TB CARE I - Nigeria

Final Report
January 1, 2011 – December 31, 2014
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Cover photos:
1) Rapid Assessment of Community PMDT. Photo by Aminu Umar; Kano state PMDT Focal Person.
2) Screen shots of the e-tb Manager; the first electronic database instituted for the management of MDR-TB in Nigeria. Photo by Dr Opeyemi Emmanuel, Senior Technical Officer-MSH, TB CARE I Office, Abuja.
3) MDR-TB Patient initiated on treatment in the community outside his home with his DOTS provider. Photo by Dr. Abdu Adamu – Technical Officer (TB), FHI360 Kano state office.

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List of Abbreviations

AFB  Acid Fast Bacilli
APA  Annual Plan of Activities
ART  Antiretroviral Therapy
BSL  Bio safety Laboratory
CPT  Cotrimoxazole Prophylactic Treatment
CTBC  Community TB Care
CV   Community Volunteers
DFB  Damien Foundation Belgium
DOTS  Directly Observed Therapy short course
DQA  Data Quality Assessment
DR-TB Drug-resistant Tuberculosis
FCT  Federal Capital Territory
FHI  Family Health International
FY   Fiscal Year
GHWC  Government Health Care Worker
GFATM Global Fund to Fight AIDS, TB, and Malaria
HIV  Human Immunodeficiency Virus
HSS  Health Systems Strengthening
IC   Infection Control
ICF  Intensified Case Finding
ILEP  International Federation of Anti-Leprosy Association
IHVN  Institute of Human Virology of Nigeria
KNCV  KNCV Tuberculosis Foundation
LGA  Local Government Area
LTWG  Laboratory Technical Working Group
MDR-TB Multidrug-Resistant TB
M&E  Monitoring and Evaluation
FMoH  Federal Ministry of Health
MSH  Management Sciences for Health
NRL  National Reference Laboratory
NTBLCP  National TB and leprosy Control Program
OR  Operational Research
PEPFAR President’s Emergency Plan for AIDS Relief
PCA  Patient Centered Approach
PMDT  Programmatic Management of Drug-Resistant TB
PMV  Patent Medicine Vendors
PPM  Public-Private Mix
SLD  Second-Line Drug
SOP  Standard Operating Procedure
SRL  Supra-National Reference Laboratory
TA   Technical Assistance
TB   Tuberculosis
TB CAP Tuberculosis Control Assistance Program
USAID United States Agency for International Development
Xpert GeneXpert MTB/Rif
Executive Summary

The TB CARE I project is a multi-year technical implementing mechanism funded by the United States Agency for International Development (USAID). The project built and expanded on the successful support of the Tuberculosis Control Assistance Program (TB CAP) to the National TB and Leprosy Control Program (NTBLCP) in Nigeria. Building on TB CARE I core principle of effective collaboration and coordination, the national TB program was supported to implement effective tuberculosis (TB) control services.

The key significant results achieved over the life of the project include the following:

Universal Access

TB CARE I supported the development of the national desk guide for the diagnosis and management of childhood TB in Nigeria. Through this process a total of 2,004 child TB cases (0-4yrs) representing (2.1%) among total reported national TB cases (96,045) were notified during Fiscal Year (FY) 2014 (October 2013-September 2014). The FY 14 data also did not show much improvement (1.9%) over the baseline figure of 1,966 childhood TB cases notified in 2012.

During project implementation, TB CARE I facilitated the engagement of Patent Medicine Vendors (PMVs) and community pharmacists to provide community TB care services in 105 communities of six focus states (Lagos, Kano, Cross Rivers, Oyo, Osun and Kaduna). Cumulatively, a total of 22,303 presumptive TB cases were referred for diagnosis out of which 2,492 (11.2%) TB cases were detected and all placed on treatment. With Intensified Case Finding (ICF) strategy using Standard Operating Procedures (SOPs) in six focus states, 5,076 TB cases were detected during the reporting year representing a 1.5% increase over the FY 2014 target of 5,000 TB cases.

As of the end of 2013, a total of 775 Public-Private Mix (PPM) sites were providing Directly Observed Therapy short course services (DOTS) nationally with TB CARE I contributing 31% of the site expansion (240). A total of 12,995 cases were notified through PPM in 2013. The available FY 2014 data indicates that a total of 13,915 TB cases were notified through the PPM sites suggesting at least a 7% increase compared to 2013 notifications.

Laboratories

The support for infrastructural and capacity development of the laboratories and new innovative diagnostics particularly the GeneXpert MTB/RIF (Xpert) technology has impacted the TB case finding capacity of the NTBLCP during the project period. TB CARE I effectively has contributed about 346 (23.5%) of the 1,473 functional microscopy services in the country over the last 4 years. TB CARE I facilitated the development and finalization of the laboratory policy as well as piloted the innovative diagnostic services in country (Xpert). Nationally the country has 86 Xpert machines which TB CARE I contributed over a quarter (27%) and supports an additional 7 NTP sites with cartridges. In the 4 year period, from a total of 27,254 sputum samples tested, in TB CARE I supported GeneXpert sites 7,621 (28%) TB cases were detected of which 1,337 (17.5%) were rifampicin resistant. Nationally from 2010 until June 2014, there have been exponential increases in the number of PMDT patients enrolled from Year 1 to Year 4 (23 to 694). However, the challenge with enrollment has been the limited number of MDR-TB treatment centers in the country which have informed the NTP to commence ambulatory PMDT services. It is hoped with this initiative, more patients will be enrolled in the community.
Infection Control
Through the implementation of the FAST strategy (Finding cases Actively, Separating them safely and Treating them effectively) in 12 TB/HIV health facilities, the average time from detection of a presumptive TB case to diagnosis improved from baseline of 3 days to 2 days. Turnaround time from diagnosis to treatment improved from a baseline of 5 days to 2 days following implementation of the FAST strategy.

Programmatic Management of Drug Resistant TB (PMDT)
The challenge of the lack of institutionalized care for diagnosed MDR-TB patients in the aftermath of the National Drug-resistant TB (DR-TB) survey in 2009 culminated in TB CARE I support for the infrastructural development of multidrug-resistant TB (MDR-TB) treatment centers in the country. The key outcome results of this support include upgrading and renovation of 5 MDR-TB treatment centers including 3 reference laboratories with Bio Safety Laboratory (BSL) level 2 or 3 capacity. TB CARE I also assisted with the renovation of University College Hospital MDR-Treatment sites and supported the procurement of second line anti-TB drugs for 80 Patients. A total of 102 MDR-TB patients were enrolled on community PMDT in 10 pilot states and all were provided with care and support including the provision of ancillary investigations and treatment, transportation and food packages during the year. From inception of MDR-TB activities in country till June 2014 a total of 814 MDR-TB patients have been enrolled on treatment nationally. For the cohort of 2011 for which treatment outcome is available showed that of 61 patients enrolled during the year, 12 (20%) were cured, 14 (23%) completed treatment. 18 (30%) patients died; 4 patients were lost to follow up (7%). The high death rate could be attributed to the delayed diagnosis and long waiting time to initiate treatment due to few treatment centers (4) at the time.

TB/HIV
Scaling up of TB/HIV collaborating activities reached its peak in the NTBLCP through TB CARE I support in the expansion of TB/HIV services from 283 facilities in 23 states to 548 facilities in 35 (93.7%) states. A total of 21,181 (93%) all forms of registered TB cases were tested for HIV in TB CARE I supported sites in FY 2014. Of those tested, 3,570 (16.8%) TB cases were reported as HIV co-infected; 2593 (73%) accessed Antiretroviral Therapy (ART) services while 3,171 (89%) of the co-infected accessed Cotrimoxazole prophylactic Treatment (CPT) treatment. Over the 4 year project life, a total of 62,609 TB patients have been tested for HIV.

Monitoring & Evaluation, Surveillance and Operational Research
The existing routine surveillance, monitoring and evaluation (M&E) system for drug susceptible TB in the NTBLCP which is paper-based was inadequate in addressing the complexities inherent in the M&E systems of the MDR-TB component of the control program. Therefore, TB CARE I provided technical assistance towards customization of e-TB manager, a web based data management tool in the context of the NTBLCP in year 2 of the project. e-TB manager is currently in use in all (12) MDR-TB treatment sites as well as by all the state program managers of the 36 states and the Federal Capital Territory (FCT). All cases enrolled (100%) are currently being managed through the e-TB manager (clinical and commodity management). e-TB manager will be customized to include drug susceptible TB, a priority for the NTP in the coming year.
Introduction

TB CARE I is a multi-year USAID-funded project implemented by a consortium of partners comprising KNCV Tuberculosis Foundation (KNCV) (the prime partner), World Health Organization (WHO), Family Health International (FHI360) and Management Sciences for Health (MSH) in response to the TB burden in Nigeria. Aside from these, TB CARE I collaborates with other partners such as the International Federation of Anti-Leprosy Association (ILEP), the German Leprosy and TB relief association (GLRA), the Netherlands Leprosy Relief (NLR), The Leprosy Mission Nigeria (TLMN) and the Damien Foundation Belgium (DFB) and sub-sub grantees such as community based and faith-based organizations to implement quality TB service in-country consistent with the Global Plan to STOP TB of 2011 - 2015 with 8 major project objectives:

1. Universal and early access to TB Services and care
2. Improved availability and quality of TB diagnostic tools
3. Strengthened TB IC strategies
4. Scaling up programmatic management of drug resistant tuberculosis
5. Strengthen TB and HIV/AIDS coordinated activities including TB Infection Control
6. Contribute to health system strengthening
7. Strengthening the M&E and surveillance system of the NTBLCP
8. Strengthened nationwide systems for a sustainable supply of drugs

Leaning on the TB CARE I overarching elements: collaboration and coordination; Access to TB services for all; Responsible and responsive management practices and; Evidence-based project M&E; TB CARE I partnered with National and State leadership in the implementation of TB CARE I activities. Hence the process for identification of gaps and areas of support by TB CARE I was guided by the existing 2010 – 2015 National TB Strategic Plan (NSP). The program and other collaborating partners actively participated in the gap analysis and development of all TB CARE I yearly plans with NTBLCP playing the leadership role.

Using various forums such as the quarterly planning cell meetings, the annual program meeting, the quarterly national and state TB/HIV working group meetings, the quarterly National MDR-TB committee meetings and the quarterly national and state PPM steering committee meetings TB CARE I sought the buy-in of NTP as well as the state programs in the coordination and implementation of activities. Aside the buy-in TB CARE I also used our active participation at the TB CARE I collaborating meetings to provide technical support to the program at national and state levels and to strengthen coordination and implementation of various thematic areas of the Stop TB strategy in the country.

With grants received through President’s Emergency Plan for AIDS Relief funding (PEPFAR), TB CARE I provided TB/HIV services in a total 35 of 36 states and Federal Capital Territory (FCT) and expanded TB/HIV services into 548 facilities from the 243 facilities supported under TB CAP project. Through its DOTS expansion, TB CARE I facilitated access to TB/HIV services to key populations such as the prison services and facilitated the introduction of innovative diagnostic services such as Xpert machines into the country for rapid case detection and diagnosis of MTB and RIF resistant cases. TB CARE I introduced during the period innovative measures for community involvement in case finding using the religious leaders and patent medicine vendors. Through this approach a total of 22,303 presumptive TB cases were referred. Through TB CARE I support, the NTP was assisted to pilot and commence the enrollment of MDR-TB patients in the community. This approach is currently being considered for eventual scale up by the NTP.

TB CARE I in its support also innovatively introduced the use of e-tb manager for the clinical management and of MDR-TB. Through this support, the NTP and the state managers were capacitated on the efficient identification, notification and management of MDR-TB patients. Additionally, during the project period, a total of 3 operational research (OR) studies were conducted, 3 publications were made and 10 presentations were made at International Union Against Tuberculosis & Lung Disease (IUATLD) Conferences.
Core Indicators

TB CARE I has seven core indicators that the program as a whole is working on to improve across all countries. Table 1 summarizes the core indicator results across the life of the project for TB CARE I-Nigeria as well as TB CAP, the precursor to TB CARE I, which our coalition also led.

Table 1: TB CARE I core indicator results for Nigeria

<table>
<thead>
<tr>
<th>Year</th>
<th>TBCA P</th>
<th>C1. Number of cases notified (all forms)</th>
<th>C2. Number of cases notified (new confirmed)</th>
<th>C3. Case Detection Rate (all forms)</th>
<th>C4. Number (and percent) of TB cases among healthcare workers</th>
<th>C5. Treatment Success Rate of confirmed cases**</th>
<th>C6. Number of MDR cases diagnosed</th>
<th>C7. Number of MDR cases put on treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>90,311</td>
<td>46,026</td>
<td>30.5%</td>
<td>NA</td>
<td>82%</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>94,114</td>
<td>44,863</td>
<td>28.9%</td>
<td>NA</td>
<td>83%</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>90,447</td>
<td>45,416</td>
<td>28.4%</td>
<td>NA</td>
<td>84%</td>
<td>NA</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>93,052</td>
<td>47,436</td>
<td>28.9%</td>
<td>NA</td>
<td>85%</td>
<td>25</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>97,853</td>
<td>52,901</td>
<td>31.3%</td>
<td>NA</td>
<td>86%</td>
<td>328</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>100,401</td>
<td>52,811</td>
<td>17%***</td>
<td>NA</td>
<td>N/A</td>
<td>518</td>
<td>311</td>
<td></td>
</tr>
</tbody>
</table>

*Data reported in C1-5 and C7 are national Data. Whilst C6 is from TB CARE I supported Gene Xpert sites
NA- Not Available
**= data provided in C5 is for new smear positive cases only and cases registered preceding the reporting years
***= Point estimates changed because of the data obtained from prevalence survey
Universal Access

All TB CARE I partners worked in the Universal Access technical area. Key activities in this technical area focused on PPM, childhood TB diagnosis, community TB care, use of SOPs for intensified case finding, and TB in the prison community. The delivery of TB CARE I activities was with the approval and collaboration of the NTP both at the national and state level.

Table 2. Technical Outcomes (Universal Access)

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicators</th>
<th>Indicator Definition</th>
<th>Baseline (Y 3)</th>
<th>Target</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TB personnel trained on the Patients' Charter</td>
<td>Number of TB personnel trained on the Patients' Charter</td>
<td>48</td>
<td>37</td>
<td>Activity cancelled because NTP leveraged funds from GF</td>
</tr>
<tr>
<td>2</td>
<td>Private providers collaborating with the NTP</td>
<td>Number of Private providers collaborating with the NTP</td>
<td>140</td>
<td>170</td>
<td>775 as per national data as in 2013. However TB CARE I supported PPM sites were 120 each in APA 2 &amp; in APA 3. No expansion took place in APA 4</td>
</tr>
<tr>
<td>3</td>
<td>TB cases diagnosed by private providers</td>
<td>Number of new cases of TB diagnosed according to NTP guidelines by private providers</td>
<td>22,217 (national data)</td>
<td>30,000 (national data)</td>
<td>In FY 2014 a total of 13,915 cases so far were notified by private provider indicating a 7% increase over 2013 data. Case notification from PPM sites didn’t reach Year 4 targets though as the majority of PPM sites are in North Central Zones, which is plagued with insurgencies and civil unrest.</td>
</tr>
<tr>
<td>4</td>
<td>Status of PPM implementation</td>
<td><strong>Description:</strong> This indicator measures the status of the Public-Private Mix (PPM) strategy and interventions. <strong>Indicator Value:</strong> Based on the scoring system below: 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  <strong>Level:</strong> National</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td></td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Childhood TB approach implemented</td>
<td><strong>Description:</strong> 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.  <strong>Indicator value:</strong> Score based on the following: 0 = Childhood TB is not mentioned in the NTP Strategic Plan 1 = Childhood TB is mentioned in the strategic plan, but no activities are implemented on childhood TB 2 = Childhood TB activities are being piloted or are implemented in select sites 3 = Childhood TB is an integral part of the NTP strategic plan and regular activities.  <strong>Level:</strong> National  <strong>Source:</strong> NTP</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>2 2 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Number of TB cases (all forms) diagnosed in children 0-4 years of age.</td>
<td>Number of TB cases (all forms) diagnosed in children 0-4 years of age. 1,966 (national data) 2,162 (10% increase from 2012) 2,004 indicating that 93% of the 2013 target was met.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>Prisons with DOTS</td>
<td>This indicator measures the coverage of prisons providing DOTS services. Prisons should regularly diagnose and refer suspects and should put patients on treatment in order to be qualified as providing DOTS. 83 20 for comprehensive DOTS and 211 prison sites for identification of suspects for referral. Nationally there are 77 prison sites with DOTS. TB CARE I established 20 comprehensive DOTS sites including TB/HIV and 211 sites screen inmates routinely for TB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>CB-DOTS program is implemented</td>
<td>This indicator measures the level of implementation of Community-based (CB) DOTS from introduction to piloting and scaling up.  <strong>Indicator Value:</strong> Score based on below: 0 = There is not a CB-DOTS program in the country and there are no plans prepared for this purpose. 1 = There is not a CB-DOTS program in the country but plans are ready for piloting. 2 = NTP has piloted CB-DOTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 3 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
in selected geographic areas. An implementation plan including a timeline and budget with activities should be in the plan.

3 = NTP has scaled-up the implementation of CB-DOTS to additional geographic areas and data are available at the national level on CB-DOTS referrals and patients on treatment in CB-DOTS areas.

<table>
<thead>
<tr>
<th>9</th>
<th>Communities supported to implement community DOTS</th>
<th>Number of communities supported to implement community DOTS</th>
<th>183</th>
<th>250</th>
<th>105 (42%) Due to USAID policy there was a rationalization of Implementing Partner sites which affected the number of CTBC communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>TB suspects referred by community volunteers</td>
<td>Number of TB suspects referred by community volunteers</td>
<td>3,211</td>
<td>5,500</td>
<td>A total of 5,224 (M=3,784; F=2,440 females) were referred during the quarter but cumulatively over the life of project, <strong>22,303</strong> (M=11,723; F=10,580) were referred</td>
</tr>
<tr>
<td>11</td>
<td>TB cases diagnosed in facilities implementing ICF using SOPs</td>
<td>Number of TB cases diagnosed in facilities implementing ICF using SOPs</td>
<td>2,244</td>
<td>5,000</td>
<td>5,076 cases diagnosed. The APA 4 targets were met and surpassed with an additional 1.5%.</td>
</tr>
<tr>
<td>12</td>
<td>Prisons with TB/HIV services</td>
<td>Number of prisons with TB/HIV services</td>
<td>Not available</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**Key Results**

**Childhood TB Diagnosis**

In the last 4 years of TB CARE I project implementation, WHO within the consortium provided technical assistance to the NTBLCP in strengthening Childhood TB control in Nigeria. Using a holistic approach to the implementation of childhood TB activities, 16 health professional bodies were engaged and sensitized on their involvement in TB control in the country. Through collaborative efforts with partners such as the Pediatric association of Nigeria, Nursing association, academia, private sector and TB implementing partners, TB CARE I supported the development of the *Nigeria Road map for the control of Childhood TB in Nigeria*. This roadmap was presented at Global launch of the Roadmap for Childhood TB towards zero deaths in Washington DC by the NTBLCP. The roadmap details the steps to the strategic interventions for childhood TB in Nigeria. Specifically, through TB CARE I effort, the *Desk Guide for the diagnosis and management of TB in Children in Nigeria* (figure 1) was developed with the participation of key stakeholders. The desk guide serves as a hands-on national policy guidance and reference document for all health care providers in all health care...
facilities for the provision of quality care for children with tuberculosis. Furthermore, TB CARE I provided technical assistance to the development of childhood TB training materials including participants' training modules as well as the facilitator's guide. Building on these activities TB CARE I in APA 4 supported the capacitation of both the NTP program managers at various levels as well as the capacities of pediatricians and medical officers respectively in the use of the desks guides. Notwithstanding, TB CARE I identified in country pediatric association and trained members of the association thereby garnering support for the continuous use of the desk guides in the diagnosis and treatment of childhood TB. In all, TB CARE I has trained a total of 181 (M=90; F=91) persons on childhood TB guidelines. TB CARE I is yet to be able to measure the success of the implementation of the guidelines comprehensively because the trainings only took place in the quarter 3 of the FY 2014. Data for the current year will be available in January 2015 However for the 3 quarters in FY 2014 for which data is available, a total of 2,004 childhood TB cases (0-4 years) have been notified thus 93% of target for the year was met.

Figure 1. Desk Guide for Diagnosis and Management of TB in Children in Nigeria

Community TB Care
TB CARE I continued during the year to maintain community TB care activities in a total of 105 communities. USAID rationalization policy saw FHI360 ceding some of the communities where they had previously implemented CTBC to other USAID implementing partners from 125 to 65.

Likewise, KNCV also scaled down its community activities from 128 communities to 40 thus only 42% of the target of number of communities was met. In spite of these, however, TB CARE I recorded tremendous achievements in CTBC activities during the year which was partly due to the change in strategy in the recruitment and use of PMVs as community volunteers (CV) in Year 3 by FHI360 which showed an increase of over 500% over the Year 2 figure. In all, in Year 4 a total of 22,303 presumptive TB cases were referred by CVs of which 2,492 (11.2%) were TB cases notified and 2,478 TB patients are managed by CVs. Over the 4 year period, a total of 40,076 presumptive TB cases were referred by CVs (see Figure 2).
Sensitization of the participant on TB during mass mobile testing at Oriade LGA, Osun state and Odo Otin LGA, Osun state. Additionally, a total of 147 sputum samples were moved though the auspices of the Community volunteers to Xpert sites. A major outcome of the use of community volunteers work was the identification of 6 buruli ulcer patients during the course of the activities in the communities which lends credence to the saying that if community volunteers are sufficiently empowered they can do more than detecting TB cases in the communities.

The implementation of community TB care activities is not without challenges chief of which is the lack of standardization in the different models being implemented in the country. Secondly the attrition rate among CV is high largely as result of the expectations CVs have of funders and the non-remuneration of recruited CVs. However, Community TB Care activities could provide a platform for increased case finding if properly designed. ‘One size fits all’ approach should not be applied in CTBC; a review of contextual factors should come into play in deciding which approach to use. For CV activities to function well there is need for good enabling environment (support and good attitude) from all key players to enable the smooth implementation of CTBC activities. Within reach diagnostic services and proper logistics for sample movement is essential for the success of CTBC activities.
Use of SOP for Intensified TB Case Finding

Increased TB case finding is at the core of TB CARE I activities. Through the activities of TB CARE I, a total of 105 facilities in 11 states (Taraba, Kwara, Kano, Akwa Ibom, Enugu, Imo, Rivers, Bauchi, Sokoto, Niger, and Kogi) have been supported to implement SOP for intensified TB case finding in the last 4 years. Through TB CARE I efforts, a mapping of service delivery points was undertaken from...
which Government Health care Workers were identified for training on the use of SOP for case
detection within the facilities. Following SOP trainings, TB CARE I carried out a total of 17 supervisory
visits to the sites to assess progress and mentor staff on identified challenges. Likewise, TB CARE I
through MSH conducted a survey to assess the effectiveness of the SOPs for intensified TB case
finding. The presentation of assessment results was attended by key stakeholders drawn from the NTP
and partners alike. Findings from the dissemination indicate an improvement in presumptive TB case
finding and smear-positive cases detection, and high awareness of TB among health workers that
were trained. Partners agreed to scale-up SOPs in the states where they are operating amongst
others. In all during the reporting period, a total 5,076 TB cases were notified in the year indicating a
1.5% increment over the target for the year and a 41% increase over the baseline figure of 3,595 in
2011. Additionally, TB CARE I over the 4 year period distributed A2-sized wall posters of the 9
different SOPs for case detection and table calendars of the SOPs. In all, 23,000 copies of the
materials were printed and distributed.

Community ICF in 6 Challenged States
Similarly, TB CARE I using evidence garnered from routine data undertook a mapping of 6 challenged
states using the microscopy coverage, burden of TB and DOTS coverage to implement intensified case
finding activities. A total of 5 Local Government Areas (LGAs) in each of the states (in Lagos, Kano, Niger, Imo, Anambra and Rivers) were identified for ICF implementation. A total of 320 persons (245
religious leaders/representatives, 60 laboratory staff & 15 Local Government TB & Leprosy Supervisor
(LGTBLS) were orientated on who a presumptive TB case is and the signs and symptoms for
identifying a presumptive TB case for referral. To ensure that cases referred from the community
arrive at the health care facilities, the states were provided with pamphlets on TB with information on
the location of the DOTS sites in their respective LGA. Also microscopes were distributed to some of
the challenged states. As a result of these, there has been an increase of 19.5% in TB cases detected
in Q2, 2014 over Q4 2013.

Figure 3: Intensified Case finding in 6 states
All forms of TB cases Notified

![Figure 3: Intensified Case finding in 6 states](image)

Figure 4: A copy of IEC material with information on DOTS service location

![Figure 4: A copy of IEC material with information on DOTS service location](image)
Success story - Standard Operating Procedures Improve the Detection of Tuberculosis in Nigeria

"I now feel better, my cough has stopped and I now know what to tell other people who have been coughing for a while." These are the words of Rhoda Godiya, a 22-year-old woman who had been coughing for about a year. At first she thought she had a cold and treated herself using cough syrup and antibiotics. She would feel better for a little while, but the cough always came back. Rhoda went to several clinics where tests were done, but nothing was detected.

Picture 4: Rhoda outside her home with the DOT officer, Mr Boni

Fortunately, Rhoda’s brother-in-law works as an attendant at a hospital where standard operating procedures (SOP) for intensified tuberculosis case detection had recently been introduced by TB CARE I. He had received training on SOPs and had seen the new posters throughout the hospital that described cough and the accompanying symptoms. According to his new job description, the SOPs required him to direct coughing patients from the outpatient department (OPD) to the DOT unit. At his urging, Rhoda went to the OPD where, because of her cough and in accordance with the SOPs, she was moved ahead of the other waiting patients. The attending physician, who had also been trained in the new SOPs, promptly referred her to the DOT unit in the hospital because she had been coughing for more than two weeks. Rhoda was tested at the DOT unit, told that she would need to provide three sputum specimens, and was shown how to correctly produce a sputum sample. Her test results were sent back to the DOT unit where she was told that she had tested positive for TB.

The SOPs guide health staff to identify, treat, and cure TB. An innovative approach for increasing TB case detection, the SOPs consist of five elements:

- TB case detection processes
- Knowledge and skills
- Tools
- Recording and reporting
- Supervision and monitoring

The successful implementation of the SOPs by TB CARE I started with advocacy visits to the leadership of TB programs at the state level, followed by facility selection, and the identification of focal persons in various parts of each facility, e.g. DOT unit, HIV clinic, OPD, ward. TB CARE I conducted training of trainers for selected personnel at targeted facilities on the technical and operational guidelines to improve the organization of TB services, and provided SOP-related job aides, such as the posters Rhoda’s brother-in-law had seen, which serve as references for facility staff.
In 2011, TB CARE I initiated a pilot intervention for the new SOPs in four States and at 60 facilities. A total of 150 health personnel from the facilities participated in a training of trainers. Several challenges were encountered during the three-year pilot phase, such as health worker attrition and a deteriorating security situation. Nevertheless, as seen in figure 4, the SOPs have contributed to a significant increase in the number of presumptive cases referred for sputum smear microscopy and to the total number of TB cases diagnosed. Rhoda is one of the people benefiting from the introduction of the SOPs. Following her TB diagnosis, she was immediately placed on treatment by the hospital’s DOT unit. She was taught “cough ethics”, given drugs for a two-week period, and asked to return to the hospital two days before her supply of medicine ran out for support, follow-up, and resupply. After about three months on treatment, her cough was practically non-existent and her sputum tested negative for TB at her first follow-up visit. Based on her positive experience, Rhoda has decided to educate others who are coughing. The innovative SOP approach has been scaled up in seven additional states by TB CARE I and MSH. Moreover, the NTBLCP is incorporating the SOPs into routine supervision and follow-up activities.
Prisons
As part of TB CARE I support for the prison services, a medical officer and two General health care workers per facility were trained on basic TB and TB infection control. Facility assessment for upgrading and renovation was conducted. TB CARE I alongside the consultant for Prison Services conducted assessments of the prison sites in need of renovations to determine the needs and extent of work that is to be carried out at the sites. Findings from the assessment conducted showed lack of equipment such as microscopes, work benches and furniture; infrastructure issues were also identified including a leaking roof, lack of water amongst others. In all, TB CARE I facilitated and concluded renovations in 20 selected prisons across the federation. Part of the renovations carried out include plastering and painting, provision of work benches, repair of leaking roofs etc. In addition, 10 microscopes were supplied to the Prisons Services during the reporting period.

Success Story: Improving TB Control in Nigerian Prisons
Tuberculosis in the prison environment is a serious public health concern because overcrowding facilitates its transmission. There is no systematic screening of inmates for TB upon their admission. Many prisons and their medical staff do not have the capacity to effectively diagnose and treat the disease due to the lack of equipment and underfunding.

In collaboration with the Prison Services, TB CARE I implemented four major activities designed to strengthen TB control in the Nigerian prison system:
1. A stakeholders meeting was conducted with the NTBLCP and Prison Services personnel to review a newly designed health screening tool for use in prisons that includes TB screening (see page 2 of the form).
2. The project provided funds for the production of the screening tool and its distribution to all prisons in the country.
3. TB CARE I strengthened the capacity of 19 Prison Services Medical Officers and 42 general health care workers in the Prison Services system to diagnose and treat TB cases.
4. The project assessed 20 prison facilities. Sixteen of the facilities had some TB diagnostic capacity and four had no capacity. TB CARE I provided funding for minor renovations and repairs and equipped ten prisons with microscopes.

During the period October 2013 to June 2014, the 20 prisons supported by TB CARE I screened 6,341 inmates for TB. The screening process identified 756 presumptive cases, of which 138 were diagnosed with TB. Of those diagnosed, 129 (93%) have been enrolled for treatment.

Picture 5. NTP & TB CARE I staff with Nigerian Prison Services Medical staff
### Laboratories

**Table 3. Technical Outcomes (Laboratories)**

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target Y4</th>
<th>Result Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Diagnostic sites offering advanced technologies for TB or drug-resistant TB</strong></td>
<td>Number of diagnostic sites, in which Xpert is implemented and routinely used for diagnosis</td>
<td>30</td>
<td>35</td>
<td>30 (23 TB CARE I machines and 7 NTP sites supported with cartridges)</td>
</tr>
<tr>
<td></td>
<td><strong>Rapid tests conducted</strong></td>
<td>Number of rapid tests conducted using GeneXpert MTB/RIF.</td>
<td>7,000 sputa tested</td>
<td>15,570</td>
<td>16,859 in TB CARE I-supported sites (target surpassed by 4.1% margin)</td>
</tr>
<tr>
<td></td>
<td><strong>Patients diagnosed with GeneXpert</strong></td>
<td>This indicator measures the number and percent of patients diagnosed using GeneXpert (disaggregated by RIF-resistance)</td>
<td>507 TB patients diagnosed and 96 with RIF resistance</td>
<td>1,245</td>
<td>4,262 MTB cases diagnosed of which 607 were RIF resistant</td>
</tr>
</tbody>
</table>

**Key Results**

The availability of effective diagnostic services is crucial to the success of any TB intervention. TB CARE I during the year supported the NTP by building the capacity of laboratory GHCW to perform AFB microscopy as well as conduct Xpert tests. With the provision of additional 74 Light microscopes during the year, TB CARE I effectively has contributed about 346 (23.5%) of the 1,473 functional microscopy services in the country over the last 4 years. One of the goals of TB CARE I is to ensure the optimal use of new approaches for laboratory confirmation of TB. To this effect, TB CARE I pioneered and unveiled the use of Xpert Assay in the country in 2011. To date, TB CARE I has procured and installed a total of 23 Xpert machines in 22 states of the federation. Additionally, TB CARE I procured a total of 37,220 Xpert cartridges over the 4 year period and have supported 7 other additional NTP sites (established by Agabami partners) with cartridges over the last 2 years. In recognition of TB CARE I efforts in ensuring quality laboratory services, TB CARE I Nigeria was called upon to assist the National AIDS Control Agency in the comprehensive roll-out of 185 Xpert machines for ART clinics in country. Similarly, Nigeria KNCV was appointed by Cepheid to act as their customer service support for all Xpert machines procured in-country for installation, maintenance and troubleshooting.

A major outcome of TB CARE I investment over the 4 Year period indicates that a total of 27,905 sputa were tested and over half of which took place in Year 4 (16,859) alone due to the revision of the Xpert algorithm and increased awareness of Xpert services among GHCWs. From this, a total of 7,574 (45%) MTB cases were detected of which 17.8% (1,348) were MTB with RIF resistant. Further analysis of year 4 results against the targets indicates that results were surpassed in two of the indicators with about 8.3 % in sputa tested with Xpert. Also the target for MTB cases diagnosed was surpassed by about 301% due to the change in the Xpert algorithm which now includes access for PLHIV as well as improved capacity of the laboratory personnel to use Xpert machines. Furthermore TB CARE I also took on additional 7 NTP sites (from Agabami) during the year. The target...
for the number of Xpert diagnostic sites could not be met because other funds were leveraged for the procurement of Xpert machines. NACA with Global Fund support plan to procure and install additional 185 Xpert machines in country; 45 of the 185 machines are in-country and are prepared for their placement in the field; progressively more will come in batches until all are installed and sites are ready for implantation e.g., minor renovations, procurement, training.

A close look at Year 4 data shown in fig. 6 below showed a steady improvement in total number of Sputa tested. 96.2% of total sputa tested were successful test up until Year 3. In Year 4, 28 of the 30 sites reported data. Only 2 sites could not report as one site was overtaken as a quarantine center for Ebola (mainland hospital, Lagos) and the non-functionality of the second site (GH Kafanchan). DR-TB presumptive cases constituted most (58%) of those accessing Xpert testing; however, there is slow but steadily increasing proportion of PLHIV tested from 13% in Q4 2013 to 35% in Q3 of 2014. Furthermore in figure 7, total successful test conducted in Year 4 was 4694 (93%). Of these, 2831(60%) were presumptive DR-TB cases. Others (smear negative with a TB suggestive xray) constitute 7% of cases seen.

![Figure 6: Total Sputa tested by Gene Xpert Year 2012-2014](image)

![Figure 7: Year 4 Gene Xpert Data by category of Patient](image)
Other results for the year shown in Figure 8 below revealed that a total of 4,134 MTB cases were detected in Year 4 with 607 RIF resistant cases. The slight dip in quarter 3, Year 4 is as a result of the non-receipt of data from 6 sites.

Additionally, WHO laboratory consultants from Supranational Reference Lab (SRL) in Milan provided technical assistance to the National Reference Laboratory as well as zonal reference laboratories during the Mid-term Review (MTR) of the National TB Strategic Plan 2010-2015. Through TB CARE I support the SRL Milan continues to provide panels for proficiency testing to the two national reference laboratories and Zankli Medical laboratory, the private reference laboratory collaborating with the NTBLCP. The laboratory technical working group is still awaiting the official result from Milan.
In following the WHO IC policy, the National TB program was supported to review the TB-IC national policy during the reporting period with external technical assistance from the KNCV headquarters for the implementation of FAST strategy and general Infection Control practices. The TA also explored issues around the implementation of routine screening of Government Health Care Workers (GHCWs). At the end of the TA, a draft guideline for the implementation of FAST strategy was developed and field tested. The guideline on screening TB amongst GHCW is pending approval by the NTP. So also, the TB/HIV section of the draft NSP was reviewed with the objective to include activities on FAST and monitoring/reporting TB disease among HCWs.

Table 4. Technical Outcomes (Infection Control)

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>National TB-IC guidelines that are in accordance with the WHO TB-IC policy have been approved</td>
<td>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. <strong>Indicator Value:</strong> Yes/No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>&quot;FAST&quot; strategy has been adapted and adopted</td>
<td>Number of NTP sites where FAST strategy was implemented</td>
<td>12</td>
<td>13</td>
<td>Implement ed in 12 facilities</td>
</tr>
<tr>
<td>3</td>
<td>Facilities implementing TB IC measures with TB CARE support</td>
<td>Number of 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</td>
<td>40</td>
<td>36</td>
<td>36 through ILEP</td>
</tr>
<tr>
<td>4</td>
<td>Annual reporting on TB disease (all forms) among HCWs is available as part of the national R&amp;R system</td>
<td>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. <strong>Indicator Value:</strong> Yes/No</td>
<td>NA</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Key Results

An overview of the key results for TB-IC indicates major progress in the two of the outcome indicators for the existence of TB IC policy and the implementation of FAST. The country currently has a score of 2 for the implementation of FAST as the activities only was piloted in Year 4. Results obtained from the field evaluations suggests that the average time to diagnosis for susceptible TB is 2 days, slightly less than the baseline figure of 3 days and the average time to treatment is 2 days compared to an average time of 5 days at baseline. A major challenge to the implementation of the activity has been the intermittent nationwide industrial action by the GHCWs and Medical Officers in states and the identification of specific days for TB control in health facilities. In spite of the challenges, important take away lessons for the successful implementation of FAST include effective integration of FAST into...
TB-IC policy. Secondly, there is a need to align FAST with TB services in the different service points as well as Integration of FAST into routine NTP supervisory visits to sites.

Picture 6: FAST Training at Nigeria TB CARE I Office

Picture 7: Field work in Zaria
Programmatic Management of Drug Resistant TB

**Table 5. Technical Outcomes (PMDT)**

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MDR cases diagnosed</td>
<td>Number of MDR cases diagnosed</td>
<td>507 (national)</td>
<td>1,245</td>
<td>618</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Data reported here is TB CARE I RIF resistance cases only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>MDR cases put on treatment</td>
<td>Number of MDR cases put on treatment</td>
<td>400 (national data)</td>
<td>1,058</td>
<td>For FY 14, 451* (M=314; F=137) patients have been enrolled (national data obtained from e-TB manager).</td>
</tr>
<tr>
<td>3</td>
<td>MDR-TB patients who have completed the full course of MDR-TB treatment regimen and have a negative sputum culture</td>
<td>MDR TB patients who have completed the full course of MDR TB treatment regimen and who fit the WHO criteria for cure or completed treatment. <strong>Numerator:</strong> Number of MDR TB patients in a cohort who completed a course of MDR treatment and who fit the WHO criteria for cure or completed treatment. <strong>Denominator:</strong> Total number of MDR patients who started treatment in the cohort.</td>
<td>60% (14/23 of 2010 cohort) National data</td>
<td>80% of enrolled patients in 2011 (national data)</td>
<td>39 (64%) of 61 patients enrolled in 2011 (national data)</td>
</tr>
<tr>
<td></td>
<td>MDR TB patients receiving support (feeding, auxiliary investigations and drugs)</td>
<td>Number of MDR TB patients receiving support (feeding, auxiliary investigations and drugs)</td>
<td>80 patients for TB CARE I and 250 GF</td>
<td>100</td>
<td>102</td>
</tr>
</tbody>
</table>

* There is still a national gap between diagnosed and treatment initiation, which led to the recommendation for ambulatory care. This is currently only being rolled out in 50% of states (10 TB CARE I and 10 GF sites).

**Key Results**

TB CARE I have been in the forefront of providing support for PMDT services in country. In the entire project TB CARE I supported the renovation and equipment of a total of 5 of the 10 treatment centers in country (IDH, Kano; Jericho Chest Hospital, Ibadan; UPTH, Port Harcourt; Lagos Mainland Hospital and Lawrence Keshaw Hospital, Calabar). Aside from these, TB CARE I supported the upgrade of one of the national reference laboratories from BSL 2 to 3. Additionally, TB CARE I supported the NTP to build the capacity of State program managers, laboratory staff as well as Government Health Care workers to effectively suspect, diagnose and manage MDR-TB cases. To further ensure the treatment...
of diagnosed MDR-TB cases, TB CARE I supported the NTP with the procurement and delivery of second line anti-TB drugs for 80 patients diagnosed with MDR-TB and provided meals and transportation support for MDR-TB patients enrolled on treatment in various states. Nigeria currently has only 10 MDR-TB treatment sites in country and with limited intake of patients. In response to the country situation, Nigeria approved implementation of ambulatory PMDT in the community.

![Image of a patient with permanent hearing loss being counselled by a team at Uruan LGA during assessment visit](image)

**Picture 8: Patient with permanent hearing loss being counselled by Team at Uruan LGA during assessment visit**

TB CARE I supported the NTP to commence the implementation of ambulatory PMDT in 10 selected states (Benue, Gombe, Akwa Ibom, Kaduna, Abia, Lagos, Ogun and Kano states) and until last quarter in Osun and Oyo states. To ensure the effective take off of the activity, trainings were conducted for the state MDR management team inclusive of state control officer’s pediatrician, chest physician, Ear, Nose and Throat (ENT) doctors, GHCWs, psychiatrists, State and LGA TB and Leprosy Supervisors, Laboratory and PMDT focal persons amongst others. In all, 91 persons (M=64; F=27) inclusive of MDR management teams provide quarterly mentoring and supervisory visits to all patients on community care; review patient care and advice HCWs on field based on need; and interpret routine auxiliary investigation and adverse drug reaction to provide management guide to HCWs in the field.

As a result of the training of state MDR Management team on community PMDT initiation in the eight states supported by TB CARE I, a total of 102 DR-TB patients have been enrolled during the year. Through TB CARE I support, the states were able to provide support for all enrolled MDR-TB patients’ auxiliary investigation, transportation and meals. Equally, the state MDR management teams conducted 24 quarterly review meeting to assess the performance of the patients enrolled into community PMDT care. All patients enrolled had their baseline investigation done and sample for culture/DST were sent to reference laboratories; AFB results and ADR were documented on patient treatment cards; and interim outcome results for these cohort of patients will be available in Q1 2015. In addition, TB CARE I conducted a rapid situation analysis of ambulatory PMDT services at the community level with a view to develop an action plan to strengthen the ongoing PMDT services in the states. Findings from the visits showed a commitment to daily DOTS by both the DOTS health care worker and patient because the provision of incentives provided a good means to motivate patients for daily DOTS. Other lessons learned from the visit include the need for NTBLCP to scale up PMDT in other states; ensure the timely notification of states of results of DST culture; produce and circulate a standardized informed consent form for all patients to sign before commencing treatment to forestall litigation by patients in the event of hearing loss and any other debilitating adverse drug reaction and the need to integrate DR-TB supervision into the NTP routine quarterly supervision.
Table 6. Technical Outcomes (TB/HIV)

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1   | 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. | 15,500 (23.4%) | 18,000 |        |
|     |                                                                                  |                                                                                                                                  |                 |        |        |
| 2   | 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. | 3,875           | 4,500  | Cumulatively to date 3,570 (M=1780; F=1790) (79.3%) of target was achieved |
| 3   | 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. | 2,900           | 3,375  (75%) |        |
| 4   | HIV-positive TB patients started or continued on CPT                              | **Numerator:** Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment  
**Denominator:** Total number of HIV-positive TB patients registered over the same time period. | 3,400           | 4,050  (90%) | Cumulatively, 3,171 (89%) (78%) of target achieved |

Key Results

TB CARE I during the year continued to strengthen and expand TB/HIV services from 34 states to 35 states in a total of 548 facilities. Additionally, in boosting the STOP TB strategy and the NTP plan of improved TB services, health care providers were trained on DOTS and HCT services and in other instances refresher trainings were conducted for those that were previously trained (4 years ago) with the purpose of updating their skills. Similarly laboratory personnel were trained on AFB microscopy during the reporting year. Supervisory visits were conducted to state, LGA and facility levels to ascertain the progress of service delivery in line with the NTP guidelines as well as to assess the optimal uptake of TB/HIV services. Analyses of the data for the year show that the TB patients tested, target was met and surpassed by a 17.7% margin. Furthermore, a retrospective review of data over the 4 year period showed that there has been a gradual increase in the number of TB patients tested for HIV as shown in figure 9 below. In all, a total of 21,181 (92.7%) TB patients were tested for HIV.
during the year with **111%** increase over Year 1 data. Nationally, HCT uptake increased from 84.5% in 2012 to 89% in 2013 with only 10 out of the 37 states still testing less than 85% of their TB patients for HIV. Similar proportions of TB patients’ also accessed HIV test from the TB CARE I supported sites in FY14 as shown in fig 10. Other HIV service data from TB CARE I supported sites as shown in Figure 10 below indicates a reduction in TB/HIV co-infection rate over the years by 8% in year 4 over year 1 data. So also there is an increase in the proportion of co–infected patients on CPT in Year 4 compared to Year 1. The story is however different for access to ART services where there is an undulation in the graph from an all high figure of 85.9% in Year 1 to 73% in Year 4. Data for the country however indicates that while 87% of TB patients accessed CPT only 67% could access ART services in 2013. This may not be unconnected to the capping policy introduced by ART sites whereby a limited number of patents are provided ART coupled with the gradual reduction in the grants for HIV services in country.
### Health System Strengthening (HSS)

#### Table 7. Technical Outcomes (HSS)

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target Y4</th>
<th>Result Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government budget includes support for anti-TB drugs</td>
<td></td>
<td>Yes (MDR drugs for 500 patients)</td>
<td>Budget for 500 patients MDR TB drugs</td>
<td>The NTP is still working on the procurement process with IDA for MDR drugs for 500 patients</td>
</tr>
<tr>
<td>2</td>
<td>TB CARE-supported supervisory visits conducted</td>
<td>Number of TB CARE I supported supervisory visits conducted</td>
<td>2,000</td>
<td>3942</td>
<td>6,784. Target for the year surpassed by over 72%. Data reported here is combined for all partners</td>
</tr>
<tr>
<td>3</td>
<td>People trained using TB CARE funds</td>
<td>Number of people trained using TB CARE I funds</td>
<td>1,062</td>
<td>1,500</td>
<td>Cumulatively 2,442 (M=898; F=1544) have been trained representing 63% increase over target</td>
</tr>
<tr>
<td>4</td>
<td>Revised national TB &amp; Leprosy Strategic plan</td>
<td>Completion of national TB &amp; Leprosy strategic plan</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Key Results

A big achievement by TB CARE I worth mentioning during the reporting period under the HSS was the series of upstream support such as facilitating the development of the National Strategic Plan for 2015-2020 and the development of the concept note for the Global fund activities 2015 – 2020 (refer to GF section below for more information). Similarly TB CARE I assisted the NTP to capacitate GHCWs at various levels –National, State and LGA levels to ensure the delivery of TB services in the country. To this end a total of 2,442 persons (M=898; F=1544) were trained. Some of the trainings covered key thematic areas such as laboratory, Community TB CARE, Infection control, PMDT, TB/HIV and M&E. Over the life of the project, a total of 8,016 persons (M=4325; F=3691) have been trained.

Likewise supervisory visits were conducted to various levels of health care service to ascertain progress of implementation of the various activities as well as provide the necessary technical support for effective delivery of services. The targets was surpassed for the year chiefly because of the need for repeat visits to sites by ILEP and similarly the state teams paid repeated visits to both the LGA and health care levels during the reporting period. A part of the achievements of TB CARE I over the life of the project, a total of 212 health care facilities and 142 laboratories were renovated.
### Table 8: Technical Outcomes (M&E, Surveillance, OR)

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target Y4</th>
<th>Result Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Functional e-TB manager</td>
<td>An electronic recording and reporting system for routine surveillance exists at national and/or sub-national level</td>
<td>Functional e-TB manager</td>
<td>Functional e-TB manager nationwide</td>
<td>e-TB Manager functional in all DR TB treatment sites, STBLCP and central unit.</td>
</tr>
</tbody>
</table>

#### Key Results

Following the initiation of e-TB manager in APA 2, TB CARE I through its support to the NTP has ensured the facilitation of technical assistance aimed at strengthening the M&E system of the NTP through the launch of the electronic platform for MDR-TB. It is the first in-country to integrate all aspects of TB care which includes case management, drugs and logistics supply as well as a data analysis tool. Through a series of processes, this began with an assessment visit, customization, field testing and the development of Nigerian workspace domain. It was adapted for piloting in four DR-TB treatment centers and requisite training conducted for users (doctors, nurses, pharmacists, lab personnel etc.) and program managers at the national and state levels. The tool (a) collects and integrates data on MDR-TB patients, laboratories, diagnoses, treatment, outcomes, and research from states, LGAs, and health facilities; and (b) includes features for registering and dispensing medicines, calculating the cost of treatment per patient, assessing treatment compliance, and calculating treatment outcomes. As part of the results from 2012 till September 2014 a total of 28,000 transactions have been carried out on the e-TB Manager. These transactions include data on 814 patients diagnosed with MDR-TB and enrolled on treatment at the 12 treatment sites since 2010 and recently those enrolled in the community. A comparison of the entries in the e-TB manager with the paper based documentation with NTBLCP shows that all patients notified (100%) are captured by the e-TB Manager.

The NTP has at various times used the data from e-TB manager to accurately calculate the growing national MDR-TB incidence and prevalence; determine MDR-TB drug supply needs; and inform MDR-TB programmatic management activities. Similarly, the implementing staff in various TB treatment centers and states have benefitted from improved MDR-TB data accuracy; ability to extract accurate, decentralized MDR-TB service data; access to timely MDR-TB data, improved data sharing between health units, and increased regularly updated TB data and information at all levels of the health system to inform strategic decision-making related to MDR-TB control. The e-TB manager has been handed over to the NTBLCP.
Success Story: e-TB Manager Improves Management of Tuberculosis Data and Oversight in Nigeria

In 2011, the National Tuberculosis and Leprosy Control Program (NTBLCP) in Nigeria requested the TB CARE I project, funded by USAID, to help address the challenges of effectively managing TB data, which at that time was largely a manual recording and reporting system. Changing the system was especially urgent to improve the organization and use of data on DR-TB. In response to this request, Management Sciences for Health (MSH), one of the TB CARE I partners working in Nigeria, developed e-TB Manager (e-TBM), a web-based tool for managing information on TB and DR-TB. e-TBM integrates all aspects of TB and DR-TB control into one database, including information on diagnosis, treatment, TB medicines, and treatment outcomes. The tool allows for the rapid response to case and drug management issues. It makes key information available online in a consolidated form for use by any level of the health system for decision making and epidemiological surveillance purposes. e-TBM collects data and generates reports in accordance with the latest Stop TB guidelines on reporting and recording for TB and DR-TB. The data captured and reports generated include:

- Treatment and case management.
- First- and second-line medicine management.
- Information and surveillance management: for example, generation of all standard Stop TB reports for TB and DR-TB.
- Operations and clinical research capabilities: the tool provides easy methods for analyzing collected data, for example, for evaluating treatment costs or use of medicines, or for easy data exporting to other statistical programs.

The web-based nature of the tool allows for real-time information management that can facilitate timely programmatic decision making. MSH has overseen the implementation and scale up of e-TBM in Nigeria since 2011. The successful introduction of this tool included the following steps: assessment of existing algorithms for DR-TB patient management and the availability of second-line anti-TB medicines and commodities; evaluation of available infrastructure at health facilities (i.e., human resource capacity, computer availability, internet connectivity); customization of e-TBM tool based on assessment findings; and implementation of a training-of-trainers program on e-TBM for all intended users.

Picture 9: E-TB manager data entry

“e-TB Manager has helped to improve patient and physician tracking for an integrated approach to TB program management.”

Dr. Gabriel Akang, National Coordinator the NTBLCP

Numerous challenges were encountered at the start of implementation, such as an erratic power supply and inconsistent internet connections at the location where e-TBM was maintained, as well as some resistance among health workers to changing from a well-known manual system to a computerized system. To address such issues, the e-TB Manager hosting server was moved to a cloud, which ensures that the database is available 24 hours per day, 7 days per week, with 99.5% uptime reliability for access by users at all levels of the health system. Refresher trainings was provided for users at national and facility levels, and e-TBM was adapted as a DR-TB data reporting tool by the national TB program. Such interventions
e-TBM was initially piloted in four DR-TB treatment centers. It has since been scaled up and is currently being used by all 12 DR-TB centers in the country. By integrating all aspects of patient care, including follow up, e-TBM has improved the ability of health care providers at the 12 facilities to make critical and timely decisions about treatment for DR-TB patients.

In 2011, 61 patients were receiving treatment for DR-TB and were monitored using e-TBM. As at end of December 2013, there were 549 patients receiving treatment for DR-TB. Patient level data is accessible using the e-TBM manager at each of the 12 DR-TB treatment facilities.

The database is maintained in the cloud, so the DR-TB patients’ information is also accessible to the NTBLCP and therefore has led to improvements in monitoring by the national level. The NTBLCP has real-time access to information on the work of all 12 DR-TB treatment facilities, making supervision more efficient, targeted, and results oriented. Quarterly reporting to the Nigerian government, the World Health Organization, and USAID on DR-TB activities in the country has also improved because some of the required data are generated by e-TBM. The tool has also strengthened tracking of second line anti-TB drugs, according to Pharmacist Ekpeno of the NTBLCP: “It lets you see what the stock position is at the treatment centers, thereby avoiding wastage.” Nigeria’s deployment of e-TB Manager has significantly improved the quality of DR-TB data as well as its processing and use, showing that other countries in the region should also transition to electronic information systems.

Picture 10. E-TB Manager Software Interface
# Drug Supply and Management

**Table 10. Technical Outcomes (Drug supply and management)**

<table>
<thead>
<tr>
<th>#</th>
<th>Outcome Indicator</th>
<th>Indicator Definition</th>
<th>Baseline (2013)</th>
<th>Target Y4</th>
<th>Result Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rifabutin</td>
<td>Number of TB/HIV co-infected patients on SL ARVs on Rifabutin</td>
<td>100</td>
<td>200 patients provided with Rifabutin</td>
<td>50 (25% of target met) as at the end of June 2014</td>
</tr>
</tbody>
</table>

**Key Results**

In continuation of the support for collaborative TB/HIV services, TB CARE I during the reporting period made an order for the procurement of Rifabutin for 200 patients which have been delivered. However, due to the short shelf life the procurements were phased to prevent expiration of the drugs. Through the assistance of other partners working with PLHIV, a total of **50** patients have been provided with Rifabutin suggesting that only 25% of the target for the year has been met.

A major challenge in this regard was the non-availability of the drugs in pharmacies. This then required special procurements thus the long duration for the drugs to be procured and delivered by the pharmaceutical companies. Another challenge was the logistics of coordinating and obtaining information from HIV implementing partners for PLHIV who were on second line ARVs.
TB CARE I’s support to Global Fund implementation

From the inception of TB CARE I, technical assistance has been provided to the country for the development of in-country Global Fund TB grant applications. This effort has resulted in the submission of GF round 9, phase I, phase II grants as well as the interim fund application. During the processes, negotiation meetings on activity lines by thematic areas were held with all relevant stakeholders. These thematic areas include PMDT, DOTS/laboratory expansion and participation in national technical advisory committees. TB CARE I activities are complementary/ in alignment with the current Global Fund plan. Additionally, TB CARE I facilitated at the retreat sessions between all the Principal Recipients (PR), Country coordinating mechanisms (CCM), NTP and GF to assess progress and discuss on the way forward.

TB CARE I through its membership of technical advisory committee for GF implementation attends all technical working group meetings and also harmonizes the GF support for PMDT among partners for effective implementation at state level. TB CARE I activities are always in alignment and complementary to smooth implementation of GF activities. The Global Fund review team had a 3-day participatory discussion on programmatic performance of the two PRs and identified strategic action points among all partners for effective implementation of the grant in which TB CARE I participated actively. Additionally, TB CARE I took part in the joint supervisory activities to two states (Taraba & Adamawa) to assess construction of MDR-TB in-patient wards and laboratories. TB CARE I equally participated in the CCM retreat where the new funding model concepts performance gap analysis, EPI analysis and priority interventions for combined concept notes were discussed.

TB CARE I with the support of WHO HQ consultants provided technical assistance to the NTBLCP in conducting an evidence-based and data driven review of the epidemiology of TB and trend in disease burden and mortality in both the general population and vulnerable groups from 2nd - 9th February 2014. The impacts of TB strategic interventions were also assessed. This was done to generate relevant information for the Global Fund proposed Concept Note for the upcoming New Funding Mechanism as well as the development of the revised version of the National Strategic Plan 2015-2020. As a follow on to this activity, TB CARE I supported the NTP in the review and development of the strategic interventions and activities for the new National TB Strategic Plan 2015-20 from the 2nd - 9th February 2014. The selection of priority areas and activities for the new strategic plan were guided by the outcome of the TB Epi-analysis and that of the National TB prevalence survey including other program review reports. The document has been finalized and submitted to the NTP. The finalized plan will serve as an important document tool for accessing Global Funds to support the implementation of the NTBLCP activities in the country.

Additionally, TB CARE I during the year provided technical assistance to the NTBLCP, NASCP and NACA in the development of the road map for the writing of the GF joint TB/HIV CN for the New Funding Mechanism. The critical technical assistant needs were identified and time lines were defined. TB CARE I provided technical support for the lead consultant for TB in the CN development process. A draft CN was submitted in mid-August 2014.
Lessons Learned and Recommendations

The success of the 4 year implementation of the TB CARE I project was hinged on the strategic planning process with the involvement of key stakeholders under the leadership of NTP. Through intense gap analysis of the TB program, the needs were identified and priorities developed. This process enabled complementarity of efforts and avoidance of duplication of activities at service delivery points especially with major funders like GF.

- Scale up of successful pilot projects were effective by leveraging on other funding sources such as the Global Fund. For example, TB CARE I successfully rolled out Gene Xpert, innovative TB case finding at community level and ambulatory management of MDR-TB patients in the community which will now be scaled up and funded through GF support.
- Active involvement of state program managers in the planning processes are key to successful buy-in and implementation of project activities.
- Involvement of professional bodies and regulatory agencies to provide leadership contributed significantly in scaling up TB case finding in children and private sector (Pediatric Association of Nigeria; Association of Private practitioners, Association of Patent Medicine Vendors, Nigerian Prisons etc).
- Provision of a buffer stock of HIV test kits by USAID to complement procurement and supply system of government to avoid stock out which have accounted for the increased access to HIV test for both presumptive TB and TB cases.
- Mapping of multiple internet providers and the development of off line data afforded regular and effective utilization of the e-tb manager by state programs to enable upload of data when services were available.
- Outsourcing of activities in security challenged states to local organizations whilst monitoring and supervising from a distance using virtual support resulted in the implementation of planned activities and the achievement of targets.
- Ensuring technical assistance transcend to effective implementation of GF activities and the capacitation of other partners and NTP.

Recommendations

Project Management

- Ensure the development of 2-3 year work plans to accommodate procurement challenges and enable the demonstration of results.
- Re-strategize the work plan development processes especially among consortium partners and their respective HQ to enable early approvals of the plans.
- Harmonize quarterly reporting templates between KNCV, PMU, Missions, Washington and Core projects.
- Work plan development processes should involve state programs early especially in understanding the detailed situations at service delivery.
- PPM strategy should re-focus on faith based NGOs and facilities especially in security challenged states.
- Support state TB programs to integrate TB services with other emergency response like State Primary Health Care Development Agencies, Polio eradication campaigns, roll back malaria; National Emergency Management Agency (NEMA) and Red Cross/Crescents.

Universal Access

- Expansion of services to faith-based organizations and PMVs to overcome the frequent industrial strike action in the public health system.
- Engage community, religious leaders and ward health committee member for demand creation on TB services.

Laboratories

- Rapid scale up of Gene Xpert to more sites. This can be aligned with Global Fund NACA 185 machines and other supporting partners with emphasis to high burden ART sites and for childhood TB especially in tertiary institutions.
**TB/HIV**
- Support decentralization of ART services to all DOTS centers to enable TB/HIV co-infected patients to get access to ART which currently stands at 67% nationally.

**PMDT**
- Scale-up ambulatory PMDT services to all states and ensure 2nd Line DST for all MDR-TB patients.

**HSS**
- Work in close collaboration with National Primary Health Care Development agency and the MDG group for facility upgrading.

**M&E**
- The entire TB M&E Structure should be electronic based and currently there are plans to expand e-TB Manager from only DR-TB to include all thematic areas of the TB program.
Annex I: Knowledge Exchange

Below is a list of tools and publications that were developed with support from TB CARE I-Nigeria over the life of the project. Please contact the project staff for copies of or links to any of the listed documents.

Technical Tools:

- TB & Leprosy Indicator Reference Book. FMOH, (July 2011)
- Facilitators Guide for TB and HIV co Management Training for General Health Care Workers. FMOH (2011)
- National Tuberculosis and Leprosy Control Program Worker Manual 5th Edition
- Guidelines for Community Tuberculosis Care in Nigeria March 2013
- Desk Guide for Diagnosis and Management of TB in Children in Nigeria (2014)

Educational materials:

- Standard Operating Procedure for identification of TB Suspects at the Out-patient Department(OPD)
- Standard Operating Procedure for Diagnosis of TB at the Consultation Room
- Standard Operating Procedure for TB Screening among HIV-infected Adults
- Standard Operating Procedure for TB Screening among Children
- Standard Operating Procedure for TB/HIV Services at the TB Clinic
- Standard Operating Procedure for TB Case Detection in Wards
- Standard Operating Procedure for Organizing TB Case Detection in the Laboratory
- Standard Operating Procedure for Collection of Sputum Specimen

Scientific Publications:


Presentations:

2011

Onazi, O; E. Oyama, E. Van der Grinten, AF Omoniyi, S, Abdurrahman- Factors Undermining the Investigation of Household Contacts of TB patients: The case of FCT, Abuja Poster session at the 42nd World Union Conference on Lung Health on Partnerships for Scaling up Care 2011, Lille, France
Omoniyi, A.F, A.O.Awe, T.Odusote, E van der Grintene, M Kabir, E. Oyama, O.Onazi, Balami
Leveraging on National partnership to scale up TB/HIV services in Nigeria: Lessons from 2006 to 2010. Poster session at the 42nd World Union Conference on Lung Health on Partnerships for Scaling up Care 2011, Lille, France.

Oyama, E, E van der Grinten, A. Omoniyi, O.Onazi, A. Awe, O.Ikpoti, M, Jose. Improvement on TB Treatment Outcome in DOTS implementation during a 15 year period in Cross Rivers State Nigeria. Poster session at the 42nd World Union Conference on Lung Health on Partnerships for Scaling up Care 2011, Lille, France.


M. Kabir, C. Nkem, M. Gidado, R. Eneogu, B. Odume, T. Odusote, A. Awe & A. Omoniyi.

U. L. Gebi, B. Musa, N. Alfred, A. Abimiku, P. Dakum, W. Blattner, E. Meshak, O. Obasanya, M. Gidado & A. Clement;
Opportunity for scale-up; Mobile X-Ray Technology-Strengthening TB diagnosis in HIV positive patients, ACTION experience in Zaria, Rural Northern Nigeria. 11th Annual International meeting of Institute of Human Virology, September 11-13, 2008, Baltimore, Maryland, Book of abstract, 170.

N Chukwueme, M Gidado, M Kabir, A Omoniyi, E Van de Grinten, T Odusote & U Ubochioma,

S John, M Gidado, A N Njepuome, Q Ogbuji, A Namadi, L Shehu & M Kabir.
Community volunteers contribution and challenges to Tuberculosis case finding in Nigeria. The International Journal of Tuberculosis and Lung Disease. 2011, S 193

2012

Driving sustainability through result-based management in Tuberculosis Control Program in Nigeria.  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S154.

J O Obasanya, N Chukwueme, M Gidado, L Odoemene, F Oluwafunmilayo, C Osakwe, A F Omoniyi.  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S279

Use of Smart phones for supportive supervision in Nigeria: a need to collaborate with partners for rapid scale up.  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S 282

Improving uptake of IPT among under-6 children contacts of index cases in Nigeria from 2010-2011; “protecting the child of today”.  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S408

Increasing uptake of INH prophylaxis for children under 6 of contacts through task shifting: a case study, Gombe state TB program, Nigeria.  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S407

J O Obasanya, E Van Der Grinten, M Gidado, N Chukwueme, A F Omonniyi, E Oyama, O Onazi.  
Role of mentoring in strengthening state TB program performance in Nigeria. Is it useful?  
*The International Journal of Tuberculosis and Lung Disease*, vol.16, no. 12, December 2012.  
Supplement 1, S432

Overcoming work climate challenges of human resource management in the delivery of quality procurement and supply management services: the Nigerian experience.  
Supplement 1, S434
2013

Oral Presentation

Mustapha Gidado
Strategic approach for Xpert MTB/RIF implementation and results from Nigeria

Poster Presentations


M Gidado, N Chukwueme; JO Obasanya; G Akang. Is DOTS Expansion Synonymous to Increased Case notification: What Nigeria needs to do differently

E Akpanowo, J O Obasanya, M Gidado, Peju Esimai, L Odoemene, O Okorie, N Chukwueme, C Osakwe Bulk text messaging via mobile phones: an innovative way of increasing tuberculosis case finding

E Oyama, A Awe, Ikpo Okpan, B Edet, J Obasanya, S Obetan, F Omoniyi, M Gidado, Intensified DR-TB Case Finding Among Previously Tuberculosis Patients in Cross River State, Nigeria

O Adejumo, B Azuogu, O Okorie, O Lawal, O Onazi, M Gidado, E Mitchell, E Klinkenberg. Referral for presumptive tuberculosis in Nigeria: Comparison of Three Models of Active TB Case Finding by Community Volunteers

O Onazi, J Kuye, O Daniel, M Gidado, M Onazi, A Van Der Kwaak, S Massaut Patients’ perspective on perceived quality of service: experiences using TB QUOTE Light in Nigeria

S John, M Gidado, D Tahir, N H Nyako Using TB services as an instrument for health system strengthening in nomadic communities in Northern Nigeria

J O Obasanya, N Chukwueme, M Gidado, T K Ray, O Onazi, M Onazi, Fadare Omoniyi, T Odusote Assessment of the effectiveness of Xpert® MTB/RIF in the diagnosis of TB among smear-negative HIV patients in Nigeria

M Gidado, O Onazi, J Obasanya, N Chukwueme, M Onazi, E Oyama, E Elom Assessment of the performance of GeneXpert MTB/RIF at various levels of health care system in Nigeria

A Isiyaku, M Gidado, J O Obasanya, S Labaran, M T Panwal, A Nwofor, B Shirematee Supporting the MDR-TB survey in Nigeria: national TB reference laboratory experience

S John, M Gidado, D Tahir, N H Nyako, T K Ray Active TB case finding among nomadic pastoralists of Northern Nigeria

N Chukwueme, M Gidado, J O Obasanya, A Awe Evaluation of Nigeria’s TB strategic plan: can a desk review suffice?

O Lawal, O Oladimeji, O Eltayeb, O Daniel, A Awe, M Gidado, R Zachariah Innovative approach to tuberculosis case finding using recorded radio jingles in Oyo State, south west Nigeria
J O Obasanya, M Gidado, N Chukwueme, N Orazulike, N Chukwurah, S Adeshina, R Atteh, E Ubochioma

**HIV prevalence among TB suspects: an added value to the HIV programme in Nigeria**

H Tijjani, M Gidado, O Onazi, M Onazi

**Determinants of choice of treatment supporter among TB patients in care in Northern Nigeria: the Infectious Disease Hospital, Kano**

M Gidado, O Onazi, T K Ray, J Obasanya, E Elom, N Chukwueme, A Ekpeno, T Odusote

Challenges of commodity management for Xpert roll-out at country level; the Nigerian experience

O Onazi, T K Ray, M Gidado, O Daniel, M Onazi, J O Obasanya, J Kuye, T Odusote

Patients’ perception in accessing TB services in health facilities: a case study of TB patients in South-West Nigeria

E Oyama, A Awe, Ikpo Okpan, B Edet, J Obasanya, S Obetan, F Omoniyi, M Gidado, Intensified DR-TB Case Finding Among Previously Tuberculosis Patients in Cross River State, Nigeria

O Adejumo, B Azuogu, O Okorie, O Lawal, O Onazi, M Gidado, E Mitchell, E Klinkenberg

Referral for presumptive tuberculosis in Nigeria: Comparison of Three Models of Active TB Case Finding by Community Volunteers

M Gidado; J Obasanya; O Onazi; N Chukwueme; R Tushar; E Elom; O Temitayo; E Peter

Strategic Approach for Xpert MTB RIF Implementation: Results from Nigeria. Int J Tuberc Lung Dis 17(12) 2013 S1-S563

A Awe, O Daniel, J O Obasanya, Fada Omoniyi, N Chukwueme, E Oyama, C Osakwe, H Adamu

Mid-term evaluation of the Nigeria National Tuberculosis and Leprosy 2010-2015 strategic plan: Achievements, gaps, limitations: and the way forward

**2014**

**Oral Presentation**

F Ajiboye, N Ezati, I Mosunmola, I Ahmadu, M Panwal, S Labaran, M Gidado

Resistance pattern for second-line anti TB drugs among MDR-TB patients: experience from the national reference laboratory, Zaria, Nigeria

**Poster Presentations**

M Gidado, Josh Obasanya, J Onazi, R Eneogu, N Chukwueme, T Odusote, J Kuye, Sani Useni

Tuberculosis control in security challenged States of north-east Nigeria. Are there significant impact?

O Okorie, M Gidado, Fada Omoniyi, E Ubochioma

Assessment of impact of FAST strategy on tuberculosis case finding, time to diagnosis and treatment in Abia State south-eastern Nigeria

M Gidado, Josh Obasanya, R Eneogu, G Akang, O Emmanuel, J Onazi, T Odusote, O Fabiyi

Decentralisation of programmatic management of drug-resistant tuberculosis (PMDT) services in Nigeria: lessons learnt

E Oyama, A Awe, J O Obasanya, A F Omoniyi, E Elom, M Gidado, J Onazi

The use of archived results of Xpert MTB/RIF testing for data triangulation in improving data quality from four GeneXpert sites in Nigeria
V Obot, V Adams, M Gidado, A Ekpeudom
Prevalence of diabetes among TB patients attending DOTS clinics in South-South Nigeria: the need for comprehensive TB patient care

P Nwadike, A.O. Koker, C C Onubogu, Phd, N. Nwokoye, N Onyejepu, M Gidado, O Idigbe
Comparative characterisation of mycobacteria isolates using conventional and molecular methods

A Awe, J O Obasanya, T Odusote, J Kuye, O Daniel, E Oyama, A F Omoniyi, M
Taking up the challenge of childhood TB in Nigeria: from rhetoric’s to action

N Shuaib, H Tijjani, B Musa, T. Bot, E H Mitchell, M Gidado, A Habib
Assessment of training to improve quality and quantity of TB screening and referral behavior of Qu’ranic school teachers for residential school pupils

O Onazi, M Gidado, M Onoh, j Yisa, Josh Obasanya, R Eneogu, J Kuye, S Gande
Innovative approaches for increased case finding: the role of house-to-house in TB case finding

V Obot, E Ekpe, M Gidado
Tuberculosis as a prevalence cause of pleural effusion in Akwa Ibom southern Nigeria

O Okorie, M Gidado, E Ekundayo (Nigeria)
Active case finding of pulmonary tuberculosis among prison inmates in Aba Federal prison in Abia State

M Gidado, J Onazi, Josh Obasanya, R Eneogu, T Odusote, F. E Odiah, E Udom, O Omosebi
TB case finding in Nigerian prisons: using health system strengthening approach

A F Omoniyi, A Awe, J O Obasanya, T Odusote, N Chukwurah, O Lawal, M Gidado, E Ubochioma
Comparative analysis of the TB treatment outcomes among HIV positive and HIV negative TB patients in 2012 in Oyo state, Nigeria

A F Omoniyi, A Awe, T Odusote, J O Obasanya, N Chukwurah, E Ubochioma, E Oyama, M Gidado
Expanding access of HIV-positive TB patients to antiretroviral therapy (ART) services in Nigeria: lessons learnt from 2008-2013

O Lawal, O Oladimeji, O Eltayeb, O Daniel, A Awe, M Gidado, J O Obasanya, T Odusote
Engaging public music advertisers in creating TB awareness in the communities in Oyo State, Nigeria

J O Obasanya, LF Reciolino, R Eneogu, O Emmanuel, A Adeniyi, O Oluwadare, B Woldemariam
P Suarez
e-TB manager implementation in Nigeria: progress and challenges
Annex II: Nigeria Prison Health Screening Forms

NPS HEALTH SCREENING FORM FOR INMATES

This form shall be administered to all inmates (on admission, six monthly and on discharge) as part of prison record

PRISON INFORMATION:
Name of Prison: _______________________________ Date: ________________
Location/LGA: ______________________________ State Command: __________________

BIODATA:
Name (Surname First): ________________________
Age: ________ Sex: Male __ Female __
Contact person: ______________________________ Phone number: ______________
Address: _________________________________________________

GENERAL CONDITION:
Is inmate ill looking? Yes __ No __
Does inmate have physical injuries? Yes __ No __
Does inmate have skin problems? Yes __ No __
Does inmate have gross abnormal behaviour? Yes __ No __
How will you describe the mood of the inmate? Normal __ Aggressive __ Anxious __ Depressed __ Others: __________

PAST AND CURRENT MEDICAL CONDITIONS AND MEDICATIONS:
Have you been admitted in a hospital before? Yes __ No __
If yes, for what __________ and for how long? __________
When was your last menstrual period (for women only)? __________

Do you have any of the following health conditions?
- High blood pressure Yes __ No __
- Diabetes Yes __ No __
- Yellowness of the eyes Yes __ No __
- Asthma Yes __ No __
- Do you react to drug/anything? Yes __ No __
- Are you HIV positive? Yes __ No __
- Do you have tuberculosis? Yes __ No __
Others (specify): __________

1
If yes to any of the above, please state type medication and duration of treatment: 

<table>
<thead>
<tr>
<th>SOCIAL HABITS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you drink alcohol?</td>
</tr>
<tr>
<td>Do you smoke?</td>
</tr>
<tr>
<td>Do you take hard drugs?</td>
</tr>
</tbody>
</table>

If yes, specify ______________________________

<table>
<thead>
<tr>
<th>BASIC HEALTH SCREENING:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP (mmHg):</td>
</tr>
<tr>
<td>Weight (kg):</td>
</tr>
<tr>
<td>Urinalysis:</td>
</tr>
<tr>
<td>Pregnancy Test:</td>
</tr>
<tr>
<td>MP</td>
</tr>
<tr>
<td>Random Blood sugar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TB SCREENING AND ACTIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough &gt; 2wks</td>
</tr>
<tr>
<td>Night sweat</td>
</tr>
<tr>
<td>Chest pain</td>
</tr>
<tr>
<td>Sputum with blood</td>
</tr>
<tr>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Progressive weight loss</td>
</tr>
<tr>
<td>History of contact with a TB patient</td>
</tr>
<tr>
<td>Prolonged fever</td>
</tr>
</tbody>
</table>

**ACTIONS:** Any person who has cough of 2 weeks or more and any of the other above mentioned symptom should be evaluated for TB.

Name of completing officer: ____________________________ Signature: ____________________________ Date:________________________

2