IMPACT

Innovations and Multisectoral Partnerships to Achieve Control of Tuberculosis Project

Year 5 Annual Progress Report
October 1, 2016 to September 30, 2017

Cooperative Agreement No. AID-492-A-12-00014
October 30, 2017

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Photos by KDador and RCarlos/PBSP

Multi-skilled. Jennifer, above (in blue T-shirt), is one of five Aeta women from Barangay Camias, Porac, Pampanga, who trained with USAID support as a community health volunteer (CHV). Armed with the skills she learned from the trainings that USAID's IMPACT project facilitated, she goes around the village to serve her neighbors. From left photo, Jennifer ensures, as treatment partner, that TB patients take their anti-TB drugs daily; prepares smears of sputum samples collected from community members with TB symptoms; and holds a TB education session with adults and children alike. For Jennifer (cover photo), a drop-by to the village variety store, where neighbors often converge, is an opportunity to spread the good news that TB can be cured and that treatment is available for free at the health center. Nearly 4,500 Aetas live in the mountains of Porac. With limited means of transport and the prohibitive two-way fare (PhP600 or $12) to travel 10–12 kilometers to the health center, village residents rely on trained CHVs like Jennifer to access TB diagnosis, treatment, and care.

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EXECUTIVE SUMMARY

The Project's technical assistance to the National Tuberculosis Control Program, the National Tuberculosis Reference Laboratory, local government units as well as partners in other government agencies, public and private hospitals and laboratories, private pharmacies and work places, jails, community- and faith-based organizations, and community health volunteers local government units has enhanced the capacity of these players in finding TB cases, ensuring TB patients are cured, and enabling a supportive environment for TB control in USG sites. In Year 5, the Project –

- mobilized 4,348 community volunteers to promote TB awareness and education among 62,085 individuals, which led 89% (3,701 of 4,162 TB presumptive cases) of the identified TB presumptive cases to seek diagnosis and appropriate treatment in health centers;
- scaled up TB case finding by engaging 374 private hospitals, 4,426 private pharmacies 200 jails and prisons, as well as work places, indigenous peoples, and Muslim religious leaders;
- improved access to TB diagnosis in geographically difficult areas through 222 functional informal laboratory workers in 139 remote smearing stations in 17 provinces;
- diagnosed 4,065 new multidrug-resistant (MDR) TB cases and enrolled 3,633 MDRTB patients in second-line treatment in treatment centers and satellite treatment centers in and serving U.S. Government-assisted sites;
- helped ensure TB cases are cured through nearly 3,533 health workers and 711 midwives adequately prepared as treatment partners and supervisors of treatment partners, respectively;
- helped ensure availability of funds for core TB control activities through PhilHealth accreditation of 1,053 DOTS facilities and approval of 478 local policy issuances with budgetary appropriations for TB program; and
- helped ensure the quality of TB care through DOTS certification of 754 health facilities, and training of nearly 43,000 public and private health care providers on the components of the World Health Organization's Stop TB strategy.

IMPACT helped shape the 2017–2022 Philippine Strategic TB Elimination Plan Phase1 (PhilSTEP1). Four technical staffs contributed to the plan's sections on service delivery, demand generation, governance, and information system. Using the guidelines, activity design, and tools developed by the Project, Regions 2, 4B, 5, 6, 7, 9, CAR, and ARMM took the first steps in localizing PhilSTEP1 by assessing their respective program performance and setting the direction the program will take in the next five years. Regions 1, 3, 4A, 8, and NCR applied the same procedures albeit with a different activity design.

CONTENTS

ABBREVIATIONS

9MTR	nine-month treatment regimen
ACF	active case finding
ACSM	advocacy, communication, and social mobilization
ADR	adverse drug reaction
AIDERS	Accelerating Implementation of DOTS Enhancements to Reach Special Populations
AIP	annual investment plan
a.k.a.	also known as
AO	administrative order
AOP	annual operational plan
AOR	Agreement Officer's Representative
ARMM	Autonomous Region in Muslim Mindanao
BCC	behavior change communication
BDQ	bedaquiline
BHFS	Bureau of Health Facilities and Services
BHS	*barangay* (village) health station
BHW	barangay health worker
BJMP	Bureau of Jail Management and Penology
BMMC	barangay malaria microscopy center
BSS	barangay smearing station
BuCor	Bureau of Corrections
CA	cooperating agency
CAR	Cordillera Autonomous Region
CBCP	Catholic Bishops' Conference of the Philippines
CBCP-ECHC	Catholic Bishops' Conference of the Philippines Episcopal Commission on Health Care
CBHP	community-based health program
CBO	community-based organization
CDI	Cities Development Initiative
CHANGE	Communication for Health Advancement through Networking and Governance Enhancement Project
CHO	city health office/officer
CHT	community health team
CHV	community health volunteer
CHW	community health worker
cLGU	city local government unit
CUP	Comprehensive and Unified Policy for Tuberculosis Control
DepEd	Department of Education
DILG	Department of the Interior and Local Government
DM	department memorandum
DO	development objective
DOH	Department of Health

DOH-ARMM	Department of Health Autonomous Region in Muslim Mindanao
DOH-NTP	Department of Health National Tuberculosis Control Program
DOH RO	Department of Health Regional Office
DOLE	Department of Labor and Employment
DOTS	directly observed treatment, short course; delivery of tuberculosis services
DQC	data quality check
DR-TB	drug-resistant tuberculosis
DSAP	Drugstores Association of the Philippines
DSM	drug supply management
DSSM	direct sputum smear microscopy
DST	drug susceptibility testing
DSWD	Department of Social Welfare and Development
emHealth	electronic mobile health
EQA	external quality assessment
FDA	Food and Drug Administration
FDUP	Foundation for the Development of the Urban Poor
FGD	focus group discussion
GCP	good clinical practice
GF	Global Fund for Tuberculosis
GIDA	geographically isolated and disadvantaged area
GIS	geographic information system
HC	health center
HEMS	Health Emergency Management Staff
HFSRB	Health Facilities and Service Regulatory Bureau
HHRDB	Health Human Resource Development Bureau
HIV	human immunodeficiency virus
HLGP	Health Leadership and Governance Program
HPDP2	Health Policy Development Program 2
HPDPB	Health Policy Development and Planning Bureau
HUC	highly urbanized city
IC	infection control; indirect cost
ICF	intensive case finding
ICRC	International Committee of the Red Cross
iDOTS	Integrated Directly Observed Treatment, Short Course
IDP	internally displaced population
IEC	information, education, and communication
ILW	informal laboratory worker
IMPACT	Innovations and Multisectoral Partnerships to Achieve Control of Tuberculosis
inter-CA	inter-cooperating agencies
IP	indigenous peoples
IPCC	interpersonal communication and counseling
IPHO	Integrated Provincial Health Office
IPMR	indigenous peoples mandatory representative
IPT	isoniazid preventive therapy
IRR	implementing rules and regulations
ISO	International Organization for Standardization
ISTC	International Standard for Tuberculosis Care

ITIS	Integrated Tuberculosis Information System
JICA	Japan International Cooperation Agency
JPR	Joint Program Review
KMITS	Knowledge Management and Information Technology Service
KoMBaT	*Koalisyong Misamisnon Batok Tisis* (Misamis Oriental coalition against TB)
KP	*Kalusugan Pangkalahatan* (Universal Health Care)
LCE	local chief executive
LCP	Lung Center of the Philippines
LCP-NCPR	Lung Center of the Philippines National Center for Pulmonary Research
LDPH	Las Piñas Doctors Hospital
LEARN	Listen-Explain-Acknowledge-Recommend-Negotiate
LGU	local government unit
LOP	life of project
LPA	line probe assay
LR	liquidation report
LTFU	lost to follow-up
MAT	Municipal Appraisal Tool
MDR-TB	multidrug-resistant tuberculosis
MDR/XDR TB	multidrug-resistant/extensively drug-resistant tuberculosis
M&E	monitoring and evaluation
medtech	medical technologist
MHO	municipal health office/officer
MHO/DHO	municipal health office/district health office
mLGU	municipal local government unit
m/cLGU	municipal/city local government unit
MMC	malaria microscopy center
MOA	memorandum of agreement
MOODLE	Modular Object-Oriented Dynamic Learning Environment
MOP	Manual of Procedures
MOU	memorandum of understanding
MRXUH	Maria Reina Xavier University Hospital
MSA	multisectoral alliance
MSE	monitoring, supervision, and evaluation
MTB/RIF	*Mycobacterium tuberculosis*/Rifampicin
NCR	National Capital Region
NMMC	Northern Mindanao Medical Center
NNS	number needed to screen
N-TB MAC	National Tuberculosis Medical Advisory Committee
NTP	National Tuberculosis Control Program
NTP MOP	National Tuberculosis Control Program Manual of Procedures
NTP PMDT	National Tuberculosis Control Program Programmatic Management of Drug-resistant Tuberculosis
NTPS	National Tuberculosis Prevalence Survey
NTRL	National Tuberculosis Reference Laboratory
OPT*ions*	Optimizing Performance through TB-DOTS Innovations and Solutions
OSCA	Office of Senior Citizens Affairs
PAB	Philippine Accreditation Bureau
PBG	performance-based grant

PBSP	Philippine Business for Social Progress
PCC	provincial coordinating committee
PCC/CCC	provincial coordinating committee/city coordinating committee
PDI	Pharmacy DOTS Initiative
PEBL	participatory evidence-based legislation
PHIC, PhilHealth	Philippine Health Insurance Corporation
PhilCAT	Philippine Coalition Against Tuberculosis
PhilPACT	Philippine Plan of Action to Control Tuberculosis
PhilSTEP1	Philippine Strategic Elimination Plan for Tuberculosis Phase 1
PHN	public health nurse
PHO	provincial health office/officer
PhP	Philippine peso
PIR	program implementation review
pLGU	provincial local government unit
PLHIV	people living with human immunodeficiency virus
PMA	Philippine Medical Association
PMDT	Programmatic Management of Drug-resistant Tuberculosis
PMSA	provincial multisectoral alliance
PPD	purified protein derivative
PPM	public-private mix
PPMD	public-private mix Directly Observed Treatment, Short Course
PPhA	Philippine Pharmacists Association, Inc.
PTSI	Philippine Tuberculosis Society, Inc.
Q1	Quarter 1
Q1Y5	Quarter 1 Year 5
Q2Y5	Quarter 2 Year 5
Q3Y5	Quarter 3 Year 5
Q4Y5	Quarter 4 Year 5
QA	quality assurance
QAS	quality assurance system
QCHD	Quezon City Health Department
Qts	quarter
RCC	regional coordinating committee
RCC-NTP	regional coordinating committee National Tuberculosis Control Program
RR	rifampicin resistance
RHM	rural health midwife
RHU	rural health unit
RO	regional office
RSA	rapid situational analysis
R-TB MAC	Regional Tuberculosis Medical Advisory Committee
RTDL	rapid tuberculosis diagnostic laboratory
SAC	Social Action Center
SAP	stand-alone practice
SCRH	Schistosomiasis Control and Research Hospital
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOW	scope of work
SSTR	standard short-treatment regimen
STC	satellite treatment center

STTA	short-term technical assistance
TA	technical assistance
TASC	Technical Assistance Support to Country
TAT	turnaround time
TB	tuberculosis
TB CAP	Tuberculosis Care Assistance Program
TBDAA	tuberculosis disease activity assessment
TB LINC	Linking Initiatives and Networking to Control Tuberculosis Project
TB MAC	Tuberculosis Medical Advisory Committee
TBMS	tuberculosis mass screening
TC	treatment center
TC/STC	treatment center/satellite treatment center
TDPH	TB-DOTS–providing hospital
TDRH	TB-DOTS–referring hospital
TDRN	TB-DOTS referral network
TESDA	Technical Education and Skills Development Authority
TML	tuberculosis microscopy laboratory
TOT	training of trainers
TREAT TB	Technology, Research, Education and Technical Assistance for Tuberculosis
TST	tuberculin skin test
TWG	technical working group
USAID	United States Agency for International Development
USG	United States Government
WHO-WPRO	World Health Organization Western Pacific Regional Office
XDR	extensively drug-resistant
Y1	Year 1
Y2	Year 2
Y3	Year 3
Y4	Year 4
ZFF	Zuellig Family Foundation

I. SITUATIONER

Tuberculosis (TB) remains a major national public health problem in the country with grave economic consequences. The magnitude of the TB problem has kept the Philippines among the top 20 high-TB burden countries and the top 20 countries with high multidrug-resistant (MDR) TB burden (WHO Global TB Report 2016). The 2016 National TB Prevalence Survey (NTPS) showed no evidence of decline in TB prevalence compared with that in the 2007 survey. NTPS 2016 estimates that a million Filipinos have TB and may or may not know it. TB continues to be the country's 6th leading cause of death and 8th top cause of illness. TB morbidity and premature mortality result in economic losses valued at PhP8 billion annually (Peabody, J. *et al*., 2005).

The institution of the Directly Observed Treatment, Short Course (DOTS) strategy in 1996 and its nationwide implementation in the public health sector starting 2002 have enabled the country to chart significant progress in TB control. The Department of Health National TB Control Program reports that the country has achieved – three years ahead of the 2015 deadline – the Millennium Development Goals target of cutting by half TB prevalence and mortality rates from the 1990 baseline. Program performance, however, remains variable across cities and municipalities. Moreover, while the TB control program continues to gain broader support and greater momentum, it needs to keep pace with the rate of infection.

II. THE PROJECT AND ITS OBJECTIVES

Innovations and Multisectoral Partnerships to Achieve Control of Tuberculosis (IMPACT) is a five-year technical assistance (TA) project that seeks to respond to the abovementioned challenges. The Project provides TA to the Department of Health National TB Control Program and works directly with 43 provinces and cities – in Luzon, Visayas, and Mindanao, including the Autonomous Region in Muslim Mindanao – with the greatest burden of TB disease and lowest performance in both case detection and cure rates. IMPACT engages both public and private sectors at the national and local levels to detect and successfully treat TB cases. Guided by a harmonized blueprint of technical assistance and research initiatives and the USAID TB Portfolio Results Framework, the Project works with other USAID cooperating agencies and key partners involved in TB control. IMPACT measures the outcomes of project interventions against a set of national program indicators and targets identified in the enhanced Philippine Plan of Action to Control Tuberculosis (PhilPACT) 2010–2016. Based on the Cooperative Agreement, IMPACT – which started operations in October 2012 – will conclude in September 2017. The Project, however, was given a seven-month extension and will run through April 2018.

The goal of IMPACT is to reduce TB prevalence by 30%, achieve 85% case detection rate for all forms of TB, and 90% cure rate for new smear-positive cases in all participating sites by 2017 relative to the 2010 baseline.

The Project seeks to achieve three objectives:

- Strengthen demand for TB services through adoption of healthy behaviors within families;
- Improve supply of TB services, including the availability and quality of public sector services and selective expansion of private sector providers; and
- Remove policy and systems barriers to support supply of and demand for TB services.

IMPACT complements the health programs of USAID/Philippines and other development partners. Its activities are aligned with the principles of the United States Government Global Health Initiative and the Government of the Philippines' Universal Health Care agenda (*Kalusugan Pangkalahatan)*.

III. ACCOMPLISHMENTS

DEVELOPMENT OBJECTIVE 1

Table 1. Project Performance vis-à-vis Development Objective 1 Indicators, Year 5 (Oct 2016–Sept 2017)

Note: The full table of DO1 indicators showing Years 1–5 performance is shown as Annex A Table 1.

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 5	Perform-ance Year 5	Overall Performance to Date	Status of performance against target	Remarks
Case Notification Rate, all forms, in USG-assisted sites	209/ 100,000 (2012 NTP Report)	274	290	212	212	Data for monitoring only, as this is reported annually	To be reported annually; And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018 Will most likely be achieved
Numerator				118,584	118,584		
Denominator				55,960,413	55,960,413		
Case Detection Rate, all forms, in USG-assisted sites	74% (2012 NTP Report)	95%	95%	66%	66%	Data for monitoring only, as this is reported annually	To be reported annually; And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018 Will most likely be achieved
Numerator				118,584	118,584		
Denominator				180,193	180,193		
Cure Rate, new bacteriologically confirmed, in USG-assisted sites	83% in 2010 (based on RFA)	90% (2015 Cohort)	90%	76%	76%	Data for monitoring only, as this is reported annually	To be reported annually; And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018 Will most likely be achieved
Numerator				28,524	28,524		
Denominator				37,567	37,567		
Treatment Success Rate, all forms, in USG-assisted sites	TDB (Cohort of 2011)	95% (2015 Cohort)	95%	90%	90%	Data for monitoring only, as this is reported annually	To be reported annually; And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018 Will most likely be achieved
Numerator				106,955	106,955		
Denominator				119,294	119,294		
TB prevalence rate	520/100,000 in 2010 (based on RFA)	375/ 100,000	NA	NA	NA		Archived indicator
Number of	21	850	150	12	833	98% of target	

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 5	Perform-ance Year 5	Overall Performance to Date	Status of performance against target	Remarks
vulnerable groups participating in TB control		(cumulative count)			(cumulative count)	achieved	
Percentage of municipalities and cities with organized barangay-level CBOs participating in TB control and are linked with TB-DOTS facilities	13%	60% (478 of 796)	60%	60%	60%	100% of target achieved	
Numerator	87	413	478	475	475		
Denominator	689	689	796	796	796		
Percentage of notified TB cases that are referred by CBOs/CHTs/ BHWS	No data	15%	15%	14%	14%	93% of target achieved	NTP-related data are reported with one quarter delayed
Numerator				16,494	16,494		
Denominator				118,975	118,975		
Percentage of provinces/cities with functional multi-sectoral alliances (MSA) or PCC/CCC to combat TB	0 (0 of 38)	86% (32 of 38)	86%	46%	46%	53% of target achieved	
Numerator		37	37	20	20		
Denominator		43	43	43	43		
Number of TB cases referred to DOTS facilities by non-NTP providers in USG-assisted sites	2,872 (2010 NTP quarterly report in IMPACT project sites)	114,400	48,000	57,024	180,467 (Cumulative Y1-Y5Q3)	> 100% of target achieved	NTP-related data are reported with one quarter delayed And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018
Percentage of private hospitals participating in TB control as DOTS providing or DOTS referring in USG-supported areas	29% (80 of 279) (partial data)	70%	70%	88%	88%	> 100% of target achieved	
Numerator		299	299	374	374		
Denominator		427	427	427	427		

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 5	Perform-ance Year 5	Overall Performance to Date	Status of performance against target	Remarks
Percent TB microscopy laboratories (TMLs) performing TB microscopy within EQA standards (95% or higher rate of correct results)	68% (2011 EQA Report – 1,752 TMLs with 95% correct microscopy	95%	95%	91%	91%	96% of target achieved	NTP-related data are reported with one quarter delay And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018
Numerator		1,243	1,243	1,197	1,197		
Denominator		1,309	1,309	1,309	1,309		
Number of children <15 years old treated for tuberculosis in USG- supported areas	7,439	21,000 (for Y5) and 86,000 (cumulative Y1-Y5)	21,000	18,066	90,879 (Cumulative Y1-Y5Q3)	> 100% of target achieved	NTP-related data are reported with one quarter delay And, this data represents only 3 quarters of Year 5 as Q4 data will only be available by January 2018
Percentage of prisons/jails implementing DOTS in USG-supported areas	23% (46 of 196)	95%	95%	93%	93%	98% of target achieved	Denominator changed from 225 (Y4) to 215 (Y5)
Numerator		214		200	200		
Denominator		225		215	215		
Percent of USG-assisted SDPs that experience a stock-out of any TB drug during the defined reporting period	93%	10%	10%	1%	1%	achieved	Performance to date is based on the latest reporting period
Numerator		147		15	15		
Denominator		1,473		1,473	1,473		
Percentage of LGUs conducting data quality checks (DQC) annually	No data	90%	90%	95%	95%	> 100% of target achieved	To be reported annually but monitored quarterly And, most likely will be achieved
			39	41	41		
			43	43	43		
Number of new MDR-TB cases diagnosed and initiated on treatment	626 (2012 PMDT report)	3,365 (for Y5)	[redacted]				This indicator will no longer be reported starting Y5. It has been replaced by the next two indicators below.
Male							
Female							
Percentage of successfully treated new multidrug-resistant TB	56% (2009 PMDT national report)	7					This indicator will no longer be reported starting Y5.

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 5	Perform-ance Year 5	Overall Performance to Date	Status of performance against target	Remarks
(Category IV) cases							
Numerator							
Denominator							
Number of new MDR-TB cases detected (new indicator)	3,837	4,583	4,583	4,065	4,065	89%of target achieved	Most likely will not be achieved
Number of new MDR-TB cases that have initiated second line treatment (new indicator)	3,543	4,583	4,583	3,633	3,633	79% of target achieved	Most likely will not be achieved
Number of health care providers trained in the components of the WHO Stop TB strategy with USG funding	20,264	30,000	220	81	42,604 (Cumulative Y1-Y5)	> 100% of target achieved	
Male				10	7,256		
Female				71	35,348		
Percent of DOH Regional Offices outsourcing TA provision	0%	50%	50%	41%	41%	82% of target achieved	
Numerator	0	8	9	7	7		
Denominator	51	17	17	17	17		
Percent of DOTS facilities that are PhilHealth accredited in USG-supported areas	48%	75%	75%	71%	71%	95% of target achieved	
Numerator	654	1,051		1,053	1,053		
Denominator	1,366	1,401		1,473	1,473		
Percentage of LGUs utilizing PHIC reimbursement per guidelines	No data available	50%	50%	45%	45%	90% of target achieved	Denominator does not include ARMM LGUs
Numerator		340		303	303		
Denominator		679		679	679		
Percentage of budget in DOH regional offices utilized for TB	NA	90%	90%		95%	> 100% of target achieved	To be reported annually
Numerator					302,908,098.92		
Denominator					320,410,379.27		
Percent of LGUs with policy issuances that allocates resources for TB services	35%	70%	70%	70%	70%	100% of target achieved	Denominator does not include ARMM LGUs
Numerator	199	476	476	478	478		
Denominator	571	679	679	679	679		

DEVELOPMENT OBJECTIVE 2

Below are the Project's accomplishments for Development Objective 2 in **Basilan**, **Sulu**, **Tawi-Tawi**, and **Marawi City** for Year 5 (Oct 2016-Sept 2017). The reasons for variance vis-à-vis performance indicators are discussed as well. The full table showing performance from Years 2 to 5 for DO2 indicators is presented as Annex A Table 2.

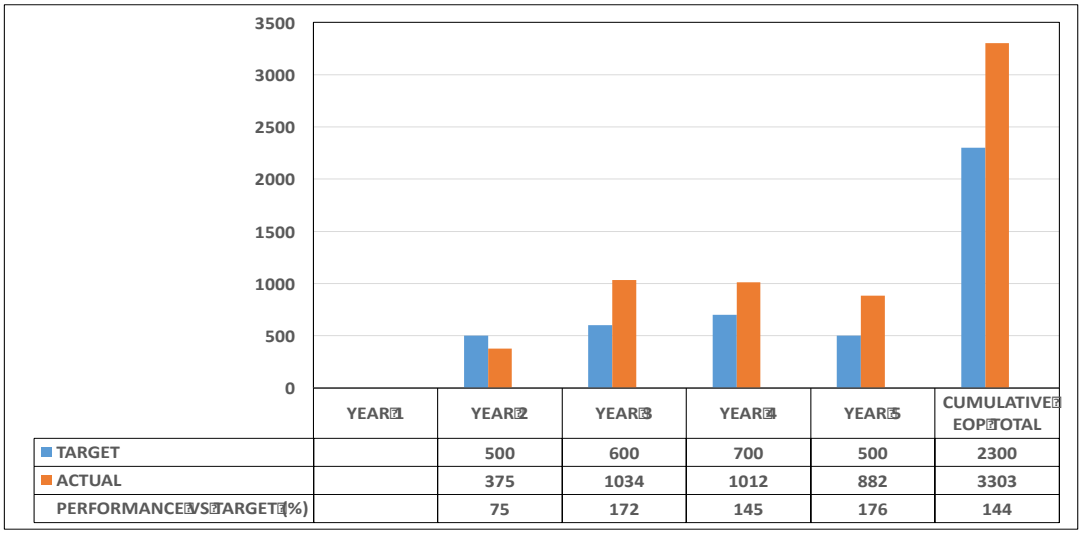
1. Number of clients reached in health (TB) outreach activities conducted

In the fourth quarter of Year 5, no TB health outreach activities were conducted in the conflict-affected areas, particularly Marawi City, Sulu, and Tawi-Tawi because of the volatile peace and order situation in these sites. In Year 5, a total of 882 clients were provided TB services (viz., TB screening, sputum analysis, TB education), including treatment for those diagnosed with TB. Cumulative end-of-project total exceeded the target by 144% as shown in Figure 1 below.

In August 2017, the Project, in coordination with **Basilan** Provincial NTP team, monitored and mentored NTP teams in barangays Bato, Sengal, and Sta. Clara in Lamitan City, and the municipalities of Tabuan Lasa and Tipo-Tipo. Improvements in TB recording and reporting, specifically in updating TB treatment cards and presumptive master list, were noted. Follow-up monitoring of household contact tracing needs to be conducted regularly as per agreement between the PHO NTP team and RHU staffs.

Figure 1

Number of clients reached in health (TB) outreach activities conducted as of Y5



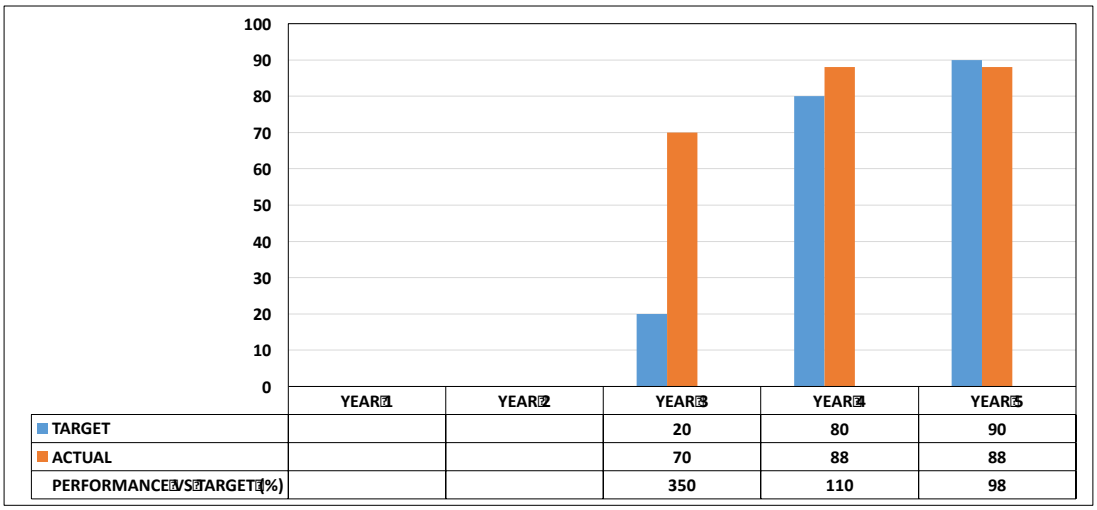
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	CUMULATIVE EOP TOTAL
TARGET		500	600	700	500	2300
ACTUAL		375	1034	1012	882	3303
PERFORMANCE VS TARGET (%)		75	172	145	176	144

2. Percentage of municipalities (in conflict affect areas) with organized barangay-level CBOs participating in TB control

In Year 5, the Project did not engage additional LGUs with organized barangay-level community-based organization (CBOs). Instead, the Project focused on monitoring and mentoring of the CBOs. By end of Year 5, the Project's performance versus target for this indicators is 98% as shown in Figure 2.

Figure 2

Percentage of municipalities with organized barangay-level CBOs participating in TB control



The imposition of martial law in Mindanao starting May 23, 2017 curtailed the movement of CBOs in Basilan, Sulu, and Tawi-Tawi. In Marawi, armed conflict displaced the city's populace along with the CBOs and reduced the place to rubble, destroying all documents and records in the process. This led to a general drop in CBO contribution to the total notified TB cases starting in Q3Y5 through Q4Y5 (Table 2).

Table 2. Percent Contribution of CBOs to Total Notified Cases in 4 Conflicted-affected Areas in ARMM October 2016–September 2017

Conflict-affected Areas	Contribution of CBOs to total notified TB cases			
	Q1Y5	Q2Y5	Q3Y5	Q4Y5
Basilan	28% (43/155)	33% (48/146)	23% (45/109)	19% (29/150)
Sulu	11% (41/359)	11% (42/349)	6% (27/418)	15% (50/335)
Tawi-Tawi	11% (21/185)	11% (19/177)	10% (20/196)	2% (3/133)
Marawi City	4% (5/114)	4% 9 (4/101)	10% (11/114)	No data

IV. MAJOR IMPLEMENTATION ISSUES

AREAS OF CONCERN	IMPLEMENTATION ISSUES	ACTION TAKEN	PLANNED ACTION IF NOT RESOLVED
Technical operations	– Difficulty in finding short-term consultants for various assessment activities	Published the call for applicants in social media and through professional networks	
Security	– Armed conflict in Marawi City	Dropped the activities scheduled to be conducted in Marawi City	

V. MILESTONES, KEY TASKS, AND ACTIVITIES

A. STRENGTHENING THE DEMAND FOR TB SERVICES

COMPONENT 1. Increasing the Demand for and Utilization of Quality TB Control Services and MDR/XDR-TB Management and Treatment

Component 1 aims to mobilize communities, local government units (LGUs), non-government organizations (NGOs), community-based organizations (CBOs), and other local stakeholders to become effective demand-generation agents of TB services. Toward this end, the Project (i) develops new and expand existing behavior change communication (BCC) models for vulnerable groups; (ii) mobilizes and strengthen communities and public and private providers into networks of TB information, education, and communication (IEC) providers; and (iii) builds the advocacy capacity of national, regional, and local managers of the tuberculosis (TB) control program.

Subcomponent 1.1 Develop New and Expand Behavior Change (BCC) Communication Models for Vulnerable Groups

The Project's end-of-project target for the indicator *Number of vulnerable groups participating in TB control* is 850, from a baseline value of 21 groups. Figure 3 shows the accomplishment for this indicator, increasing from Year 1 and peaking in Year 3 vis-à-vis the annual target. By end of Year 5, the Project has mobilized 833 vulnerable groups equivalent to 98% of the EOP target.

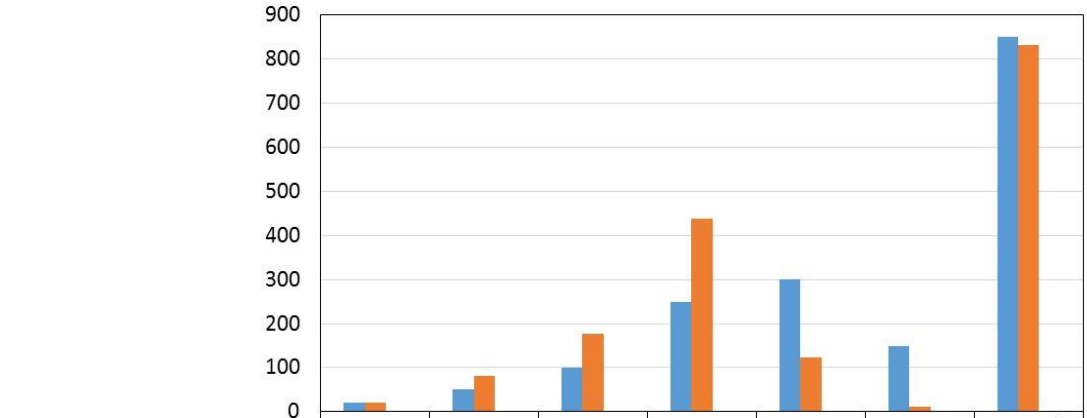
a. BCC model for drug-resistant (DR) TB services

The Project completed the fieldwork for developing a BCC model for DR-TB services. From interviews with about 40 current and former patients, IMPACT tracked a generic DR-TB patient pathway where most of the barriers are encountered. This pathway is indicated below:

> **Home to treatment center** (transport issues) ➔ **at the treatment center** (difficulty taking the medications) ➔ **still at the treatment center** (beginning to experience adverse drug reactions after taking medication) ➔**trip home** (experiencing ADRs)➔**at home** (feeling the effects of DR-TB disease and treatment and having to perform household roles)➔**need to work** (while feeling the effects of DR-TB disease and treatment).

Most of the challenges encountered during treatment that lead to interruption are due to the interconnected effects of ADRs and their trip home, and the effect on their ability to perform their traditional role at home, and to earn an income for daily living.

Figure 3. Number of Vulnerable Groups Participating in TB Control in USG Sites Year 1–Year 5 (Oct 2016–Sept 2017)



	BASELINE	2013	2014	2015	2016	2017	Cumulative EOP Total
TARGET	21	50	100	250	300	150	850
ACTUAL	21	82	177	439	123	12	833
PERFORMANCE VS TARGET (%)		164	177	176	41	8	98

The question on why most patients are able to overcome these barriers while some cannot remain unanswered. Again, from interviews with "successful" patients (those who have completed treatment and current patients who are able to comply with their regimen), the Project learned about a "mindset" (similar to Bandura's self-efficacy construct – one's belief in his/her own ability to succeed in performing a behavior) that patients possess and the good practices or techniques they implemented to overcome the barriers they encountered while on treatment.

The BCC model write-up will be submitted to USAID in November 2017 (IMPACT project extension period). Key findings will also be incorporated in the **L**isten-**E**xplain-**A**cknowledge-**R**ecommend-**N**egotiate (LEARN) Communication Model that is currently part of the PMDT counseling developed by IMPACT. In the project extension period, an updated LEARN communication will be implemented during counseling of DR-TB patients.

As part of the support package for the abovementioned BCC model, the Project developed and pretested a flipchart on DR-TB. This material is intended as a job aid for health workers during one-on-one counseling of patients and TB education sessions for presumptive DRTB cases. For additional art direction and to enhance the overall visual appeal of the material, IMPACT sought the assistance of CHANGE. The flipchart will be submitted to USAID and DOH-NTP for review and comments.
model using the cough-to-cure framework.

Sub-component 1.2 Mobilize and Strengthen Communities, Public and Private Providers, and Partners into Networks of TB IEC providers

a. Mobilizing private-sector partners into networks of IEC providers

(i) Philtranco Enterprise Service, Inc. (PSEI) and Pasay City partnership

For three quarters of Year 5, IMPACT continued to provide technical assistance to PSEI and Pasay City Health Office (CHO) as they implemented activities jointly agreed upon in their Memorandum of Understanding signed on August 30, 2016. The Project provided soft copy TB IEC materials in USBs and monitoring form. IMPACT also collaborated with Pasay CHO staff on orienting the JAM/Philtranco company nurse on the revised National TB Control Program Manual of Operations. IMPACT also monitored TB videos (produced by CHANGE project) shown aboard bus units, and in pre-departure areas of the Pasay, Cubao, and Buendia terminals. In Q1–Q2Y5 the Project, recorded a total of 48,557 exposures of passengers to the TB videos shown in the 38 bus units in the two JAM terminals and in the Pasay Philtranco terminal pre-departure areas.

In the extension period, the Project will engage a consultant to develop a procedural guide for the engagement of transport companies as IEC providers, citing the process and learnings from the experience with facilitating this partnership between the bus company and Pasay LGU.

b. Support to partnership between CBOs/CHTs and DOTS facilities

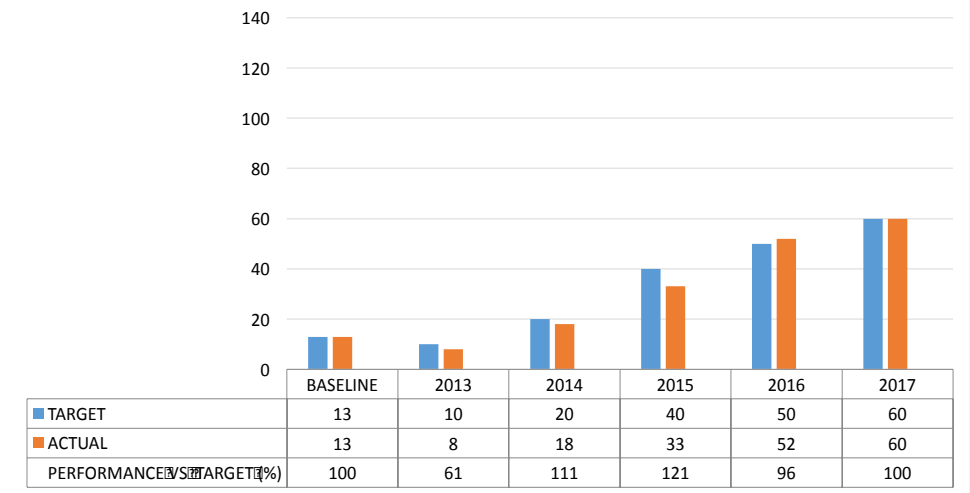
At 60% accomplishment, the Project has met the end-of-project target for the indicator *Percentage of municipalities and cities with organized barangay-level community-based organizations participating in TB control and are linked with TB-DOTS facilities* (Figure 4).

In the first quarter of Y5, the Project facilitated the engagement of an additional 39 LGU-CBO partnerships, which raised the accomplishment to 57%. The operational planning workshops that IMPACT conducted with parishes in Cebu municipalities and the engagement of municipal chapters of senior citizen associations in eight municipalities in Northern Leyte contributed to this number.

In Q2Y5, 24 additional LGU-CBO engagements led to a cumulative total of 475 LGU-CBO engagements. The additional 24 LGUs reported here were from eight provinces, namely **Batangas** (5), **Quezon** (2), **Leyte** (1), **Bukidnon** (8), **Misamis Oriental** (1), **Lanao del Sur** (4), and **Tawi-Tawi** (3). Thus, the Project accomplished its Year 5 and EOP target.

The Project engaged a short-term consultant to assess the Project's intervention on engaging and strengthening LGU-CBO linkage for TB control. Specifically, the assessment aimed to (i) identify the settings in which each of the three modalities of LGU-CBO engagement are applicable, (ii) identify factors that affected LGU-CBO performance in each modality, (iii) determine the contribution of CBOs in case finding, and (iv) provide recommendations on how to assess the readiness of, and capacitate LGUs to handle CBO engagement. The evaluation findings and recommendations to improve the scheme will be submitted to DOH-NTP for possible adoption and integration in the NTP strategy on strengthening community participation.

Figure 4. Percentage of Municipalities and Cities with Organized Barangay-level CBOs Participating in TB Control and are Linked with TB-DOTS Facilities, USG Sites, Year 1–Year 5 (Oct 2016–Sept 2017)



	BASELINE	2013	2014	2015	2016	2017
TARGET	13	10	20	40	50	60
ACTUAL	13	8	18	33	52	60
PERFORMANCE VS TARGET (%)	100	61	111	121	96	100

Using data gathered through key informant interviews and focus group discussions, the three modalities in LGU-CBO engagement were assessed in the provinces where they had been implemented, as listed below.

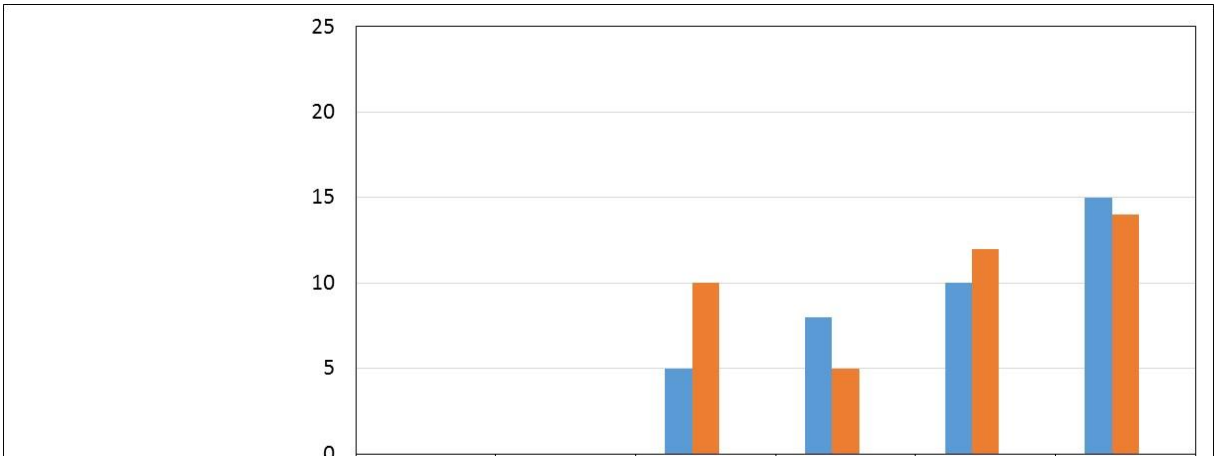
Modality	Project Sites
Engagement of NGO as technical assistance provider	Pangasinan, Bulacan, Western Samar, Davao Oriental, Sarangani
Engagement of national network of faith-based organizations to facilitate the engagement of the local chapters with the LGUs	Laguna, Cebu, Zamboanga Sibugay
Provision of direct technical assistance to PHO/CHO	Tarlac, Leyte, Misamis Oriental

The final report is expected to be completed and submitted to IMPACT by November 2017.

c. Engagement of CBOs, CHVs and TB task forces for community-based case finding and referral

At 14% notified cases contributed by community-based organizations, community health teams (CHTs) and barangay health workers (BHWs) in Year 5, the Project has met 93% of end-of-project target, that is, 15% (Figure 5). This performance may be attributed to the synergistic effect of dissemination of IEC materials conducted in collaboration with CHANGE, interpersonal communications by health workers, and mobilization of volunteers from community-/faith-based organizations for active case finding.

Figure 5. Percentage of Notified Cases that are Referred by CBOs/CHTs/BHWs in USG Sites Year 1–Year 5 (Oct 2016–Sept 2017)



	BASELINE	2013	2014	2015	2016	2017
TARGET			5	8	10	15
ACTUAL			10	5	12	14
PERFORMANCE VS TARGET (%)			50	62	120	93

(i) Faith-based organization

IMPACT and the Catholic Bishops' Conference of the Philippines – Episcopal Commission on Health Care (CBCP-ECHC) concluded the engagement of parishes in TB control with a series of Catholic health care conferences for five regions where the said engagement was implemented. The conferences were held, with the support of Global Fund for TB project, in Southern Luzon (March 14–16, 2017), the Visayas (May 9–11), Northern Luzon (May 16–18), Eastern Mindanao (May 23–25), and Central Luzon/NCR (June 20–22). The gathering of parish program coordinators as well as directors of social action and health commissions, and community-based health programs sought to stimulate sharing of and learning from experiences in implementing various health programs in the dioceses. The learnings from the exchange were expected to inform the improvement of their respective programs and their outcomes.

Five dioceses that have partnered with LGUs on community-based TB control with IMPACT technical support reported the status of their TB program. These were the Dioceses of Ilagan (Isabela), San Pablo (Laguna), Lucena (Quezon), Masbate, and Tagum (Compostela Valley). An issue common across these dioceses was inadequate support from the parish pastoral council and the parish priest. This has resulted in the lack of program direction and low motivation among parish health volunteers. Poor compliance of parish volunteers with documenting activities was also singled out. More specifically, failure to record the names of referred presumptive TB clients in the referral logbook, as well as attendance during TB lectures held during basic ecclesial community meetings was identified.

IMPACT emphasized the importance of documenting such information to reflect the parishes' contribution to the number of people reached by the Church's intervention. The Project also pointed out that the Philippine Plan of Action to Control Tuberculosis or PhilPACT (and the follow-on Philippine Strategic TB Elimination Plan Phase 1 or PhilSTEP1) is relying on community- and faith-based

organizations to help achieve the national program targets for case detection and notification. This, therefore, makes documentation necessary.

For the benefit of the dioceses that have not been engaged by IMPACT and CBCP-ECHC, the significant role of the Church in the TB control program was discussed further. The Church is expected to help raise communities' awareness of TB, to identify parish members with TB symptoms, and to refer them to a DOTS facility for diagnosis and treatment.

The discussions led the dioceses to a consensus: they will organize the Diocesan Episcopal Commission on Health Care with TB control as the springboard program. With IMPACT phasing out in September in 2017, CBCP-ECHC committed to provide the technical assistance that dioceses will need to run a community-based TB control program. The dioceses simply have to forward their request for assistance as basis of CBCP-ECHC action.

The Diocese of San Pablo's efforts to expand the coverage of LGU-FBO engagement was especially mentioned, as a model, in the conference in Southern Luzon. With CBCP-ECHC funding, the Diocese will expand its partnership to cover all 86 parishes in 30 municipal and city LGUs in Laguna.

(ii) Community-based organization of senior citizens

Working with the Provincial Health Offices in Cebu and Leyte, the Project assisted in training and mobilizing 345 senior citizens —defined as those 60 years old and older—made up of retired teachers, engineers and other professionals from 21 municipalities to conduct TB control activities. The older persons were taught to conduct community-based TB education, identify individuals with TB symptoms, and refer them for diagnosis in a rural health unit/health center. Engaged through the local government units' Office for Senior Citizens Affairs (OSCA), these older persons reached in just three months a total of 16,784 individuals, old and young alike, with TB information that corrected long-held misconceptions about tuberculosis (e.g., TB is an inherited disease). Of the 707 community members they referred to the RHU/HC, 33 had active TB and were enrolled in treatment. The elderly in the country, nearly 6.3 million strong (2010 Census of Population), represent a sector with the potential to significantly contribute to TB case finding.

(iii) Monitoring and mentoring CHV supervisors and CBOs on intensified case finding

In Year 5, IMPACT continued to enhance the supervisory capability of rural health midwives and public health nurses through on-site mentoring using the project's monitoring and mentoring tool.

A total of 45 LGUs in 13 provinces/highly urbanized cities (Table 3) benefited from this technical assistance provided in coordination with the PHO, CBCP-ECHC, and engaged dioceses.

Table 3. USG Sites Assisted through Monitoring and Mentoring, 2017

Province	Municipal/City LGUs/Health Facility
Cavite	Indang, Gen. Mariano Alvarez, Silang, Tanza, Alfonso,

Table 3. USG Sites Assisted through Monitoring and Mentoring, 2017

Province	Municipal/City LGUs/Health Facility
	Mendez, Trece Martirez, Noveleta
Laguna	Los Baños, San Pablo City, Biñan, Calauan
Quezon	Gumaca, Catanauan, Tayabas
Rizal	Angono
San Juan City	Tibagan Health Center
Taguig City	Central Bicutan Health Center
Masbate	Uson, Aroroy, Palanas, Balud
Cebu	Naga City, San Fernando, Carcar City, Sibonga, Argao, Dalaguete, Alcoy, Boljoon, Oslob, Santander
Leyte	Matalom, Matag-ob, and Isabel
Northern Samar	Bobon, Laoang, and Mondragon
Western Samar	Gandara, Tarangnan, Calbiga
Misamis Oriental	Initao, Matincao
Surigao del Norte	Guigaquit, Claver

Guided by the mentoring tool, the Area Facilitators addressed the following behavioral gaps identified during the assessment of the knowledge and skills of the RHMs and BHWs:

1. Lack of proper recording of patient attendance in treatment cards
2. No annual planning and targets. The targets are prepared at the RHU level. The CHV supervisors (RHMs) and the barangay health workers are not involved in the planning process, thus are not aware of the plan and the specific target number of TB cases to be identified and diagnosed
3. Conducting supervision of supervisees without a supervision plan
4. Conducting meeting without a written agenda
5. Supervisors do not hold regular supervisory meetings with BHWs
6. No documentation of meetings (no minutes of meetings)

The write-up on the monitoring and mentoring TA package will be finalized in the project extension period. No additional field efforts on monitoring and mentoring will be conducted during this period.

Sub-component 1.3 Building the Advocacy Capacity of National, Regional, Local Government Unit (LGU) and Local Managers of the TB Control Program

a. Establishment and strengthening multisectoral alliances for TB control

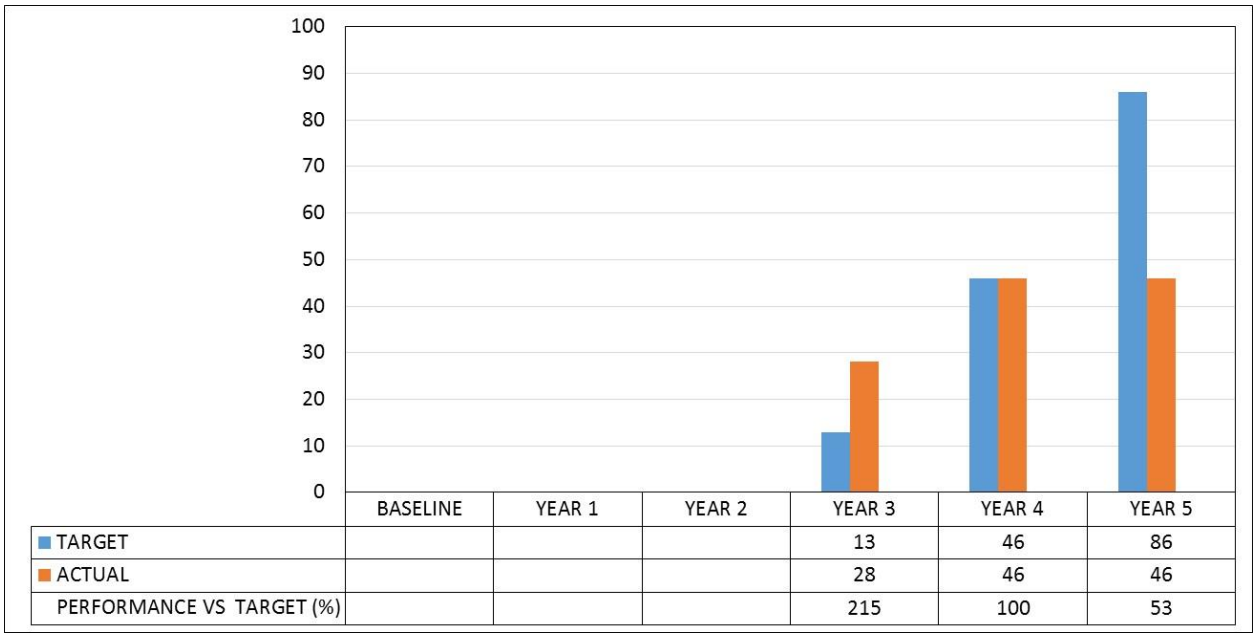
By end of Year 5, the Project has achieved 53% of the EOP target of 86% of project sites with functional MSAs (Figure 6).

The Project had observed that existing MSAs had not significantly moved forward as partners in TB control despite the resources provided and efforts to assist partner-LGUs in making the MSAs viable.

Given this and the limited time left to assist LGUs in establishing MSAs and making them functional, the Project agreed in Q2Y5 that no new engagement in this regard will be made in the remaining two quarters of Year 5.

In Q4Y5, the Project initiated an internal assessment of implementing the TA package on establishing and strengthening MSAs for TB control. Its main objectives were to learn from the challenges encountered, identify good practices, and draw forth recommendations for implementing a similar initiative in support of PhilSTEP 1. The assessment is targeted to be completed in the first week of December 2017.

Figure 6. Percentage of Provinces and Cities with Functional Multisectoral Alliances (MSAs) or PCC/CCC to Combat TB, USG Sites, Year 1–Year 5 (Oct 2016–Sept 2017)



	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
TARGET				13	46	86
ACTUAL				28	46	46
PERFORMANCE VS TARGET (%)				215	100	53

b. Establishment of Barangay Health Management Council (BHMC)

In Year 5, IMPACT successfully facilitated the establishment of BHMCs in three barangays each in the municipality of Alfonso, Cavite and in Las Piñas City.

The Project funded and facilitated the program review and work planning for the BHMCs' second year. The program review consisted of assessing their respective plans and activities, and their potential impact on the LGUs' case-finding and case-holding performance. IMPACT also provided inputs on the relevant findings of the 2016 National TB Prevalence Survey (NTPS). In particular, the new estimated TB incidence rate of 554/100,000 was used to calculate the number of TB cases to be detected and presumptive TB cases to be identified in their respective barangays. The TB risk factors and reasons for poor health-seeking behaviors were discussed as well. Based on the program review and the new information, the BHMCs prepared their 2018 annual plan and budget.

IMPACT had invited SIAPS to send a representative to observe the planning sessions and share their observation on whether the work of IMPACT was consistent with how they facilitated the planning sessions for BHMC pilot implementation in Quezon City. SIAPS, however, begged off because of conflicting schedules.

The Project engaged a consultant to conduct the process documentation of replicating, in Las Piñas City and Alfonso, Cavite, the SIAPS model for establishing BHMCs. The objective was to document through narrative and photos the key steps in developing and implementing BHMCs, the activities of the BHMCs, their effect on intended beneficiaries in the community, and their impact (if any) on the local TB program.

The fieldwork, consisting of focus group discussions and key informant interviews, was completed in Q4Y5. The final documentation report is expected by the end of October 2017. Incidentally, IMPACT received from SIAPS during this quarter the final BHMC Guide, which will be part of the attachments in the final process documentation report.

Other Activities

a. Desk review of TB IEC materials and compilation of an updated catalogue of useable IEC materials

In Q3Y5, the Project engaged a consultant to review existing TB IEC materials. The review sought to determine which IEC materials are still relevant and useful based on audience reach, effectiveness of messages, and action orientation. The review was also expected to catalogue TB IEC materials that can be used, reproduced, and disseminated based on the review findings. The IEC materials reviewed were those used by the TB program in the last 10 years (2006–2016), whether produced by USAID-assisted projects or by DOH partners.

Annex B provides the list and technical description of IEC materials that were reviewed. The catalogue of IEC materials is expected to be completed by the end of October 2017. The Project will then submit the catalogue to DOH-NTP to serve as guide when they and/or their development partners decide to reproduce IEC materials in support of PhilSTEP 1 implementation.

b. Support to DOH-NTP

(i) Support to mass media campaign for TB health

IMPACT continued to collaborate with the CHANGE to support the DOH-NTP multi-phase mass media campaign for TB health. IMPACT and CHANGE designed a study to measure the possible influence of the TV ad, IEC materials, and effective IPCC experience on TB presumptives to seek TB consultation. IMPACT helped select the study sites as well as develop the data-collection tools. The Project's M&E team completed data gathering as well as data processing and analysis from January to September 2017. The final report will be submitted to USAID in November or December 2017.

To ensure that the intended audiences in the selected sentinel sites were exposed to the materials and the messages, the Project designed a dissemination and orientation seminar for facility- and community-based health workers. The seminar guided the participants in formulating IEC dissemination plan for their barangays starting November and December 2016. In all, IMPACT oriented 771 barangay health

workers, RHU service providers, and regional/provincial/city health office staff from eight provinces/highly urbanized cities in six regions. These sites are **Nueva Ecija**, **Las Piñas** and **Caloocan** cities, **Cavite**, **Leyte**, **Samar**, **Bukidnon**, and **Basilan**.

c. Lung Month activities

In **Bukidnon**, the Project supported the Municipal Health Office of Manolo Fortich in the conduct of their two-day lung month celebration in the last week of August. TB education was conducted at the municipal gym. Using their own budget, the LGU conducted sputum examination and free onsite (mobile) chest X-ray screenings. Some 604 TB presumptive household contacts were invited for free chest X-ray examination. TB was diagnosed in 128 cases and Xpert MTB/RIF test found 15 cases positive for TB. The remaining Xpert results were still unavailable at the time of this writing.

Quarter 4 Year 5 Milestones

Table 4. Status of Component 1 Q4Y5 Milestones, September 2017

TA Interventions / Major Activities	Q4Y5 Milestone	Status	Remarks
Write-up on behavior change communication (BCC) models	Best practices write-up and success stories finalized and submitted to USAID • IPs (Aetas in Pampanga) • TB in children (Gingoog City) • Bright spots in TB in the urban poor approach	NOT DONE	Difficulty of getting a suitable STTA; to be completed in extension period
Develop BCC model for patient-centered DR-TB services	BCC model write-up submitted to USAID	NOT DONE	Only the fieldwork has been completed.; to be completed in extension period
Mentoring CHV supervisors and CBO coordinators	90% of priority LGUs have been mentored using the Project's monitoring and mentoring tool	PARTIALLY DONE	TA package on mentoring will be finalized in the extension period
Process documentation of Barangay Health Management Council (BHMC) implementation in 2 LGUs (Alfonso, Cavite and Las Piñas City)	Final report of BHMC process documentation submitted to IMPACT	NOT DONE	Only the draft full report has been submitted
Assessment of LGU-CBO engagement	Final assessment report submitted/endorsed to DOH-NTP	NOT DONE	The final report is still being written; to be submitted in the extension period
Assessment of provincial multisectoral alliances (MSAs) activated by IMPACT	Final MSA assessment report submitted/endorsed to the DOH NTP	NOT DONE	STTA was not engaged on schedule; this is now an internal

Table 4. Status of Component 1 Q4Y5 Milestones, September 2017

TA Interventions / Major Activities	Q4Y5 Milestone	Status	Remarks
			assessment to be completed in the extension period
Development of guidelines for establishing patient-support groups (PSGs)	Draft guidelines on forming/ establishing PSGs submitted to NTP	NOT DONE	To be conducted through STTA in the extension period
Assessment of gender issues in the TB program in 6 selected project sites	Final assessment report submitted/ endorsed to DOH-NTP	NOT DONE	STTA started initial field work but IMPACT received advice from USAID to hold the assessment activity; awaiting further advice from USAID

Planned Activities for the Project Extension

1. Finalize technical reports carried over from Year 5, as follows:
   a. Write-ups on three promising practices (previously, BCC models): IPs/Aetas in Pampanga, TB in children (Gingoog City), bright spots in TB in the urban poor approach
   b. Desk review of TB IEC materials and compilation of an updated catalogue of useable IEC materials
   c. Assessment of the technical assistance package on engaging and strengthening LGU-CBO engagement for TB program implementation
   d. Assessment of implementing the technical assistance package on establishing and strengthening MSAs for TB control
   e. Process documentation of Barangay Health Management Council (BHMC) implementation in two LGUs
   f. Behavior change communication model for drug-resistant (DR) TB services
   g. Rapid assessment of gender issues in accessing TB care in selected USG sites *(if USAID decides to complete the assessment)*
2. Finalize the NTP Health Promotion Framework and facilitate Regional PhilSTEP1 health promotion strategic planning in three regions. The project has set as selection criteria for the three pilot sites those that the project assisted in completing their regional PhilSTEP1 plan. Based on this, the anticipated sites are Region 9, Region 5 and the Cordillera Autonomous Region
3. Develop procedural guides: engagement of transport companies as IEC providers (STTA), and organization and operations of patient-support groups
4. Develop/print BCC materials:
   a. Job aid, choice architecture discussion guide
   b. Advocacy material for LCEs to support PMDT
   c. Advocacy material for private health providers to access Xpert testing services

d. Job aid, for health workers to recognize among their patients indications for Xpert MTB/RIF testing and referral
e. DR-TB flipchart
f. Job aid on how to manage adverse drug reactions to DR-TB medications

5. Finalize Component 1 technical assistance packages

B. Scaling Up the Delivery of Quality TB Services

COMPONENT 2. Scaling Up the Delivery of Quality DOTS Services

The four main intervention areas under Component 2 are (i) expanding service delivery points, (ii) improving access to services by vulnerable groups, (iii) strengthening drug supply management, and (iv) enhancing program management.

Subcomponent 2.1 Improve Access to TB Services by Expanding Service Delivery Points

Activities under this subcomponent are grouped into local DOTS network strengthening (i.e., increasing TB case finding contribution by non-NTP providers through the local DOTS network) and laboratory strengthening at the local level and through central-level assistance to the National Tuberculosis Reference Laboratory (NTRL).

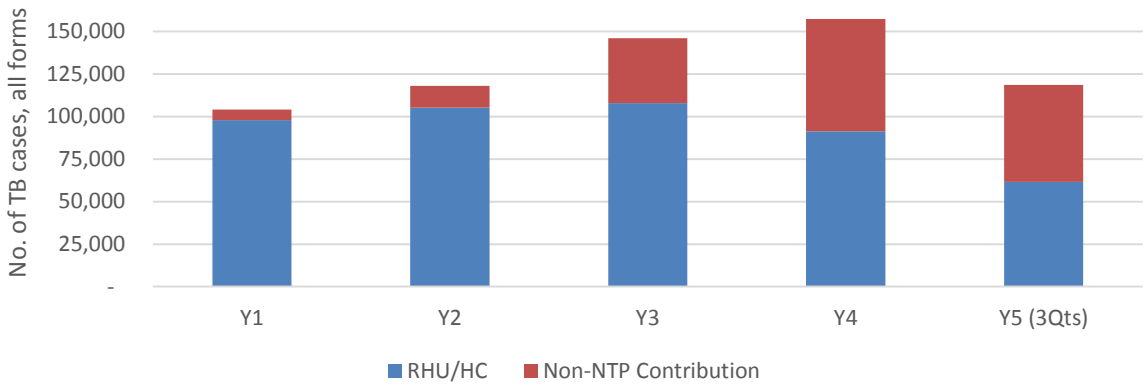
a. Strengthening local DOTS networks

The end-of-project target for the number of referrals made by non-NTP providers was surpassed with a 158% accomplishment. As mentioned in previous reports, the rapid rise in performance beginning in Year 3 was partly attributed to the change in the NTP Manual of Procedures (MOP) definition of non-NTP providers to include not just private but other government and community providers as well. Corresponding increase in targets have been approved for Years 4 and 5 only.

Reports on monitoring of rural health units (RHUs) showed improvement in attributing referrals to their correct sources. Unfortunately, referrals in the private sector are not yet disaggregated into sub-sectors (e.g., private hospitals, private clinics/doctors, pharmacies, workplaces) as this is the current recording standard of the NTP and in the Integrated Tuberculosis Information System (ITIS). Referral mechanisms between public and private DOTS facilities have also improved resulting in sustained increase in the number of non-NTP contributions and more reliable data from these sources. Monitoring activities are described in section 2.4 below.

Other than the reporting mechanism, there was a significant increase in the number of total TB cases in U.S. Government sites consistent with the increase in non-NTP contribution (Figure 7) from Year 1 (Oct 2012–Sept 2013) to the third quarter of Year 5 (Oct 2016–Jun 2017). This denotes a true additionality resulting from engagement of various sectors and not merely attributing the same number of cases as non-NTP.

Figure 7. Total TB Notifications and Non-NTP Contribution to Notification, USG Sites, Year 1–Year 5 (Oct 2012—Sept 2017



RHU/HC = rural health unit/health center; NTP = National Tuberculosis Control Program; Qts = quarters; TB = tuberculosis, Y = year

In Year 5, the Project continued to assist selected projects sites to either expand their local DOTS network or address issues that prevent smooth referral of patients between government and private facilities. For example, coordination meetings between the local government units (LGUs) and private providers, including quarterly data quality check (DQC), facilitated the tracking of referrals from private provider to RHU. Feedback on outcome of referrals was also discussed in these meetings.

Table 5 summarizes the TA activities conducted in selected areas and their results.

Table 5. Technical Assistance Provided to Selected USG Sites and Their Outcomes October 2016–September 2017

Project Site	Technical Assistance	Outcome
Las Piñas City	Facilitated meeting between Las Piñas Doctors Hospital (LDPH) and City Health Office (CHO)	LDPH engaged as part of the DOTS network
Batangas	Facilitated meeting between engaged workplaces and RHUs	Referrals made by the companies to the RHUs were monitored and agreements to address referral issues were made
Bukidnon	Facilitated meeting between the Provincial Health Station in Valencia City and the CHO	Formalized the agreements on referral system between the two health facilities
	Facilitated consultation meeting with Blanco Clinic	Blanco clinic engaged as an additional referring standalone private facility in the DOTS network
Cavite	Trained private referring physicians in municipality of Tanza on NTP MOP	Additional private referring physicians in the DOTS network following the NTP

Project Site	Technical Assistance	Outcome
		standards and protocols
Cebu	Oriented personnel of Cebu Provincial Hospital in Danao City on hospital DOTS	Cebu Provincial Hospital engaged as DOTS provider
Caloocan City, Valenzuela City	Oriented 2nd batch of private physicians with standalone clinics on NTP MOP and local referral protocols	Private physicians engaged and DOTS referral network expanded

To help institutionalize the local DOTS network and sustain its implementation, the Project drafted a national policy on TB DOTS network and involved the local multisectoral coordinating committees (a.k.a. provincial/city multisectoral alliance) as overseer that will craft local policies on DOTS network.

IMPACT originally drafted the national policy, titled Guidelines for Local Governments (Provinces and Highly Urbanized Cities) in the Establishment of Delivery of TB Services (DOTS) Network as TB Elimination Strategy, as an administrative order (AO) and endorsed it to DOH-NTP in December 2016. This came on the heels of a consultative workshop that discussed the Project's experience in assisting LGUs establish local DOTS networks. Subsequently, the Project held follow-up consultations with hospital DOTS partners, namely Cullion Foundation, Inc., Philippine Coalition Against Tuberculosis, Philippine Tuberculosis Society, Inc., DOH-NTP, TASC and WHO. DOH-NTP, DOH Bureau of Local Health Systems Development, WHO, and IMPACT agreed to release the policy as a department memorandum (DM) rather than an AO. This was to ensure that the policy did not run in conflict with or was not rendered redundant by the AO on Service Delivery Network under the Philippine Health Agenda. IMPACT has endorsed the department memorandum to DOH-NTP; the DM's release is pending until the Public-Private Mix Action Plan is finalized by a USAID PPM mission team.

IMPACT was a member of the PPM mission team, which conducted a rapid situational analysis of public-private mix DOTS in the country and provided recommendations for PhilSTEP1 PPM Action Plan. The plan is set to be finalized and submitted to DOH-NTP in November 2017 after a consultation meeting scheduled in October.

Meanwhile, to ensure sustainability of the DOTS network at the LGU level, the Project assisted in developing written agreements on referral system and DOTS network protocols in at least eight sites. Apart from **Batangas**, which approved a provincial ordinance, none of the other project sites (**Pangasinan**, **Bulacan**, **Nueva Ecija**, **Pampanga**, **Cavite**, **Makati**, and **Quezon City**) succeeded in having their policy on DOTS network signed by their local chief executives as of this writing. Changes in political administration (including new provincial/city health officers), decision to integrate the policies on DOTS network and on service delivery network (SDN) of the Philippine Health Agenda, and new developments in the TB control program such as mandatory TB notification have delayed the passage of the TB policies. IMPACT has endorsed the policies to the provincial/city health offices concerned, and will follow up on their approval during the provincial/city close-out meetings to be conducted during the project extension.

IMPACT conducted two assessments of engaged stand-alone physicians (SAPs). Stand-alone physicians refer to private practitioners who opt to manage their TB patients privately instead of referring them to a DOTS facility. One assessment looked into hospital-based SAP. Conducted by Philippine Tuberculosis Society, Inc. (PTSI), the assessment aimed to identify and report additional TB cases managed by private

physicians in their hospital-based clinics, and to pilot a notification system designed by PTSI. The other assessment delved into the engagement of private physicians (directly by IMPACT with the LGU) whose clinics are community-based. It determined the effectiveness and acceptability of the Project's technical assistance, assessed the outcome of the engagement. Annex C shows the summary of findings of these as well as other private-sector assessments.

Engagement of specific sectors (workplaces, pharmacies, and private hospitals) is discussed below.

(i) TB in the workplace

IMPACT engaged an additional 28 workplaces in Calamba, **Laguna**, in the first quarter of Year 5. These companies were invited later in the year for partnership building and to address issues and concerns between the workplaces and the City Health Office of Calamba.

In Aroroy, **Masbate**, the Project conducted a briefing session for small-scale mining companies. The municipality of Aroroy will continue to engage these companies and will frame a local ordinance for all workplaces in the LGU. In **Bukidnon**, the Project oriented a newly hired workplace physician, which subsequently led to the referral of presumptive TB cases.

By end of Year 5, IMPACT had provided briefing sessions for 190 companies, program management training for 186 companies, and TB educators' training for 50 companies. Of the 186 companies that attended the program management training, 73 have drafted their TB policies.

As a sustainability measure, IMPACT proposed to revise the Department of Labor and Employment (DOLE TB in the workplace policy issued in 2005 to reflect the changes in the revised MOP and incorporate capacity building for TB in workplaces. However, the new DOLE leadership decided to just develop an information brochure to reflect changes in the program. The Project partnered with Occupational Safety and Health Center of DOLE to develop the contents of the brochure, which was reproduced and distributed by DOLE among the workplaces. A copy of the brochure was included in the Q1Y5 report.

The Project assessed the technical assistance package for workplace engagement, the findings of which are summarized in Annex C.

(ii) Pharmacy DOTS Initiative (PDI)

While the PDI sub-grant ended in Year 4, the municipality of Mabalacat, **Pampanga**, replicated the Pharmacy DOTS Initiative TA package. IMPACT acted as resource person during the PDI orientations.

An assessment of PDI was also conducted and concluded this year. Findings are summarized in Annex C. All the respondents consisting of owners, pharmacists, and pharmacy assistants/aides confirmed that they asked for a prescription first when a client with cough comes to the pharmacy to purchase antibiotics or anti-tuberculosis drug. This indicates that PDI's target behavioral change among pharmacists and pharmacy assistants was achieved. However, because the pharmacies had stopped using the referral logbooks after the Philippine Pharmacists Association (PPhA) sub-grant concluded, there was no way to track the referrals they made. The respondents reported that the average number of clients referred to the local TB-DOTS facility per month was 32. However, this did not agree with the

recorded referrals from the PDI records and reports. The PDI report noted 42,118 total referrals from 2,377 referring pharmacies, or an average of just 18 referrals per pharmacy.

Overall, there was no statistically significant change over time in the total number of TB cases identified in the assessment sites after PDI was implemented (p=0.0960).

(iii) Engagement of private hospitals in TB-DOTS

No new private hospital was engaged in Year 5; the cumulative performance remains at 88% of hospitals in project sites. This translates to 374 of 427 private hospitals in 43 IMPACT sites (provinces/highly urbanized cities) that are engaged in TB-DOTS. Of the 374 private hospitals, 281 were engaged by PTSI in the 26 sub-grant sites. The rest were engaged either by the Global Fund for TB (GF) project or DOH regional offices directly, and were provided continuing assistance by the Project under the local DOTS network activities.

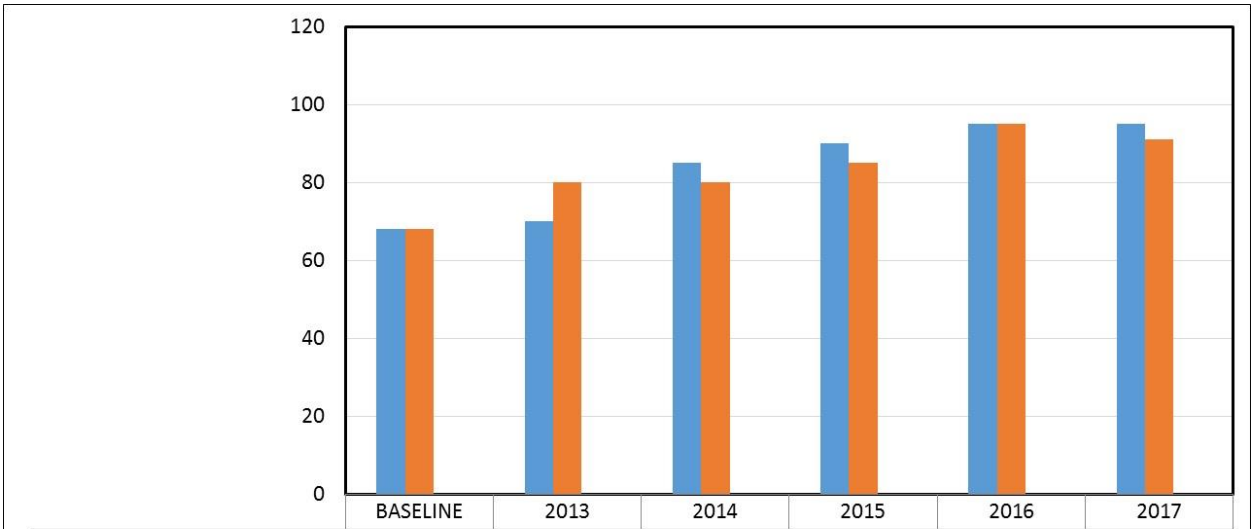
The PTSI sub-grant ended in March 2017. IMPACT conducted a data quality check of PTSI sub-grant reports and concluded high accuracy and consistency (see Q2Y5 report). In the sub-grant sites, 281 (81%) of 345 hospitals were trained as either DOTS-providing or referring facilities, exceeding the 65% target. These hospitals have contributed a cumulative total of 18,303 drug-sensitive TB cases (from Y2 to Y5) to TB case finding in the project sites. PTSI has exceeded by 8% the 17,000 target for this indicator. Referring physicians to date is at 77% (378/490) of all trained physicians, exceeding the minimum target by 17%. Forty-four (70%) of the 63 DOTS-providing hospitals were PhilHealth accredited, which is exactly the end-of-project target for this indicator. Facilities with TB policies increased from 225 to 241, exceeding the target by 7%. Close-out meetings were conducted by PTSI and IMPACT with the hospital DOTS project sites and DOH regional offices.

An assessment of private hospital engagement was conducted and concluded this year. The findings are summarized in Annex C.

b. Strengthening the laboratory network

Current external quality assessment (EQA) performance in project sites is 96% of the target (i.e., 1,197/1,243 target TMLs with adequate performance). By end Year 5, there were still 10 of 43 sites that have not reached the EQA standards. Delayed performance of slide rechecking due to absence or multiple roles of the controller accounted for this gap. However, there is generally better performance in other sites throughout the years due to project interventions such as EQA feedback meetings, zonal EQA approaches, modified EQA (specific for Tawi-Tawi only), monitoring, and program reviews (Figure 8). The three-quarter (incomplete) performance accounts for the slight dip in Year 5, which is expected to improve once the laggard provinces completed their EQA in the remaining quarter.

Figure 8. Percent of TB Microscopy Laboratories (TMLs) Performing TB Microscopy within EQA Standards (95% or higher correct result) as of Q3Y5 (Apr–Jun 2017)
No. of TMLs = 1,309



	BASELINE	2013	2014	2015	2016	2017
TARGET	68	70	85	90	95	95
ACTUAL	68	80	80	85	95	91
PERFORMANCE VS TARGET (%)	100	114	94	94	100	96

(i) Laboratory strengthening in local government units

External quality assessment. The Project supported laboratory strengthening at the LGU level by facilitating the regular and timely conduct of external quality assessment in project sites. Zonal EQA and modified EQA had been introduced in some sites in Year 3. The Project continued to support these sites through EQA feedback meetings, which facilitated the quality improvement component of EQA. These meetings were likewise held in other LGUs performing traditional EQA procedures but were not provided timely feedback.

The Project funded EQA feedback meetings until Q2Y5 for **Leyte**, **Western Samar**, **Davao Oriental**, **Sarangani**, **Basilan**, and **Maguindanao**. In Q3Y5 and Q4Y5, DOH regional offices financed the EQA meetings, with IMPACT as resource person. These meetings were held in **Tarlac**, **Cebu**, **Leyte**, **Northern Samar**, **Western Samar**, **Zamboanga Sibugay**, **Bukidnon**, **Misamis Oriental**, **Davao Oriental**, and **Maguindanao**. By end of Year 5, 10 of 43 sites have not reached adequate EQA performance. This was attributed to the absence or multiple roles of the controller, which delayed slide rechecking.

The zonal and modified EQA were introduced during the revision of the NTP EQA policy as alternative EQA approaches for difficult areas. The administrative order on the revised NTP EQA is yet to be released, and is discussed further in the section on central-level assistance to NTRL below.

Remote smearing stations. The establishment of remote smearing stations (RSS) has been a core assistance in the past years designed to improve access to DSSM services in far-flung areas. In Year 5, the Project supported the training of 29 informal laboratory workers (ILWs) from **Nueva Ecija** (6), **Tarlac**

(3), **Masbate** (4), **Basilan** (12), and **Sulu** (4). IMPACT monitored RSS and ILW performance in **Cavite**, **Masbate**, **Leyte**, **Surigao del Norte**, **Zamboanga Sibugay**, **Davao Oriental**, **Basilan**, and **Sulu**. Monitoring showed that for Year 5 the ILWs/RSSs in these sites served 2,083 clients through sputum smear preparations for diagnosis and follow-up. As of Q4Y5, 21 of 22 trained ILWs from **Surigao del Norte** continued to provide services. Moreover, five ILWs from five municipalities in the province were hired on a job order status and currently receive salaries from their respective LGUs.

Barangay malaria microscopy centers as TB microscopy laboratories. To improve access to diagnostic TB services and make them readily available in remote areas, the Project engaged barangay malaria microscopy centers (BMMCs) to serve as TB microscopy laboratories. This involved training five malaria microscopists from five barangays in three municipalities (San Mariano, Cauayan, Ilagan) of **Isabela** province. Monitoring six months post-training (held December 2016) showed that three of the four BMMCs visited were providing direct sputum spear microscopy services for up to 10 presumptive TB cases in 6 months. The fourth BMMC was not functioning because its microscope was defective and had been pulled out for repair. Difficulty in going to the fifth BMMC (it required crossing a river) prevented the Project from visiting the facility.

IMPACT assessed project support to identified LGUs and its effect on local laboratory services. The assistance included hiring of itinerant medical technologists for selected LGUs in Years 3 and 4, and provision of microscope equipment in Years 2 to 4.

Itinerant medical technologists. IMPACT hired 22 itinerant medical technologists to serve 22 municipalities in 12 provinces (**Tarlac**, **Aklan**, **Cebu**, **Leyte**, **Northern Samar**, **Western Samar**, **Zamboanga del Norte**, **Zamboanga Sibugay**, **Misamis Oriental**, **Lanao del Sur**, **Maguindanao**, **Basilan**). The Project visited 16 of the site-recipients to assess the TA's effect on laboratory service. The assessment showed that after the one-year contract with IMPACT, 10 (62%) of the 16 medtechs were hired by the recipient LGUs. Six medtechs were engaged as permanent staff, while four were given contractual position by the province (2), municipality (1), and DOH regional office (1). In the three years that they were hired (2014–2016), the 16 medtechs provided direct sputum smear microscopy (DSSM) services to 10,269 presumptive TB cases, detected 1,262 positive TB cases, and conducted 2,878 follow-up examination for TB cases.

Provision of microscopes. The Project provided a total of 54 microscopes: 14 to areas in Region 8 affected by Typhoon Haiyan; 34 to non-disaster areas in Luzon, Visayas and Mindanao that had defective microscopes; and 6 to provincial quality assurance centers.

Project-provided microscopes in disaster-affected areas enabled the TB microscopy laboratories (TMLs) to provide DSSM services to 6,559 clients from 2014 to 2016. This was after services were interrupted for up to 12 months (mean 8.6 months). In non-disaster areas, recipient TMLs served 21,595 clients during the same two-year period.

Delivery of one microscope reserved for a municipality in Masbate was deferred after DOH provided one unit to the LGU. This remaining microscope will be given instead to Marawi City as support to the LGU's rehabilitation.

Microscope preventive maintenance. One of the recurring issues in quality assurance is the regular maintenance of microscopes. Hence, the Project developed in Year 4 the microscope preventive maintenance manual for medical technologists and microscopists. This manual and an accompanying

poster were finalized this year. Thereafter, 1,500 copies of each material were produced and distributed among TB microscopy laboratories in U.S. Government sites.

(ii) Central-level assistance to National Tuberculosis Reference Laboratory (NTRL)

Revised policy on quality assurance for DSSM. To further strengthen the DSSM quality assurance system, the Project led the revision of the DOH Administrative Order on Quality Assurance for DSSM (DOH AO 2007-0019). In a workshop held in November 2016 and attended by DOH-NTP, selected DOH-ROs, LGUs, SIAPS, and TASC, IMPACT presented EQA options for difficult areas, which demonstrated the Project's work on zonal EQA and modified EQA implemented in project sites. IMPACT revised the policy based on workshop proceedings and the subsequent follow-up meetings of the Laboratory Network Technical Working Group convened by NTRL. NTRL has endorsed the draft to DOH-NTP and is awaiting its approval.

ISO 15189 accreditation of NTRL. Project TA to NTRL for ISO 15189 accreditation was initiated in July 2014 and concluded in Year 5. The Project facilitated a fourth workshop and follow-up visit to help NTRL comply with the remaining items of FHI 360's 44 recommendations to achieve ISO 15189 accreditation. This included development of a quality manual and technical procedures. In total, the Project assisted in preparing nearly 160 documents as part of the ISO accreditation application. When all recommendations were fulfilled, the Project conducted a three-day ISO pre-assessment audit using the Philippine Accreditation Bureau (PAB) checklist that included both management and technical requirements. The pre-assessment report was discussed with NTRL to provide corrective action.

Application for ISO 15189 accreditation was submitted to the PAB on June 13, 2017. The PAB conducted an on-site assessment in August 2017, which IMPACT joined as observer. After the two-day assessment, all 11 technical applicant signatories were evaluated and approved by the assessor team. There were 11 significant findings and 16 minor findings that NTRL should correct within 60 days. These findings notwithstanding, the PAB team recommended the ISO 15189:2012 accreditation of NTRL. As of this writing, NTRL has submitted to PAB the pending requirements and was awaiting feedback from the accreditation body.

In Year 5, the Project assessed (i) the implementation of remote smearing stations and (ii) private sector participation in the laboratory network. As of this writing, the RSS assessment report was being finalized. Thereafter, the report will be disseminated among key stakeholders. Major findings will be included in the end-of-project report. The assessment of private sector participation in the laboratory network was requested by DOH-NTP. It was conducted with GF funding and IMPACT technical supervision. Assessment findings and recommendations are listed in Annex C.

Subcomponent 2.2 Expand DOTS Services in ARMM and Special Settings

This subcomponent focuses on interventions for vulnerable groups, including children and inmates. A major focus is the conduct of systematic screening among different vulnerable populations and its institutionalization through a national DOH policy.

Drawing on Year 4 experiences in systematic screening across different risk and vulnerable groups, the Project developed a technical advisory on systematic TB screening with an accompanying draft administrative order for DOH's approval. Both these documents were submitted to DOH-NTP as

deliverables in Year 5. Further discussions and finalization of this policy issuance were included in the project extension work plan.

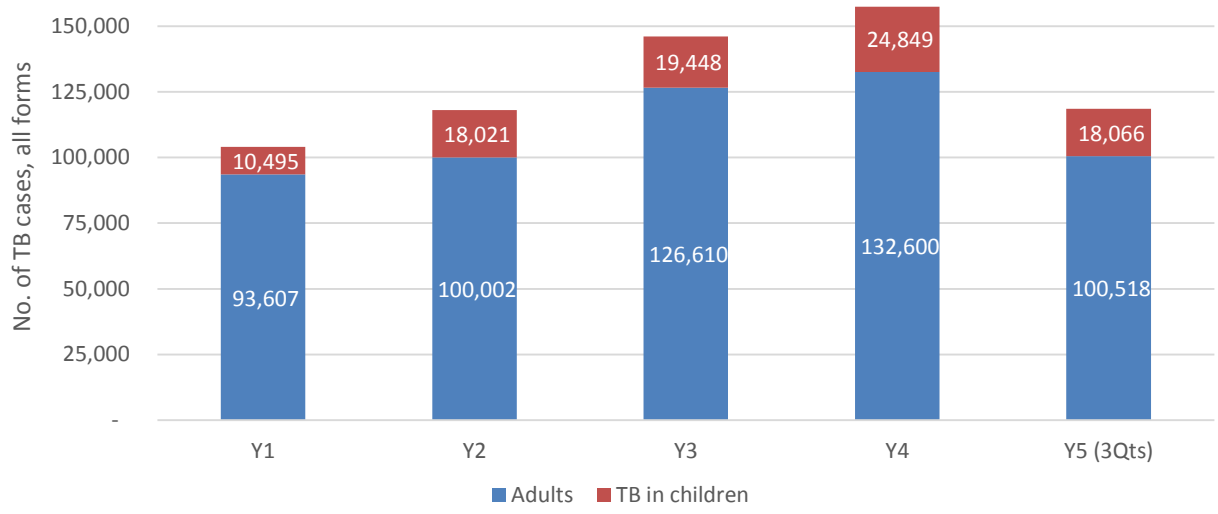
IMPACT is consolidating project experiences in systematic screening among vulnerable groups into a compendium. The reports on indigenous people, congregate elderly setting, malnourished children as well as regional/provincial level mapping had already been completed. However, transitioning from PhilPACT to PhilSTEP1 required the Project to support DOH-NTP and local NTP teams in regionalizing the new strategic plan. IMPACT had to defer completion of the full report on systematic screening among the urban poor, congregate child settings, and household contacts. The compendium will thus be completed during the extension period.

a. TB in children

By end of Year 5, the Project has exceeded by 6% the end-of-project target for number of children treated for TB.

The number of TB cases among children increased from Year 1 to Year 5, but the increase in notification is still primarily among adult TB cases (Figure 9). In Years 4–5, 15–18% of total notifications in U.S. Government sites consisted of children, which was slightly higher than the country average of 11% (WHO 2016 report). Based on the current NTP clinical diagnostic criteria, case detection among children in USG sites has improved, which helped achieve the targets.

Figure 9. Notification of TB in Adults and Children in 43 USG Sites, Year 1–Year 5 (Oct 2012–Sept 2017)



Qts = quarter; Y = year

Increased pediatric TB case finding is due to a confluence of various factors, one of which is improved capacity of health workers to detect TB among children. Project-supported trainings on the new NTP MOP, TB disease activity assessment in children, and tuberculin skin testing have contributed to enhancing this capability, and this is discussed further under Component 4 in this report.

Under service delivery, the major intervention in Year 5 was intensified case finding for vulnerable children, specifically household contacts and malnourished children. Table 6 summarizes the number of TB cases detected among various vulnerable child groups. While these initiatives used different screening tools (e.g., symptoms, TST and/or chest X-ray) depending on local resources, the overall number needed to screen (NNS) was 15, which was much lower than the 50 NNS reported from previous contact-tracing activities of the Project (e.g., malnourished schoolchildren in Gen. Trias, Cavite). This shows that for children who often have no bacteriologic confirmation, diagnosis is much more variable and dependent on the clinical threshold set by the physicians. The use of Xpert MTB/RIF test in children following the roll-out of this diagnostic assay should be promoted and closely monitored.

Although scale of implementation is small compared to total number of child TB detected, these models were important demonstrations/showcase that were replicated by other LGUs and partners with no project support. For example, in **Cavite** and **Leyte** provinces the Department of Education Division Office collaborated with the respective DOH-ROs to support similar TB screening. Likewise, household contact screening in **Bukidnon** was supported by DO-RO10**.**

Table 6. Number of TB Cases Detected Among Various Child Groups in Selected USG Sites, 2017

Vulnerable child group	Project sites	No. screened	TB cases diagnosed and initiated in treatment	
			No.	Percent (%)
Malnourished schoolchildren	Cavite (Trece Martirez)	524	81	15.0
	Leyte (Barugo)	121	8	7.0
Malnourished children (community-based program)	Zamboanga Sibugay (Ipil)	345	5	1.4
Household contacts	Laguna (Cabuyao, Calauan, San Pedro, Sta. Rosa)	340	69	20.0
	Leyte	1,209	6	0.5
	Northern Samar	51	1	2.0
	Western Samar	115	5	4.0
	Tawi-Tawi	42	4	10.0
	Bukidnon (Maramag)	400	not yet available	
TOTAL		**2,747**	**179**	**7.0**

Case finding among the groups listed in the above table followed the "TB caravan" approach, which included provision of services on-site. Apart from this, the Project also monitored and mentored community health volunteer supervisors on routine contact tracing with symptom screening and referral to the RHU (see also discussion under Component 1 of this report). The yield in terms of presumptive TB identified by CHVs through symptom screening is presented in Table 7.

Table 7. Number of Presumptive TB Cases Identified by Community Health Volunteers through Symptom Screening in 7 USG Sites, October–December 2016

Province	RHU/Health center	No. of contacts identified	No. of contacts screened	Presumptive TB cases identified	
				No.	Percent (%)
Aklan	Buruanga	303	211	27	13
Leyte	Matag-Ob	141	141	12	9
Leyte	Matalon	165	165	14	8
Northern Samar	Mondragon	311	311	0	0
Western Samar	Tarangnan	333	333	13	4
Western Samar	Catbalogan	92	92	0	0
Western Samar	Calbiga	103	103	4	4
Western Samar	Gandora	282	282	17	6
Sulu	Jolo	183	183	36	20
Quezon City	12 HCs	521	521	222	43
Cavite	Alfonso	99	94	86	90
Cavite	Aguinaldo	120	120	101	84
TOTAL		**2,653**	**2,556**	**532**	**21**

b. TB in jails and prisons

By the end of Year 5, 93% of the target jails have been engaged, with no new jail added. The masterlist of jails was updated as was done in Year 4. With the closure of some facilities, the total number of jails in U.S. Government sites was reduced by 10.

IMPACT supported TB mass screening in jails in terms of planning and preparations while GF provided most of the logistical support. In Year 5, the Project assisted seven jails in five provinces (**Cebu** Provincial Jail, **Leyte** Regional Prison, **Bukidnon** Provincial Jail, Valencia City Jail and Malaybalay Provincial Jail in Bukidnon, **Misamis Oriental** Provincial Jail, and Dipolog City Jail in **Zamboanga del Norte**). A total of 7,820 inmates were screened, with at least 138 TB cases diagnosed and initiated on treatment. As of this writing, data on TB cases diagnosed was yet unavailable for the last three jails, which conducted screening only in September 2017.

The Project has finalized the guidelines for TB mass screening developed in collaboration with DOH-NTP, International Committee of the Red Cross, Bureau of Jail Management and Penology (BJMP), and Bureau of Corrections.

IMPACT also drew up the activity design for, and facilitated TB program reviews for three regional jails with funding from DOH-RO3, RO7, and RO8. Together with the BJMP regional nurse coordinator and/or PHO coordinator, the Project monitored 20 jail facilities in **Nueva Ecija** (5), **Bukidnon** (2), **Misamis Oriental** (7), **Sarangani** (5), and **Basilan** (1).

c. TB in disasters

On May 23, 2017, Marawi City in **Lanao del Sur** was attacked by armed groups resulting in a prolonged siege that was just being concluded at the time of this writing. The fighting displaced thousands of residents who resettled in internally displace population (IDP) camps in neighboring municipalities in Lanao del Sur (with Saguiran holding the most refugees) and in Iligan City, Surigao del Norte. Combat operations also disrupted health services in the city, including drug-resistant TB treatment services for Lanao del Sur province provided by the Amai Pakpak Medical Center located in Marawi City.

In Q4Y5, the Mindanao project team met with DOH -ARMM at its operation center in Iligan City to facilitate implementation of the TB in disaster policy (AO 2015-0039). IMPACT facilitated the generation of patient lists through ITIS and discussed the tracing of patients in IDP camps. Subsequent meetings with Saguiran RHU and DOH-RO10 and the actions of the local health staff led to the tracking of displaced TB patients. Within the two-month period before being declared lost-to-follow-up, only 11 (28%) of 39 DRTB patients and 15 (12%) of 123 DSTB patients were successfully re-enrolled in treatment. The rest were lost and presumed to have moved in with relatives outside the IDP camps.

Aside from patient tracking, the Project assessed TB health services in Saguiran IDP camps. Based on this assessment, IMPACT proposed to include the following activities in the project extension plan: strengthen the capacity of evacuation center health team to provide TB services; provide mobile TB facility with X-ray, microscopy or Xpert services; and provide IEC materials in some evacuation centers.

Subcomponent 2.3 Strengthen Drugs and Logistics Management Capacity

Monitoring and reporting in project sites showed that only 15 DOTS facilities experienced stock-outs during the quarter, mainly of anti-TB drugs for children. While stock-outs of Category 2 anti-TB drugs were also reported, these were less significant as the DOH-NTP has already issued a policy stating the phase-out of Category 2 in favor of Category 1 or DRTB regimen based on Xpert MTB/RIF test results.

Project intervention for drug supply management (DSM) was limited to monitoring and mentoring. Monitoring of drug stocks was integrated in the project monitoring tool for DOTS facilities (RHUs and health centers). Among 133 LGUs (municipalities/cities) with data, only 25% (33/133) reported procuring pediatric anti-TB drugs during the year. This was much lower than the 35% (149/423) LGUs that reported procurement of pediatric anti-TB drugs in Year 4. Despite this, only 1% of DOTS facilities reported stock-outs compared with 9% in Year 4. This indicates that the national drug supply was more steady this year and is consistent with the distribution of the pediatric fixed-dose combination initiated by DOH-NTP in 2017.

Apart from the monitoring and mentoring on quarterly drug requisition, the Project conducted a follow-up meeting in **Sarangani** for drug supply management re-assessment one year after the training on "Practical Guide to Pharmaceutical Management," a technical guide developed by SIAPS. Noted deficiencies include inadequate storage space and failure to submit regular requisition for anti-TB drugs.

The problem on requisition was extensively discussed and actions were agreed on. Detailed results were reported in Q2Y5 report.

A draft technical report on drug supply management intervention provided by SIAPS discussed the problems encountered in Region 4A, including procurement, delivery, and occurrence of stock-outs. IMPACT will await the final report for review and further recommendations.

Subcomponent 2.4 Service Delivery Improvement through Efficient Program Management

The major activities under this subcomponent were data quality checking and monitoring and mentoring visits to health facilities.

a. Data quality check (DQC)

By end of Year 5, almost all U.S. Government sites have conducted data quality check. Only two highly urbanized cities (San Juan and Taguig) were not able to conduct DQC at the city level, but participated in regional DQC activities.

Regions and provinces in USG sites currently use the DQC procedures developed by IMPACT in Year 4 for DQC of ITIS-generated reports. This was disseminated by DOH-NTP among all regions. Monitoring of DQC results in Region 4A provinces as well as **Lanao del Sur** and **Basilan** showed improvement in data accuracy but less in completeness due to intermittent internet signal that hindered the generation of ITIS reports. Compliance with Xpert MTB/RIF testing of presumptive DRTB was uniformly low in all areas owing to the limited number of Xpert sites.

During the year, IMPACT conducted a pilot run of the WHO Routine Data Quality Assessment procedures. Major findings across 18 DOTS facilities and 129 sampled patients in nine provinces were: 99% consistency of case-finding report, 95% consistency of treatment outcome report but only 66% completeness of outcome report in DOH ITIS, 79% referral rate of presumptive drug-resistant TB for screening, 75% treated within one week of diagnosis, 88% with accurate assignment of cured outcome, and 91% enrolment rate among smear-positive cases in the laboratory register. The WHO RDQA was incorporated in the technical assistance package "Guidelines for the Conduct of Data Quality Check."

Program implementation review (PIR) was also conducted in **Maguindanao** and **Lanao del Sur**, the two mainland provinces of ARMM. Both PIR workshops assessed NTP performance based on PhilPACT as the framework. Marked improvement in case finding and treatment success for the past five years was noted for both provinces, although Lanao del Sur has yet to reach the national targets. In the same venues, the Project presented the new Philippine Strategic TB Elimination Plan Phase 1 (PhilSTEP1 2017–2022) as basis for planning.

b. Monitoring and mentoring

The Project visited DOTS facilities to follow up on the outputs of previous TA and provide mentoring to health staff. In four quarters, the Project conducted a total of 601 visits to USG sites, including 32 facilities in Q4Y5.

Monitoring findings were variable and site specific. These were used by the Area Facilitators to provide recommendations to each visited site. Two significant improvements were generally noted: (i) household

contact tracing was more consistently done during follow-up visits after mentoring the RHU staff on engaging community health volunteers/*barangay* (village) health workers for contact investigation, and (ii) attribution of cases to specific sources (e.g., community, private) had improved as seen in the presumptive TB master list. A consolidation of the major findings and progress in subsequent visits will be included in the end-of-project report. Monitoring and mentoring of CHV supervisors on intensified case finding is discussed under Component 1 in this report.

Planned Activities for the Project Extension

1. Finalize the compendium for TB interventions among vulnerable groups
2. Endorse the final draft policy on systematic screening for TB risk groups and vulnerable populations
3. Develop activity design and tools for PhilSTEP1 performance assessment and improvement planning activity/workshop
4. Finalize the regional PhilSTEP 1 plans in the following regions: CAR, RO3, RO4a, RO5, RO6, RO9, RO11, and ARMM
5. Finalize the technical assistance packages

Quarter 4 Year 5 Milestones

Table 8. Status of Component 2 Q4Y5 Milestones, July–September 2017

TA Intervention	Milestone	Status
Subcomponent 2.1 Improve Access to TB Services by Expanding Service Delivery Points		
National policy on TB DOTS referral network	Technical advisory and other supporting documents submitted to NTP	DONE
	Draft of AO on TB DOTS referral network submitted to NTP	DONE
Pharmacy DOTS Initiative (PPhA sub-grant)	Final report from PPhA approved by IMPACT	DONE
	Submitted Final report on assessment of PDI approved	DONE
Engagement of private hospitals (PTSI sub-grant)	Final report on standalone practice (SAP) approved	DONE
	Among PTSI-engaged hospitals: At least 9,000 presumptive TB referred from engaged private hospitals in the past quarter At least 2,500 TB cases from engaged private hospitals are initiated into treatment in the past quarter	DONE DONE
	Final report on assessment of private hospital engagement approved	DONE
Assessment of workplace engagement (internal)	Final report on assessment of workplace engagement approved	DONE
Assessment of remote	Final report on assessment of RSS approved	FINAL REVIEW ONGOING

Table 8. Status of Component 2 Q4Y5 Milestones, July–September 2017

TA Intervention	Milestone	Status
smearing stations (internal)		
Revision of administrative order on quality assurance for DSSM	Draft of revised AO on quality assurance for DSSM submitted to NTRL Technical Advisory on Revision of EQA policy submitted to NTP	DONE DONE
Quick guide to microscope preventive maintenance	Distribution of quick guide to TMLs in USG sites completed	ONGOING
Job aid/poster on microscope preventive maintenance	Distribution of posters to TMLs in USG sites completed	ONGOING
ISO 15189 accreditation of NTRL	NTRL accredited for ISO 15189	Project-level intervention complete (ISO 15189 accreditation of NTRL recommended by PAB)
Subcomponent 2.2 Expansion of DOTS Services in ARMM and Special Settings		
Policy recommendation on systematic screening among vulnerable groups	Technical advisory submitted to DOH-NTP	DONE
Engagement and monitoring of barangay malaria microscopy centers (BMMCs) as TB microscopy laboratories	Training of BMMC as TML completed (Isabela) Monitoring report on BMMCs as TML	DONE DONE
Internal assessment of itinerant medical technologists and equipment microscope support (internal)	Final report on assessment of itinerant medtech and microscope equipment support (internal report)	DONE
Subcomponent 2.3 Strengthen Drugs and Logistics Management Capacity		
Improving drug supply management (DSM)	Report to map out the timeline of national, regional and local procurement and correlation this with stock levels and occurrence of stock-outs in region 4A.	NOT DONE (will refer to final SIAPS report)
Subcomponent 2.4 Service Delivery Improvement through Efficient Program Management		
Updating of technical assistance packages	Updated TA packages finalized: 1) Establishing local DOTS networks 2) Quick guide on microscope preventive maintenance and troubleshooting 3) Data quality check of ITIS data 4) Establishing zonal EQA 5) TB caravan (systematic screening among vulnerable groups)	NOT DONE (will be finalized during project extension)

COMPONENT 3. Ensuring Timely Delivery of Appropriate MDR/XDR-TB Services

Component 3 aims to address the problem of drug-resistant tuberculosis (DR-TB) in the country. It has three sub-components, namely (i) strengthening the leadership and regulatory capacity of the National Tuberculosis Control Program (NTP) and the National TB Reference Laboratory, (ii) increasing treatment adherence through the use of modern technology, and (iii) scaling up the use of rapid diagnostic tests.

PMDT Indicators

For Year 5, PMDT data generated on October 23, 2017 from DOH Integrated TB Information System (ITIS) showed that of the 61,609 presumptive drug-resistant tuberculosis (DRTB) cases screened in 96 PMDT facilities in and serving U.S. Government-assisted sites, a total of 4,065 patients were either bacteriologically or clinically diagnosed to have DRTB. This total is equivalent to 89% of the 4,583 end-of-project target (Box C3.1).

Of the 4,065 patients, 3,857 patients were confirmed to have rifampicin-resistant (RR) TB, 145 patients have clinically diagnosed DRTB, and 50 others have resistance to any of the first-line anti-TB drugs.

Box C3.1 shows the figures for Q1Y5 and Q3Y5 that were adjusted to reflect updated ITIS data. DOH-NTP had its semi-annual data quality check (DQC) in July 2017; hence, the figures shown here were corrected based on the DQC.

The performance target could have been met if all presumptive DRTB cases in all rural health units (RHUs) and under the care of private physicians were correctly identified and referred for Xpert MTB/RIF testing. Project monitoring that cases were missed in the RHUs because of lack of awareness of staff (even if they were trained) on the updated NTP Manual of Procedures; and lack of efficient recording, reporting, and monitoring.

To help improve case finding during the project extension period, IMPACT will continue to monitor and mentor selected priority sites and help PMDT facilities in screening the contacts of diagnosed DRTB cases. The Project will engage private physicians to refer presumptive TB patients for Xpert testing and will develop a mechanism with the LGUs to ensure that specimens from these physicians can be tested in rapid TB diagnostic laboratories (RTDLs; previously called Xpert sites).

Box C3.1 **Indicator: Number of new MDR-TB cases diagnosed**		
Y5 target = 4,583	**EOP target = 4,583**	**Achieved previous quarter =** **Q1Y5= 983** **Q2Y5= 1,079** **Q3Y5= 992** (updated as of Oct 23, 2017)
Achieved this quarter (Q4Y5) = 1011 (as of Oct 23, 2017)	**Cumulative progress to date = 4,065**	**% Progress towards EOP target = 89%**

A total of 3,633 new MDRTB patients were initiated on treatment in Year 5. This is equivalent to 79% of the end-of-project target. Box C3.2 shows the adjusted figures for Q1Y5 and Q3Y5 to reflect updated ITIS data.

The Project covers 58% (96 of 166) treatment facilities nationwide, and was able to contribute 65% (3,633 out of 5,576) to the total national MDRTB enrollment. The low number of cases initiated treatment may be attributed to the following: (i) patients refused to be treated because of distance of treatment facilities, (ii) patients were not informed of the test results (especially those who went directly to an RTDL, and (iii) failure of the satellite treatment center (STC) or RHU staff to follow up on newly diagnosed patients with DRTB.

For the extension period, the Project, in collaboration with DOH-NTP and Provincial Health Office (PHO) NTP teams, will intensify its monitoring and supervisory visits to Xpert and PMDT treatment facilities in identified priority sites. The Project will schedule the visits through the common calendar for PMDT monitoring that has been put in place to allow DOH-NTP, WHO, and other partners to set one schedule for monitoring and mentoring. DOH-NTP has decided to integrate PMDT monitoring with that of IMPACT and the NTP teams at the regional, provincial, and city levels. The Project will take advantage of this move. The additional staffs hired by the Global Fund for TB project (GF-TB) can further intensify their role in tracking diagnosed patients for immediate treatment. Hiring additional staff, which DOH-NCR Regional Office did from the sub-allotment of NTP-central, can be replicated in other regions.

Box C3.2 **Indicator: Number of new MDR-TB cases that have initiated second-line treatment**		
Y5 target = 4,583	**EOP Target = 4,583**	**Achieved previous quarters:** **Q1Y5 = 885** **Q2Y5 = 1007** **Q3Y5 =936** (updated as of Oct 23, 2017
Achieved this quarter (Q4Y5): 805 (as of Oct 23, 2017)	**Cumulative progress to date = 3,633**	**% Progress towards EOP target = 79%**

Subcomponent 3.1 Strengthen NTP and NTRL Leadership and Regulatory Capacity

a. Strengthening NTP PMDT

(i) National implementation of PMDT

Development of PMDT implementing guidelines. IMPACT assisted DOH-NTP in revising the policies in PMDT implementation and developing the PMDT implementing guidelines. IMPACT specifically contributed to the sections on case holding, laboratory diagnosis, logistics management, monitoring and evaluation, health promotion, and palliative care. The set of guidelines was officially disseminated by DOH-NTP in August 2017.

Implementing standard short-treatment regimen (SSTR) for MDRTB. The programmatic implementation of standard short-treatment regimen to treat patients with MDRTB started in January 2017. Prior to this, a study titled "Feasibility, effectiveness, and safety of 9-month treatment regimen for

multidrug-resistant tuberculosis in the Philippines" (9MTR) was conducted in 10 PMDT facilities in the country. The Project took part in developing the 9MTR research protocol.

As part of IMPACT's technical assistance to DOH-NTP, the Project assisted in analyzing the outcomes for the cohort of patients enrolled in the 9MTR study. A total of 329 patients were recruited to participate in the study. Of this number, 260 patients already have their final outcomes. Initial analysis showed that 188 (72%) patients were successfully treated and 14% were lost to follow-up attributed to behavioral reasons and uncontrolled adverse drug reactions (ADRs). Data on the remaining 69 patients still on treatment will be analyzed by the end of the year.

IMPACT also participated in monitoring the sites where the 9MTR protocol was rolled out. Together with WHO, DOH-NTP, and partners from the DOH Regional Offices 9, 10 and National Capital Region (NCR), the monitoring team mentored and guided the PMDT facility staff in identifying implementation issues and analyzing the accomplishments of the facility. The monitoring team recommended ways to (i) reduce the time from consultation to treatment initiation by adding additional line probe assay machines (only one LPA machine is available nationwide; hence, turnaround time averages 5-7 days with the longest TAT at more than 30 days), submitting quality specimens for LPA testing to avoid invalid results, and immediately following up on test results and counseling patients; (ii) address treatment interruption by immediately identifying and addressing adverse drug reactions; and (iii) decentralize services to the RHUs.

Tuberculosis Medical Advisory Committee (TB MAC) guidelines. Formerly called consilium**,** the TB MAC is a case-management committee composed of health care providers with expertise in managing DRTB. Its task is to review clinically diagnosed cases, approve those for empiric treatment, and provide recommendations on difficult cases (e.g., patients with renal or liver failure, those with uncontrolled ADRs, pregnant women). Implementing SSTR called for enhancing the roles and composition of the consilium. The consilium was thus officially reconfigured into the TB MAC in August 2017 when the PMDT guideline was released.

In support of the TB Medical Advisory Committee, the Project developed the TB MAC guidelines in collaboration with NTP, NTRL, TASC, TREAT TB, and USAID. The guidelines were intended to provide technically sound and evidence-based recommendations to clinicians and health care providers who manage patients with DRTB and those with difficult-to-treat DRTB in order to correct diagnosis and management and to prevent development of further drug resistance and further complications due to TB disease. The set guidelines was released in August 2017 together with the updated PMDT Implementing Guideline.

Based on the reconfiguration, there will be a national TB MAC (N-TB MAC) and 17 regional TB MACs (R-TB MAC, and each will be composed of seven core members representing physicians and nurses from PMDT treatment facilities, any subspecialty group, and the NTP core team of the DOH central office. The clinicians will focus on the holistic medical management of patients while the member from DOH-NTP will specifically deal with the public health aspect of patient management (e.g., availability of treatment partners in the community). The N-TB MAC will meet at least once a month, while the R-TB MAC will meet at least twice a month. All difficult cases from STCs/TCs will be discussed by the R-TB MAC. When the body cannot reach a consensus, the case will be elevated to the N-TB MAC for final decision. The N-TB MAC will have the prerogative to consult international consultants to resolve the case. Unlike the set-up of the consilium where all diagnosed cases of DRTB are presented for initiation of treatment, TB MAC will only discuss management of clinically diagnosed DRTB, DRTB cases with special conditions

such as pregnancy, renal and liver failure, and psychiatric and neurologic disorder. Cases that are clearly stated and defined in the PMDT Guidelines such as initiation of treatment of uncomplicated cases, treatment outcome decisions, and management of simple ADRs should be managed by the STC physician and not presented to the TB MAC.

The guidelines include the use of a newly developed TB MAC registry, which was pilot tested in NCR starting March 2017. There were no recommendations to further revise the registry in the NCR. The registry will still be revised by NTP once all the R-TB MACs have been established and provided inputs on how to improve the registry. A total of 28 TB MAC meetings in NCR were held from March 3 to September 26, 2017, during which 406 cases (7-26 cases/meeting/week) were discussed. Starting June 14, 2017, cases discussed were limited to the TB MAC-recommended conditions and those with adverse drug reactions such as hearing loss, uncontrolled nausea and vomiting, renal and liver conditions, seizures and abdominal pains. Patients with unresolved ADRs and psychosocial issues were now followed up and monitored by the NCR TB MAC until such time that they are completely resolved.

To date, the N-TB MAC is now organized with eight permanent members from Lung Center of the Philippines, STC/TC physicians group, DOH-NTP, and IMPACT. An R-TB MAC has been organized in Region 5.

PMDT data quality. In July 2017, IMPACT assisted DOH-NTP in developing the procedural guidelines in the conduct of PMDT data quality check (DQC). The guidelines and DQC design include capacity building to enable PHOs and CHOs to conduct DQC for PMDT. For the succeeding years, PMDT DQC will be led by DOH regional offices and PHOs.

(ii) Strengthening local PMDT implementation

From October 2016 to Sept 2017, the Project completed 159 visits to 75 PMDT facilities and RHUs in U.S. Government-assisted sites and those serving USG sites. The project monitoring teams were joined by NTP representatives from 13 DOH regional offices (ROs 1, 2, 3, 4A, 5, 6, 7, 8, 9, 10, 12, NCR, and ARMM) and 30 PHOs/CHOs (NCR, 6; North Luzon, 5; South Luzon, 6; Visayas, 4; and Mindanao, 9).

DOH-NTP has decided to integrate PMDT monitoring in routine NTP monitoring at the regional, provincial, and city levels, and has joined the IMPACT project staff in some of the monitoring and mentoring visits. This integrated approach is expected to sustain the quality of PMDT implementation beyond IMPACT project life.

In Year 5, IMPACT focused on monitoring and mentoring the staffs of PMDT treatment facilities and RHU where patients from the STC/TCs were decentralized. Since the DOH-NTP central team did not have enough time to visit the implementing facilities, and GF-TB focused on monitoring the financial and administrative aspects of PMDT implementation, IMPACT took the role to ensure that the processes and systems from RHUs, RTDLs, TB culture, and DST laboratories to TC/STC (specifically in sputum packaging and transport system) and vice-versa are streamlined. The STCs/TCs were monitored and mentored using the project monitoring tool that was patterned after the NTP PMDT monitoring tool. NTP realized the importance of on-site monitoring; hence, there were more frequent NTP visits starting last quarter.

In Year, IMPACT monitored a total of 75 (78%) of 96 PMDT facilities. Visits to these facilities resulted in:

1. Improvement in recording and reporting (completeness of presumptive DRTB masterlist and recording of adverse drug reactions (in **Cavite**, **Laguna**, **Rizal)**
2. Improvement in enrollment (diagnosed cases are followed up and given treatment) of cases diagnosed with MTB/RIF susceptible (T) in PMDT facilities in **Nueva Ecija, Tarlac, Rizal, Mandaluyong, Basilan,** and **Tawi-Tawi**
3. Batasan Super Health Center in Quezon City and a health facility in Romblon adjusted the schedule of sputum collection from twice a week to five times a week to accommodate the increasing number of patients for Xpert testing
4. Health centers in **Pampanga** are now referring TB presumptive patients from vulnerable groups to Xpert sites for Xpert testing
5. **Bulacan** province engaged transport groups (tricycle and jeepney drivers and operators organizations) through the IMPACT-assisted Bulacan Multisectoral Alliance to support facilities in transporting sputum specimens to Xpert sites
6. In Antipolo, Cainta, and Taytay in **Rizal**, issues regarding patients' poor treatment compliance prompted a meeting with local stakeholders to ensure that these patients will be managed and given treatment near their homes. This led to the endorsement of patients to their respective health center in Rizal
7. The City Health Officer in Calamba **Laguna**, whose facility has limited treatment/clinic space, pledged to support the TB program and propose to the city government the expansion of the facility
8. In **Western Samar**, IMPACT and the PHO medical technologist coordinator helped resolve operational issues (e.g. lack of directional sign going to the Xpert site, lack of potable water) at the Xpert site in Samar Provincial Hospital
9. Paulino J. Garcia RHU in **Tarlac** constructed a comfort room for patients who experience gastrointestinal discomfort due to second-line anti-TB drugs
10. In **Cebu** province, cases with Xpert test result of "T" (MTB, rifampicin resistance not detected) and "TI" (MTB, resistance indeterminate) are now being followed up for treatment.
11. Improvement in tracing household contacts (e.g., in **Aklan**, **Northern Samar**, **Western Samar**, and **Davao Oriental**; in **Western Samar**, contacts of 3/3 patients in Catbalogan and 5/9 patients in Calbayog were traced)
12. Improved coordination between RHUs and STCs regarding decentralization, sputum collection and packaging, contact tracing, and interrupter tracing (e.g., in **Nueva Ecija**, **Rizal, Romblon**, **Masbate**, **Northern Samar**, **Western Samar**)
13. Improved submission of sputum specimens for follow-up examination among decentralized patients due to RHUs actively reminding the patients or providing assistance in sending sputum samples (e.g., in **Nueva Ecija**, **Tarlac**, **Aklan**)
14. Decentralized patients are now counseled by RHUs (e.g., in **Western Samar** LGUs: Calbayog, Catbalogan, Daram, Gandara, Zumarraga) to improve treatment adherence

IMPACT initiated regular quarterly consultative and planning meetings with rapid TB diagnostic laboratories, treatment centers, and satellite treatment centers (TCs/STCs); RHUs, provincial and city health offices (PHOs/CHOs) in **Northern Samar** and **Western Samar** in Region 8; and **Rizal** province in Region 4A. The meetings aimed to discuss and resolve PMDT implementation issues such as problems in case finding (e.g., contact tracing, referral of presumptive DR-TB, sputum transport) and case holding (e.g., decentralization, counseling, and compliance with sputum follow-up examinations). The DOH-RO8 NTP coordinator realized the value of the activity; hence, the Regional Office will continue the activity and appropriate a budget for it in preparation for the phase-out of IMPACT.

As previously reported in Q3Y5, IMPACT used the monitoring tool developed by TASC, DOH-NTP, and WHO to track travel time of patients from their residence to a PMDT treatment facility, treatment turnaround time (number of days from date of release of results to date of treatment initiation), and adherence rate (Table 9). In May 2017, IMPACT assessed 576 MDRTB patients registered in 28 facilities. Based on the findings, the average travel time of patients from their residence to a PMDT treatment facility was 48 minutes (range: 10–135 minutes). Patients who sought treatment in Romblon Provincial Hospital and Cagayan Valley Medical Center had the longest travel time (more than 2 hours) because they live in geographically isolated areas (islands, valleys).

Meanwhile, PMDT facilities like Gen. Emilio Aguinaldo Memorial Hospital STC in Cavite, Guimba RHU and Paulino J. Garcia Memorial Research and Medical Center in Nueva Ecija, and Tarlac Provincial Hospital were able to comply with NTP's standard turnaround time, which is seven days. Because RTDLs readily released MTB/RIF test results, and/or PMDT treatment facilities promptly accessed the results, patients initiated treatment forthwith. Guimba RHU and Sorsogon Medical Mission Group Hospital (SMMGH) in Sorsogon have notably high adherence rate (>90%). High adherence rate of these patients may be attributed to the good staff-patient rapport, engagement of LGUs (provision of additional enablers such as transportation and food), and engagement of other sectors in the management of patients. These good practices will be recommended to NTP to further improve PMDT case holding.

Table 9. Summary of PMDT Monitoring Findings Generated Using the NTP-TASC-WHO Tool, May 2017

Name of Facilities	Number of patients assessed	Duration of travel (average, in minutes)	Turnaround time (average, in days)	Adherence rate per facility (average, in percent, %)
Bulacan Medical Center, Bulacan	15	48.00	16.53	86.07
Cainta Municipal Hospital STC, Cainta	26	33.85	27.85	73.38
Calbayog CHO, Western Samar	4	40.00	90.00	80.50
Concepcion District Hospital STC, Tarlac	8	26.25	7.50	81.43
Cagayan Valley Medical Center, Cagayan Valley	10	**135.00**	21.50	56.33
Gumaca District Hospital, Quezon Province	22	37.27	21.41	78.64
Gen. Emilio Aguinaldo Memorial Hospital STC , Cavite	22	62.05	**6.86**	80.56
Gracepark Health Center, Caloocan City	20	30.00	30.00	71.45
Guimba RHU, Nueva Ecija	10	38.00	**5.80**	**96.69**
Ilocos Training and Regional Medical Center, La Union	34	40.68	17.44	78.71
Jose B. Lingad Memorial Regional Hospital, Pampanga	43	56.79	26.00	80.15
Lagrosa Health Center, Pasay City	12	10.00	32.00	78.88
Lung Center of the Philippines, Quezon City	38	30.00	24.68	72.24
Los Baños name of facility?, Laguna	22	39.77	10.18	75.45
Northern Samar Provincial Hospital	7	78.00	26.83	87.14
Paulino J. Garcia Memorial Research and Medical Center, Nueva Ecija	33	61.06	**5.30**	88.47

Table 9. Summary of PMDT Monitoring Findings Generated Using the NTP-TASC-WHO Tool, May 2017

Name of Facilities	Number of patients assessed	Duration of travel (average, in minutes)	Turnaround time (average, in days)	Adherence rate per facility (average, in percent, %)
Quezon Medical Center, Lucena City, Quezon	26	31.67	18.11	66.42
Region 1 Medical Center, Pangasinan	13	63.46	11.38	75.14
Rogaciano M. Mercado Memorial Hospital, Bulacan	10	36.00	46.20	66.80
Rodriguez RHU, Rizal	18	28.24	18.13	82.66
Romblon Provincial Hospital, Romblon	29	**124.44**	36.38	67.68
Schistosomiasis Control and Research Hospital, Leyte	26	45.72	26.38	65.60
Southern Isabela General Hospital, Cagayan Valley	13	57.69	11.64	60.35
San Jose City General Hospital, Nueva Ecija	16	53.75	7.69	69.36
Sorsogon Medical Mission Group of Hospital, Sorsogon	22	5.09	49.83	**98.11**
Dr. Jose N. Rodriguez Memorial Hospital, Caloocan	45	31.86	31.64	81.43
Tropical Disease Foundation, Inc., Makati City	9	45.56	17.11	77.72
Tarlac Provincial Hospital, Tarlac	23	46.09	**5.83**	**91.09**

In Q4Y5, IMPACT revisited 12 of 28 facilities that were visited in Q3Y5, and analyzed data on 268 patients (Table 10) (*note: only a few facilities were revisited because project staffing had been reduced in light of IMPACT closeout).* As the table shows, adherence rate decreased in time with the highest adherence rate in Paulino J. Garcia Memorial Research and Medical Center (PJGMRMC) in Nueva Ecija and the lowest in Batasan Super Health Center in Quezon City.

Only 12.5% to 55% of patients complied with at least 90% of their expected doses. The decrease in adherence rate was due to uncontrolled adverse events, conflict in work schedule, distance of STC from residence (some patients cannot be decentralized due to lack of trained staff in the RHU, especially if the patient is under the short term regimen), substance abuse and behavioral issues. Among the patients analyzed (though was not significant to draw a conclusion), majority were in crisis state (interrupted for more than four days during the entire duration of treatment), and only two facilities (Bulacan Medical Center and PJGMRMC) had 90% adherence rate in at least 50% of their patients. This calls for more rigorous interrupter follow-up and counseling.

For a better analysis of treatment adherence rate of each facility, the Project will recommended to DOH- NTP that each facility must have its own review of overall clinic performance that includes daily attendance of patient (treatment adherence), contact tracing, interrupter tracing, decentralization, and drug management. Aside from the usual program indicators presented in DQC, these quality assurance indicators will help improve the care for PMDT patients. Since DQC will now be done by DOH-ROs and PHOs, there will be more time to present these additional quality of service indicators, which will help in determining actions to improve overall PMDT facility performance.

Screening of household contacts is also a challenge in all PMDT treatment facilities visited. Four of five facilities do not have a record of patients' contacts. Cainta RHU and General Emilio Aguinaldo Memorial

Hospital STC were the only facilities that screened at least 30% of patients' contacts. Contacts are a potential source of TB disease; hence, IMPACT will prioritize screening of contacts during the extension period.

Table 10 also shows that in PMDT facilities visited, only Cainta RHU decentralized 34% of the patients analyzed. Decentralization was hampered probably by lack of trained RHU staff, refusal of patients to be decentralized, and lack of critical stocks of second-line anti-TB drugs (levofloxacin). During the project extension, IMPACT will continue to mentor STC/TC staff on decentralization.

Table 10. Summary of PMDT Monitoring Findings using the Project-revised NTP-TASC-WHO Tool

Name of Facilities	Number of patients assessed	Duration of travel (average, in minutes)	Turnaround time (average, in days)	Adherence rate per facility (previous visit) (average, in percent)	Adherence rate per facility (most recent visit) (average, in percent, %)	Number and percentage of patients with at least 90% adherence rate	Household Contacts screened (number and %)	Patients who are Decentralized (number and %)
Bulacan Medical Center, Bulacan	11	48	13	88	81%	6 (55%)	8 (23%)	0
Cainta Municipal Hospital STC, Cainta	26	33.85	27.85	69	67%	8 (31%)	16 (39%)	10 (34%)
Gumaca District Hospital, Quezon Province	20	35	37.65	74	71%	7 (32%)	no data	1 (5%)
Gen. Emilio Aguinaldo Memorial Hospital STC , Cavite	21	66	7.05	78%	63%	3 (14%)	17 (33%)	3 (14%)
Jose B. Lingad Memorial Regional Hospital, Pampanga	29	59	31.55	69%	66%	5 (17%)	no data	0%
Lung Center of the Philippines, Quezon City	38	30	24.68	74%	72%	12 (32%)	1 (2%)	5 (13%)
Los Baños Rural Health Unit, Laguna	20	39.25	10	74%	69%	5 (25%)	0 (0%)	0%
Paulino J. Garcia Memorial Research and Medical Center, Nueva Ecija	32	61.06	5.71	88%	84%	17 (53%)	no data	4 (12.5%)
Quezon Medical Center, Lucena City, Quezon	24	31.67	20.83	63%	64%	3 (12.5%)	7 (30%)	2 (8%)
Region 1 Medical Center, Pangasinan	10	58.5	8.9	74%	68%	2 (20%)	no data	1(10%)
Rodriguez RHU, Rizal	18	28.24	18.13	77%	72%	7 (39%)	0%	0%
Batasan Super Health Center, Quezon City	19	30.25	18	76%	61%	2 (11%)	1 (3%)	0%

IMPACT will use the monitoring findings to advocate, with the DOH-ROs and LGUs, for improving NTP services, including supervision and monitoring of STCs/TCs, RHUs, and RTDLs to prevent emergence of drug-resistant TB, assist diagnosed patients to comply with community-based patient care, and provide additional enabler support.

b. Strengthening NTRL

(i) Biosafety training manual development

IMPACT initiated the development of a local version of the biosafety training manual with FHI 360, NTRL, SIAPS, and other partners. However, due to other important activities, SIAPS begged off and was not able to participate in the manual development. The manual is designed to improve the skills of TB laboratory workers at all levels (culture and drug susceptibility testing centers, RTDLs, and TB microscopy laboratories) in proper infection control and responding to emergency situations while

working in the laboratory. A pilot training was conducted in February 2017 with representatives/trainees from NTRL, select regional TB reference laboratories, public and private TB microscopy laboratories (TMLs), and IMPACT technical specialists as trainees. The manual was updated based on the trainees' inputs. Taking off from their recommendation, IMPACT developed separate biosafety modules for TMLs, rapid TB diagnostic laboratories, and culture and drug susceptibility testing (DST) laboratories.

In July 2017, the Project in close collaboration with NTRL, did a second field test using the revised manual. This was participated in by TML, RTDL and DOH-RO NTP medical technologist coordinators. The manual would have been finalized in July. However, due to conflict in schedule with partners, the review of the final biosafety training manual (with workshops and video presentations) was delayed. The Project will endorse to NTRL a printed version of the manual during the extension period.

NTRL plans to incorporate this training material in part or in whole in their future trainings on DSSM, Xpert MTB/RIF testing, and TB culture/DST. NTRL also sees this initiative as part of its support to PhilSTEP Strategy 5, which requires that *All TB culture and DST laboratories meet biosafety standards.*

Subcomponent 3.2 Increase Treatment Adherence through the Use of Modern Communications Technology

a. Adoption of the GxAlert system

GxAlert is an internet database application system that works as a laboratory information system capable of sending real time notifications (SMS and email), generate real time reports, and monitor overall utilization and performance status of each Xpert MTB/RIF machine, including inventory and calibration schedules. IMPACT and PBSP-GF supported this initiative and commissioned SystemOne to install the system and train its users. In April 2017, SystemOne trained local counterparts (IMPACT, KMITS, NTRL, NTP, DOH-RO 4A, and Laguna PHO) in installing and monitoring the GxAlert system in the country. The
local team cascaded the training to DOH-ROs 3 and 4A and thereafter to the PHOs.

For sustainability, the DOH server hosts the system so that it can be linked directly to ITIS. As of September 6, 2017, 6,451 Xpert MTB/RIF results from all sites included in the GxAlert system are already uploaded in ITIS and will soon be matched by KMITS with the PMDT treatment facilities' patients' data base. Once the unique identifier (e.g. PhilHealth number) for each patient is determined by NTP, the matching will proceed. As of this reporting, the timeline for this is not yet set by NTP. This step will unload the PMDT Treatment Facility and laboratory facility staff from repeatedly encoding patient's demographic data, and will decrease turn-around time from testing to release of results.

Initially, five RTDLs in Laguna were chosen as demonstration and training sites. Currently, GxAlert are already installed as planned in 40 RTDLs in Region 3 (Bulacan, Nueva Ecija, Pampanga, Tarlac), and Region 4A (Batangas, Cavite, Laguna, Quezon, Rizal). Thirty-nine of these GeneXpert machines are already transmitting data to GXAlert dashboard and can be remotely viewed through Philippine GxAlert website (http://philippines.gxalert.com). Access to the dashboard (through the GxAlert Website) was also provided to 18 individuals from national level (i.e. NTP, NTRL and KMITS), 13 from DOH-RO level (including program officers from PBSP), 3 from PHO, and 63 operators of the GeneXpert machines stationed in RHU/HC laboratories and government hospitals. If NTP and NTRL will continue

implementing the GxAlert system, the DOH-NTP (central and regional/provincial health offices), NTRL will be able to use the data generated from the dashboard to advocate with national and local governments for additional funding and other support.

The SMS notification features of the system that prompt patient on availability of test results are already available and have been validated as functional in all sites. In Batangas Medical Center PMDT STC, however, not all patients were able to receive notification on the availability of results because the additional machine does not have the Gx Alert system yet. The Project will look into possibility of installing the GxAlert system in the additional machine so that all results will be accessed through the GxAlert dashboard. The 40th modem was supposed to be functional in De La Salle Health Sciences Institute (DLSHSI) RTDL. However, IMPACT monitoring in September 2017, found that technical issues in the in-hospital information system needed to be fixed first. The issue (removal of the computer card) has been identified and DLSHSI has given the go signal to attach the modem to the GeneXpert machine. This issue will be followed up next quarter. Once fixed, all data from the machine since it has been installed will still be transmitted to GxAlert system.

IMPACT did on-site monitoring of the functionality of the GxAlert system. Findings of the monitoring are shown in Table 11.

Table 11. GxAlert Monitoring of Systems and Notifications

Parameters		GX site with STC		GX site only		TOTAL
		HC/RHU	Hospital	HC/RHU	Hospital	
GX Alert systems	*GX Computer used exclusively for GX Alert*	20	15	3	2	**40**
	Transmitting data to dashboard	20	14	3	2	**39**
	Sending SMS notification to patient	20	14	3	1	**38**
	Calibration	13 overdue 7 updated	11 overdue 3 updated	1 overdue 2 updated	1 overdue 1 updated	**39**
	Inventory	14 updated 6 not updated	6 updated 9 not updated	3 updated	1 updated	**39**
Notifications	*GX site sending SMS to patients*	20	15	3	1	**39**
	GX site with email report	20	15	3	1	**39**

It was noted that 26 (67%) of 39 GeneXpert machines needed to be calibrated. This has been elevated to DOH-RO and NTRL for appropriate action. Due to glitches on the inventory features of the GxAlert system and lack of orientation on how to update the inventory, 15 of 39 sites failed to update the inventory of cartridges. After IMPACT consulted with SystemOne to resolve the glitches, IMPACT, during the monitoring activity, advised the RTDL staff to regularly update the data.

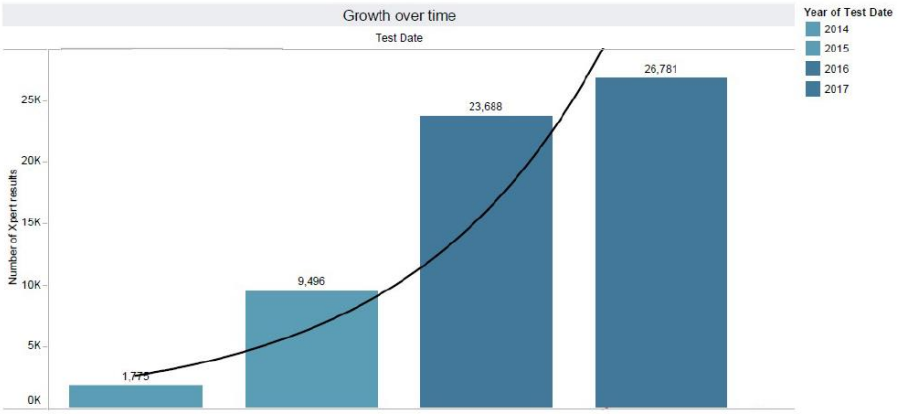
As part of continuing capacity building, SystemOne trained local counterparts via Webex and regular twice monthly meetings were held via Skype to discuss and resolve system issues and glitches. One of the glitches is the notification for referring physicians, which is now being resolved by SystemOne. Part of the glitch is an additional field for contact information of physicians. Once fixed, the machine operators will be reoriented on encoding the contact numbers.

An on-line session on deep dive analysis of data from GeneXpert machines with GxAlert system was also provided by SystemOne. The objective of the session was to present the data and results as collected and used by the in-country team with analytical insights into programmatic reporting, quality assessment, TB resistance profiles, instruments utilization and custom field reporting to allow NTP and NTRL teams to gather a multi-layered overview of the system and GxAlert data. Data analysis showed the following:

(i) Program data

Custom field data. In areas where GxAlert was installed, custom field data (e.g., Xpert MTB/RIF results, demographics of patients, point mutation, cartridge inventory) rose from 1,175 in 2014 to 26,781 in 2017 (Figure 10). This data will serve as an additional reference for the analysis performance monitoring of the program as a whole.

Figure 10. Growth of Data Over Time, 2014–2017



Instrument utilization. GxAlert was also used to analyze the yearly, quarterly, and monthly utilization rates per site. The country set at least 8 tests per day to give way to possible module dysfunction and to allow time for staff to prepare specimens and reagents. However, if the country would like to maximize the use of each GeneXpert machine, 750 tests per quarter (12 tests per day x 21 working days per month x 3 months) per machine should be set as the minimum utilization target for sites with machines that can run four tests simultaneously. Based on the graph below (Figure 11), the overall average utilization for Q1 and Q2 2017 based on the maximum 12 tests per day was 33% across all GeneXpert machines with GxAlert System (this is affected by sites with <50% utilization rates). This indicates that most sites have room for further testing capacity.

Figure 11. GeneXpert Machine Utilization per Quarter, January–June 2017

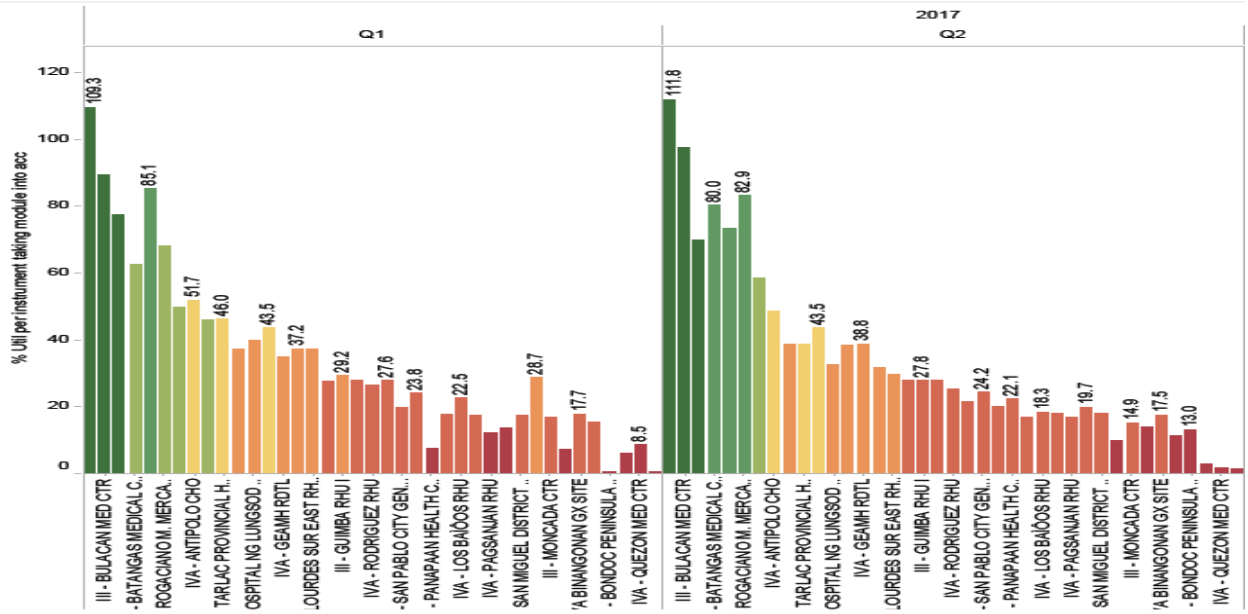


Table 12 shows some sites that achieved good utilization rates (e.g., Paulino J. Garcia Memorial Research and Medical Center in Nueva Ecija, Bulacan Medical Center, Rogaciano M. Mercado Memorial Hospital in Bulacan, Batangas Medical Center, Jose B. Lingad Memorial Regional Hospital in Pampanga, and NTRL). Others were below the average (e.g., Binangonan, Quezon Medical Center, Claro M. Recto Memorial Hospital). The high utilization of the test is influenced by increased in number of referrals of both presumptive TB and DR-TB from the RHUs due to increase in awareness about the availability of the rapid diagnostic test. The Under-utilization could have been influenced by the number of modules available at the sites, (though there are 4 modules in one machine, not all modules are functional in some sites), the number of specimens received or the frequency of testing days allotted per week (e.g. processing of specimen in some of the RTDLs is twice or thrice weekly only.

On the other hand, Table 13 shows low utilization of tests in Bulacan, Bulacan Medical Center (95% utilization at 12 tests per day), and Rogaciano Hospital (105% utilization at 12 tests per day) has very high test load while the other two RTDLs in San Miguel (16%) and San Jose Del Monte Bulacan (36%) have very low utilization per machine. With this finding in Bulacan Province, the former PHO NTP nurse coordinator decided to pool the excess specimens from Bulacan Medical Center and Rogaciano Hospital and send them to the other RTDLs in Bulacan for testing. A sputum transport mechanism through engagement of transport groups was one of the strategies of the province. Whether this has already been started will be followed up with the newly assigned PHO-NTP nurse coordinator in coordination with GF-TB. While an additional machine is being requested to address this issue, it was also recommended by the project to the province to tap the support from GF-TB to transport the specimen

either via courier or transportation support for the staff. For other facilities with very low utilization, there is a need to intensify the advocacy to the RHUs, private physicians to refer presumptive TB/DRTB. This will be done by the project in collaboration with the respective NTP teams in priority areas during the extension period.

For areas with low utilization, this is now a signal for the NTP to fully implement the expanded use of Xpert MTB/RIF as primary diagnostic tool for identified vulnerable groups, patients with CXR positive-DSSM negative results and all presumptive DR-TB. The NTP must also re-orient the RHU staff on proper identification of above mentioned cased through on site monitoring and mentoring and DQC activities.

Table 12. Sites with Good Utilization of Rapid TB Diagnostic Test, April–September 2017

Facility Name	Ave/day (Apr - Sept 2017)	% Utilization/day (8 as benchmark/day)	% Utilization/day Max of 12 tests/ day)
III - BULACAN MEDICAL CENTER, Bulacan Province	12	150%	95%
III - Dr. PJGMRMC STC, Nueva Ecija	13	163%	105%
III - JOSE B. LINGAD MEM REG'L HOSP., Pampanga	11	138%	91%
III - ROGACIANO M. MERCADO MEM HOSPITAL, Bulacan	9	113%	75%
IVA - BATANGAS MEDICAL CTR, Batangas	8	100%	67%
NATIONAL TB REFERENCE LABORATORY, NCR	10	125%	82%

Table 13. Sites with Low Utilization of Rapid TB Diagnostic Test, April–September 2017

Facility Name	Ave/day (Apr - Sept 2017)	% Utilization/day (8 as benchmark/day)	% utilization/day Max of 12 tests/day)
Province of Tarlac			
III - TARLAC PROV. HOSP.	6	73%	49%
III - CONCEPCION DISTRICT HOSP.	2	30%	20%
III - MONCADA CTR	2	20%	13%
Province of Nueva Ecija			
III - SAN JOSE CITY GENERAL HOSPITAL	5	59%	39%
III - GUIMBA RHU I	4	44%	30%
Province of Bulacan			
III - OSPITAL NG LUNGSOD NG SAN JOSE DEL MONTE	4	54%	36%
III - SAN MIGUEL DISTRICT HOSPITAL	2	24%	16%
Pampanga			
III - LOURDES SUR EAST RHU III	4	55%	36%
III - MABALACAT RHU I	4	55%	36%

Facility Name	Ave/day (Apr - Sept 2017)	% Utilization/day (8 as benchmark/day)	% utilization/day Max of 12 tests/day)
Province of Cavite			
IVA - GEAMH RDTL	5	58%	38%
IVA - NAIC RHU	3	32%	21%
IVA - PANAPAAN HEALTH CENTER FLORAVILE SUBD. (BACOOR)	0	5%	4%
IVA - TAGAYTAY CHO	0	3%	2%
Province of Laguna			
IVA - CALAMBA CHO	5	57%	38%
IVA - STA ROSA CHO1	4	55%	37%
IVA - SAN PABLO CITY GENERAL HOSPITAL	3	36%	24%
IVA - PAGSANJAN RHU	2	28%	19%
IVA - LOS BAÑOS RHU	2	26%	17%
IVA - PANGIL RHU	1	18%	12%
Province of Batangas			
IVA - LIPA CITY CHO	4	48%	32%
IVA - TAAL RHU	3	37%	24%
IVA - SAN JUAN RHU	3	35%	23%
IVA - NASUGBU RHU	2	24%	16%
IVA - CLARO M. RECTO MEMORIAL DISTRICT HOSP	0	4%	2%
Province of Rizal			
IVA - ANTIPOLO CHO	6	75%	50%
IVA - CAINTA PPMD/PMDT	6	70%	47%
IVA - SAN MATEO SUPER HEALTH CENTER	3	37%	25%
IVA - BINANGONAN RHU	0	5%	3%
IVA - TANAY	2	28%	19%
IVA - RODRIGUEZ RHU	2	25%	17%
Province of Quezon			
IVA - GUMACA DISTRICT HOSPITAL	4	50%	33%
IVA - QUEZON MEDICAL CENTER	3	34%	23%
IVA - BONDOC PENINSULA DISTRICT HOSPITAL	2	24%	16%

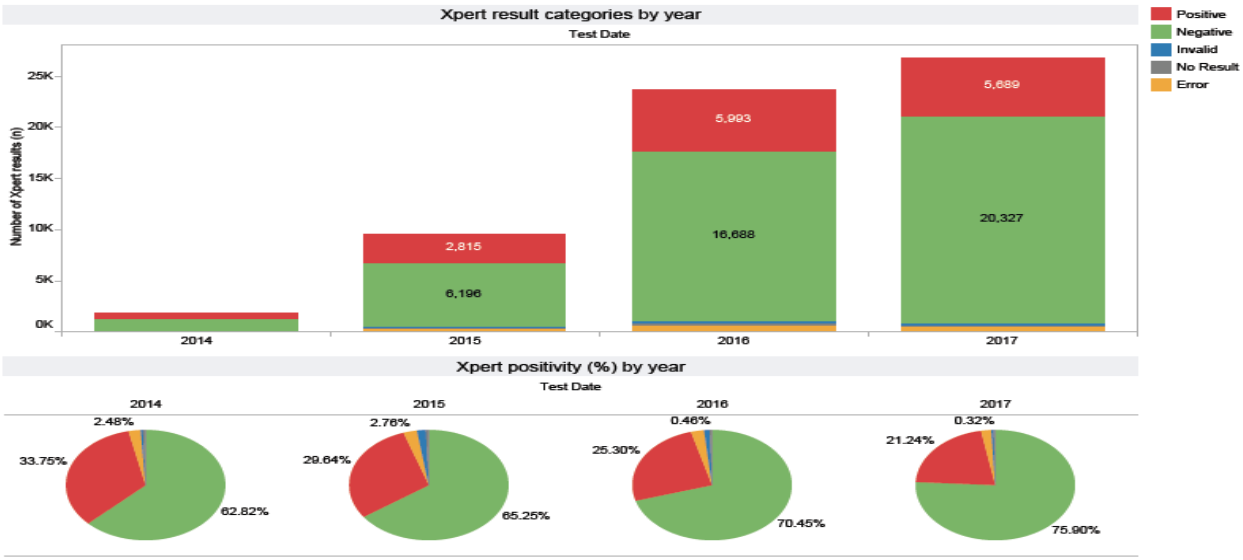
(ii) Demographics and other technical results

Based on 2017 data from GeneXpert machines with GxAlert system, among those tested for Xpert MTB/RIF, 66.24% were male and 33.76% were female, with median ages of 52 and 54 years old, respectively.

Results from these machines in 2017 showed that there is general decrease in unreportable results (invalids/errors/no results) over time, from 5.11% in 2015 to 2.86% in 2017. These reflects that the samples submitted are improving in quality, improved/new version of cartridges, the machine operators are also gaining proficiency and less power fluctuations. The decrease in unreportable results leads to less number of specimens to be retested, thus, program cost also decreases.
There was a steady decline in error rates in all the GxAlert sites since the start of the program. Overall error rates have remained very low with average error rate of 2.48% in 2014 and 2.07% in 2017.
Generally, an error rate of below 5% is considered acceptable in the country.

There was also a general decline in positivity over time, 33.7% in 2014 to 21.2% in 2017 with high Rif-resistance of 16.89% in 2017 (Figure 12). This may be attributed to the revision of NTP policy that states that all vulnerable groups, and those with DSSM negative but CXR positive are tested for Xpert MTB/RIF aside from those who are considered presumptive DR-TB. (This is based on the assumption that DRTB is 29% among retreatment cases and only 2.6% among new cases.) The high Rif-resistance rate may also be attributed to increased awareness of health workers to screen cases belonging to presumptive DR-TB and/or there is an increase in community transmission of resistant strains.

Figure 12. Xpert Results from 2014–2017



Other indicators such as MDR-TB strain diversity, average rifampicin-resistant cases identified per site, bacillary burden across sites, and type of TB mutations are among the possible data that can be analyzed through data uploaded from GeneXpert machines to DOH server. This data will be analyzed by the end of year 2017.

Table 14 below describes the status of GxAlert system in Regions 4A and 3 from the time the machine was installed in the facility in 2014.

Table 14. Status of GxAlert System Implementation in Regions 3 and 4A, 2014–2017

Metric Group	Description	Status
Operational Matrix (Determines the national utilization rate and confirm the level of connectivity and up-time experienced in the country)	Average number of days offline	3.4
	Number of devices offline for more than 7 days	0
	% devices communicating within 7 days	100
	Number of offline devices with no Status	0
	Average laboratory error rate (%)	2
	Region 4A and 3 GeneXpert utilization rate (%)	28
Supply Chain Matrix (Provide data on availability, consumption and validity of cartridges)	Number of laboratories with no Xpert cartridge consumption	0
	Number of laboratories with no cartridges recorded (stock out)	10
	Total cartridges likely to expire in Regions 4A and 3 *(Note: this will be further investigated and will be updated next quarter)*	13,699
Usage Statistics (Present statistical data for users, SMS and emails sent, devices reporting, tests and results during the given period)	Number of program users active during this period	44
	Number of page views	493
	Number of SMS messages sent	1,296
	Number of emails sent	31,573
	Number of devices reporting in period	39
	Total number of tests reported in Regions 4A and 3 since GeneXpert machines were installed in 2014	65,366
	Number of tests performed in 2017	32,989

The average offline days for Regions 4A and 3 was at 3.4 days and the threshold for offline days was set at 7 days by the country administration team. Any device that reached more than 7 days offline status prompted the in-country team to resolve the issue with the assistance of SystemOne. Once NTP decided to adopt the system, NTP, NTRL, and KMITS will be overseeing the overall implementation of the system.

In addition, as showed in the table above, there were 10 sites with reported stock-out of cartridges from January to October 13, 2017. This was addressed through reallocation of stocks from other facilities and was facilitated by DOH-RO, GF, NTP and NTRL. GxAlert provides powerful metrics to assist in the prevention of stock-outs and over-stocking of facilities as well as insights into facilities with low and high instrument utilization rates. The table above also shows that there was a total of 44 active users of the dashboard, 1,296 SMS messages have been sent to different patients and 31,573 emails have been sent to program implementers for appropriate actions. Currently, not all results and data are sent to appropriate recipients and this will be fixed by SystemOne before December 2017 ends.

As part of continuing system enhancement, the local team and SystemOne are refining the notification function (sending real time GX results to referring physicians and information to patients that results are already available) of the GxAlert. Feedbacks from DO-ROs and PHOs were continuously gathered and appropriate measures were done by SystemOne. For sustainability of the system in the country and to capacitate the local staff, SystemOne has regular on-line mentoring and coordination with the local team (NTP, NTRL, KMITS, IMPACT) to guide them on how to address technical issues on GxAlert system. This will pave the way for the local team to be independent once the contract with SystemOne expires.

In the extension period, the Project will continue to monitor GxAlert operation and document local experiences, including challenges and benefits associated with its actual use. The project will also conduct a separate internal assessment of the system which will involve gathering of responses from regional coordinators and their designated staff involved in this project, and other select partners on their experience in using the system. The assessment findings will be consolidated and analyzed, and will be presented to NTP for their guidance should the latter decide to continue to adopt and expand the coverage and use of GxAlert in the TB program. NTP and NTRL are keen on continuing GxAlert implementation even after IMPACT Project ends, through GF-TB funding, other external funding support, and government support.

Subcomponent 3.3 Scale Up Use of Rapid Diagnostic Tools

a. Guidelines on TB mass screening in jails and prisons

IMPACT developed the TB mass screening (TBMS) guidelines with inputs from NTP, BJMP, Bureau of Corrections, International Committee of the Red Cross, TASC, USAID, SIAPS, selected DOH-RO, and PHO/CHO. The Guideline aims to provide procedures for implementing TBMS in jails and prisons, define the roles and responsibilities of units and individuals involved in TB mass screening, standardize recording and reporting TB mass screening, and specify a monitoring and evaluation mechanism for TBMS. The TBMS guidelines was signed by the DOH Disease Prevention and Control Bureau and will be submitted to DOH Health Policy Development and Planning Bureau for signature and approval. A memo will also be issued together with the guideline. Though the guidelines have not been officially released, BJMP, DOH-RO, and provincial jails have been applying them.

Quarter 4 Year 5 Milestones

Table 15. Status of Component 3 Q4Y5 Milestones, July–September 2017

TA Intervention	Quarters 1-3	Quarter 4			Updates
		Jul	Aug	Sept	
Subcomponent 3.1 Strengthen NTP and NTRL Leadership and Regulatory Capacity					
Development of training manual on counseling skills for PMDT staff	Revised current training manual to separate facilitators and			NOT DONE, STTA not available	IMPACT ManCom reviewed the materials, and advised Component

Table 15. Status of Component 3 Q4Y5 Milestones, July–September 2017

TA Intervention	Quarters 1-3	Quarter 4			Updates
		Jul	Aug	Sept	
	participants manual (with engaged STTA) Conduct of field test of second batch Finalized training manual (including facilitators and participant's manual Roll out of training			NOT DONE, Manual not yet revised because the STTA is not available NOT DONE	3 to revise the manual into a version applicable to DOH-ROs and PHOs; to be finalized in Nov 2017 To be done in Nov and Dec 2017
Development of manual of operations for TCs/STCs	Final manual of operations for TCs/STCs			NOT DONE	In lieu of a manual of operations, TC/STC processes and procedures will be documented next quarter STTA to be hired in Nov 2017
Assessment of iDOTS implementation in NCR	Final assessment report Submission of report to NTP			NOT DONE	Will not be done in NCR but will be done in Region 6 Draft protocol done; on-going discussion with DOH-RO6
Develop TB MAC operational guidelines (formerly called consilium)		DONE			Submitted to NTP
Development of biosafety training module	Final biosafety training module			DONE	For lay-out and printing in Nov 2017

Table 15. Status of Component 3 Q4Y5 Milestones, July–September 2017

TA Intervention	Quarters 1-3	Quarter 4			Updates
		Jul	Aug	Sept	
	Develop training plan for TMLs, Xpert sites, and culture centers			NOT DONE	For discussion with NTRL; will be incorporated in the NTRL training
Subcomponent 3.2 Increase Treatment Adherence through Decentralization and Use of Modern Communication Technology					
Adoption of GxAlert	Reports generated through GxAlert			39 RTDLs already connected to GxAlert	1 modem still to be followed up in November
	Implementation review and systems improvement			ONGOING	System to be further enhanced to ensure that SMS and email alerts are received by end users
Involvement of PHOs/CHOs in PMDT facility monitoring	30 PHOs/CHOs actively participating in monitoring PMDT Facilities	DONE	DONE	DONE	
	20 PHOs/CHOs conducted monitoring visit to PMDT facility	2 PHOs (Basilan and Nueva Ecija) did their own monitoring			Planning will be done among sites during the extension period
Involvement of DOH-ROs in PMDT facility monitoring	7 ROs actively participated in monitoring PMDT facilities	DONE; 13 DOH-ROs participated	DONE; 13 DOH-ROs participated	DONE; 13 DOH-ROs participated	
Subcomponent 3.3 Scale up Use of Rapid Diagnostic Tests					
TB mass screening in jails and prisons	Endorsement to NTP of TBMS guidelines for jails and prisons			DONE	For submission to HPDPB by NTP

Planned Activities for the Project Extension

1. Facilitate lay-out and printing of laboratory biosafety training manual
2. Install GXAlert in the remaining 1 RTDL in Region 4A
3. Monitor and document GxAlert implementation
4. Revise and finalize the PMDT counseling skills training manual
5. Roll out the PMDT counseling skills training

6. Develop manual of operations for treatment centers and satellite treatment centers
7. Monitor implementation of iDOTS
8. Assess iDOTS implementation in Region 6
9. Continue monitoring TCs/STCs and mentoring ROs, PHOs, and CHOs in Regions 3 and 4A, and NCR
10. Enhance TA package on strengthening PMDT referral and case-holding mechanisms
11. Finalize procedural guide for the conduct of PMDT data quality check
    Develop Manual of p for TC and STC
12. Monitor implementation of iDOTS/DOTS
13. Evaluate iDOTS implementation in NCR
14. Monitor TC/STCs and mentor PHOs and ROs

COMPONENT 4. Strengthening the Capacity of National, Regional, and LGU Health Offices in Providing TA to Local Health Staff

Component 4 addresses governance and management weaknesses relative to TB control by strengthening the capacity of national, regional, and LGU health offices in providing TA to local TB staff. The overall mandate of this component is "to develop competency-based, career-based TB courses that will be availed of based on demand and relevance to the learner/trainee." This is in addition to the continuing rollout of existing and enhanced training modules, the technical assistance (TA) packages under OPT*ions* that project components download to LGU partners, and new courses designed to further address bottlenecks in service delivery. There are two subcomponents under this task: (i) the human resource and staff development plan for TB workers, and (ii) building capacity for national and regional TB managers on outsourcing for TA provision.

Capacity-building initiatives for Year 5 consisted mainly of training events funded by various Department of Health (DOH) regional offices (ROs). These included a pilot run of the TB program managers' course for NTP core teams of Region 7. Since 2014, DOH-ROs had provided funding estimated at PhP6.18 million for at least 21 TB-related training events, including those for non-U.S. Government sites and those conducted with IMPACT assistance as resource speakers and facilitators. In addition, the Project has conducted a total of 93 training events as technical assistance to PBSP-Global Fund for TB (GF) project, part of the estimated PhP10.5 million support leveraged by IMPACT during the same period. emHealth initiatives focused mainly on the evaluation of the online course on the National TB Control Program (NTO) Manual of Procedures (MOP), integration and pilot implementation of the TB geographic information system (GIS) dashboard, and assistance in installing Xpert MTB/RIF machine and orienting their operators and trainers on GXAlert. Outsourced TB-related services were verified together with survey data on facilitating and hindering factors in outsourcing.

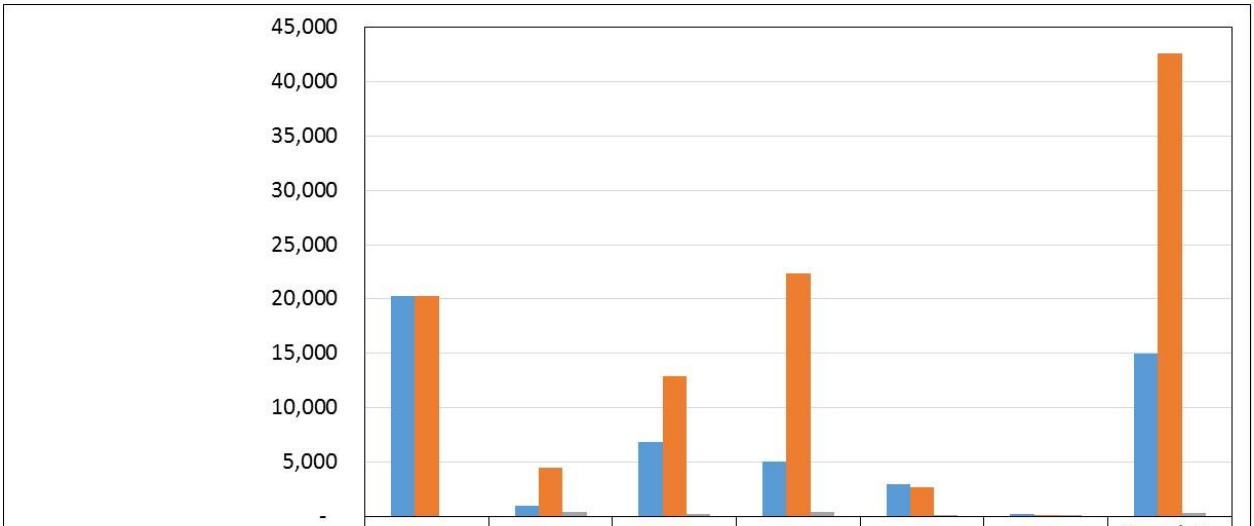
Sub-component 4.1 Human Resource and Staff Development Plan for TB Workers

a. Building the capacity to provide quality TB control services

(i) Training of TB health workers on components of the WHO Stop TB strategy

Only 81 additional TB health workers were trained with U.S. Government funding in Year 5 as most training initiatives had already been completed mid-stream of the Project. IMPACT's revalidated cumulative performance (from Year 1) for this indicator remains at 42,604 trained health workers, exceeding by 42% the revised end-of-project target of 30,000 (Figure 13). The total number of trained health workers includes 1,664 participants from non-U.S. Government-assisted sites.

Figure 13. Number of Health Care Providers Trained in the Components of the WHO Stop TB Strategy with USG Funding, Year 1–Year 5 (Oct 2012–Sept 2017)



	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	Cumulative
TARGET	20,264	1,000	6,844	5,000	3,000	220	14,944
ACTUAL	20,264	4,498	12,916	22,394	2,715	81	42,604
PERFORMANCE VS TARGET (%)		450	189	448	91	37	285

The over-achievement of the target number of trained health workers is largely attributed to DOH-NTP's directive to ensure all TB health workers are trained on the revised NTP Manual of Procedures by 2014. This covered rural health midwives as well as *barangay* (village) health workers (BHWs) and community health volunteers (CHVs). Moreover, the modest target for BHWs and CHVs, despite their estimated 95,000 population, contributed to the overall underestimation. The conversion of the five demonstration sites (Benguet, Isabela, Romblon, Masbate, Surigao del Norte) to regular project sites and the inclusion of trained health workers from engaged private hospitals likewise added to the total.

Trainings that employed project staff as resource speakers or facilitators in Years 1 to 3, even if not primarily funded by IMPACT, were also included in the overall tally. Since Year 4, the Project has conducted a total of 93 training events as technical assistance to PBSP-Global Fund for TB (GF) project, part of the estimated PhP10.5 million support leveraged by IMPACT. DOH regional offices, on the other hand, provided funding estimated at PhP6.18 million for at least 21 training events, including those for non-U.S. Government sites and those conducted with IMPACT assistance as resource speakers and facilitators.

Over a third (36%) of training participants were from Mindanao, including 7% from the Autonomous Region in Muslim Mindanao (ARMM). Visayas, South Luzon, and North Luzon accounted for nearly a fifth each (19%, 18%, and 16%, respectively); the rest (11%) of the participants were from the National Capital Region. About 4 of 5 (83%) participants were females. Nurses made up a fifth (21%) of training participants, while midwives were noted at 9%, doctors at 7%, pharmacists and pharmacy assistants at 7%, and medical technologists at 3%. Students (as TB advocates and potential TB health workers), local chief executives, and others left unclassified accounted for 18% of those trained. BHWs and CHVs accounted for 35%, or 15,014, of total health workers trained, while health workers in the private sector contributed 30%, or 12,586, of the revalidated cumulative tally.

In terms of the components of the WHO Stop TB strategy, over a third (37%) of participants were trained on empowering people with TB and their communities; over a quarter each on engaging all health service providers (28%) and health systems strengthening (25%); and 10% on addressing multidrug-resistant TB, TB-HIV, and TB among the poor and vulnerable populations.

(ii) Harmonization of technical assistance and research initiatives

As in previous years, IMPACT organized the inter-agency workshop for the harmonization of TB technical assistance and research initiatives at the start of 2017. The workshop involved other external donors and stakeholders in mapping out and harmonizing the various proposed initiatives for the year while aligning them with strategies and key activities identified in the draft Philippine Strategic Elimination Plan Phase 1 (PhilSTEP1). In addition to TB-relevant units of DOH and USAID cooperating agencies, the WHO Country Office, the Global Fund – New Funding Model (GF-NFM), TREAT TB, Hivos-KNCV, and Japan Anti-Tuberculosis Association (JATA) participated in the said exercise.

(iii) TB program managers' course

The Project developed a TB program managers' course to address gaps and issues in technical and managerial capability among NTP regional and provincial teams. The course aimed to enhance program managers' oversight and administrative skills – including strategic thinking and responsive planning – in addressing service delivery gaps. It is proposed as a preparatory course for health workers who are in or about to assume managerial posts.

The Project conducted a pilot run of the TB program managers' course in November 2016 when DOH-RO7 requested for technical assistance in training their provincial NTP core teams on program management and NTP data analysis. Topics in the pilot run of the course included the following:

1. roles and responsibilities of a regional/provincial NTP coordinator;
2. End TB strategy and the national strategic plan under the new TB law;
3. six building blocks of a health system as basis for regional and provincial TB road maps;
4. analysis of TB performance indicators;
5. TB geographic information system dashboard;
6. conduct of data quality check, program implementation review, and external quality assessment of laboratory services;
7. monitoring and mentoring;
8. effective communication, including feedback giving, facilitation, and presentation skills;
9. budget planning; and
10. policy support for TB control.

Nearly all 21 course participants rated the sessions from very good to excellent in terms of meeting its objectives, content, relevance, and methodology. Considered the most relevant sessions were the TB roadmap, conducting data quality check and program implementation review, and monitoring and mentoring. When asked if they would recommend the course to other NTP coordinators, all those who gave a reply answered they would. Though the topics covered were comprehensive, the NTP manager agreed it would be best to focus mainly on monitoring, supervision, and evaluation. The NTP manager, likewise, directed the Project to defer the course development until PhilSTEP1 has been finalized and its regionalization completed.

(iv) TB geographic information system (GIS) dashboard and ITIS trainings

The TB GIS dashboard prototype is currently available for viewing at http://itis.doh.gov.ph/login.php. Using map plotting, the TB GIS dashboard tracks and graphically presents LGUs' NTP performance indicators in real time, while highlighting hotspots for TB incidence and treatment defaults to facilitate analysis and determine interventions. The dashboard also compares program performance across local government units (LGUs) and health facilities. These features, however, are highly dependent on the timely encoding of registered cases in ITIS and its uncompromised database. Compliance with encoding by LGUs has been high since all NTP reports were mandated to be ITIS-generated nationwide from October 2016 onwards.

Unavailable when ITIS version 1.2 was installed in 2016, geo-tagging and attribution of data at the health facility level are now functional for drug-sensitive TB, but only in about 50% of public health centers. Meanwhile, geo-tagging has yet to be linked with the drug-resistant TB database. This was because of delayed manual encoding of geographic coordinates and reconfiguration of necessary scripts by the DOH Knowledge Management and Information Technology Service (KMITS). The concurrent development of other priority ITIS modules also added to the dashboard's protracted enhancements. Graphic representation of NTP key indicators, on the other hand, is available across all levels for both drug-sensitive and drug-resistant TB based on encoded data from health facilities.

A DOH memorandum requiring the use of reports generated by the TB GIS dashboard during data quality check and program implementation review was issued in the National Capital Region and Region 4A to promote and support data analysis. An external evaluation of ITIS and the TB GIS dashboard was deferred in view of their delayed development. The NTP, through its monitoring and evaluation unit and KMITS, committed to incorporate the Project's proposed enhancements upon the completion of other ITIS modules by the last quarter of 2017. These include new indicators, changes in chart types, interactive and dynamic multi-year graphic display and scatter plots for trend analysis, and color-coded maps based on NTP performance. A request for the purchase of Razor Flow software has been forwarded to PBSP-GF to support such features. For now, the Project will continue to support the ARC-GIS subscription during the extension period.

The GIS dashboard of IMPACT's five-year performance across U.S. Government-assisted sites based on static data collected for Project indicators is being developed and will be completed upon the Project's end.

(v) Online e-learning

The eLearning course on the NTP Manual of Procedures conducted a second run during the first quarter of FY2017 for nine newly hired rural health physicians under the Doctor to the Barrios Program. The course design was adjusted from a six-week run to an intensive four-and-one-half day course to prepare the group for immediate deployment. The much compressed course forced the participants to concentrate fully on completing the modules while addressing internet connectivity-related challenges.

Of the nine information technology (IT)-literate physicians, eight completed the course's 11 modules and complied with the course requirements. By the time the course began, the lone enrollee who failed to finish the course had deployed to his place of assignment where power outages and limited internet access hindered his completing the modules. There was also lack of dedicated time for studying due to work demands while in the field.

The participants evaluated the second course at its conclusion by immediately accomplishing an assessment form, followed by a focus group discussion (FGD). Highlights of the findings, mostly favorable, were presented to the NTP Manager in February 2017. A follow-up evaluation was suggested three months after deployment. This was to assess the course's relevance to actual NTP implementation when the learners would have had ample field experience on which to base their feedbacks.

Both written assessment and the FGD indicated that the respondents found the online NTP MOP course generally effective, relevant, and acceptable as an alternative learning methodology in preparing health workers for their roles and responsibilities as TB service providers. The findings consistently proved that, with essential resources on hand and enough time to focus on studying, eLearning can be used as a methodology to deliver the training course on the NTP MOP for IT-literate and highly motivated learners.

The findings were supposed to be formally presented to DOH-NTP, Health Human Resource Development Bureau, and KMITS to discuss the future directions for the course, including the possibility of recommending it as part of the capacity-building program for the Doctors to the Barrio Program, Nurse Deployment Program, and Medical Technologist Deployment Program. However, a schedule has yet to be finalized despite coordination with the said DOH units. A technical advisory on eLearning as an alternative to conventional face-to-face training on the NTP Manual of Procedures has been finalized.

The NTP manager also suggested that online MOP trainings be subsequently offered every two months in the latter half of FY2017 to support it as an alternative learning venue for TB health workers. Although DOH-RO2 and, reportedly, the World Food Program were interested in sending participants, no final list of target participants was received by the Project by the end of FY2017.

The course uses the open-source Modular Object-Oriented Dynamic Learning Environment (MOODLE) adopted by many open universities worldwide, which IMPACT customized for distance learning on the NTP MOP. Given the limited opportunities for onsite training, distance learning provides DOTS facilities an option to comply with the required staff training that will qualify them for DOH certification and PhilHealth accreditation. The online MOP course can be accessed through http://impact.pbsp.org.ph:181/PhilTB.E-learning/ hosted at the PBSP server.

(vi) Monitoring the impact of TB disease activity assessment trainings (TBDAA) on turnaround time

The DOH Department Memorandum No. 2011-0218 allows DOTS physicians to decide whether smear-negative cases require treatment within two weeks from a patient's initial consultation. Yet a significant number of medical practitioners – particularly among generalist public health physicians – still lack the confidence to render clinical judgement. The Project developed the TB disease activity assessment module to address this bottleneck, and cascaded it in all U.S. Government-assisted sites from mid-2013 onwards. Proficiency in correlating chest X-ray findings with clinical presentation, and understanding the role of Xpert MTB/RIF are necessary to improve case finding.

The Project collaborated with University of Santo Tomas third-year medical students in investigating – among physicians trained on the module – the average turnaround time from initial consultation to treatment initiation in 48 of 70 public health units in **Pangasinan** province. Duration of intervals between each diagnostic step prior to treatment was noted to determine gaps in service delivery and possibly suggest interventions to address them. Cases seen before and after TBDAA training were compared to assess the impact of the said training on physicians' practices. Data was collected in June 2016.

The assessment found marked improvements in the mean turnaround time after the intervention – a decline of about 5 to 13 days. Those requiring multiple diagnostic modalities noted that most of the delay occurred during the interval between the second test and treatment initiation, but even this was significantly reduced by about 14 days after the training. The decline may suggest an improved decisiveness among public health physicians in chest X-ray correlation during clinical evaluation as a positive effect of the TBDAA training. However, the small sample size, that is, 10 new adult smear-negative cases per year per RHU in 48 of 70 RHUs, precludes making a conclusion for the entire province. In addition, the failure of the said RHUs to achieve less than two weeks TAT even by 2016 emphasizes the need to further study the reasons behind such significant delays in TB treatment initiation.

Interviews with available health care providers in 28 RHUs revealed that financial constraints (57%, most notably the travel expenses of the patients) commonly delayed treatment initiation, highlighting the need for easy access to TB health facilities. Other reasons cited were the hesitation of TBDAA-trained physicians to apply their learnings (18%, mostly preferring to still refer to the twice-monthly TB diagnostic committee meetings and nearly half requesting for a refresher course), patients' failure to follow up on time (14%, with half alluding to patients' fear of stigma associated with TB), and 4% each mentioning the absence of a dedicated medical technologist and the TBDAA module being too technical for non-physicians. However, these may not be entirely accurate as most of the interviewees were not the ones who participated in the workshop and, in addition, some were newly employed. Additional data analysis and manuscript revisions are ongoing for possible presentation in a conference and medical journal publication.

The Project then monitored 190 public TB health facilities in USG sites – mostly from Luzon (except for 20 from Mindanao) – and noted the turnaround time of a total of 9,906 cases with available data from their first 10 adult cases registered 2013 to 2016. Given the difficulty of collecting data on the Project's many indicators, this initiative was limited to merely noting, if available, the turnaround time and reported causes of delay if beyond the acceptable two weeks (if with multiple diagnostic tests) regardless of whether the facility actually had a trained physician on the module or not, and the number of diagnostic tests employed.

Comparing the data series per year, a general trend of decline – by about 1 to 3 days – in mean turnaround time was noted to be significant towards the last two years. This was most pronounced when 2013 data was compared with that in the last two years. About half (52%) of cases were started on treatment within a week from their initial consultation during the first year. The number of such cases improved by up to 9 percentage points in 2016 (Figure 14). On the other hand, the number of cases with prolonged turnaround times (i.e., longer than 2 weeks) declined by as much as 7 percentage points towards the last year. It is unfortunate though that some cases took almost a year before they were started on treatment – definite missed opportunities in preventing transmission in communities that reflect poor or lack of default-tracing mechanisms in those health units.

Like the UST study in Pangasinan, the observed decline in the time intervals may somehow be positively associated, albeit indirectly, with the Project's rollout of TBDAA trainings in its first three years. And its effects on service delivery were expected to be noted in the latter half of the Project's lifetime. Direct correlation cannot be established because other confounding factors were left uncontrolled. These included reasons explored through FGD in the UST study, the tracing of each reported case to a TBDAA-trained or untrained physician, and possibly requiring no replacement throughout the study's covered period (i.e., not strictly a cohort analysis). The greater number of health facilities sampled across Luzon and Mindanao and the increased total number of cases included, though, lend better credence to its inferences. The DOH department memo (DOH DM 2016-0285, released in August 2016) on further expanding the use of Xpert MTB/RIF as primary diagnostic test for senior citizens, inmates, and cases of extra pulmonary TB, and the anticipated eventual shift from direct sputum smear microscopy by 2022 will surely promote further decline in turnaround time in the future.

Figure 14. Frequency of Turnaround Time in Weeks, Pangasinan Province, 2013–2016

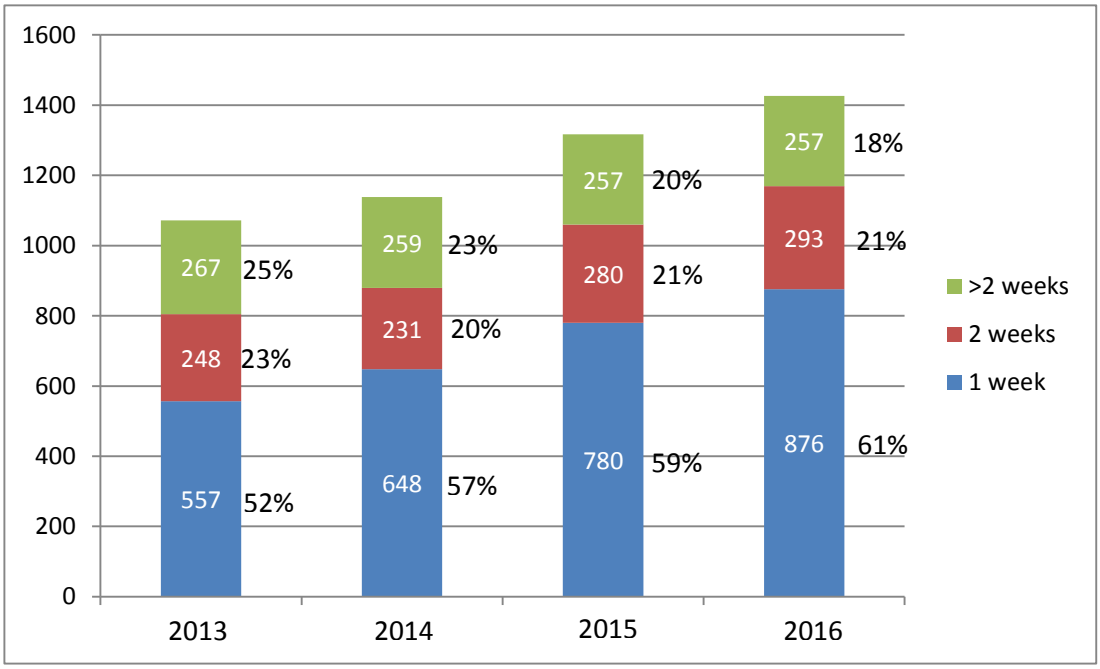
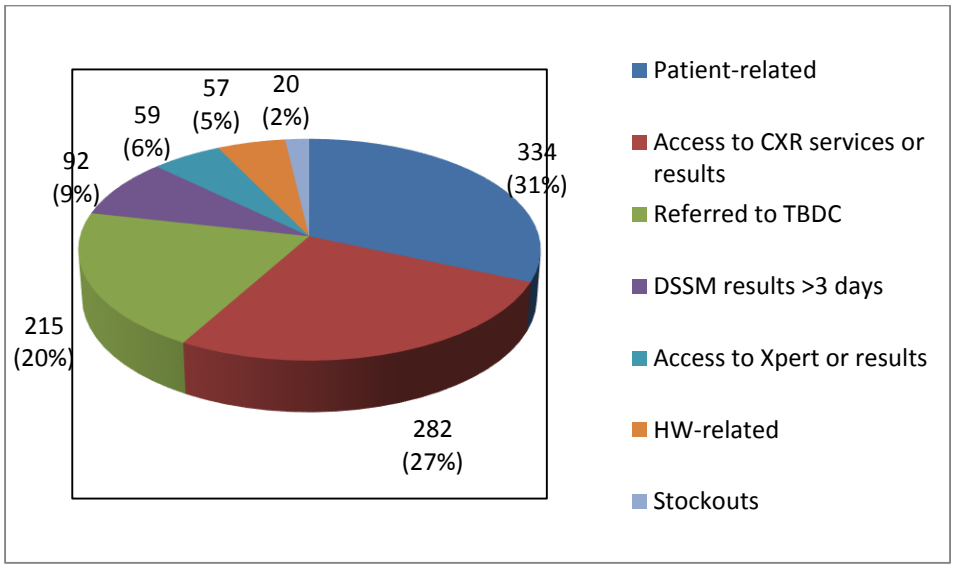


Figure 15 shows that among 1,059 cases with prolonged turnaround time (>2 weeks) and identified reasons for delay, nearly a third (31%) was patient-related (majority was unable to come sooner to the rural health unit), and over a quarter (27%) was due to limited access to chest X-ray facilities or delayed release of X-ray results. A fifth (20%) had to do with waiting for the TB diagnostic committee recommendations and nearly a tenth (9%) was due to direct sputum smear microscopy results being unavailable earlier than the recommended three days, thereby adding to the timeline. Six per cent related to difficulty in accessing Xpert MTB/RIF sites or getting the results, while another 5% pointed to health worker-related issues. The rest referred to drug stock outs.

Figure 15. Reasons for Prolonged Turnaround Time (>2 weeks)
n=1,059



(vii) Monitoring the implementation of infection control plans

In Year 5, the Project monitored the implementation of infection control plans in 292 public health centers in U.S. Government sites in Luzon and Mindanao. Table 16 summarizes the monitoring findings. Nearly half (48%) of the facilities had an identified IC team and 41% reported implementing their IC plan. Despite the absence of an approved IC plan in over half (55%) of health facilities, almost all (97%) had IC-related TB IEC materials (e.g., on promotion of cough etiquette, symptom recognition, and diagnostic process flow), and half (52%) reported health facility improvements related to infection control. About 4 of 5 health facilities practiced triage and provided surgical masks to symptomatic patients (78%) and health workers (77%), while 2 of 5 facilities provided N95 respirator masks to health workers dealing with presumptive or confirmed drug-resistant TB cases.

Seventeen reported cases of health workers – including two cases from one facility – who contracted TB in the past year. This may be due to uncontrolled transmission in TB clinics, a known occupational hazard for doctors and allied health professionals. Except in 62 (21%) health facilities, no baseline tuberculin skin tests (TST) were conducted as part of health worker surveillance. Follow-up TST was

done in only 20 (4%). About a fifth (22%) of the monitored health facilities provided annual chest X-ray services to health workers.

The above findings reinforce the commentary of the 2016 NTP Joint Program Review on the country's poor compliance with infection control guidelines. This despite the Project's cascade of IC trainings and follow-up monitoring and mentoring by IMPACT and regional/provincial NTP teams to address deficiencies. Refresher courses and inclusion of IC standards in certification and accreditation standards may help curb this glaring weakness in TB service delivery.

Table 16. Monitoring of Infection Control in Health Facilities in USG Sites in Luzon and Mindanao October 2016–September 2017

Parameters	No. of health facilities	Percent compliance (%)
Monitored by Area Facilitator	292	
With IC team	139	48
With IC plan	131	45
IC plan implemented	120	41
With IC-related IEC (cough etiquette, TB symptoms, process flow)	284	97
With IC-related facility improvements	151	52
Does triage	228	78
Provides masks for patients	225	77
With surgical masks for symptomatic HWs (cough, colds)	225	77
With N95 masks for HWs dealing with MDRTB	116	40
Any HW treated for TB within the year	16	6
Did baseline TST surveillance of HWs	62	21
Did follow-up TST surveillance of HWs previously TST(-)	12	4
Annual CXR for HWs	63	22

(-) = negative; CXR = chest X-ray; HW = health worker; IC = infection control; IEC = information, education, and communication; MDRTB = multidrug-resistant tuberculosis; TB = tuberculosis; TST = tuberculin skin test

(viii) Documentation of 2016 National TB Prevalence Survey (NTPS) proceedings

After nearly three years of preparations and actual survey implementation, the 2016 NTPS concluded; its findings were presented in the annual convention of the Philippine Coalition Against Tuberculosis (PhilCAT) held in August 2017. Though the actual survey methodology will be covered in the survey's final report, the story of how preparations led to its fruition will not to be reported by its implementers. Documenting the entire preparatory process as a key reference for subsequent implementations is critical and IMPACT has been previously requested to assist DOH-NTP in this regard.

Unfortunately, the two short-term technical consultants consecutively hired for this purpose breached the terms of their contracts, forcing the Project to cancel its support for this initiative.

Sub-component 4.2 Build Capacity for Outsourcing

In Q4Y5, the total number of DOH regional offices that have successfully procured technical services through outsourcing in line with NTP implementation rose to seven with the add on of DOH-RO4B. It was verified that DOH-RO4B engaged the National Center for Indigenous Peoples (NCIP) in 2015 for case-finding services.

By the end of Year 5, the Project had accomplished 78% (7 of 9) of the end-of-project target of nine DOH regional offices outsourcing TA provision.

As previously noted, many DOH regional offices hesitate to pursue outsourcing because of fear of audit issues, their limited technical writing skills, and their preference not to assign training to private service providers. Even Health Policy Development Program 2 (HPDP2) reported encountering difficulty in successfully outsourcing case finding among private TB health service providers in Region 4A.

The directive to regionalize the Philippine Strategic Tuberculosis Elimination Plan Phase 1 (PhilSTEP1) provided an opportunity for DOH regional offices to engage private consultants as lead facilitator, documenter or technical writer to develop and draft their regional TB strategic plans for the next six years. However, this was successful only in DOH-RO1. Those with multiple outsourced initiatives reflect familiarity with and acceptability of outsourcing among their procurement offices.

Previously cited outsourcing activities are as follows:

- DOH-RO1 engaged the University of the Philippines College of Public Health to conduct microscopy training, and hired a private consultant as lead facilitator for the development of the six-year regional TB strategic plan based on PhilSTEP1;
- DOH-RO2 outsourced their training on maintenance and handling of microscopes, and the recent training on counselling;
- DOH-RO3 outsourced their requirements for transport and distribution of TB drugs to various LGUs;
- DOH-RO7 outsourced mobile chest X-ray services for screening jail and prison inmates;
- DOH-RO9 engaged Ateneo de Zamboanga for the development of a software for online DOTS certification; and
- DOH-NCRO outsourced its HIV Proficiency Training, which included TB-HIV management.

A number of local government units initiated outsourcing, although these LGUs were not officially included in the tally. These include Gingoog City in Misamis Oriental (Region 10), which signed a memorandum of agreement with the private Gingoog Sanitarium Hospital for chest X-ray services for presumptive TB cases. The municipalities of Laguindingan and Gitagum, also in Misamis Oriental, had a similar arrangement with the private Tagoloan Hospital in Cagayan de Oro City. The provinces of Pangasinan and Bulacan in Regions 1 and 3, respectively, reported engaging courier services for drug supply transport and distribution.

Collection and analysis of survey data on factors facilitating and hindering outsourcing have been completed, and the report is ready for review prior to finalization.

Quarter 4 Year 5 Milestones

Table 17. Status of Component 4 Q4Y5 Milestones, July–September 2017

TA Intervention	Milestone	Status	Remarks
TB Program Manager's Course • Course 1: NSP, Health System Building Blocks, MSE, Budgeting • Course 2: DSM, PMDT	Pilot Course 1 conducted for RO 7 and its PHOs	DONE	
	Course 1 conducted for regional NTP teams	NOT DONE	Deferred for 2018 per NTP manager's directive
	Course 1 rolled out for select ROs		
	Course 2 developed and conducted for regional NTP teams		
Infection Control Guidelines • Monitoring and Mentoring • Health worker surveillance	50% of target 107 RHUs monitored and mentored	DONE	
	Technical advisory on TB surveillance among health workers submitted	PENDING	For review and finalization
TB GIS Dashboard	ARC-GIS subscription renewed	DONE	
	Enhancements developed and presented to NTP and KMITS for review and approval prior to incorporation into ITIS	NOT DONE	Ongoing development of other priority ITIS modules
	User's manual developed and presented to NTP and KMITS for review and approval	PENDING	For finalization by emHealth specialist once additional enhancements are incorporated in ITIS
	Technical advisory on TB GIS dashboard submitted	DEFERRED	External evaluation recommended by NTP manager as basis of recommendations; to proceed once TB-GIS enhancements are incorporated in ITIS
e-Learning: Online MOP Course	2nd run of online MOP course conducted	DONE	
	Evaluation of 2nd online MOP course presented	DONE	Follow-up evaluation requested by NTP

Table 17. Status of Component 4 Q4Y5 Milestones, July–September 2017

TA Intervention	Milestone	Status	Remarks
			manager 3-months post-deployment of Doctors-to-the Barrios (done already)
	UPOU engagement formalized	NOT DONE	Dependent on NTP and HHRDB plans
	Handover of online course modules to NTP +/- UPOU	NOT DONE	Awaiting confirmation of scheduled meeting with NTP, HHRDB
Integrated TB-DOTS Modules (for onsite/face-to-face trainings)	Modules developed for handover to NTP	NOT DONE	Deferred as agreed with NTP manager because of pending revisions of MOP
Local Study Tour/LGU Twinning	Study tour conducted	NOT DONE	Dropped as agreed with AOTR
	Documentation of best practices and lessons learned presented		
Assessment of TBDAA Impact on Turnaround Time (TAT) from Diagnosis to Treatment	Data and manuscript of UST study in Pangasinan reviewed and revised	DONE	To be combined with data from TAT monitoring in other USG sites
	Presentation of findings of UST study	NOT DONE	Included in Y5Q2 report
	50% of target 107 RHUs in select USG sites monitored for TAT	DONE	
	Results of TAT monitoring in USG sites presented to NTP	NOT DONE	Included in Y5 Annual report; data to be combined with UST study for possible eventual publication
NTPS Process Documentation	STTA participated in at least 1 NTPS field visit/month	PARTIALLY DONE	STTA went AWOL after 1 field visit; replacement STTA participated in preliminary discussions of NTPS results then went AWOL too
	Presentation of findings of NTPS Process Documentation	NOT DONE	Both STTA failed to comply with deliverables despite frequent monitoring
	Submission of final report of NTPS	NOT DONE	Cancelled project support for the

Table 17. Status of Component 4 Q4Y5 Milestones, July–September 2017

TA Intervention	Milestone	Status	Remarks
	documentation to NTP		initiative due to breach of contract by STTAs
Survey of Facilitating and Hindering Factors for Outsourcing among Regional Offices	Survey conducted among participants of TB Program Manager's Course 1	DONE	
	Presentation of survey findings	NOT DONE	Awaiting review and finalization of report

Planned Activities for the Project Extension

1. Continue supporting Component 3 in the installation of GXAlert and monitoring its pilot implementation
2. Finalize and report to NTP survey findings on facilitating and hindering factors in outsourcing among regional offices
3. Turn over technical advisories and TA packages to NTP
4. Complete IMPACT's end-of-project GIS dashboard of performance indicators and other milestones achieved

C. Removing Policy and Systems Barriers to Increasing Supply of and Demand for Quality TB Services

COMPONENT 5. Improving the Adoption of and Compliance with National TB Policies and Guidelines

IMPACT continued technical assistance provision to improve LGUs' adoption of and compliance with national TB policies and guidelines by way of (i) increasing local TB financing through certification and accreditation; (ii) improving compliance with TB policies, guidelines, and standards by both public and private service providers; and (iii) facilitating the realization of IMPACT's commitment to the enhanced PhilPACT.

Subcomponent 5.1 Increase Local TB Financing through Certification and Accreditation

There are two indicators for this subcomponent: (i) percent of DOTS facilities that are PhilHealth accredited in USG sites, and (ii) percentage of LGUs utilizing PhilHealth reimbursements per guidelines.

In Q4Y5, IMPACT started the evaluation of the DOH certification and PhilHealth accreditation of DOTS facilities in the public and private sectors. The evaluation intends to (i) determine areas for improving the current system and processes, (ii) identify the factors that facilitate or hinder certification and accreditation of DOTS facilities, (iii) assess the capacity of the health workers involved in DOTS certification and accreditation process, and (iv) develop recommendations based on the findings.

The recommendations, presented in Annex D, have been categorized into short/medium- and long-term and made specific for DOH and PhilHealth being the process owners for certification and accreditation, respectively.

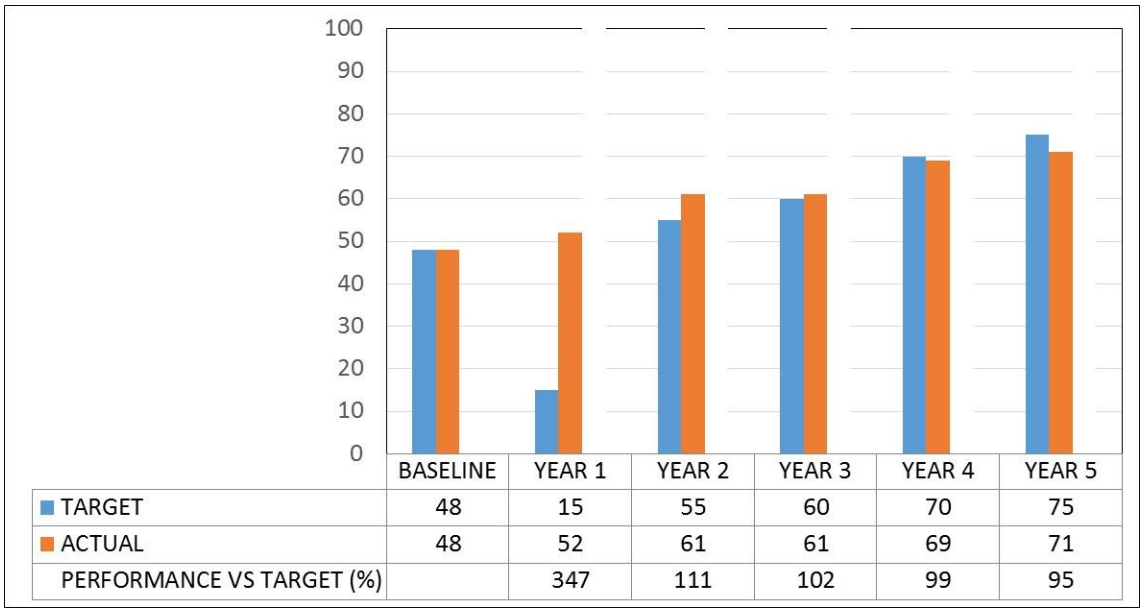
a. PhilHealth DOTS accreditation

At the end of Year 5, 71% (1,053/1,473) of the total number DOTS facilities in 43 U.S. Government supported sites were accredited by PhilHealth (Figure 16). This is 4 percentage points lower than the end-of-project target of 75%.

The common reasons cited by health workers of 61 DOTS facilities in 13 USG sites that are not accredited by PhilHealth are the following: health center was under renovation, 36% (22/61); still complying with the requirements for *certification*, 23% (14/61); still due for reassessment by PhilHealth; and 13% (8/61) still complying with the requirements of PhilHealth *accreditation*, 10% (6/61). Eleven (18%) facilities did not renew their certification nor their accreditation because of issues on sharing of DOTS reimbursements and conflicts with other LGU workers.

To sustain the continuous certification and accreditation of the LGUs DOTS facilities, IMPACT sought the participation of regional and provincial NTP core teams in monitoring DOTS facilities and mentoring DOTS service providers. The idea is that by allowing them to go through the process they will appreciate its importance, hone their skills in monitoring and mentoring, and eventually routinely perform these tasks on their own.

Figure 16. Percent of DOTS Facilities that are PhilHealth Accredited in USG-supported Areas Year1–Year 5 (Oct 2012–Sept 2017)



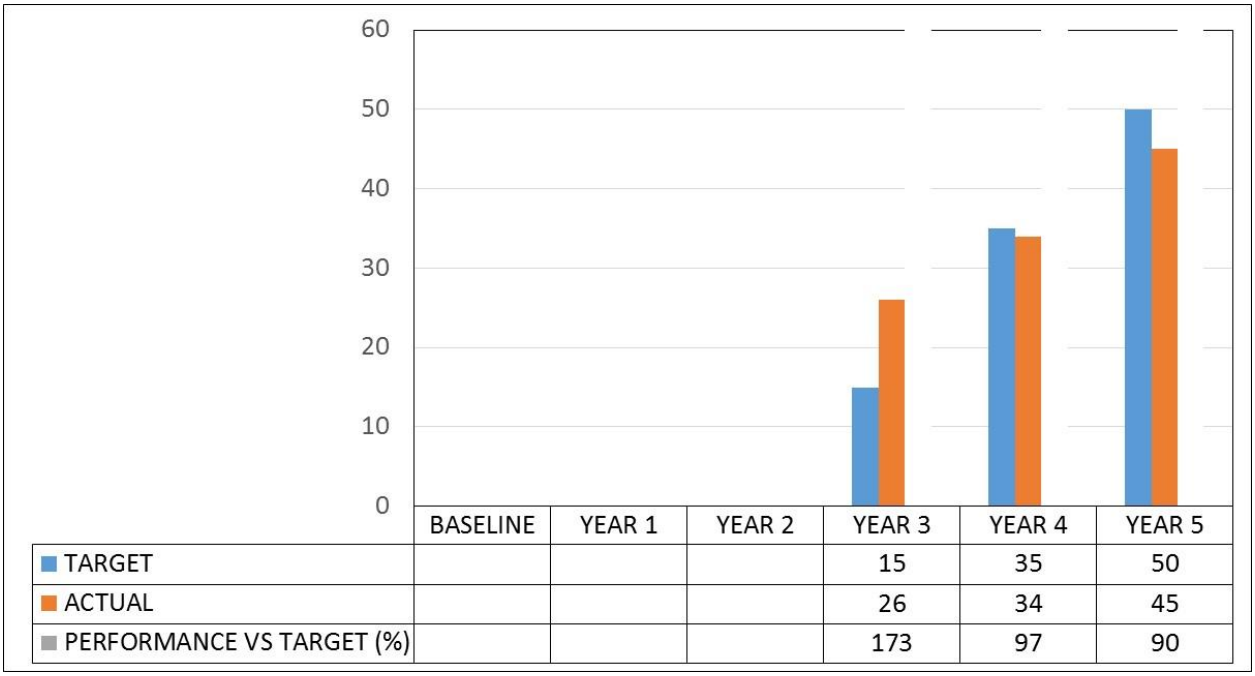
	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
TARGET	48	15	55	60	70	75
ACTUAL	48	52	61	61	69	71
PERFORMANCE VS TARGET (%)		347	111	102	99	95

b. LGU utilization of PhilHeath DOTS reimbursements

At the close of Year 5, 45% (303/679) of LGUs in U.S. Government-supported sites have utilized PHIC reimbursements for TB services (Figure 17).

In a sample of 386 LGUs in USG sites that received PhilHealth reimbursements, 83 (22%) LGUs that did not use the money explained that they preferred to pool the fund and share it among themselves at the end of the year.

Figure 17. Percent of LGUs Utilizing PhilHealth Reimbursement per Guidelines, USG Sites Year 1–Year 5 (Oct 2012–Sept 2017)



	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
TARGET				15	35	50
ACTUAL				26	34	45
PERFORMANCE VS TARGET (%)				173	97	90

During the reporting period, the Project documented the utilization of PhilHealth DOTS reimbursements of Odiongan, Romblon. In a monitoring and mentoring visit to the LGU, a review of the LGU's Trust Fund Utilization Report showed that the municipality has received a total of PhP1,571,539.44 DOTS reimbursements from October 2013 to August 31, 2016. The reimbursements covered 250 TB patients in 2015 and 130 TB patients in 2016. The report also showed that PhP1,136,205.16 (72%) of this amount had been disbursed to cover (i) honorarium of health workers, (ii) procurement of anti-TB medicines and supplies, and (iii) reproduction/printing of NTP form.

Subcomponent 5.2 Improve Compliance with TB Guidelines, Policies, and Standards

For this sub-component, the two indicators are: (i) percentage of budget in DOH regional offices utilized for TB, and (ii) percent of LGUs with policy issuances that allocate resources for TB services

a. Regional-level support

(i) Dissemination of the TB Law

In Year 5, IMPACT disseminated the details of Republic Act 10767 (An Act Establishing a Comprehensive Philippine Plan of Action to Eliminate Tuberculosis as a Public Health Problem and Appropriating Funds Therefor) and its implementing rules and regulations. The dissemination effort reached members of the Regional Coordinating Committee (RCC) NTP in the Cordillera Autonomous Region (CAR), Regions 1, 2, and 5, as well as representatives of regional offices of national government agencies, provincial health office staff, public and private hospitals, medical/specialty organizations, and other development partners. The Project stressed the importance of the multisectoral approach in addressing the TB burden in their catchment areas and the roles of RCC NTP in implementing and monitoring the respective regional strategic TB elimination plan for 2017–2022.

(ii) Utilization of TB budget by DOH regional offices (ROs)

In September 2017, the DOH regional offices (ROs) reported 95% utilization of the total 2016 TB budget sub-allotment (Table 18 and Figure 18). This exceeds the Year 5 target of 90% of budget utilized for TB. It also surpasses the achievement in Years 3 and 4 (Figure 18). As of September 2017, 15 (88%) of the 17 regional offices registered more than 90% utilization rate. DOH-ARMM received only recently the 2016 TB budget sub-allotment amounting to PhP10 million.

The figure for this indicator was sourced from the gallery presentations of DOH ROs at the NTP National Consultative Workshop held in February 2017, and from updates provided by select regional NTP medical and nurse coordinators.

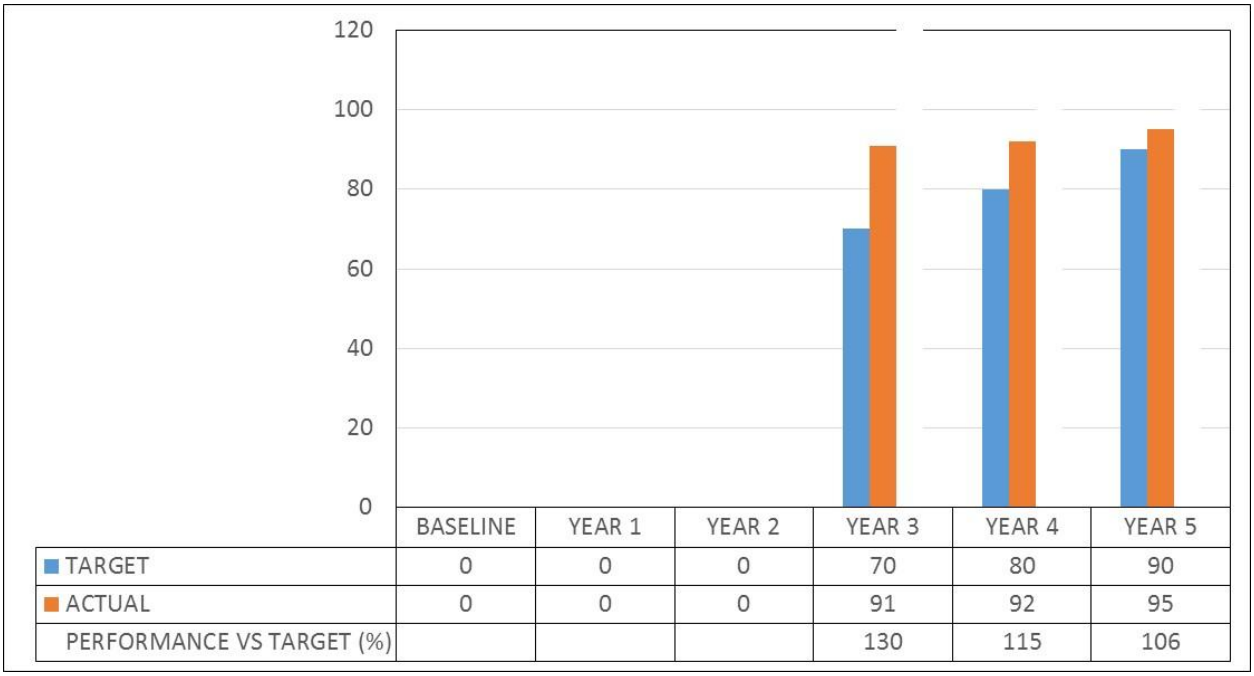
Table 18. Utilization of TB Budget Sub-Allotment by 17 DOH Regional Offices, 2016

REGION	2016 TB SUB ALLOTMENT	AMOUNT UTILIZED FOR TB	% UTILIZATION
1	16,378,000.00	16,378,000.00	100
2	10,318,000.00	9,651,134.00	94
3	30,157,500.00	30,157,500.00	100
4a	29,758,500.00	28,975,708.00	97
4b	9,558,000.00	9,558,000.00	100
5	16,906,000.00	16,906,000.00	100
6	20,070,200.00	18,908,281.51	94
7	19,596,000.00	19,596,000.00	100
8	15,888,000.00	15,888,000.00	100
9	30,689,358.27	30,689,358.27	100

REGION	2016 TB SUB ALLOTMENT	AMOUNT UTILIZED FOR TB	% UTILIZATION
10	28,712,921.00	23,822,217.14	83
11	14,363,000.00	14,363,000.00	100
12	15,901,000.00	15,901,000.00	100
CARAGA	15,321,000.00	15,321,000.00	100
CAR	8,755,000.00	8,755,000.00	100
NCR	28,037,900.00	28,037,900.00	100
ARMM*	10,000,000.00		0
TOTAL	**320,410,379.27**	**302,908,098.92**	**95**

*DOH-ARMM received the 2016 TB Budget Sub-Allotment in the second week of October 2017

Figure 18. Percent of Budget in DOH Regional Offices Utilized for TB Year 3–Year 5 (Oct 2012–Sept 2017)



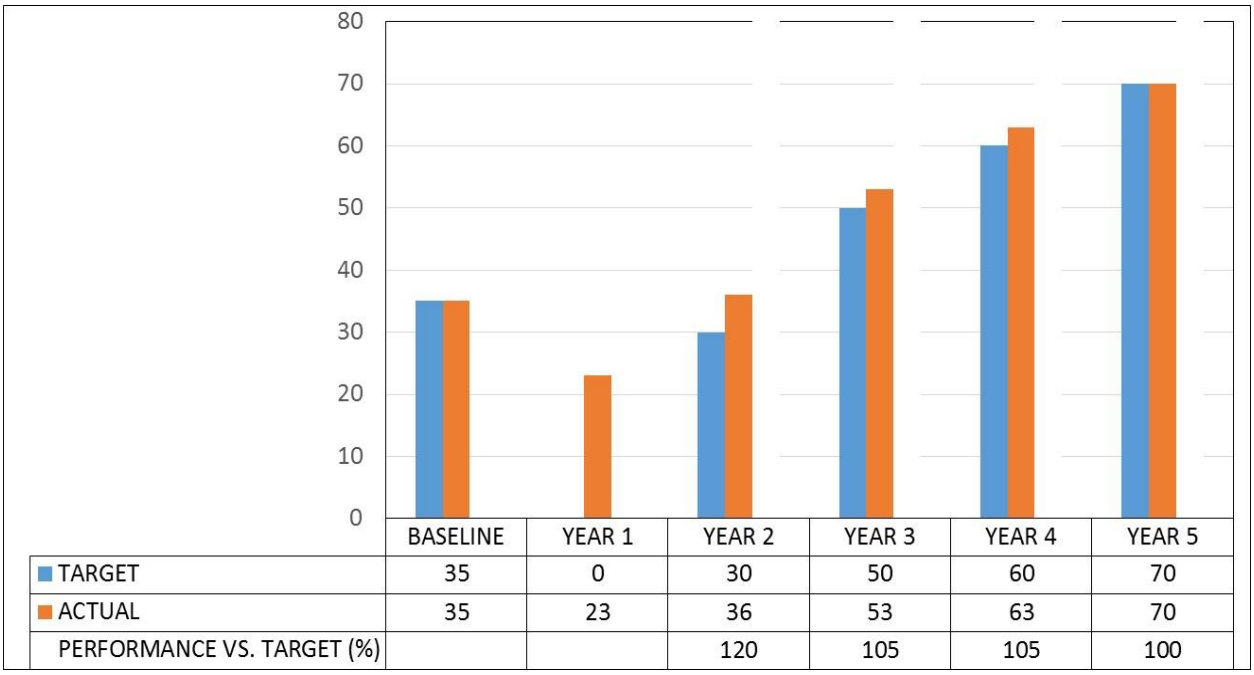
	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
TARGET	0	0	0	70	80	90
ACTUAL	0	0	0	91	92	95
PERFORMANCE VS TARGET (%)				130	115	106

b. Technical assistance to LGUs in crafting policy support to TB control

In Year 5, the Project achieved the target percentage (70%) of LGUs in 38 USG-supported sites (this excludes ARMM provinces) that have enacted policy issuances with budget support to the local TB control program (Figure 19).

In Q4Y5, the total appropriated budget increased by PhP200,000 attributed to the municipality of Aloguinsan, **Cebu**. This brings the total local budget allocation to PhP71,153,178.00. Component cities and municipalities claimed the lion's share of this aggregate, at 79% or PhP56,039,534.00. Provinces and highly urbanized cities accounted for the balance, 21% equivalent to PhP15,113,644.00. In the Autonomous Region in Muslim Mindanao (ARMM), 12 of 14 LGUs with approved TB issuances allocated a combined amount of nearly PhP1.9 million.

Figure 19. Percent of LGUs with Policy Issuances that Allocate Resources for TB Services, USG Sites Year 1–Year 5 (Oct 2012–Sept 2017)



	BASELINE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
TARGET	35	0	30	50	60	70
ACTUAL	35	23	36	53	63	70
PERFORMANCE VS. TARGET (%)			120	105	105	100

The approved TB ordinances identified a variety of expense items for which the appropriation may be spent. These include purchase of anti-TB drugs, medicines, and reagents; advocacy, IEC, and health promotion; capability-building activities; participation in external quality assessment; monitoring and supervision of DOTS facilities; renewal of DOTS accreditation; operational expenses of multisectoral alliance, TB council, TB task force or similar bodies; reproduction of NTP forms; incentives for *barangay* (village) health workers for their involvement in TB-related activities; incentives for treatment partners for their assistance to TB patients; maintenance of community-based remote smearing stations; provision of honorarium to medical technologists, microscopists, and laboratory technicians; and local support to PMDT implementation.

For the LGUs to sustain the utilization of the TB budget appropriations as stated in the approved TB ordinance, the Project drafted a guide to accessing and utilizing the said appropriations as well as the PPhilHealth DOTS reimbursements for local TB program activities. The said guide will be included as one of the products to be completed in the extension period, and will thereafter be endorsed to NTP and the LGUs.

In Q4Y5, IMPACT initiated the internal review of the technical assistance package on participatory evidence-based legislation (PEBL). The review aimed to determine the TA package's usefulness and identify the facilitating and hindering factors in enacting TB ordinances. The findings will be used in developing the sustainability mechanism that the Project is working on.

Subcomponent 5.3 Facilitate the Realization of the Organization's Commitment to the Enhanced PhilPACT

IMPACT drafted the implementing rules and regulations (IRR) of the Comprehensive TB Elimination Plan Act (Republic Act 10767) shortly after the law was signed in April 2016 and tracked the IRR's approval. The IRR was signed by the DOH Secretary on April 24, 2017. Following this, IMPACT is providing technical support in drafting the guidelines on mandatory notification of TB cases as provided for in the IRR. The Project will also assist in developing guidelines on the provision of free and quality-assured TB laboratory services, and uninterrupted supply of free and quality-assured anti-TB drugs.

On the request of DOH-NTP, IMPACT initiated the assessment of the implementation of the Comprehensive Unified Policy (CUP) approach to TB control at the regional and local levels. During the review quarter, IMPACT developed the scope of work for the assessment. However, there was a delay in finalizing and presenting the scope of work to IMPACT Management Committee. Findings will input to the strengthening of multisectoral coordinating committees at the regional and provincial/city levels in support to PhilSTEP1 implementation. This is expected to be completed at the end of January 2018.

The Project was a major contributor to the development of the 2017–2022 Philippine Strategic TB Elimination Plan Phase1 (PhilSTEP1), with four technical staff being members of the technical writing group, specifically demand generation subgroup, information management system, service delivery, and governance. Following the release of the interim PhilSTEP1 in April 2017, the Project developed guidelines and tools for regionalizing the plan. These were adopted by DOH-NTP and presented to all DOH Regional Coordinators during the NTP consultation meeting in August 2017. This coincided with the official dissemination of PhilSTEP1 during the PhilCAT convention.

The guidelines, activity design, and tools were used in the first PhilSTEP regionalization workshops (assessment and direction setting) in Regions 2, 4B, 5, 6, 7, 9, CAR, and ARMM, which were facilitated by IMPACT. The same general procedures were applied in Regions 1, 3, 4A, 8, and NCR albeit with a different activity design and led by a GF-hired consultant who was recommended by DOH-NTP.

Subsequent meetings (LGU consultations) and workshops (regional planning) in accordance with the guidelines were also facilitated by IMPACT in CAR, and some provinces of Region 5 and Region 9.

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Quarter 4 Year 5 Milestones

Table 19. Status of Component 5 Q4Y5 Milestones, July–September 2017

TA Intervention	Q4Y5 Milestones	Status	Remarks
Subcomponent 5.1 Increase Local TB Financing through Certification and Accreditation			
Evaluation of DOTS certification and PhilHealth accreditation	Final evaluation report and technical advisory endorsed to DOH-NTP	PENDING	Evaluation completed; final report for submission on October 30, 2017
Mentoring of target DOTS facilities on PhilHealth accreditation	29 select DOTS facilities have obtained initial accreditation from PhilHealth	PARTIALLY DONE	1 DOTS facility in Dulag, Leyte awaiting schedule of PhilHealth assess-ment for accreditation
Monitoring utilization of TB DOTS reimbursements		NOT DONE	

Table 19. Status of Component 5 Q4Y5 Milestones, July–September 2017

TA Intervention	Q4Y5 Milestones	Status	Remarks
Subcomponent 5.2 Improve Compliance with TB Guidelines, Standards, and Policies			
Assessment of the Comprehensive and Unified Policy (CUP) approach to TB control at the regional and provincial levels	Data collection and analysis completed; draft and final technical report prepared and presented to IMPACT; technical advisory endorsed to DOH-NTP	NOT DONE	Moved to project extension period because of delay in revising the scope of work; to be completed at the end of January 2018
Mentoring of target LGUs to pass local TB ordinances with budget allocation for TB services	8 LGUs passed local TB ordinances with budget allocations for TB services	PARTIALLY DONE	Ordinance of 3 targeted LGUs in Laguna (viz. Pila, Paete, Luisiana) are still pending in their respective local legislative council
Subcomponent 5.3 Facilitate the Realization of IMPACT's Commitment to the Enhanced PhilPACT			
Support DOH-NTP in mainstreaming TB in disasters in the National Health Emergency Management Plan based on RA 10767	Technical advisory on the integration of TB in disasters in training module of the National Health Emergency Management Plan reviewed and finalized	NOT DONE	In lieu of the technical advisory, the Project decided to document the Marawi City incident to look at the implementation of DOH A.O. 2015 - 0039 (Guidelines for Managing Tuberculosis Control Program During Emergencies and Disasters)
Support DOH-NTP in the regionalization of PhilSTEP 1 2017-2022		ON-GOING	C5 participated in PhilSTEP1 regionalization workshops of DOH-CAR, RO2, and RO5
Evaluate the technical assistance package on participatory evidence-based legislation for the TB control program	Final technical evaluation report and technical advisory endorsed to DOH- NTP	NOT DONE	To be completed by end of November 2017

Planned Activities for the Project Extension

1. Complete the evaluation of DOTS certification and accreditation process in DOTS facilities
2. Complete the assessment the Comprehensive and Unified Policy (CUP) approach to TB control at the regional and provincial levels

3. Support the regionalization of PhilSTEP1 in selected regions
4. Finalize the enhancement of the TA package on participatory evidence-based legislation
5. Finalize the documentation of the LGU implementation of local TB ordinances with budget support to local PMDT implementation
6. Support the regional teams in drafting the LGU ordinances or resolutions for the following: (i) request for additional installation of Xpert sites in their respective localities, (ii) funding support for chest X-ray screening of presumptive TB cases in their respective localities

D. GENDER INTEGRATION

Using internally developed guidelines, IMPACT technical staff assessed the gender sensitiveness/responsiveness of the Project's technical assistance packages. Initial findings revealed that most of the TA packages were not gender responsive. The Project will engage a gender expert to facilitate a workshop to incorporate gender responsiveness in selected TA packages.

In the fourth quarter of Year 5, the Project engaged a gender consultant to assess and explore gender issues affecting access to TB services in six selected IMPACT project sites. Using data from ITIS, IMPACT selected the following project sites as study areas: Pozzorubio (Pangasinan), Imus (Cavite), Kalibo (Aklan), Laoang (Northern Samar), Valencia City (Bukidnon), and New Bataan (Compostela Valley).

The Consultant conducted initial key informant interviews and focus group discussions in the municipality of Laoang, and was set to do fieldwork in Kalibo. However, IMPACT received instruction from USAID to hold the conduct of assessment activities pending discussion of possibly recalibrating the objectives of the assessment in light of relevant findings from the 2016 National TB Prevalence Survey. As of this writing, IMPACT was awaiting directions from USAID.

VII. SUCCESS STORIES

Helping indigenous people help themselves to fight tuberculosis

Posted on Philippines Health Highlights, USAID Office of Health, August 18, 2017

Nearly 1,500 indigenous people called Aetas in seven *barangays* (villages) in Porac and Floridablanca in Pampanga were educated on, and screened and tested for tuberculosis with USAID assistance. Comprising 4 percent of the two municipalities' total population of 265,000, the Aetas' geographic isolation and lack of education limit their access to socioeconomic opportunities, including health services. With their mountain villages located 10–12 kilometers from the nearest health center, the Aetas need to spend $12 and travel about an hour to avail themselves of TB diagnosis, treatment, and care. In response, USAID through IMPACT project collaborated with the Department of Health Regional Office 3 (DOH-RO 3) and Pampanga Provincial Health Office and brought a mobile X-ray laboratory to the villages to provide chest X-ray services onsite. USAID also coordinated with the municipal local governments and their Rural Health Units on prioritizing laboratory examination of the Aetas' sputum specimens to promptly confirm the presence of TB and initiate treatment.

The two-week TB case-finding initiative enlisted the assistance of USAID-trained Aeta community health volunteers (CHVs). Previously oriented on TB disease and how to identify individuals with TB symptoms, these CHVs screened villagers for symptoms of tuberculosis, specifically cough of any duration. Aeta women who had trained as informal laboratory workers assisted the DOH-RO 3 medical technologists in preparing sputum smears that were later brought to the nearest Rural Health Unit for microscopy testing and reading.

In all, 1,409 Aetas with TB symptoms were identified and asked to present themselves for diagnosis on designated dates and places in the villages. Of this number, 1,151 were X-rayed while 421 had their sputum examined through microscopy. A total of 241 children less than 4 years old and those who cannot expectorate were screened for exposure to TB bacteria through tuberculin skin test. TB was diagnosed in 71 patients, all of whom the RHUs enrolled in TB treatment.

Counselling led by trained Aeta CHVs capped the long diagnostic procedure. Aeta CHVs reminded community members to observe cough manners to prevent the spread of TB bacteria. The need to complete treatment was emphasized to ensure cure and prevent TB from developing into its drug-resistant form that is more expensive and takes longer to treat.

Many of the Aetas who received treatment expressed their thanks for the TB services that USAID "took the effort and time to bring all the way up to their villages" in the mountains. For her part, Rowena Lahut, a 36-year old mother of four who tested positive for TB, realized that "not every cough should be dismissed just like that." She added "Our midwife comes here regularly and it is important that we tell her if we have cough, especially one that lasts for days and days, so that we could be given the right treatment."

The elderly join community-based tuberculosis prevention advocacy

Posted on Philippines Health Highlights, USAID Office of Health, June 28, 2017

The nearly 6.3 million elderly in the country, 60 years old and older, (2010 Census of Population), represent a sector with the potential to significantly contribute to tuberculosis (TB) prevention and control. USAID recognizes the important role of the elderly people in influencing community norms and decision-making. Through the IMPACT project implemented by the Philippine Business for Social Progress, USAID mobilized senior citizens groups in 21 municipalities and cities in Cebu and Leyte provinces, Visayas region, to raise awareness of their communities about TB.

Nelida Borja, 75, federation president of the Tanuan, Leyte municipality's Office for Senior Citizens Affairs shared, "When the rural health unit offered us to be part of the TB program, most of the members of our association were excited because of the opportunity to help others, especially our members who are vulnerable to TB. We didn't hesitate to get involved."

In collaboration with Cebu and Leyte Provincial Health Offices, USAID trained about 350 elderlies, including retired teachers and other professionals, in TB education and case finding. The senior citizens also learned during the training practical TB infection control measures. After the training, the elderly

conducted in their respective communities TB education sessions and discussed cough etiquette, TB symptoms, myths and misconceptions, and where to consult and get tested for TB. In three months, the elderly reached 16,000 community members with information on TB. They were also able to refer to the nearest health facilities 707 people with TB symptoms of which 33 were found to be positive and were enrolled in treatment.

By getting involved in TB education and case finding, the senior citizens not only boost their sense of worth in the community but they also protect themselves and the community from TB. Angel Allado, 69, federation president of the Dulag, Leyte municipality's Office for Senior Citizens Affairs affirmed, "Our role in TB control is important especially in influencing our members and the young people in our community to seek early consultation and treatment. With our involvement, we are able to watch over our members and neighbors in need of medical attention, particularly those with cough or TB symptoms, and to refer them to the rural health unit for testing and treatment, if needed."

Partners and friends, in sickness and in health

Redacted version posted on USAID Facebook on March 23, 2017, and Philippines Health Highlights, USAID Office of Health on March 31, 2017

Maria Victoria or "Bicbic" and Ailene de Lara grew up together in the rustic village of Macapsing, Rizal municipality, Nueva Ecija. In the vernacular, they were *magkababata* (childhood friends). Bicbic is now a 31-year old housewife with two children (Jeanne Axl Rose, 12, and Lianne Wyne, 8 years old). Ailene, 32, is a volunteer health worker who has been serving their community for the past 13 years. Their ties grew even stronger when Bicbic and her two daughters tested positive for tuberculosis and started treatment. Ailene was there to serve as their treatment partner.

In early February 2017, Bicbic confided to her friend that she had been coughing for a week, suffered chest pain, and had fever and chills in the evenings. "*Akala ko hika lang 'yon pero nang magpatingin ako sa* doctor *hindi daw hika*" (I thought I had asthma, but the doctor said it wasn't asthma). Adds Ailene, "*Hinikayat ko siya na magpatingin, at kumunsulta naman siya sa isang* private doctor. *Doon siya pina*-X-ray. Positive *sa* TB. *Sabi ko, magpatingin ka sa* RHU (Rural Health Unit) *kasi libre ang gamot doon*" (I urged her to consult a doctor, who ordered a chest X-ray that showed she had TB. I advised her to go for treatment at the RHU, which provides medicines free of charge).

At the RHU, Bicbic's sputum was examined through GeneXpert, which confirmed she was positive for TB. While her daughters showed no TB signs and symptoms, they underwent tuberculin skin testing as part of the RHU's policy of screening close contacts of a person with TB. Subsequently, the two girls were tested for TB, one through sputum examination and the other through chest X-ray. Both children had active TB disease. Bicbic began treatment in late February and her daughters in March.

Deciding to seek TB care was not difficult for Bicbic and her two girls. Aside from health advice, Ailene had previously distributed fans that featured TB information. "*Nagbahay-bahay kami para mamigay ng pamaypay. Namigay rin kami ng* sticker *at* poster *sa mga* tricycle driver *at tindahan*" (We went house to house to distribute fans and give away stickers and posters to tricycle drivers and variety store owners). In November last year, Bicbic saw a television advertisement on TB. "*Napanood ko sa* TV *'yong* [advertisement *tungkol sa*] DOTS."

According to Ailene, the information, education, and communication (IEC) materials were helpful in making people aware of TB disease. "*Malaking tulong 'yong mga* IEC materials. *Nababasa nila at napapaisip sila, 'Ganun pala*!'" (The IEC materials have been a big help. People read them and start thinking, 'So, this is how one gets or can avoid TB'). This information plus the counseling and strong support that Ailene provided moved Bicbic and her children to consult a doctor.

As Bicbic's treatment partner, Ailene regularly checks if her friend and her kids are taking their medications daily and experiencing any negative side effects from the anti-TB drugs. She also ensures that their supply of medications is replenished regularly.

Bicbic's advice to people possibly infected with or have TB is "*Huwag mahihiyang magpatingin. Kapag lumala, mahirap nang gamutin*" (Don't be afraid to consult at the health center. If you let TB get worse, the harder it will be to treat).

USAID supports TB screening among malnourished children

Posted on Philippines Health Highlights, USAID Office of Health, March 31, 2017

Aurora could not figure out why her 9-year old son, Anand, was underweight. "When Anand remained undersized despite regularly eating nutritious meals from the school's feeding program, I got worried," Aurora shared. It was a good thing she decided to have her son tested for tuberculosis (TB) at her son's school, Barugo II Central Elementary School in Leyte province. That was when she found out Anand had TB.

Like many public elementary schools, the Barugo II Central Elementary School implemented the Department of Education's feeding program, but with a twist. Severely underweight students were identified and enrolled in feeding activities and were also screened for TB using a screening model developed by USAID through the Innovations and Multisectoral Partnerships to Achieve Control of Tuberculosis (IMPACT) Project. After receiving an orientation on TB by the Municipal Health Office physician and nurse, the teachers screened the school's 18 undernourished students using the TB screening model's assessment questionnaire. The exercise identified five children (28 percent) with symptoms of TB. All of them subsequently tested positive for TB and were enrolled in treatment. Anand was one of them.

TB among children is particularly difficult to diagnose due to difficulty identifying symptoms and accessing quality diagnostic facilities. In the Philippines, it is estimated that 31,000 children develop TB each year. Malnutrition puts people at higher risk for TB; underweight individuals are shown to have 3.5 times higher risk for TB than those with normal weight. Moreover, malnutrition can itself be a manifestation of TB.

The local office of the Department of Education, Municipal Health Office and USAID's IMPACT Project expanded the intensive TB case-finding program among malnourished children during the following school year in seven schools in Leyte province and in two schools in Cavite province. A total of 827 malnourished school children were screened, 112 of whom (13 percent) tested positive for TB and were enrolled in treatment.

The USAID-developed TB screening model does not require the use of a chest X-ray, a test that is not

always available in resource-scarce towns and which many patients often cannot afford. Instead, TB diagnosis relies on taking the student's history of exposure to TB, assessing for symptoms, and administering a tuberculin skin test that is provided free of charge by the rural health unit. By integrating programs to address malnutrition and TB, USAID is helping more children to get screened, diagnosed, and treated for TB.

Today, Anand is in Grade 4 and is free of TB. He has gained weight, his attendance in school has improved, and so has his participation in class. For that Aurora profusely thanks all those who made it possible.

VIII. COMMUNICATION AND OUTREACH

Table 25. Communication Activities and Products, Year 5 (Oct 2016–Sept 2017)

Communication Activity/Product	Brief Description	Multiplier Effect/Estimate Reach
USAID Facebook		
Helping indigenous people help themselves to fight tuberculosis	Describes how USAID through IMPACT and in collaboration with the DOH-RO3 and Pampanga Provincial Health Office brought a mobile X-ray laboratory to Porac and Floridablanca municipalities in Pampanga and provided X-ray services to 1,151 Aetas. USAID-trained Aeta community health volunteers assisted by educating and counseling villagers on TB. They also prepared sputum smears that led 421 Aetas to have their sputum examined through microscopy	USAID/OH Philippines Health Highlights, posted Aug 18, 2017
Elderly join community-based TB prevention advocacy	Tells about how USAID through IMPACT mobilized senior citizen's groups in 21 municipalities and cities in Cebu and Leyte provinces to raise community awareness about TB. This promising practice shows the elderly as a sector with the potential to significantly contribute to TB prevention and control	USAID/OH Philippines Health Highlights, posted Jun 16, 2017
Engaging indigenous people for community-based TB control	Describes how USAID-trained Aetas in Porac, Pampanga, are educating their communities on TB, its prevention, and cure; expanding access to TB diagnosis	USAID/OH Philippines Health Highlights, posted May 19, 2017

Communication Activity/Product	Brief Description	Multiplier Effect/Estimate Reach
	by collecting sputum specimens and preparing smears to be examined at the health center; and serving as treatment partners to TB patients	
USAID-assisted multisectoral group mobilizes jeepney and tricycle drivers to fight tuberculosis (photo story)	Talks about how nearly 100 drivers of jeepneys and tricycles from 17 towns in Bulacan have joined a campaign to end TB. These drivers were engaged by the USAID-supported Bulacan Multisectoral Alliance whose members taught them about TB and encouraged them to disseminate information about the disease through TB posters and stickers posted on their vehicles	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Apr 25, 2017
USAID engages health workers to fight against tuberculosis	Narrates how health workers trained through USG assistance to identify, treat, and control TB hike up to 1.5 kilometers on muddy roads to educate people on the disease, collect sputum specimens, and prepare smears for transport to a microscopy laboratory. This enables people in remote areas to access TB diagnosis and get appropriate treatment	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Apr 17, 2017
"Huwag mahiyang magpatingin. Kapag lumala, mahirap nang gamutin"	Talks about the role of USAID-supported TB outreach activities at the community and national levels, which with the help of the Department of Health and local government units, have educated Filipinos throughout the country about TB	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Mar 23, 2017 USAID OH Philippines Health Highlights, posted Mar 31, 2017
This way to TB-DOTS (photo story)	Narrates, through photos, the importance of sign ages for people trying to locate a DOTS facility in order to access TB diagnosis and treatment; also cites that sign ages are required by PhilHealth as a quality standard that has to be met to get accredited and subsequently avail of TB-DOTS reimbursement	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Jan 25, 2016
USAID supports TB	Describes USG assistance to TB	*https://www.facebook.com/usaid.*

Communication Activity/Product	Brief Description	Multiplier Effect/Estimate Reach
screening among malnourished children	screening in seven schools in Barugo II district, Leyte, which identified 83 severely wasted school children. Of this number, 21 (25%) students were found to have active TB disease and all were enrolled in treatment. The screening used the USAID-developed TB screening model that does not require the use of chest X-ray, which is not always available in many peripheral towns and which many patients often cannot afford	*philippines* USAID Facebook, posted Dec 22, 2017
USAID launches Barangay Health Management Council in three rural communities	Tells about the replication of Barangay Health Management Council (BHMC) in three rural communities in Alfonso, Cavite. The BHMC brings together local officials, health providers, churches, schools, and other community groups to improve people's access to quality TB care. It was pilot run in an urban community in Quezon City by SIAPS	h*ttps://www.facebook.com/usaid.philippines* USAID Facebook, posted Mar 23, 2017
Photo: Aeta women and other villagers in Porac, Pampanga learn about TB symptoms through USAID-sponsored materials and training	Shows the photo that won for IMPACT the 2016 USAID TB photo contest initiated by the USAID Global Health Bureau	*https://web.facebook.com/manila.usembassy/?hc_ref=PAGES_TIMELINE&fref=nf* U.S. Embassy Manila Facebook, posted Dec 11, 2016
Nine models of good practices showcased in 47th World Conference on Lung Health	Describes the presentation of nine good practices in TB care and management in the 47th World Conference on Lung Health held in Liverpool, United Kingdom. The good practices, developed through USG assistance, focused on engaging stakeholders in government and private sectors in the provincial TB program in Batangas and Misamis Oriental; involving various groups in TB control, specifically private workplaces in Calamba, Laguna, indigenous people in Bukidnon, and community volunteers in San Juan City and Opol, Misamis Oriental; integrating TB lessons in the grade school curriculum in Gingoog City,	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Nov 30, 2016 The 47th World Conference on Lung Health was participated in by over 4,000 delegates from more than 120 countries.

Communication Activity/Product	Brief Description	Multiplier Effect/Estimate Reach
	Misamis Oriental; and models developed by SIAPS	
USAID supports TB screening of 3,388 jail inmates in Bulacan	Talks about USAID support to TB screening among inmates and personnel in Bulacan Provincial Jail, which found 148 inmates positive for the disease. All have been enrolled in TB treatment	*https://www.facebook.com/usaid.philippines* USAID Facebook, posted Nov 6, 2016
USAID *EXPOSURE*		
It takes a community: A farmer's recovery from TB begins closer to home (photo story submitted through USAID OH, and USAID PRM)	Tells about a farmer with tuberculosis who defeated the disease. Instrumental in his journey towards cure was the help of a community health volunteer who was trained and mobilized through the Project's technical assistance	https://usaidpubs.exposure.co/it-takes-a-community/photos/3635758 USAID EXPOSURE, a USAID online publication curated by USAID/Washington, posted Mar 23, 2017

ANNEX A. Project Performance vis-à-vis Development Objective Indicators

DEVELOPMENT OBJECTIVE 1

Annex A Table 1. Project Performance vis-à-vis Development Objective 1 Indicators
Year 5 (Oct 2016–Sept 2017)

Note: Figures in parentheses () are the figures reported in the previous quarter report. Figures in red font are updated figures based on the latest quarterly Integrated TB Information System (ITIS) records and reports from PMDT facilities.

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 1	Performance Year 1	Target Year 2	Performance Year 2	Target Year 3	Perform-ance Year 3	Target Year 4	Performance Year 4	Year 5 Target	Year 5				Performance Year 5	Overall Perform-ance to Date	Remarks
												Q1	Q2	Q3	Q4			
Case Notification Rate, all forms, in USG-assisted sites	209/ 100,000 (2012 NTP Report)	274	209	203 / 100,000	215	205	248	269	260	285	290	71	77	64		212	212	To be reported annually
Numerator				89,061		102,129		146,058		157,887		39,678	43,141	35,765		118,584	118,584	
Denominator				43,829,201		49,901,793		54,254,116		55,398,712		55,970,289	55,950,536	55,950,536		55,960,413	55,960,413	
Case Detection Rate, all forms, in USG-assisted sites	74% (2102 NTP Report)	95%	76%	74%	79%	77%	85%	88%	90%	99%	95%	25%	24%	20%		66%	66%	To be reported annually
Numerator				89,331		102,129		146,031		157,887		39,678	43,141	35,765		118,584	118,584	
Denominator				120,530		132,240		165,551		159,548		161,194	180,161	180,161		180,193	180,193	
Cure Rate, new bacteriologically confirmed, in USG-assisted sites	83% in 2010 (based on RFA)	90% (2015 Cohort)	83% (2011 Cohort)	83%	85% (2012 cohort)	84%	87%	81%	89%	80%	90%	74%	78%	75%		76%	76%	To be reported annually
Numerator				29,435		37,739		38,143		35,747		8,152	10,575	9,797		28,524	28,524	
Denominator				35,369		45,067		46,810		44,607		10,953	13,360	12,984		37,567	37,567	
Treatment Success Rate, all forms, in USG-assisted sites	TDB (Cohort of 2011)	95% (2015 Cohort)	NA	NA	91%	90%	92%	90%	94%	91%	95%	88%	90%	90%		90%	90%	To be reported annually
Numerator						82,393		105,591		127,953		31,171	40,009	35,775		106,955	106,955	
Denominator						91,820		116,786		140,499		35,225	44,375	39,694		119,294	119,294	

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 1	Performance Year 1	Target Year 2	Performance Year 2	Target Year 3	Perform-ance Year 3	Target Year 4	Performance Year 4	Year 5 Target	Year 5				Performance Year 5	Overall Perform-ance to Date	Remarks
												Q1	Q2	Q3	Q4			
TB prevalence rate	520/100,000 in 2010 (based on RFA)	375/ 100,000	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Archived indicator
Number of vulnerable groups participating in TB control	21	850 (cumulative count)	50	82	100	177	250	439	300	123	150	11	1	0	0	12	833 (cumulative count)	
Percentage of municipalities and cities with organized barangay-level CBOs participating in TB control and are linked with TB- DOTS facilities	13%	60% (478 of 796)	10%	8%	20%	18%	40%	33%	50%	52%	60%	57%	60%	60%	60%	60%	60%	
Numerator	87	413	69	52	138	122	318	262	398	412	478	451	475	475	475	475	475	
Denominator	689	689	689	689	689	689	796	796	796	796	796	796	796	796	796	796	796	
Percentage of notified TB cases that are referred by CBOs/CHTs/BHWS	No data	15%	NA	NA	5%	10%	8%	5%	10%	12%	15%	13%	14%	14%		14%	14%	NTP-related data are reported with one quarter delayed
Numerator						2,028		7,904		19,059		5,324	5,971	5,199		16,494	16,494	
Denominator						20,532		146,033		157,449		39,678	43,141	36,720		118,975	118,975	
Percentage of provinces/cities with functional multisectoral alliances (MSA) or PCC/CCC to combat TB	0 (0 of 38)	86% (32 of 38)	0	0	0	0	13%	28%	46%	46%	86%	46%	46%	46%	46%	46%	46%	
Numerator		37		0	0	0	6	12	20	20	37	20	20	20	20	20	20	
Denominator		43		38	38	38	43	43	43	43	43	43	43	43	43	43	43	
Number of TB cases referred to DOTS facilities by non-NTP providers in USG-assisted sites	2,872 (2010 NTP quarterly report in IMPACT project sites)	114,400	5,000	6,838	7,000	12,158	12,400	38,280	42,000	66,167	48,000	17,922	20,466	18,636		57,024	180,467 (Cumulative Y1-Y5Q3)	NTP-related data are reported with one quarter delayed
Percentage of private hospitals participating in TB control as DOTS providing or DOTS referring in USG-	29% (80 of 279) (partial data)	70%	5%	22%	30%	58%	40%	76%	65%	88%	70%	88%	88%	88%	88%	88%	88%	

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 1	Performance Year 1	Target Year 2	Performance Year 2	Target Year 3	Perform-ance Year 3	Target Year 4	Performance Year 4	Year 5 Target	Year 5				Performance Year 5	Overall Perform-ance to Date	Remarks
												Q1	Q2	Q3	Q4			
supported areas																		
Numerator		299		107		280		369		374	299	374	374	374	374	374	374	
Denominator		427		484		484		527		427	427	427	427	427	427	427	427	
Percent TB microscopy laboratories (TMLs) performing TB microscopy within EQA standards (95% or higher rate of correct results)	68% (2011 EQA Report – 1,752 TMLs with 95% correct microscopy	95%	70%	80%	85%	80%	90%	85%	95%	95%	95%	86%	89%	91%		91%	91%	NTP-related data are reported with one quarter delay
Numerator		1,243		543	699	839	1,025	966	1,156	1,153	1,243	1,125	1,167	1,197		1,197	1,197	
Denominator		1,309		683	822	1,049	1,139	1,139	1,217	1,217	1,309	1,309	1,309	1,309		1,309	1,309	
Number of children <15 years old treated for tuberculosis in USG-supported areas	7,439	21,000 (for Y5) and 86,000 (cumulative Y1-Y5)	13,500	10,495	14,500	18,021	17,000	19,448	20,000	24,849	21,000	6,842	6,386	4,838		18,066	90,879 (Cumulative Y1-Y5Q3)	NTP-related data are reported with one quarter delay
Percentage of prisons/jails implementing DOTS in USG-supported areas	23% (46 of 196)	95%	70%	32%	80%	76%	90%	82%	95%	91%	95%	91%	93%	93%	93%	93%	93%	DENOMINATOR CHANGED FROM 225 (Y4) TO 215 (Y5)
Numerator		214		62		148		184		206		196	200	200	200	200	200	
Denominator		225		196		196		240		225		215	215	215	215	215	215	
Percent of USG-assisted SDPs that experience a stock-out of any TB drug during the defined reporting period	93%	10%	15%	17%	30%	1%	15%	35%	10%	15%	10%	13%	10%	8%	1%	1%	1%	Performance to date is based on the latest reporting period
Numerator		147		214		1,279		495		222		193	147	118	15	15	15	
Denominator		1,473		1,258		1,288		1,415		1,436		1,473	1,473	1,473	1473	1,473	1,473	
Percentage of LGUs conducting data quality checks (DQC) annually	No data	90%	NA	NA	NA	NA	60%	100%	75%	95%	90%	42%	63%	95%	95%	95%	95%	To be reported annually but monitored quarterly
								43		41	39	18	27	41	41	41	41	
								43		43	43	43	43	43	43	43	43	
Number of new MDR-TB cases diagnosed and initiated on treatment	626 (2012 PMDT	3,365 (for Y5)	1,100	1072	1,725	1,810	1,725	2,680	3,365	3,543								This indicator will no longer be

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 1	Performance Year 1	Target Year 2	Performance Year 2	Target Year 3	Perform-ance Year 3	Target Year 4	Performance Year 4	Year 5 Target	Year 5 Q1	Year 5 Q2	Year 5 Q3	Year 5 Q4	Performance Year 5	Overall Perform-ance to Date	Remarks
	report)																	reported starting Y5. It has been replaced by the next two indicators below.
Male			TBD	728		TBD		1,880		2,288								
Female			TBD	344		TBD		800		1,255								
Percentage of successfully treated new multidrug-resistant TB (Category IV) cases	56% (2009 PMDT national report)	7	NA	NA	NA	NA	NA	NA	68%	54% (FY2013 cohort)								TSR MDR to be reported annually starting end of Y4
Numerator										578								
Denominator										1,072								
Number of new MDR-TB cases detected (new indicator)	3,837	4,583									4,583	(853) 983	(1,062) 1,079	(831) 992	1,011	4,065	4,065	
Number of new MDR-TB cases that have initiated second line treatment (new indicator)	3,543	4,583									4,583	(854) 885	(989) 1,007	(839) 936	805	3,633	3,633	
Number of health care providers trained in the components of the WHO Stop TB strategy with USG funding	20,264	30,000	1,000	6,084	6,844	14,880	5,000	25,307	3,000	42,523	220	23	58	0	0	81	42,604 (Cumulative Y1-Y5)	
Male				882		2,139		5,069		7,246		6	4	0	0	10	7,256	
Female				5,202		12,741		19,955		35,277		17	54	0	0	71	35,348	
Percent of DOH Regional Offices outsourcing TA provision	0%	50%	0%	0%	10%	0%	25%	12%	40%	29%	50%	29%	29%	35%	41%	41%	41%	
Numerator	0	8	0	0	6	0	4	2	7	5	9	5	5	6	7	7	7	
Denominator	51	17	51	51	51	51	17	17	17	17	17	17	17	17	17	17	17	
Percent of DOTS facilities that are PhilHealth accredited in USG-supported areas	48%	75%	15%	52%	55%	61%	60%	61%	70%	69%	75%	69%	64%	70%	71%	71%	71%	
Numerator	654	1,051		656		766	841	855		986		1,016	944	1,025	1,053	1,053	1,053	
Denominator	1,366	1,401		1,258		1,258	1,401	1,401		1,436		1,473	1,473	1,473	1,473	1,473	1,473	
Percentage of LGUs	No data	50%	NA	NA	NA	NA	15%	26%	35%	34%	50%	42%	40%	43%	45%	45%	45%	

Indicators	Baseline Value (source, year)	EOP Target FY2017	Target Year 1	Performance Year 1	Target Year 2	Performance Year 2	Target Year 3	Perform-ance Year 3	Target Year 4	Performance Year 4	Year 5 Target	Year 5				Performance Year 5	Overall Perform-ance to Date	Remarks
												Q1	Q2	Q3	Q4			
utilizing PHIC reimbursement per guidelines	available																	
Numerator		340						174		232		286	273	295	303	303	303	
Denominator		679						679		679		679	679	679	679	679	679	Denominator does not include ARMM LGUs
Percentage of budget in DOH regional offices utilized for TB	NA	90%					70%	91%	80%	92%	90%						95%	To be reported annually
Numerator								286,881,503.28		349,016,735.96							302,908,098.92	
Denominator								316,333,480.00		378,090,040.20							320,410,379.27	
Percent of LGUs with policy issuances that allocates resources for TB services	35%	70%	0%	23%	30%	36%	50%	53%	60%	63%	70%	65%	68%	70%	70%	70%	70%	
Numerator	199	476		130	171	206	340	358	408	432	476	444	465	473	478	478	478	
Denominator	571	679		571	571	571	679	679	679	679	679	679	679	679	679	679	679	Denominator does not include ARMM LGUs

DEVELOPMENT OBJECTIVE 2

Annex A Table 2. Project Performance vis-à-vis Development Objective 2 Indicators (Basilan, Sulu, Tawi-Tawi, and Marawi City) Year 5 (Oct 2016–Sept 2017)

Performance Indicators	Baseline Value (source, year)	EOP Target	Target Year 2	Performance Year 2	Target Year 3	Performance Year 3	Target Year 4	Performance Y4	Target Year 5	Year 5 (FY 2017) Accomplishment				Performance Year 5	Overall Performance to Date	Remarks
										Q1 (Oct– Dec 2016)	Q2 (Jan– Mar 2017)	Q3 (Apr– Jun 2017)	Q4 (Jul– Sept 2017)			
Number of clients reached in health (TB) outreach activities conducted	50 (Marawi City Health Office, 2013)	2,300 (cumulative)	500	375	600	1,034	700	1,012	500	438	409	35	0	882	3,303 (Cumulative Y2–Y5)	
Percentage of municipalities with organized barangay- level CBOs participating in TB control	0%	90%			20%	70%	80%	88%	90%					88%	88%	
Numerator	0	39			9	30	34	38	39	0	0	0	0	38	38	
Denominator	43	43			43	43	43	43	43					43	43	

ANNEX B. List of IEC Materials Reviewed

IEC Material	Description	Target Users/Audiences
1. TB Flipchart (Big and Small)	Back to back full color printing; laminated; 22 pages (excluding front and back hard covers)	**Users:** Health workers **Audiences:** • Clients and patients of RHUs / DOTS facilities • Attendees of TB / health education session (small group discussion) and one-on-one consultations
2. Cough to Cure Guide for Counseling (English)	Letter size (8.5" X 11"); half-fold; Back to back printing; eight (8) pages	**Users:** Health workers **Audiences:** TB patients undergoing DOTS
3. Cough Manners Flyer / Fan / Poster / Standee Set[1]	• Three-fold flyer (letter size / 8.5" X 11"), double-sided printing; full color; UV lamination; for RHU and health center clients; persons with TB symptoms • 24.4" X 26.27", two-sided printing, full color, card stock, laminated; for RHU and Health Center clients, patients • Poster: 18" X 28"; full color; foldcote #10 w / UV lamination; for RHU, Health Center clients • Five tarpaulins with stand; for RHU, Health Center clients	**Audiences:** General Public
4. TB Desk Job Aid (FAQs) – English / Filipino (back to back)	16.50" X 11.50", back to back printing; one side English, one side Pilipino; full color; laminated health volunteers	**Users:** • RHU and health center staff: PHNs, RHMs • BHWs; Community-based organization (CBO) & faith-based organization (FBO) health coordinators and community
5. Video: Ubokabularyo	3-minute video clip showing proper Cough Manners to prevent TB	**Audiences:** General Public

[1] Evaluated as a set as indicated in the list provided to the consultant

IEC Material	Description	Target Users/Audiences
	transmission General public	
6. PTSI Quick Reference Guide	Set of 17 cards (8.5" X 5.5") laminated cards printed front and back; ring-bound	**Users:** • Doctors, nurses and other health care providers involved in diagnosing and managing TB cases
7. PTSI Tagubilin sa Pasyente	One sheet back to back printed flyer, laminated, 5.75" X 8.75"	**Audiences:** • Clients of private health providers; general public
8. PTSI Laboratory Banner	• Actual Size dimensions not known; only the e-copy is available • Apparently intended to be printed on tarpaulin	**Audiences:** • RHU / Health Center patients who will undergo laboratory examinations, especially sputum testing for TB
9. PTSI Mobile / Poster (Huwag bale-walain ang ubong 2 linggo) – for clinic and for pharmacy	Actual Size dimensions not known; only the e-copy is available	**Audiences:** • Clients of private health providers; • general public
10. PTSI Mobile / Poster (Paalaala sa taong may ubon hindi gumagaling)	Actual Size dimensions not known; only the e-copy is available	**Audiences:** • TB presumptive individuals • General public
11. PTSI Referral Coupon	Actual Size dimensions not known; only the e-copy is available	
12. Health Pro TB IEC Fan (Filipino)	9" diameter; glossy finish, board; illustrated; full-color; back-to-back	**Users:** Health workers **Audiences:** • TB patients undergoing DOTS • general public
13. Health Pro TB Reference Folder	9"x 9" (square); glossy finish, board; illustrated; full-color; back-to-back	**Users:** Health workers
14. World Vision TB Flyer Tagalog	8.5" x 5.5" (half of bond paper size); landscape; full color; back-to-back	**Users:** Health workers **Audiences:** TB patients undergoing DOTS

ANNEX C. Summary, Assessment of Private Sector Engagement in Tuberculosis Control, IMPACT Project, Year 5, 2017

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
1. Pharmacy DOTS Initiative	Determine the effectiveness and acceptability of the TA package for Pharmacy DOTS Initiative (including process of engagement, training and any deviations made in the implementation from original TA)	• For the pharmacies, the TA package was successful in engaging the target number of pharmacies to make referrals. However, it failed to maintain the consistency and commitment of said pharmacies in making referrals • For the LGUs, the TA failed to properly orient them on PDI program components and their roles after the Project. Some LGUs cannot distinguish between PDI as a sub-grant and the IMPACT mother project. • In terms of capacity building, the TA was successful in training more than the target number of pharmacy personnel. However, the study also showed a fast turnover of pharmacy personnel which resulted in discontinuation of the PDI in engaged pharmacies. • The training conducted was acceptable to both the pharmacies and the LGUs in that it added to their knowledge and was useful in their practice. • The TA was able to change the dispensing behavior of the respondents. All of the respondents do not dispense anti-TB drugs without prescription. • The TA was able to develop national policies to institutionalized PDI	Recommendations for scaling up: • Identify the sector or the organization that will take on the responsibility of the continuation and monitoring of the implementation of the project. • Coordinate with the NTP of the DOH in order to assess how the PDI can align with the program. This will also prevent duplication of efforts and ensure continuity of service delivery from the referral of the pharmacy up to the DOTS provision in the respective barangay health centers. • Create a standardized manual of procedures for PDI which shall be adopted by all participating pharmacies. • Instead of creating its own referral slip, it is recommended to adapt the said NTP Referral Form (Figure 7). • If possible, inclusion of the PDI on the NTP Manual of Procedures is also recommended. • Engage and train all pharmacies (100% coverage) to address the problem with patient-related hindering factors (e.g., dishonest and uncooperative patients) and the presence of unengaged pharmacies Pharmacy-related
	Assess the outcome of PDI relative to the LGUs' NTP program	• PDI was able to generate less than the target number of referrals as reported by PPHA • The average number of clients referred to the local TB DOTS facility per month is 32. • The average monthly referral was not statistically lower than the target of 20 per month based on the recall of respondents. This finding cannot be verified in the TB referral logbook due to its non-usage by the pharmacies. Further verification of this data was done at the health	

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		centers but possible contributions of the engaged pharmacies were recorded as a general contribution under "private" and not disaggregated/specified. • There was a statistically significant increase over time in the total number of TB cases identified after the PDI was implemented in Palo, Leyte (p=0.0301) and in Batangas City, Batangas (p=0.0104). • There was a statistically significant decrease over time in the total number of TB cases identified after the PDI was implemented in Dipolog City, Zamboanga Del Norte (p=0.0577). • No statistically significant change over time in the total number of TB cases identified after the PDI was implemented in the Caloocan City (p>0.10) • Overall, there was no significant change over time in the total number of cases in all the study sites combined.	• Secure the commitment and compliance of the pharmacy owners may contribute to the continuous cooperation and engagement of their respective pharmacies. • Ensure that all participating pharmacies will be provided a copy of the standardized manual of procedures for PDI to guarantee that all new hires of the pharmacies may be able be informed of the initiative and that they are expected to make PDI referrals as part of their job description. • Big to medium chain pharmacies may also adopt the training system of Mercury Drug wherein PDI was incorporated in their corporate training for new hires before said pharmacy personnel were deployed to their branches. This shall address the issue on the fast turnover of trained pharmacy personnel. • Consider awarding incentives to the pharmacy-owners of certified actively referring pharmacies such as the provision of free standard training programs accredited by the PRC Board of Pharmacy which is a requirement for the renewal of LTOs of all retail establishments. Other incentives may also be explored. • Ensure that the NTP Referral Forms are readily available in the pharmacies.
	Determine facilitating and hindering factors to effective implementation of PDI	Hindering factors • Patient-related factors include: (1) social stigma that prevents them going to the health center after being referred by the pharmacies; (2) uncooperative customers who get angry because the pharmacy did not sell them their drugs and were being referred instead; (3) dishonesty among patients claiming to have gone to the health center but actually did not. • Pharmacy-related factors include: (1) prioritizing business and sales over social responsibility; (2) lack of commitment of trained pharmacy personnel; and (3) fast turnover of trained pharmacy personnel. • Health center related factors include: unavailability of anti-TB drugs when referred patients eventually go to the health centers and the unpleasant experience of the patients with the health center personnel.	

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		• External factors include: (1) non-engaged pharmacies continue to dispense anti-TB drugs without prescription; (2) private doctors discourage their patients from buying in engaged pharmacies because they know they will be referred to health centers; (3) lack of monitoring and feedback mechanisms between the pharmacy and the LGU. Facilitating factors • Personal connection of the PDI program manager with big pharmacy chains like Mercury Drug which provided the most significant contributions to number of referrals made. • The referral system between the pharmacies and the LGU facilities established in a limited number of LGUs	• Assessment of the Pharmacy DOTS Initiative • Infographics, signage (e.g., "This establishment offers free TB DOTS referral services.") and posters regarding TB DOTS and the PDI may also be distributed and displayed in the pharmacies. Health center-related • Provide capacity building activities and PDI orientation for LGU/RHU staff to prevent reports of unfriendly or unwelcoming staff that discourages patients to visit the health center. • Improve the supply chain management system of the NTP to ensure that anti-TB medications are readily available in all RHUs. Program-related • Increase the human resource of the monitoring organization or body. • Identify the LGUs that possess strong LGU TB program implementation (e.g., RHUs with barangay health workers that regularly perform house-to-house lectures on TB DOTS). These LGUs may no longer require active monitoring and evaluation and thereby reduce the load of the monitoring organization or body. However, it is still recommended that the

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
			pharmacies in these identified areas are engaged and trained in PDI as a complementary measure to the already strong NTP implementation in the locality. • Develop and implement a feedback system that will inform both the private (pharmacies) and public sector (LGUs) of the achievements, results of the monitoring and evaluation activities, among others, of the program. • Maintain a directory of the actively referring pharmacies as reflected in the "referring unit" entries found in the NTP Referral Form. This directory may serve as the tracking document of the monitoring body for awarding of incentives. The directory may also be forwarded to the FDA which shall serve as their reference for their routine inspections (e.g., FDA may prioritize the inspection of pharmacies which are not included in the directory of actively referring pharmacies since the maintenance of a Referral Registry is a requirement for all retail pharmacies). Likewise, LGU/RHU staff should also be instructed to separate the referrals coming from the pharmacies in order to have better data on the contribution of PDI to TB DOTS. • As part of the planning of the program, a strong risk management plan should be prepared. Risk management gives an

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
			assurance that the program can be implemented effectively and losses are prevented or reduced. This plan shall identify risks, its probability of occurrence, potential impact and proposed strategies or actions to address said risks.
2. Engagement of Private Hospital	Assess the effectivity of scaling-up private hospital DOTS engagement	• A total of 41 private hospitals, 10 RHUs or CHO, 2 PHOs, and 1 DOH Regional Office were visited for this evaluation study. • Private hospitals surveyed were able to refer an increasing number of presumptive TB patients on a yearly basis to government facilities and reached a total of 1,236 patients from the time of engagement (2014) up to 2016. • The absolute number of referrals of presumptive TB cases from the TDRH to TBDOTS facilities- meaning those who finally reached the TBDOTS centers and the number of cases presumed to be missing could not be ascertained by the study due to insufficient data. • The hospitals in the study were able to contribute an average of 2.3% of cases to the LGU performance from 2014-2016. • The contribution of the hospital is directionally related with the bed-capacity. • The intra- and inter-facility referral mechanisms are guided by the NTP Manual of Procedures and were supported by mutual agreements between the public and the private and the TB policy of the hospital. • Tracking of patients is through text or calling the receiving facility or group chat. Return slips are rarely or not used at all. • Monitoring and evaluation of the hospital DOTS program was never conducted by either the private hospitals or the	1. RHUs/health centers have to focus on: • Strengthening case finding • System's responsiveness most especially in providing the needed services to referred patients • Immediate feedback mechanism to private sector • Tracking of defaulters and families of patients with TB 2. PHOs/CHOs have to: • Lead the conduct of regular data validation and DQC • Ensure meaningful participation of private sector in planning exercises, monitoring and evaluation activities • Strengthen leadership role of the RHUs/health centers in steering, managing referral mechanisms and feedback mechanisms. A good communication system will be helpful. 3. DOH a. Include TBDOTS as part of DOH Licensing Standards and PhilHealth

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		LGUs. This was conducted by the subgrant/project. • Estimated cost per engaged hospital is from Php 213,000 to 216,000 • Estimated cost per patient referred is equal to Php4000.	Accreditation. Standards should lay down HR compliment, compliance to NTP protocols and infection control. b. Review and update financing mechanism for TB DOTS implementation including incentives for referring individuals. • Provision of monetary and non-monetary incentives to referring individuals and institutions • Retooling on NTP Program Management for doctors and nurses. • Behavioral change strategies for doctors and other service providers, patients and their families, alike. • Make IT IS fully functional • Initiate multisectoral collaboration in developing systems for accountability, monitoring stewardships in engaging private hospitals and managing the entire NTP in both public and private sector. This will solve the inefficiencies of the current reporting and recoding mechanism. 4. Hospitals • As an interim, hospitals that are not yet prepared can serve as referring facilities • All hospitals must be TB DOTS providers
	Identify facilitating and hindering factors to hospital engagement	Facilitating Factors • Hospital owners/medical directors are open to becoming DOTS providers • Some owners/medical directors support and lead the hospital DOTS implementation • Hospitals are actively participating during DQCs • Owners practicing in their own hospitals are able to solidify processes within said hospital and can mandate consultants to follow protocols • Dedicated hospital TB teams performing their functions according to the NTP protocol • MSA's support to the network • Positive culture among hospital TB teams (cooperation and team spirit) • Cooperation of pulmonologists in the hospitals to follow the NTP protocol. • Sense of responsibility of hospital leaders, doctors and nurses to public health in general. • 30 (73%) of hospitals established policy on TBDOTS Hindering Factors • Limitations in number of trained medical technologists, available room for TB DOTS, sputum collection area. • None of the hospitals have shown any development plans • LGUs do not regularly invite the private hospitals • When hospitals start focusing on the business side of hospital operations.	

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		• Some pediatricians do not believe in the MOP regarding management of TB among children and prefer to trust their CPGs. • Some doctors do not follow the hospital policy on NTP or are not aware. • Approximately 81% of the doctors did not refer to the hospital TB team. • Fast turnover of nurses and medical technologists • Additional tasks assigned to hospital NTP nurses leads to prioritization of these others tasks and neglect of the TB program. • Majority of doctors invited to TBDOTS orientation did not attend and failed to understand the NTP's relevance and their responsibility. • Consultants practicing in the hospital were not compelled to strictly follow the hospital policy on NTP. • Non-availability of anti-TB drugs (for both adult and children) in the receiving facility and it gets known by the referring facility. This is discouraging to the referring facility. • Distrust of physicians and patients on the quality of anti-TB drugs • Not enough incentive for the physicians to practice the NTP • Not all referring hospitals have IT IS viewership.	
3. Engagement of Standalone Private Clinics	Determine the effectiveness and acceptability to stakeholders (mainly LGU and private physicians) of all processes involved in engaging	• The engagement was effective and acceptable in a way that: ○ It allowed engaged physicians to reach and treat more TB patients ○ Physicians can manage new cases but refer retreatment cases ○ Patients were encouraged by the physicians to use the DOTS TML instead of the private TML which is not DOH trained. ○ Knowledge gained from the orientation was useful	• DOH ○ Simplify the forms used for referral for both the SAP and HCs ○ Should conduct a consultative meeting with the private clinicians and/or medical societies to get their participation in the DOTS network ○ TB case reporting should be

<table>
<tr><th>TA Assessed</th><th>Objectives of the Assessment</th><th>Main Findings</th><th>Recommendations</th></tr>
<tr><td></td><td>standalone physicians</td><td>to SAP's practice
○ Patients perceived to have financial constraints were advised by the engaged physicians to go to the DOTS facilities for free diagnosis and treatment</td><td>mandatory and should be enforced with penalties for non-compliance and incentives for those who are compliant.
○ Include a monitoring and evaluation system in the engagement</td></tr>
<tr><td></td><td>Assess the outcome of the engagement to the local NTP performance, from the standpoint of both the patients managed by the standalone physicians and the standalone physicians, themselves</td><td>Number of referrals:
• On the average, the engaged physicians refer 5 to 10 patients per day to as low as 3 patients per week.
Recording and reporting:
• Many of the health centers visited do not identify the name of the source of referral. Hence, the assessment was not able to ascertain the contribution of the engaged SAPs to the NTP performance.
• Secondary reports obtained from IMPACT and LGU records show that private doctors contributed the following percentages to their case finding for the year 2016 (a year after engaging the private doctors)
<table><tr><td rowspan="2">City</td><td colspan="2">TB cases contributed by private MDs</td><td>Total number TB, all forms cases registered, 2016</td></tr><tr><td>number</td><td>percentage</td><td></td></tr><tr><td>Caloocan</td><td>Data not available</td><td>Data not available</td><td>4718</td></tr><tr><td>Makati</td><td>84</td><td>4%</td><td>1922</td></tr></table></td><td>• LGUs
○ Include SAPs during program implementation review
○ Improve referral mechanism flow from SAP to HC and from HC to SAP
○ Provide patients clear directions where to go when referring them to government DOTS facilities to avoid confusion and getting lost.
○ Develop a simple and implementable recording and reporting system
○ Consider other modes of feedback mechanism other than return slips, text messages or phone calls. E.g. social media
○ Health centers should start registering patients who are privately-managed by SAPs</td></tr>
</table>

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		<table><tr><td>Mandaluyong</td><td>42</td><td>2%</td><td>1716</td></tr><tr><td>San Juan</td><td>5</td><td>1%</td><td>367</td></tr></table> • Outcome of patients managed by the engaged physicians are not obtained due to confidentiality issues. • Private physicians do not record the number of patients referred to health centers and do not separate records of TB patients managed by them from that of other patients with other disease. The high volume of records made it difficult for the investigator to check these one by one. Referral system: • Most common form of referring is the prescription pad. • NTP Form 7 (Referral Form) was seen as a waste of time since the patients are reassessed by the health center and repeat diagnostic procedures already done by the private physician. Feedback system • No feedback was provided by the receiving health center • Physicians were updated when patients come back for another health complaint.	
	Determine facilitating and hindering factors to effective implementation of Tuberculosis Control	Facilitating factors • Doctors are willing to cooperate and follow the NTP MOP 5th edition protocols. • Willingness of the local government to engage SAP. Hindering factors • Negative biases between health center personnel and referring physicians which are expressed and conveyed to the patients. This leads to patients being confused as to who to trust and disruption of communication and referral channels between the two facilities. The table below summarizes the biases that came up during the interviews.	

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations

4. Engagement of Workplaces	Determine status of TB program implementation among engaged workplaces	• Response rate is very low (55%).
		• Implementation of TB program in the workplace is variable among the companies included in the study.
		• Those that did implement the TB program were able to (1) install systems that facilitate referral of employees to partner government health centers, (2) create company TB policies and (3) conducted information campaigns through employee orientation and email groups.
		• Company management support to employees includes leave benefits, referral to TB clinics (private or public depending on employee's preference), SSS and ECC claims.
		• Receptive government health centers provide feedback to the referring company but LGU support to the program is limited to providing free diagnostics and treatment to employees referred by the companies.
		• Seventy-five percent (12/16) of the companies have approved TB policy. Those that did not create TB policies provided different reasons:
		  ○ The company is too small and there is high turnover rate.
		  ○ The participant trained did not recognize the value of advocating for or creating a TB policy
		  ○ There was no support from the management to encourage the participant to advocate for the creation of a TB policy for the company even if they wanted to.
			The technical assistance package can be rolled to other LGUs but should focus and emphasize on the following:
			• Prioritize companies with an increased risk of TB transmission. Do not do a blanket approach and engage all private companies. Select companies with the following profiles:
			  ○ With employees living in cramped quarters or working in cramped spaces where health conditions may be poor
			  ○ Companies located in areas with TB rates higher than the national average
			• Allow confirmed TB patients to take their medications in the company clinic (with patient's consent) and with clinic nurse as treatment partner. This will resolve many accessibility issues.
			• Inform companies that they can take the initiative of partnering with the nearest RHU or health center. Many of the companies are waiting for the government DOTS facility to approach them.
			• Advise nurses in the RHUs/ health centers to orient and allow company nurses to become treatment partners of employees confirmed with TB.
			• Ensure that company management supports the program prior to

	Determine facilitating and hindering factors to effective implementation of workplace TB	FACILITATING FACTORS • Support from company management to the program and to employee's welfare. • Policies and systems that were put into place ensured that employees who may have symptoms of TB report immediately to the company clinic and/or referred	

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
	programs	immediately to partner government DOTS facility. • The training provided by IMPACT has made company nurses more aware of the TB program and made referral mechanisms work. They took initiatives to partner with the nearest RHU in the area. • Diligence of the nurse to fill out the NTP Form 7 and refer employees presumptive of TB • Complete understanding of the nurse of the National TB Control Program and its referral system • Willingness of the RHU/health center to partner with the company • Willingness of the RHU/health center to allow the company nurses to become treatment partners and allow patients to undergo treatment in the company clinic. HINDERING FACTORS • Some company personnel who were trained by IMPACT were not able to implement TB program in their workplace due to lack of authority of their position/level in the company's organogram. • Fast turnover of the employees who participated in the training and failure to endorse the program to the other company employee. • Small (less than 20 employees) companies did not see the value of establishing a referral mechanism. • Some company nurses are not aware that they can initiate the establishment of the referral mechanism. • Some government health centers do not accommodate the patients referred by companies especially if the place of residence of the patient is not the same as the health centers. This is because it is difficult to track the	engagement • Include in workplace TB policies to adjust workload depending on fitness of the employee while on treatment. Some employees diagnosed with TB prefer to quit their jobs instead of being referred for treatment thinking that they will continue doing the same workload once they come back. • Employer's policies on confidentiality, discrimination, length of time off allowed for medical treatment, and job modification when necessary should be clearly outlined and made easily accessible. They should be clearly explained to employees with TB as soon as such employees are identified. This is to remove the fear from employees of getting fired if found out to be positive with TB.

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		patient when the patient goes missing.	
	Assess the outcome and impact of engaging the workplace to the LGUs' NTP program	• Only one company's referrals to the RHUs can be verified in the RHU due to good and proper recording between the two agencies. • Many companies claimed to have made referrals but verification of these referrals in the receiving RHUs has been unsuccessful due to the RHU's system of putting a check (✓) under the source of referral in NTP records instead of identifying the name of the source. • Some RHUs record the patients referred by companies as "walk-in" due to the absence of a written referral. • Calamba, Laguna is the only study site that was able to provide clear evidence of a successful implementation of the TB in the Workplace Program and a good referral relationship with the engaged companies. Using Joinpoint Regression Program to analyze the yearly increase of TB cases notified, the results show that if the contribution of the companies engaged were added to the TB cases from other sources in Calamba, Laguna, there is statistically significant 2% difference in the annual percent change in Calamba's case finding performance.	
5. Assessment of private sector participation in the TB Laboratory Network	Determine the number of private laboratories providing different TB diagnostics, their estimated workloads, and current level of participation in the NTP;	• The current available count of public and private laboratories offering microscopy services range from 2,561 laboratories to 2,787 laboratories. There is a big opportunity to further expand the NTP laboratory network. • The number of referrals per week for DSSM/ AFB testing is low. However, the additional workload that the trained microscopists take on was seen as a "burden" or challenge. The additional and competing workload for the trained microscopist and the other medical technologists working in the laboratory was identified as one of the major challenges for all the facilities, regardless of their participation status.	• With the increased participation of hospital-based laboratories in the NTP network, strategies must be developed to target stand-alone facilities to offer TB diagnostic services and be part of the laboratory network. • The sustainability of the TB diagnostic services among participating facilities must be addressed. • The NTP must provide standards and

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
		• The utilization of the TB diagnostic services, particularly the AFB test, for purposes other than diagnosing presumptive cases was also found. Although this was largely seasonal in nature and not very often, this added to the workload of the microscopist.	guidelines to the facilities that would help them in processing for testing requests for purposes other than diagnosing presumptive cases (e.g. pre-employment and student requirements).
	Determine factors that promote or inhibit participation of private laboratories into the program;	• The most common facilitating factor identified by facilities that were participating in the NTP laboratory network was the support for the microscopy training of medical technologists. The community-service orientation of the hospital management also played a big role in encouraging the hospital's participation in the network, particularly among the facilities that have been in the NTP network for 10 or more years. In contrast, the biggest constraint identified by non-participating facilities was the potential additional workload to those working in the laboratory. • The lack of trained microscopists was a very glaring problem facing most of the facilities, regardless of the status of their participation in the NTP laboratory network. Several factors influenced this, such as the lack of training opportunities for medical technologists in the private laboratories and the quick turn-over of medical technologists in the laboratories.	
	Assess the quality assurance systems in place for private laboratories; and	• Almost all the facilities have adopted the NEQAS as their external quality assurance process. There were fewer facilities that indicated that they were taking part in the EQA monitoring being done by the Pho or CHO. Corollary to this, the reporting process for in-patient cases were more clearly described by the respondents.	
	Provide recommendations to the NTP on the participation of private		

TA Assessed	Objectives of the Assessment	Main Findings	Recommendations
	laboratories towards achieving program objectives.		

ANNEX D. Recommendations of the *"Evaluation of DOH Certification and PHIC Accreditation of DOTS Facilities"*

Recommendations in this report are categorized according to those that can be executed within to two to five years or within short to medium-term; and those that may span over the term of the national government administration or more than five years. While the consultant has conducted KII to supplement information gathering, most of the recommendations here are insights and based on the issues and concerns raised during the FGD.

Short-term to medium-term recommendations are mostly strategies that can improve selected nodes along the current certification and accreditation process, and which at most, may only require issuance or amendment of PhilHealth Circulars or DOH administrative issuances.

Long-term recommendations, i.e., merging the certification and accreditation into one process, the establishment of third-party accreditation and group or network accreditation, require significant systems change that may need institutional reforms and or issuance of new laws or amendment of existing ones. Moreover, these recommendations can be weighed upon individually or in any combination by the DOH and or PhilHealth in improving quality assurance for TB DOTS facilities.

Short-term to Medium-term Recommendations

DOH Certification

Self-assessment

1. To lessen the subjectivity of the SAF, modifications can include shifting to a checklist (a binary format that can only indicate *presence* or *absence* of the items specified in the criteria) format with well-defined MINIMUM criteria rather general statements defining the standard requirements.

   Example 1: "There is appropriate signage in front / on or near the facade of the facility bearing the name of the TB DOTS center to assist patients accessing the center' vs. "Presence of a signage bearing the sign TB DOTS CENTER in front of the facility or on or near its facade, at least 3m x 2m dimension, and visible at a distance of at least 5 meters away from the facility".

   Example 2: "Physical access is appropriate for the needs of patients" vs. "Presence of at least one access ramp for PWDs, with standard PWD signage as specified according to *Batas Pambansa* 344 Implementing Rules and Regulations (IRR) Amendments, i.e., Minimum Requirements for Accessibility (Batasang Pambansa - Republic of the Philippines, 1982) "

2. Introducing performance score for each of the parameters in SAF can further improve its objectivity. It implies that subjective rating scale used in the instrument (i.e., Non-achievement, Low Achievement, Moderate Achievement, and Extensive Achievement) will have a corresponding numerical score based on the achievement of desired standards. Moreover, a uniform cut-off score should be established whether the facility passes the preliminary screening through the SAF.

3. Develop a standard TA package to facilitate accomplishment of the Self-Assessment Form (SAF) as specified in the revised version. DOH NTP can develop a standard guide in providing Technical Assistance package designed for the PHO and RO staff in assisting TB DOTS providers,

whether public or private, in accomplishing SAF, most specifically on providing the technical definition and specification for each of the certification standards. The TA Package can likewise emphasize the importance of certification in achieving provision of quality care on TB DOTS services.

4. Defining the specifics of each standard must also conform to the standards used for other purposes like the standards for licensing of health facilities, and the standards used in health infrastructure projects funded by the Health Facility Enhancement Program (HFEP). It implies coordination with other units at the DOH in making sure that all basic (licensing) and other standards of care are all complementary towards providing quality care services.

Application, Certification, and Registration

1. Make available an online application facility in the DOH Regional Office website, with downloadable forms and guidelines on how to accomplish these forms. The e-facility must also include capabilities that enable instant feedback based on the documentary requirements submitted, scheduling of validation visits, and how to access technical assistance in accomplishing the forms, and other related issues, such as clarification of the standard requirements, payment, among others. The online facility must also be able to transmit official certificates to successful TB DOTS provider applicants.

2. Likewise, the online facility for TB DOTS providers must be linked directly to the registry of DOH-Certified TB DOTS facility database available to all, including PhilHealth, which can be used in monitoring and informing those who are due for renewal of certificates.

3. The Regional Director can delegate the signing of the certificate to the Assistant Regional Director or to other appropriate staff of the DOH Regional Office. The Regional Director is allowed to delegate functions or responsibilities to other staff under his or her office as long as these functions or responsibilities are not delegated to him by other higher level officials, e.g., Secretary of Health. To establish this action as official and executory, the delegation shall be in writing and shall indicate to which officer or class of officers or employees the delegation is made.

PhilHealth Accreditation

Application & Submission of Requirements

1. Delegate the task of screening and acceptance of documentary requirements to the Local Health Insurance Office (LHIO). This may also entail appropriate orientation and training for LHIO staff who will manage the process.

2. PhilHealth may also opt to provide an online facility not only for the initial processing of documentary requirements but also linking it to the electronic registry or database system for accreditation. Additional capabilities or features of the online system can also include scheduling of site visits, payment of accreditation fee, issuance of accreditation certificate and other documents, and as a virtual “help desk” for clarifying issues related to compliance and other technical issues related to accreditation in general.

Accreditation

1. Given the observation that both certification and accreditation process is similar, both the DOH and PhilHealth may agree to form a joint TB DOTS facility monitoring and conduct a regular assessment of these facilities using common parameters. Many stakeholders and experts have emphasized regular monitoring for quality assurance rather than rely on facility accreditation or certification.

2. There is an urgent need to update the reimbursement rate of PhP 4,000 which has not yet been adjusted since it was established more than two decades ago. The current rate is inadequate to cover the full costs of providing the service and thus, makes it impractical for the TB DOTS providers to take on the prohibitive transaction costs of having themselves and their facilities be accredited. Several costing studies have been conducted and the cost of providing TB care is estimated to be around PhP 15,000.

Re-assessment

1. Certification issued by the PHA or the PMA and its local societies or professional groups to TB DOTS physicians can be replaced by the License issued the Professional Regulation Commission (PRC). The Commission has recently implemented a mandatory Continuing Professional Development (CPD) for professionals including physicians. The Program specifies a set of learning activities accredited by the (CPD) council where professionals will earn CPD units starting July 2017. A total of 45 units every three years are required for physicians to secure or renew their license issued by the PRC (PRCboard.com, 2016). It implies that PhilHealth Circular No. 2015-037 (Reinstatement of the Certificate of Good Standing as a Requirement for Accreditation of Hospitals, Infirmaries and Physicians, and other Supplemental Provisions) must be revoked or amended.

2. PhilHealth should strengthen its monitoring process as a complementary effort to assure quality among the facilities providing TB DOTS services which are accredited by PhilHealth. Given the complexity, cost, and difficulty of going through the entire accreditation process, quality assurance must always be backed up by an efficient and effective facility and provider monitoring mechanism. LHIOs, for instance, should take more active role in taking on the responsibility of facility monitoring.

Long-term Recommendations

Merging of the DOH Certification and PhilHealth Accreditation

1. Given the similarity of both processes and the observations from the respondents that process being a duplication of each other, it is recommended that the concerned units at the DOH and PhilHealth agree on unifying them into a single mechanism managed by a single unit (Please refer to Table 1). This unit or institution could either be an office under PhilHealth or DOH, or an independent third party group reporting to both agencies.
2. As earlier illustrated in the process review, merging of both processes and procedures can likewise use the general standards already being used.

Third-party Accreditation

1. In many countries, accreditation is a voluntary recognition program and administered separately from the national health agency, often by a Non-Governmental Organization (NGO) or a quasi-regulatory agency with support and recognition—but at an "arm's length"—from the

government. For example, in Ghana's National Health Insurance Scheme originally placed responsibility for accreditation within government; that task is now being transferred to an independent body (National Health Insurance Authority of Ghana, 2015). In the Philippines, a private organization called Philippine Counsel of Accreditation of Healthcare Organization (PCAHO) was initiated by the DOH under the licensing office, has mission, vision, and goals for quality services. This organization has maintained a considerable number of assessors, and has been accrediting medical clinics for seafarers, a privileged given by the DOH and is now embarking on accreditation of hospitals for medical tourism. Also, during the initial year of accreditation of TB DOTS facilities in PhilHealth, PhilCAT was authorized by the Corporation to be the agency that conducts onsite validation on the compliance of TB DOTS facilities to PhilHealth standards. However, through the years, accreditation, certification and licensing are still under the purview of the government agencies.

2. Many mature accreditation organizations now offer some degree of "regulation by proxy", as a third-party assessor of compliance with regulation on behalf of a government or payer, thus reducing the burden of inspection by multiple bodies. Thus, it is necessary that DOH and PhilHealth should be at the front end in the development of the process to ensure that both are accountable for the program as well as assure sustainability of the system.

3. While the third-party organization will be tasked by the government to manage the accreditation program of the country, PhilHealth accreditation section of PhilHealth Regional Offices will have more time to monitor compliance of health facilities to the standards and its commitment to the National Health Insurance Program. On the other hand, DOH will have enough time and resources to implement the National TB Program.

4. If third-party accreditation system will be pursued, DOH and PhilHealth should examine the following technical elements:

    a. *Legal mandate and governance*. Initial step to establish a third-party accreditation system is legislation. Legal structure and scope of the third party/accrediting body should be in place to ensure sustainability of the system. In a report published by Shaw et al in 2013, the profile of 44 global accreditation organizations (AOs) showed that two-thirds of responding AOs were formally authorized by national legislation, official decree, or both. It is important that a legal instrument in a form of a legal charter, bylaws, articles of incorporation or any similar instruments should clearly articulate the roles, responsibility, and scope of engagement and relationship to the government (in the case of private/NGO).

    b. Standards to be developed. These are sets of desired and achievable level of performance required to be met by health facilities/providers in order to participate in a certain program. Currently, DOH and PhilHealth have sets of standards that facilities are required to achieve in order to be part of the pool of facilities capable of providing TB DOTS program. If a third-party accreditation system is contemplated, both DOH and PhilHealth have to conduct a joint thorough review of its current standards on TB DOTS certification and accreditation. Both standards may be merged into one performance measure provided that it addresses all elements of quality and safety. The draft standards may be presented to stakeholders for consultation and critique. Furthermore, both agencies may pilot test the draft standards to ensure that the

standard is measurable, comprehensive and consistent with international standards. While PhilHealth is slowly shifting from structure to process standards (i.e. Benchbook) as a yardstick to measure quality and safety of facilities before it can participate in NHIP, both agencies (DOH and PhilHealth) may examine if the indicators in Benchbook Standards can be applied in the accreditation of TB DOTS facilities.

c. *Management of a Third-Party System*. Both the DOH and PhilHealth have to agree which institution should lead in the implementation of this system. The lead agency may have the following responsibility but not limited to: operational management, selection of the third-party accreditation agency, training and supportive supervision. The agency that will be selected should be credible, knowledgeable in the objectives of the NTP and PhilHealth, has a well-trained and adequate number of surveyors that will be deployed around the country, financially stable etc.

d. *Decision process*. The third-party agency granted to accredit TB DOTS facilities should address decision criteria in granting accreditation to facilities/healthcare providers. Also, criteria should be developed in response to certain situations such as significant incident affecting quality and safety, change of ownership, major construction, etc. DOH and PhilHealth have to agree if the third-party agency will be responsible for the whole accreditation/certification process which is from self-assessment to approval to accreditation. Also, both agencies should decide if the third-party institution has the authority to close erring facilities, withdraw accreditation and re-application for accreditation.

e. *Accreditation Fees*. Sufficient funding is necessary for the sustainability of the system. This does not only cover initial development cost but also on-going operations, governance, management, training among others. DOH and PhilHealth may agree to provide a subsidy to the third-party agency or assist healthcare providers to meet the financial requirements.

Group Accreditation

1. While there were no clear guidelines in PhilHealth about group accreditation, *Annex E* of PhilHealth Circular 54 s. 2012, provides sample template on Performance Commitment of Health System Provider (Philippine Health Insurance Corporation, 2012). The health system provider is one/single accreditation for all facilities under the system (e.g. province-wide accreditation, network of primary facilities, TB-DOTS facility will be part of a network of providers capable of delivery of TB program and manage, etc.).

2. Group accreditation encourages efficient and effective managed care processes and provide a method of evaluation and accreditation of providers under a network and managed care programs.

3. If the government will fully adapt group accreditation, the following elements may be considered:
    a. *Development of legal mandate expressing the legality/approval to implement group accreditation*. This may be in the form of a Board Resolution approved by the PhilHealth Board or Joint Memorandum between DOH and PhilHealth;

b. *Crafting of standards* that will be used to assess/evaluate the eligibility of network of providers to participate in the National Health Insurance Program;
c. *Accreditation process* specifically for health system providers;
d. *Implementing guidelines* that will articulate how PhilHealth will operationalize the proposed system; and
e. The *type of services* that will be committed to be delivered by a network of facilities or services to be contracted by PhilHealth.

Annex E. Cities Development Initiative (CDI) Reports

Cities Development Initiative
BATANGAS CITY
October 2016–September 2017

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
Session 1: Enhancing Investments and Human Capital for Economic Growth				
Session 2: Strengthening Health Services for Human Capital Development				
A. Quality of Care: Tuberculosis (TB)				
Capability Building for Service Delivery	• Build capacity of *barangay* (village) health workers (BHWs) and community volunteers through interpersonal communication and counseling (IPCC) training • Provide enablers/ incentives for treatment partners • Continue monitoring case holding and referrals made by community-based organizations (CBOs)/TB brigades	• Provincial Health Office (PHO)/DOH Regional Office (RO) to monitor and supervise	• Provide technical assistance in the conduct of IPCC rollout training for BHWs and community volunteers (including CBOs) • Strengthen capacity of midwives to monitor treatment partners through training on supervision of BHWs as treatment partners	• Trained BHWs and community volunteers on IPCC in March 2014 • Batangas City NTP Nurse attended the Training of Trainers on Improving Midwives' Supervision of BHWs as Treatment Partners on July 17–18, 2014 • 30 midwives were trained on Improving Midwives Supervision of BHWs as Treatment Partners in October 2014

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
	• Strengthen the referral system between and among NTP partners • Implement sustainability measures for the old and the new public-private mix DOTS/public-private network • Conduct meeting with Batangas Medical Society regarding basic DOTS program • Regular meeting with other previously engaged NTP partners (academe, faith-based organizations, DepEd, and workplace)	• CHO, PHO, and CHD to monitor and supervise the implementation of all initiatives in the city • Provide logistics to CHO NTP and partners • Provide training on basic DOTS, TB in children, and the updated NTP Manual of Procedures, 5th edition	• Install a service delivery network that links all public and private DOTS-referring and providing facilities in the city • Assist in the engagement and monitoring of other organizations such as but not limited to DepEd for implementation of TB in children	• Conducted a consultative meeting with MHOs and CHOs to present the TB DOTS Referral Network for Batangas Province, which was attended by Batangas CHO NTP Nurse, on June 9, 2015 • Conducted a coordination meeting with DepEd Division of Batangas City to enhance referral system and monitor TB-in-children implem-entation in schools in January 2015 • Trained NTP medical coordinators in TB disease activity assessment in children
	• Monitor activities of previously engaged, and scale up engagement of other pharmaceutical partners		• Assist in scaling up private-sector initiatives, particularly of private hospitals, physicians, laboratories, and pharmacies	• Conducted advocacy meeting with private hospitals in the province, including Batangas City, in June 2014 to engage them as DOTS-referring or providing hospitals (with sub-grantee PTSI) • Conducted a coordination meeting with the private hospitals to enhance and

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
				facilitate referrals to CHO (February and October 2015) • Conducted a coordination meeting with the private hospitals to enhance and facilitate referrals to CHO (June 2016)
			• Train, monitor, and supervise trained pharmacists and pharmacy assistants	• Mapped pharmacies in the province, including Batangas City, through sub-grantee PPhA, and supported orientation-training of pharmacists, pharmacy owners, and pharmacy assistants on Pharmacy DOTS Initiative conducted in May and June 2014 (the CHO started to receive referrals from pharmacies in July 2014) • Conducted a workshop on intensifying LGU involvement and accountability in PMDT on May 20, 2014
	• Develop and implement local TB strategic communication plan • Continue		• Provide IEC materials, including those addressing MDR-TB • Provide technical	• Disseminated IEC materials for TB • Trained 24 BHWs

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
	monitoring of TB Brigade • Produce and disseminate behavioral change communication materials		assistance in the rollout training on IPCC for frontline health care workers • Engage community-based organizations to assist in IEC activities and referral of presumptive TB cases	in IPCC ROT
	• Monitor and supervise trained informal laboratory workers (ILWs) in less accessible areas in the city (RHU 5) • Continue conduct "cough caravan" in densely populated and remote areas	• DOH RO to conduct training of BHWs and other health volunteers as ILWs and provide TA on how to establish remote smearing stations (RSS) • DOH RO to provide incentives for trained ILWs • PHO/DOH RO to conduct of monitoring and supervision and ILW performance review	• Assist in monitoring performance of trained ILWs in the implement-ation of the RSS initiative • Strengthen the laboratory network through conduct of refresher training for medical technologist to improve supervision of ILWs	• Ongoing initiative of DOH RO to provide incentives for trained ILWs • Conducted monitoring of ILWs' performance with PHO and DOH RO
Health Information			• Conduct of program implementation review for the province of Batangas to include Batangas City	• IMPACT supported data validation/ review and program implementation review of the entire province, including Batangas City, in January and August 12–13, 2014 and October 2015 • IMPACT

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
				supported data validation of the entire province, including Batangas City, on October 7–8, 2014; and on July 2, September 16, and October 23, 2015 • Facilitated a separate data quality check for all engaged private hospitals on September 11, 2015 • IMPACT supported data validation of the entire province, including Batangas City, on February 11-12, 2016 • IMPACT supported IT IS data validation of the entire province, including Batangas City, on May 26-27, 2016 and Program implementation review (July 2016) • Monitored and mentored PMDT STC in Batangas City to address issues and provide technical assistance in PMDT implementation particularly on

Development Challenges	City Actions	Counterpart	Follow-on USAID Activities	Updates
				improving patients' adherence to treatment
Health Financing				
Policy and Regulations	• Organize Batangas City public-private coordinating body/multisectoral alliance (MSA) for TB control	• City to pass ordinance supporting MSA on TB control	• Capacitate PHO NTP Team to be facilitators on how to organize, mobilize, and sustain public-private coordinating committee/MSA, including follow-through of strategic planning outputs	• On-going approval of ordinance supporting MSA on TB control • Stakeholders currently for approval of LCE
	• Address the identified gaps and accomplish the requirements for certification and accreditation	• PHO and CHD to provide technical assistance on certification through assessment of facility	• Follow-on technical assistance after conduct of orientation-workshop on certification and accreditation	• DOH/PhilCAT-certified TB DOTS as of February 4, 2015 • PHIC accreditation valid until December 31, 2017 (w/ filed claims for TB DOTS)
B. Lack of TB Commodities				
Service Delivery			• Assist in strengthening capacity of city coordinators in management of anti-TB drugs and other logistics	• Trained nurse coordinators on drug supply management in April 2014
Health Information				
Policy and Regulations				
C. Other				
Session 3: Improving Environmental Resilience for Sustainable Development				

Cities Development Initiative
CAGAYAN DE ORO CITY
October 2016–September 2017

Cagayan de Oro City, a highly urbanized city, is not an IMPACT-assisted site. However, members of the project-assisted Misamis Oriental Provincial Multisectoral Alliance (PMSA) are generally based in Cagayan de Oro, and their activities and accomplishments are reported under CDI.

Misamis Oriental PMSA is a group of public and private institutions that have organized themselves, with USAID technical assistance, to support the TB control program in the province. The PMSA is composed of Bureau of Jail Management and Penology Regional Office 10 (BJMP RO10), Department of Education, Government Service Insurance System, Maria Reyna Xavier University Hospital (MRXUH), Misamis Oriental Medical Society, Misamis Oriental Provincial Health Office (PHO), Misamis Oriental Provincial Jail, Northern Mindanao Medical Center (NMMC), Philippine College of Pulmonologists – Philippine College of Chest Physicians, Philippine College of Occupational Medicine, and Social Security System. The PMSA meets once or twice every quarter to discuss each member's efforts to address TB. Where necessary, IMPACT provides the PMSA technical assistance in implementing the members' TB-related activities.

In May 2017, the health teams of BJMP RO10 and BJMP National Headquarters monitored 10 jails in Region 10. These consisted of the correctional facilities in Cagayan de Oro City (2 jails: male and female), El Salvador City, Iligan City, Initao District, Malaybalay City, Manolo Fortich Municipality, Tagoloan Municipality, Valencia City, and Villanueva District.

Monitoring showed the following:

- Except for Tagoloan Municipal Jail, all the rest have a high congestion rate ranging from 43% to over 1,000%.
- No TB patients were reported in four jails: Malaybalay, Manolo Fortich, Tagoloan, and Villanueva.
- TB screening conducted previously among 55 inmates in five jails (Cagayan de Oro male and female, Initao, Iligan, Valencia) led to the diagnosis of TB in 22 inmates, all of whom initiated treatment. Two of these inmates had drug-resistant TB.
- Nine of the 10 jails do not maintain a TB presumptive masterlist or a TB registry. Only Cagayan de Oro City Jail do so. The other facilities used the inmates' health booklet to record TB-related data.
- RHUs in the jails' locality supplied anti-TB medicine and treatment cards to the correctional facilities.
- The jails have coordinated with the regional health office for additional logistics.

Led by the PHO, and with IMPACT technical assistance, the PMSA initiated in September 2017 TB mass screening among 666 inmates and personnel at the Misamis Oriental Provincial Jail. The prison facility has a maximum capacity of 200 inmates, but had a population of 614 as of August 1, 2016. Overcrowding (congestion rate is over 300%) together with prison conditions like poor ventilation, poor nutrition, late diagnosis, inadequate medical care, and repeated prison transfers fuel the spread of

tuberculosis among inmates. A 2012 study of selected Philippine jails and prisons found that prevalence of new smear-positive TB was 12.5 per 1,000 population. This is more than twice the TB prevalence in communities estimated at 4.7 per 1,000 population (National TB Prevalence Survey, 2007), which highlights the need for TB screening and a TB treatment program at the provincial jail.

TB screening at Misamis Oriental Provincial Jail applied several methods: symptom screening, radiographic examination, and Xpert testing. PMSA members assumed various roles in the process based on their resources and capability. Initial screening was carried out by the PHO, DOH TB AIDERS, and BJMP with IMPACT technical support. Final screening was conducted by the PHO, MRXUH, and NMMC. DOH- RO10 provided anti-TB drugs, sputum cups and other supplies as well as additional personnel, specifically the AIDERS. DOH Northern Mindanao TB Reference Laboratory and Xavier University Center Health Community Care PMDT Treatment Center took care of sputum testing through Xpert; however, the machines malfunctioned. Specimens were then sent to Iligan Society of Internists PMDT Satellite Treatment Center.

The screening found 65 (10%) inmates with pulmonary TB. Of this number, TB was diagnosed in 59 inmates through chest X-ray, and six through Xpert. All were enrolled in treatment except for three inmates who were discharged from jail. IMPACT informed the city and provincial NTP coordinators about them so that the three could be traced and referred to an RHU for TB treatment.

Annex F. Environmental Regulation Compliance Accomplishment Report
October 2016–September 2017

Training Modules for Service Providers	Participants (e.g., RHMs, PPMs)	Duration of Training [&Est Time for IP/ HWM discussion]*	Agency/ Institution with whom IP/ HWM was vetted
Training of Informal Laboratory Workers on Smearing (Establishment of Remote Smearing Stations) (Y5 – 29 trained)	Barangay Health Workers, Community Volunteers	3 days Infection control = 1/24 hours (4%)	Not applicable
Training on Infection Control (Y5 – no new trainees, monitoring only)	DOTS facility staff (usually nurses)	2 days Disposal of waste and good storage practices – no specific topic but it is included as part of administrative control measures. Referred to DOH-DENR joint AO 2005-002: Disposal of Health Care Waste Management	Not applicable
Policy/Guidelines	**User**	**Pertinent Content**	
Policy on Barangay Smearing Station (BSS) (Y5- not yet issued by DOH)	Informal Laboratory workers, TB Microscopist, DOTS Facility Head	15-page document Section D. Infection Control on page 5 states: "Use appropriate decontaminating agents and procedures before disposing waste materials. Segregate infectious waste from general waste."	Not Applicable

There are 6 main indicators in the IMPACT EMMP, namely:

1. Infection control procedures, especially waste disposal are included in relevant trainings
2. Passage of DOH-AO on Barangay Smearing Station with pertinent provision on waste disposal
3. Facility-level infection control policies at the DOTS facility
4. Compliance with standards on infection control and waste disposal among RSS and Microscopy Centers
5. Proper protocols on storage, distribution and disposal of Gene Xpert Cartridges are included in the training on use of Xpert
6. Compliance to proper disposal of health care waste during community-based screening

The following section describes the performance progress for each indicator in Y5.

Indicator 1: Infection control procedures, especially waste disposal is included in relevant trainings

- In Y5, the project supported the training of 29 informal laboratory workers from Nueva Ecija (6), Tarlac (3), Masbate (4), Basilan (12), and Sulu (4). In this training, there is a specific topic on waste disposal utilizing 1 hour out of the 24-hour training.
- There were no new trainees on infection control in Year 5.

Indicator 2: Passage of DOH-AO on Barangay Smearing Station with pertinent provision on waste disposal

- The DOH-AO has been endorsed to the DOH-NTP since Y4. Unfortunately, it has not yet been officially issued. It is stated under section D.2.f. of the draft that *"Use appropriate decontaminating agents and procedures before disposing waste materials. Segregate infectious waste from general waste." (No new updates for Y5)*

Indicator 3: Facility-level infection control policies at the DOTS facility and Indicator 4: Compliance with standards on infection control and waste disposal among RSS and Microscopy Centers

- The Project monitored the implementation of infection control plans in 292 public health centers in U.S. Government sites in Luzon and Mindanao. The Table below summarizes the monitoring findings. Nearly half (48%) of the facilities had an identified IC team and 41% reported implementing their IC plan. Despite the absence of an approved IC plan in over half (55%) of health facilities, almost all (97%) had IC-related TB IEC materials (e.g., on promotion of cough etiquette, symptom recognition, and diagnostic process flow), and half (52%) reported health facility improvements related to infection control. About 4 of 5 health facilities practiced triage and provided surgical masks to symptomatic patients (78%) and health workers (77%), while 2 of 5 facilities provided N95 respirator masks to health workers dealing with presumptive or confirmed drug-resistant TB cases.

	No. of health	Percent compliance

	facilities	(%)
Monitored by Area Facilitators	292	
With IC team	139	48
With IC plan	131	45
IC plan implemented	120	41
With IC-related IEC (cough etiquette, TB symptoms, process flow)	284	97
With IC-related facility improvements	151	52
Does triage	228	78
Provides masks for patients	225	77
With surgical masks for symptomatic HWs (cough, colds)	225	77
With N95 masks for HWs dealing with MDRTB	116	40
Any HW treated for TB within the year	16	6
Did baseline TST surveillance of HWs	62	21
Did follow-up TST surveillance of HWs previously TST(-)	12	4
Annual CXR for HWs	63	22

(-) = negative; CXR = chest X-ray; HW = health worker; IC = infection control; IEC = information, education,

Indicator 5: Proper protocols on storage, distribution and disposal of Gene Xpert Cartridges are included in the training on use of Xpert

- The training modules for Xpert/MTB RIF has been developed by NTRL and is being used in the roll-out training for Xpert operators. Included in this training is proper disposal of cartridges, which is based on the DOH administrative order 2014-0032: Guidelines on scale-up of Xpert, section C.1., "all facilities using Xpert shall observe infection control/biosafety/waste management practices based on national standards and guidelines prescribed by the NTP Manual or Procedures." *(No new updates for Y5)*

Indicator 6: Compliance to proper disposal of health care waste during community-based screening

- During preparation for mass screening activities, waste disposal of Xpert cartridges and/or sputum cups are included in the plan. Most commonly, the local government unit becomes responsible for retrieving the wastes, decontamination and disposal. Disposal is more commonly through burial pit (after decontamination) or picked-up by a private waste management company.

For this year, mass screening was conducted in the following areas:

Area	Beneficiary	Medical Waste Generated
Cavite, Leyte, Zamboanga Sibugay	Malnourished school-age children	Used syringe for Tuberculin skin test
Cebu, Leyte, Bukidnon. Misamis Oriental, Zamboanga Del Norte	Inmates and jail workers	Used syringe for tuberculin skin test
Laguna, Leyte, N Samar, W Samar, Tawi-tawi, Bukidnon	Household contacts	Used syringe for tuberculin skin test Sputum cups Glass slides