impact of the Global Fund Round 5 Grant and review the progress in implementing the 2009-2013 strategic plan. The deliverables include identifying high impact interventions to be included in the new strategic plan (2014-2018) and the phase II work plan for the Global Fund Round 10 Grant. The review team identified a number of challenges that include:

- High turnover of trained / oriented health care workers especially at peripheral facilities
- A wide gap between confirmed MDR-TB patients and those put on SLD Drugs
- High TB deaths in spite of a relatively low HIV prevalence rate in the general population
- Functionality of TB/HIV Coordinating Committees not considered optimal
- Proportion of HIV dually infected TB patients accessing ART is very low – national guidelines have been revised to include that all HIV infected TB patients should be on ART (28% for 2011), but that policy change does not seem to have made it to the facility-levels yet
- IPT for under 5 contacts inconsistently implemented
- IEC materials not readily available at the DOTS Centers,

Figure 9: External Consultants having a chat with the NTP Manager, TB CARE I Country Director and the Chairman of the CCM Ghana after the debriefing



Figure 8: External Consultants listening attentively to the feedback from the Director General of the Ghana Health Service after their debriefing presentation

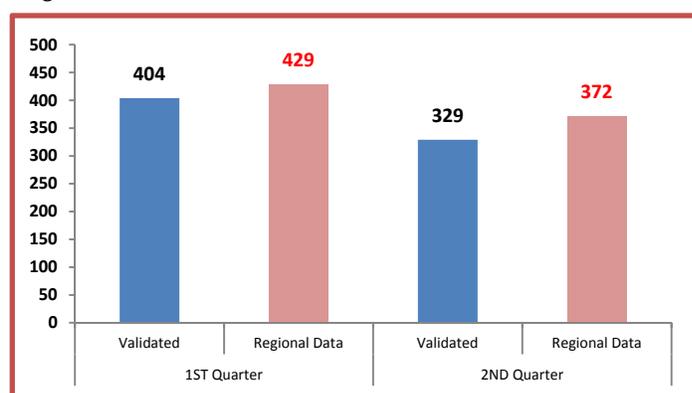


7.2 Data Quality Audit

Data validation through regional quarterly review meeting (Ashanti Region)

As part of TB data quality audit, a training session was conducted for up to 96 health professionals from 27 districts of Ashanti Region. The training focused on introducing a TB CARE I innovative approach for conducting review meetings which involves TB treatment register swaps among districts participants. Participants compiled case finding data for the 1st and 2nd quarters, 2013 from district registers. This was then compared with the data that the districts had already reported to the regional level. The rationale for this approach is to identify potential under reporting or over reporting of TB cases.

Figure 10: Magnitude of over reporting of TB data in 1st and 2nd quarters, 2013 among the 27 districts of Ashanti Region



Data validation through monitoring and Supervision visit

In collaboration with the NTP a monitoring and supervision visits to 10 TB treatment centers in the Northern Region were conducted. The Rapid Data Quality Audit (RDQA) tool was used to assess and detect potential transcription error, data incompleteness, misclassification, data inaccuracies of the data from the TB Treatment client cards, institutional TB register, district TB registers, lab registers and the quarterly case finding report form (TB07) and quarterly treatment outcome report form (TB08) submitted to the region.

Results of the audit in the 10 TB treatment sites visited showed that, 4 out of the total treatment sites under reported and 2 sites over reported. Overall there was 1.3% over reporting of data already submitted to the region. Table 1 shows the results of the data quality audit from the 10 TB treatment sites in the Northern Region.

Table 4: Results of the data quality audit from the 10 TB treatment sites visited (Northern Region)

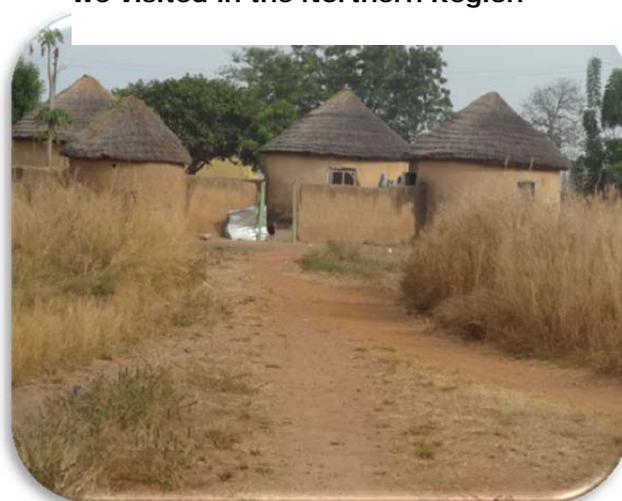
District	Institutional register	Facility TB07	District register	District TB07	Regional record	Percentage Variance
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Bole	51	51	51	51	50	-2%
West Gonja	19	19	0	0	19	0%
East Gonja	56	56	56	56	72	22%
Nanumba North	24	24	13	15	24	0%
Yendi	26	34	34	33	33	-3%
Saboba	22	22	0	3	17	-29%
East Mamprusi	105	105	105	105	105	0%
West Mamprusi	0	7	7	3	4	-75%
Tamale Teaching Hospital	198	198	198	198	199	1%
Tamale Central	17	17	17	17	17	0%
Region	518	533	481	481	540	1.3%

Figure 11: TB Team validating TB data with the TB coordinators



Figure 12: Traditional Houses in some areas we visited in the Northern Region



7.3 Operational Research on TB Referrals

In response to the increased number of TB patients who are referred to other facilities before start of TB treatment with no feedback to indicate whether they actually reached their destinations, an operational research study was conducted in 3 big hospitals in Lower Manya Korbo District. The objective of the operational research was to quantify the number and proportion of TB patients referred to other health facilities who did not reach their destination (initial defaulters).

Results

The database consisted 116 TB patients' records. 98 TB patients were referred to health facilities within the district and 18 patients were referred to health facilities outside the district. 85 had records that they had reached their destinations. 10 had incorrect dates of starting TB treatment. 31(27%) out of the 116 referred TB patients did not reach their destinations. These are likely initial defaulters. The results have been disseminated to all the 26 districts in Eastern Region, 27 districts in Ashanti region. Dissemination of the results was also conducted during the TB CARE I supported 2013 NTP-Midi Year Review Stakeholder meeting. At this meeting 86 people from all the 10 regions participated.

Table 5: TB patients who did not reach their destinations by TB type

TB type	Number
Smear Positive	14
Smear Negative	12
Extra Pulmonary TB	2
Missing Records	3
Total	31

7.4 National Tuberculosis Prevalence Survey

Support to the implementation of the national TB Prevalence survey is being provided by TB CARE I. The support largely focuses on providing 24 hour data management in the field as well as at national level where the central server is located. By the end of September 2013, a total of 60 out of 98 (61%) clusters have been completed. Reports from the 4 field teams indicate that participation rates in all the clusters completed are above 80%. It is further noted that fewer young men are participating in the survey than older men and women. The Survey is expected to be completed in February 2014. TB CARE I is supporting payments to staff who are analyzing and managing the survey data. The payments are made after every 20 clusters completed; this means this support will continue using funds carried forward from APA 3.