Infectious Disease Detection and Surveillance (IDDS)

Quarterly Report

April 1, 2022–June 30, 2022

Workshop on laboratory standard operating procedures in Senegal. Photo by IDDS

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List of Abbreviations

4WL	Four-way Linking
AI	Artificial Intelligence
AIHSP	Australia Indonesia Health Security Partnership
AIS	HIV/TB Agency, Information and Services
AMR	Antimicrobial Resistance
ARP	American Rescue Plan
ASC	Agricultural Services Center
ASLM	African Society for Laboratory Medicine
AST	Antimicrobial Susceptibility Testing
BRAC	Bangladesh Rural Advancement Committee
CAP	Country Action Plan
CASIC	Murang'a County Antimicrobial Stewardship Interagency Committee
CBS	Community-based Surveillance
CDO	County Diagnostic Officer
CDW	Central Data Warehouse
CENAT	Center for Tuberculosis and Leprosy Control
CHU	*Centre Hospitalier Universitaire* (University Hospital Center)
CNM	Cambodia's National Center for Parasitology, Entomology and Malaria Control
COMMIT	Community Mobilization Initiatives to End Tuberculosis
COR	Contracting Officer Representative
COVID-19	Coronavirus Disease 2019
CPD	Continuing Professional Development
CTD	Central Tuberculosis Division
CTRL	Central TB Reference Laboratory
CXR	Chest X-ray
DAH	Department of Animal Health
DF	Damien Foundation
DGHSP	*Direction General de la Sante et de l'Hygiene Publique* (General Directorate of Health and Public Hygiene)
DHC	District Health Center
DHIS2	District Health Information Software, Version 2
DLS	Directorate of Laboratory Services
DM	Diabetes Mellitus

DNA	Diagnostic Network Assessment
DPM	*Direction de la Pharmacie et du Médicament* (Directorate of Pharmacy and Medication)
DPS	*Division Provincial de la Santé* (Provincial Health Division)
DR	Drug Resistant
DRC	Democratic Republic of the Congo
DSE	Directorate of Epidemiologic Services
DST	Drug Susceptibility Testing
DTC	DataToCare
EBS	Event-based Surveillance
EPHI	Ethiopian Public Health Institute
EPTB	Extra Pulmonary Tuberculosis
EQA	External Quality Assessment
EVD	Ebola Virus Disease
FAO	Food and Agriculture Organization of the United Nations
FAO-ATLASS	FAO's Assessment Tool for Laboratories and AMR Surveillance Systems
FMD	Foot and Mouth Disease
FY	Fiscal Year
GHS	Global Health Security
GLASS	Global Antimicrobial Resistance and Use Surveillance System
GX	GeneXpert
IDDS	Infectious Disease Detection and Surveillance
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations
INSP	*Institut National de Santé Publique* (National Institute of Public Health)
iNTP	Introducing New Tools Project
IR	Intermediate Result
IRL	Intermediate Reference Laboratory
ISO	International Organization for Standardization
Kemenko PMK	Coordinating Ministry for Human Development and Cultural Affairs
KENAS	Kenya National Accreditation Service
LIMS	Laboratory Information Management System
LIS	Laboratory Information System
LMIS	Logistics Management Information System
LNSA	Laboratory Network Spatial Analysis

LSP	Laboratory Strategic Plan
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MATA	Myanmar Anti-Tuberculosis Association
MDR	Multidrug Resistant
MENA	Middle East and North Africa
MIS	Management Information System
MoA	Ministry of Agriculture
MoEF	Ministry of Environment and Forestry
MoH	Ministry of Health
MT	Medical Technologist
MTaPS	Medicines, Technologies, and Pharmaceutical Services
MTB	*Mycobacterium Tuberculosis*
NAP	National Action Plan
NASIC	National Antimicrobial Stewardship Inter-Agency Committee
NCDC	National Center for Disease Control
NDD	National Diagnostic Division
NMRL	National Microbiology Reference Laboratory
NPHL	National Public Health Laboratory
NPHRL	National Public Health Reference Laboratory
NRL	National Reference Laboratory
NTEP	National Tuberculosis Elimination Program
NTL	Nhat Tin Logistics
NTLP	National Tuberculosis and Leprosy Program
NTP	National Tuberculosis Program
NTRL	National Tuberculosis Reference Laboratory
OD	Operational District
OHLN	One Health Laboratory Network
PCDC	Provincial Center for Disease Control
PCR	Polymerase Chain Reaction
PMI	U.S. President's Malaria Initiative
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
QA	Quality Assurance
QMS	Quality Management System

RADDEC	Regional Animal Disease Diagnostics and Epidemiology Center
RAHO	Regional Animal Health Office
RESAMAD	*Reseau des laboratoires a Madagascar* (Madagascar Laboratory Network)
RIF	Rifampicin
RT	Reverse Transcription
RTRL	Regional Tuberculosis Reference Laboratory
SADCAS	Southern African Development Community Accreditation Service
SDAH	Sub-Department of Animal Health
SIZE	*Sistem Informasi Zoonoses dan Emerging Infectious Diseases* (System for Zoonotic and Emerging Infectious Diseases)
SHI	Social Health Insurance
SLIPTA	Stepwise Laboratory Improvement Process Towards Accreditation
SLMTA	Strengthening Laboratory Management Toward Accreditation
SMS	Short Message Service
SOP	Standard Operating Procedure
SOS	Simple One-step
SRL	Supranational Reference Laboratory
SRS	Specimen Referral System
STS	Sputum Transport System
SWG	Sub-Working Group
TB	Tuberculosis
ToT	Training of Trainers
TWG	Technical Working Group
USAID	United States Agency for International Development
VAHIS	Vietnam Animal Health Information System
WHO	World Health Organization
XDR	Extensively Drug Resistant

Program Overview

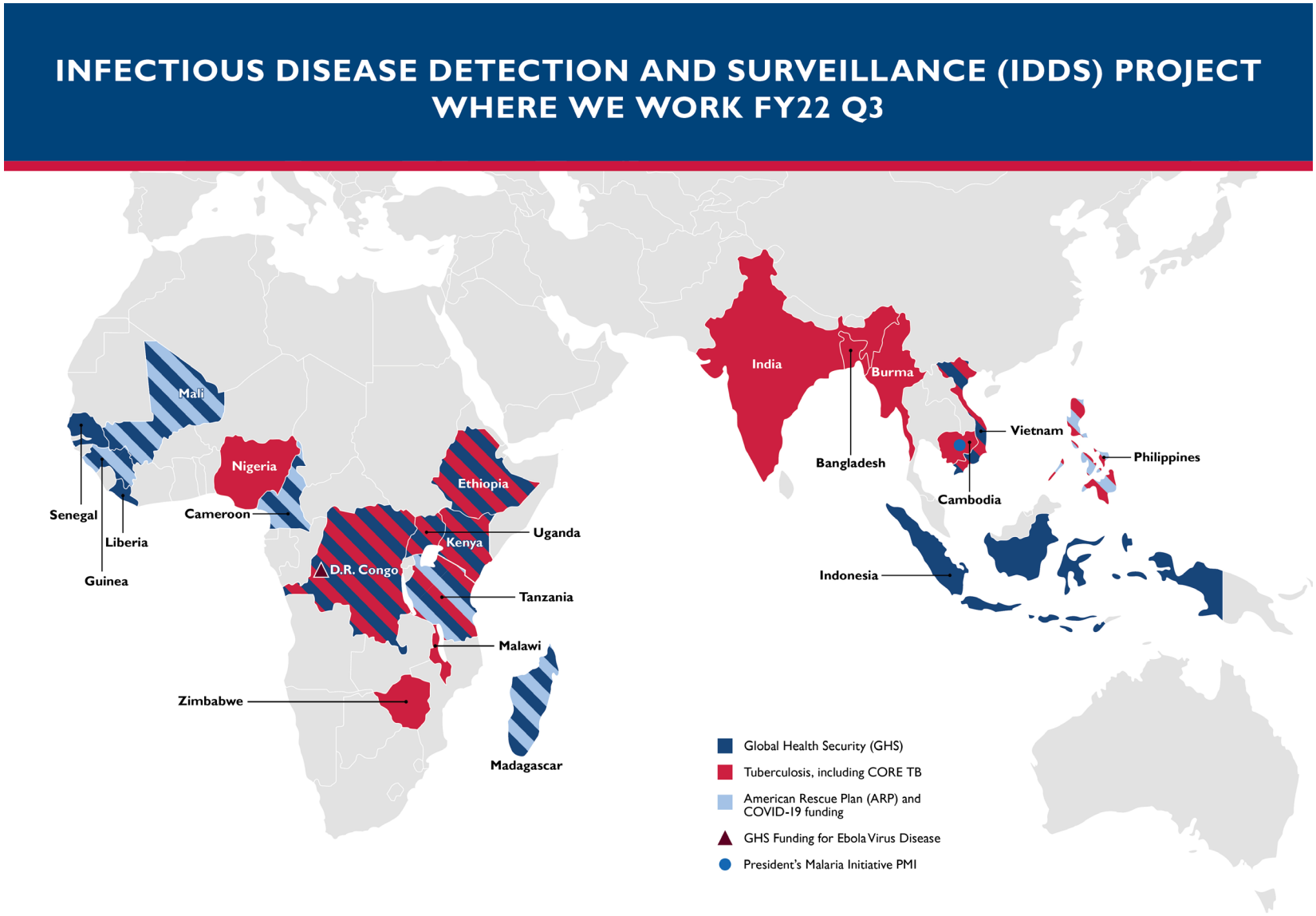
Summary Overview

Activity Name:	USAID Infectious Disease Detection and Surveillance
Activity Start Date and End Date:	May 22, 2018–May 21, 2023
Name of Prime Implementing Partner:	ICF Incorporated, LLC
Contract Number:	GS00Q14OADU119
Names of Partners:	PATH, FHI 360, African Society for Laboratory Medicine, Metabiota, Abt Associates, Gryphon Scientific, Association for Public Health Laboratories, Fondation Mérieux
Geographic Coverage:	Countries: Bangladesh, Burma, Cambodia, Cameroon, Democratic Republic of the Congo, Ethiopia, Guinea, India, Indonesia, Kenya, Liberia, Madagascar, Malawi, Mali, Nigeria, Philippines, Senegal, Tanzania, Uganda, Vietnam, and Zimbabwe Regions: Middle East and North Africa
Reporting Period:	April 1, 2022–June 30, 2022

Program Description

The Infectious Disease Detection and Surveillance (IDDS) project is strengthening the capacity of 21 countries in Africa and Asia to effectively detect and monitor outbreaks of infectious diseases, improve identification and reporting of antimicrobial resistance (AMR) pathogens, increase tuberculosis (TB) detection and notification, and strengthen disease surveillance (Figure 1). The project's two primary intermediate result (IR) objectives are to strengthen country-level **diagnostic networks (IR 1)** and **surveillance systems (IR 2).**

Figure 1: IDDS project map



Quarterly Progress

FY 2022 Q3 Overall Achievements

This report summarizes activities that occurred during quarter 3 (Q3) of fiscal year (FY) 2022 and program year 4: April 1, 2022, through June 30, 2022. This quarter, the project implemented Global Health Security (GHS) activities in 14 countries, including supporting responses to the Coronavirus Disease 2019 (COVID-19) pandemic (through the American Rescue Plan [ARP]), and to the Ebola Virus Disease (EVD) outbreak (Figure 1). IDDS also implemented TB activities in 16 countries.

Global Health Security

Strengthening National Diagnostic Networks

IDDS is a key partner for countries in meeting objectives of the Global Health Security Agenda partnership and the U.S. Government's Global Health Security Strategy, including for the response to the COVID-19 pandemic and country-level EVD outbreaks. Through GHS and ARP funding, IDDS is developing strengthened preparedness systems and national diagnostic networks that are accessible, accurate, adaptable, timely, and integrated. A strengthened network is one that:

- Is reliable and accurate, and provides rapid testing and reporting
- Enables effective communication between patients, clinicians and veterinarians, laboratories, and public health officials
- Spans the tiered levels from point-of-care to national and supranational sites

In June 2022, nine IDDS staff **attended the Global Health Security 2022 Conference** (GHS 2022) in Singapore, where they presented four oral presentations and four posters (text box):

During the conference, IDDS delegates engaged in discussions with participants centered on the various technical documents that were developed by IDDS-supported countries, including training curricula, standard operating procedures (SOPs), and assessment tools. In addition, participants were interested in learning more about the IDDS approach to laboratory capacity building. Furthermore, the IDDS team met with USAID delegates to discuss IDDS' implementation successes and challenges, and the Ugandan Minister of Health to discuss IDDS support for activities in Uganda. Upon their return, the IDDS delegation presented their learnings and experiences from the conference to the larger IDDS group.

IDDS presentations at GHS 2022

Oral presentations covered:

- Development of an AMR curriculum in Kenya
- Cameroon's experience with using WHO benchmarks for IHR capacities to build AMR surveillance systems
- Building regional laboratory capacity for AMR surveillance in Guinea
- Addressing SRS in Africa during COVID-19

Posters covered:

- Evaluation of health facility-based surveillance in response to COVID-19 in Eastern Uganda
- Mapping the laboratory capacity for improved detection of zoonoses in Uganda
- Strengthening AMR diagnostic networks through SRS in Kenya
- Strengthening AMR diagnostic capacity at Murang'a County Referral Hospital in Kenya

In FY 2022 Q3, IDDS supported 14 countries to strengthen their diagnostic networks. IDDS also supported response and preparedness for the EVD outbreak in the Democratic Republic of the Congo (DRC) and continued to support ongoing COVID-19 response activities. Key progress in these areas is presented in the sections that follow.

Identifying gaps in diagnostic networks and supporting essential components (IR1.1)

In FY 2022 Q3, IDDS continued to support countries to identify and address gaps in diagnostic networks, which included the following: collaborating with local stakeholders to operationalize national laboratory and strategic plans; mapping capacity in diagnostic networks; supporting implementation of quality management systems (QMS); improving access to diagnostics for priority infectious diseases, including AMR bacteria; and enhancing specimen transport referral and reporting systems.

IDDS teams continued to strengthen partnerships and collaboration to improve diagnostic network capacity, and to support the **development and dissemination of national-level policies**, including laboratory regulations, strategic plans, and SOPs in four countries—**DRC, Liberia**, and **Senegal**. In **DRC**, IDDS provided support to the *Division Provincial de la Santé* (Provincial Health Division, or DPS) in Nord Kivu to organize a workshop to update the laboratory platform checklist for the materials, equipment, and supplies needed for disease detection and surveillance at each level of laboratory. This checklist will be used as a key framework for further advocacy to strengthen laboratory capacity in the region. In **Liberia**, IDDS along with the National Diagnostic Division (NDD) and the National Reference Laboratory (NRL) held a meeting to report on progress made in strengthening the laboratory system, to streamline collaboration and maximize resources among laboratory implementing partners. IDDS is helping the Ministry of Health (MoH) and the NDD increase engagements with their partners and promote knowledge sharing to strengthen the diagnostic network across **Liberia**. IDDS **implemented assessments of laboratory network capacity** in **Mali**, in collaboration with the Multisectoral Committee for Laboratory System Strengthening, with a specific focus on laboratory equipment assessments in four hospitals in the regions of Ségou, Mopti, and Sikasso. The objectives of these assessments were to identify gaps related to the management of laboratory equipment and make recommendations for site-specific corrective actions in terms of preventive maintenance and repair.

In **Cameroon**, **Kenya, Liberia**, and **Uganda**, IDDS worked to **enhance QMS** at diagnostic laboratories. In **Cameroon**, IDDS and the NPHL developed and validated the action plan for setting up a national External Quality Assessment (EQA) program. The plan includes EQA program governance, piloting the EQA program, and mobilizing financial resources in support of improving laboratory services. After receiving mentorship and training from IDDS, the bacteriology laboratory at Nyeri County Referral Hospital in **Kenya** achieved the International Organization for Standardization's (ISO) 15189:2012 accreditation. IDDS also mentored 14 clinical microbiology technologists (6 female) in 4 IDDS-supported surveillance sites on technical skills and laboratory QMS. In **Liberia**, IDDS trained seven laboratory specialists to become in-country Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) auditors, using the One Health laboratory approach. IDDS also supported SLIPTA audits in seven facilities. These audits show commendable progress in QMS implementation as a result of IDDS mentorships; average scores across IDDS-supported sites increased from 52/275 in March 2021 to 126/275 in May 2022. With the newly trained auditors, Liberia will be able to provide timely QMS audits for the 15 counties and address QMS implementation gaps, thus strengthening the quality of laboratory services. In **Uganda**, IDDS, and government counterparts, trained 11 quality managers from Regional Animal Disease Diagnostics and Epidemiology Centers (RADDECs) and from

the national animal sector laboratories statistical process control. Those trained managers will ensure the validity of laboratory results by improving the handling of method verification, validation, and measurement uncertainty as a key requirement of the ISO 17025:2017.

In **Guinea**, IDDS continued discussions with the National Directorate of Laboratories and the hospitals' management to procure reagents and consumables for bacteriology testing, and to **increase clinicians' awareness of newly available bacteriology tests** so the demand for bacteriology culture and antimicrobial susceptibility testing (AST) can be increased to better serve the patients. In **Kenya**, IDDS collaborated with the USAID-supported Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program to conduct multiple workshops at hospitals in Malindi Sub-County, Kilifi County, Murang'a County, Bungoma County, and Trans-Nzoia County to promote diagnostic and antimicrobial stewardship. A total of 207 health care workers (113 female) were sensitized, including antibiotics prescribers, pharmacists, and laboratory technologists who are driving diagnostics and antimicrobial stewardship at health service delivery points. IDDS **Liberia** worked closely with the county diagnostic officers and laboratory supervisors to ensure that the laboratory diagnostic role in the county is known and understood by ensuring that clinicians use the laboratory services and become confident with the quality of results generated. With the Health Promotion Department in the MoH, IDDS developed materials to promote clinician awareness of bacteriology diagnostic services and continued to assist laboratory teams in the three supported counties to promote bacteriology services to clinicians and to emphasize the importance of collecting specimens before initiating any empiric treatment.

IDDS also continued to **support the establishment of specimen referral systems** (SRS) to increase access to quality laboratory testing and to improve the detection and confirmation of priority diseases. In **Guinea**, IDDS completed a SRS pilot to transport specimens for bacteriological testing to three decentralized testing sites. The SRS approach was highly successful, reducing the time from specimen collection to delivery at the testing site from 7–10 days for the current system to 24 hours during the pilot study. All specimens were received at the proper temperature. Only 1 specimen (out of 246) was rejected at the reference laboratory for insufficient volume. In **DRC**, IDDS supported the Department of Health Laboratories to conduct a training of trainers on biosecurity and biosafety during specimen collection, handling, storage, and transportation in the provinces of Kindu and Maniema for 14 (4 female) participants. In **Kenya**, IDDS, in partnership with the county medical laboratory coordinators, trained transporters on timely and safe pick-up and transportation of bacteriology specimens from peripheral health facilities to the county referral hospital laboratories. A total of 32 transporters were trained (1 female). In **Vietnam**, to improve the SRS operations in three project-supported provinces, IDDS finalized a contract with a courier company to establish a specialized service for specimen referral with customized transport condition, routes, and procedures. In addition, IDDS trained 59 staff of the courier company (46 female) on specimen packaging, transport, and incident handling. IDDS also provided refresher training on specimen packaging and incident handling to 73 Provincial Center for Disease Control (PCDC) and the District Health Center (DHC) staff (30 female) from Binh Dinh and Thai Nguyen provinces, and continued to conduct supportive supervision visits to the three pilot provinces to facilitate the implementation of the SRS.

Recognizing the importance of sustainability planning and local ownership, IDDS developed a report detailing the costs of implementing an SRS pilot in three regions: Kindia, Mamou, and Faranah in **Guinea**. The report will inform the MoH and stakeholders about the scope of resources needed for long-term sustainability of the SRS and includes guidelines and tools to facilitate SRS implementation. In **Vietnam**, IDDS conducted an activity-based costing exercise of current and proposed human SRS and

drafted a brief on possible means of financing these systems, including the integration of the SRS into the Social Health Insurance (SHI). IDDS held an introductory meeting with the Medical Services Administration and Department of Health Insurance of Vietnam within the MoH to discuss the processes needed to integrate the SRS into the SHI, timing, and next steps for SRS advocacy.

Table 1: Project outputs related to strengthening diagnostic networks for FY 2022 Q3 and the countries that contributed to these outputs (covers GHS, EVD, and ARP funding)

GHS IR 1.1: Gaps in diagnostic networks identified and essential components supported								
	TOTAL	Testing Procedures	Equipment Maintenance	Commodity Management	QMS	Specimen Referral	Biosafety	Other Diagnostic Topics
People Trained	552	99	0	0	91	165	28	169[1]
SOPs, Plans, and Guidelines Developed, Revised	61	55	0	0	1	5	0	0
TWG Meetings Held	20	2	0	1	0	11	1	5
Supervisory Visits Conducted	23	4	3	0	0	16	0	0
Pilots Conducted	3	0	0	0	0	3	0	0
Assessment Reports Completed	2	2	0	0	0	0	0	0
Persons Mentored	140	87	0	0	34	14	5	0
Specimens Transported—COVID-19	5,576	0	0	0	0	5,576	0	0
Countries[1]								
Cameroon		●			●			
DRC		●					●	
Ethiopia		●					●	
Guinea								
Indonesia								
Kenya		●				●		●
Liberia		●			●	●	●	
Madagascar						●		●
Mali			●	●				●
Philippines						●		●
Senegal		●						
Tanzania		●						
Uganda					●			
Vietnam						●		

TWG=technical working group[1] Countries listed are those that contributed to specific outputs in Q3. Countries that are working toward an output but have not achieved it are not included.

[1] IDDS Kenya trained 153 participants on diagnostic stewardship, IDDS Philippines trained 16 people on respirator fit testing

Integrating appropriate diagnostic network components among various infectious diseases (IR 1.2)

IDDS supported country efforts to **integrate diagnostic network components across human and animal health**. In **Cameroon**, IDDS worked with the AMR National Coordination Center to operationalize SOPs developed in FY 2021 for AMR detection, and to ensure harmonization across key human and animal sentinel surveillance sites. IDDS organized 8 mentoring sessions and trained 87 laboratory staff (54 female) in 8 AMR surveillance sites, both in the human and animal health sectors, on culture media preparation, pathogen identification, AST, and quality improvement initiatives (implementation of internal quality control and participation in EQAs) in compliance with international standards and best practices. In **Indonesia**, IDDS, in collaboration with government partners, conducted a national webinar on foot and mouth disease (FMD), with the objective to conduct risk communication for FMD outbreaks through information sharing and policy updates. The virtual webinar was attended by 1,112 participants (752 female) via Zoom and YouTube. This webinar represented another step toward increasing understanding and preparedness to prevent and control outbreaks and to encourage application of the One Health approach for outbreak response efforts.

Improving capacity to detect priority pathogens and AMR (IR 1.3)

IDDS **strengthened capacity to detect priority pathogens and AMR** in three countries during FY 2022 Q3. IDDS supported the National Veterinary Laboratory of Douala to operationalize the bacteriology laboratory, enabling the diagnosis of bacterial animal diseases in one of the biggest poultry-producing zones in **Cameroon**. In **Madagascar**, IDDS held a workshop for 45 participants (25 female) that focused on different specialties of medical biology (hematology, biochemistry, and microbiology), and on auditing of the laboratory network to strengthen quality. In **Senegal**, IDDS supported a training on AMR detection and surveillance to build capacity for bacteriological analysis in nine laboratories at level 1 public health establishments. This training was organized at the National Public Health Laboratory (NPHL) in Thiès and attended by 18 participants (9 female). In addition, IDDS conducted a workshop at the NPHL for 14 participants from 2 new level 1 public health establishments to adapt SOPs for the detection of infectious diseases and AMR. This workshop allowed participants to share experiences and improve their approaches and tools in the practice of bacteriology.

Strengthening National Surveillance Systems

To help countries to prevent, rapidly and effectively detect, and respond to events of significance for public health, IDDS continued to assist countries with strengthening their national surveillance systems. In FY 2022 Q3, IDDS supported countries to address critical gaps in their surveillance systems; strengthen indicator-based surveillance, event-based surveillance (EBS), and community-based surveillance (CBS); improve AMR and priority pathogen surveillance; and increase interoperability between human and animal health and health security information systems.

Identifying and addressing gaps in surveillance systems (IR 2.1)

In FY 2022 Q3, IDDS provided support to countries to **increase their capacity to report complete, timely, and high-quality data** to strengthen the surveillance system. In **Indonesia**, in collaboration with government stakeholders, IDDS conducted a workshop on the Zoonoses and Emerging Infectious Diseases (EIDs) Information System (SIZE) evaluation to improve the capacity of zoonosis and EID detection. The three sessions of the workshop were attended by an average of 89

participants. The evaluation results will be used to create the national SIZE technology team to support data management and reporting with cross-sectoral ministries. In **Tanzania**, IDDS completed the assessment of selected veterinary AMR surveillance sites. The objectives of the assessment were to map designated Tanzania Veterinary Laboratory Agency zonal laboratories using the Food and Agriculture Organization of the United Nations (FAO)'s Assessment Tool for Laboratories and AMR Surveillance Systems (FAO-ATLASS); to understand the current laboratory capacities to detect, collect, analyze, and report quality AMR data to the national database; and to generate an evidence-based action plan and recommendations to strengthen diagnostic and surveillance systems for AMR surveillance. In **Vietnam**, IDDS provided technical support to five provinces to complete needs assessments for the Vietnam Animal Health Information System (VAHIS) extension to district level. Four provinces (Binh Dinh, Can Tho, Khanh Hoa, and Thai Nguyen) have thus far completed the assessment and assigned VAHIS focal points to selected districts in the province. IDDS also provided technical support to the epidemiologists at the provincial and regional levels to review animal disease reporting forms to improve data collection using VAHIS.

Improving interoperability and interconnectedness across national disease reporting systems (IR 2.2)

Integration is key to the One Health surveillance approach to successfully address the significant threats posed by infectious diseases with epidemic potential to humans and animals. IDDS continued to work with countries to **align national strategic policies in support of integrated surveillance systems**. In **Indonesia**, IDDS, in collaboration with the Directorate General of Disease Prevention and Control and the G20 committee, conducted a webinar for the G20 One Health Side Event on "One Health Approach for Prevention, Preparedness, and Response Strategy and Capacity." The webinar was attended by 86 participants. In **Madagascar**, IDDS supported the establishment of a disease surveillance and response steering committee to develop a national-level AMR surveillance protocol and coordinate and harmonize data across vertical diagnostic and surveillance programs in support of the Department of Health Watch, Epidemiological and Response Surveillance. In **Tanzania**, IDDS participated in the International Health Regulations (IHR) technical group meeting to discuss the progress of implementing the IHR (2005) and achievement of global health core capacities at the country level. IDDS also participated in a partnership meeting on capacity building and implementation of activities to improve disease surveillance and laboratory systems. These meetings are important to strengthen the country's GHS capacities and align future plans to national strategic priorities.

Integrated surveillance guidelines for various diseases at cross-sectoral levels is a key factor for interoperable surveillance systems. In **Indonesia**, IDDS, in collaboration with the Directorate of Health Surveillance and Quarantine and the MoH, held a meeting for 17 participants to provide inputs on the cross-sectoral Integrated Zoonosis and EIDs Surveillance Guideline and to propose a framework to pilot the system in 2022. In addition, IDDS, in collaboration with the Directorate General of Disease Prevention and Control and World Health Organization (WHO), conducted a virtual workshop on Leptospira surveillance and control using the One Health approach. The three-day webinar was attended by an average of 73 participants.

Table 2: Project outputs related to strengthening surveillance systems for FY 2022 Q3 and the countries that contributed to these outputs

Result area: GHS IR 2.1: Gaps in core functions of surveillance systems identified and essential activities supported						
	TOTAL	Interoperability	Electronic Reporting	Data Quality	Data Analysis and Use	Other Surveillance Topic
People Trained	223	0	69	0	29	125[2]
SOPs, Plans, and Guidelines Developed, Revised	0	0	0	0	0	0
TWG Meetings Held	19	2	4	1	6	7
Supervisory Visits Conducted	90	0	83	7	0	0
Pilots Conducted	3	0	3	0	0	0
Assessment Reports Completed	0	0	0	0	0	0
Persons Mentored	35	0	0	27	8	0
Countries[1]						
Cameroon			●		●	●
DRC						
Ethiopia			●			
Guinea				●		
Indonesia		●			●	●
Kenya						
Liberia						
Madagascar						
Mali			●			●
Philippines						
Senegal			●	●		
Tanzania				●	●	
Uganda			●		●	
Vietnam			●	●		

[1] Countries listed are those that contributed to specific outputs during Q3. Countries that are working toward an output, but have not achieved it, are not included.

Improving capacity to conduct surveillance of priority pathogens and AMR (IR 2.3)

IDDS continued to work with countries to **improve data management and analysis** to strengthen surveillance systems for priority pathogens and AMR. In **Cameroon**, IDDS provided technical assistance to the AMR National Coordination Center to train four members of the AMR surveillance TWG on data management and analysis. IDDS also supported the NPHL to organize a data quality review meeting for nine AMR surveillance sites to identify gaps in data quality and discuss recommendations and best practices to improve surveillance. In **Ethiopia**, IDDS, in collaboration with the Ethiopian Public Health Institute, conducted a data management training on WHONET for 26 participants to standardize the reports using Ethiopian data from several sites. In **Mali**, IDDS continued to monitor data quality and provided technical support to the General Directorate of Health and Public Hygiene to conduct the first round of biannual post-training supervision visits and data review in the

[2] IDDS Mali trained 125 community health workers and community health center staff on CBS implementation

Kadiolo, Kati, and Kangaba health districts and the Segou region. As a result, 165 community health workers and 136 community health center directors were supervised and coached. In **Senegal**, IDDS organized a training at the regional and district levels on District Health Information Software, version 2 (DHIS2) quality modules for medical officers, surveillance officers, and data managers from the seven health districts supported by the program. The training was attended by 39 participants (17 female). In **Uganda**, IDDS trained a pool of 9 trainers (2 female) on how to perform analysis and mapping of animal health surveillance data, so that they can cascade these skills to sub-national level staff. Subsequently, IDDS supported a training on data analysis and routine data quality assessment for 15 district veterinary staff from the districts of Gulu, Mbale, Mbarara, and Moroto, and the One Health coordination office. In **Vietnam**, IDDS worked with the Department of Animal Health and the Regional Animal Health Offices (RAHOs) to organize five regular bi-monthly meetings to review use of the VAHIS in the five provinces (Thai Nguyen, Binh Dinh, Khanh Hoa, Can Tho, and Dong Thap). The review sessions on VAHIS use focused on issues related to data entry, data exportation, and possible solutions to improve animal diseases data collection. IDDS also collaborated with the Department of Animal Health and the RAHOs to organize three regular virtual meetings to review animal disease data reported in the VAHIS.

COVID-19

IDDS continued to support the global response to the COVID-19 pandemic by increasing countries' capacity to transport and test COVID-19 specimens, funded by the ARP. In FY 2022 Q3, IDDS supported six countries in COVID-19 specimen transportation, training and technical assistance, and procurement of essential equipment and supplies. Countries receiving COVID-19 and ARP funding are **Cameroon, Guinea, Madagascar, Mali,** the **Philippines,** and **Tanzania.** IDDS continued to strengthen laboratory capacity for providing timely diagnosis of suspected cases and contact tracing as well as safe specimen collection, packaging, and transport, which are critical to preventing the spread of COVID-19. IDDS continued to communicate with partners to ensure transparency, minimize any delays to implement activities as much as possible, and build on the progress made during FY 2022 Q2.

Specimen collection and transport

IDDS supported **specimen collection and transport capacity building activities** in two countries during this quarter: **Cameroon** and the **Philippines**. In **Cameroon**, IDDS supported transport for genomic sequencing specimens through a locally based courier company. Overall, there has been a decline in the number of COVID-19 specimens requiring transport; however, IDDS supported minimal specimen transport from Doula. In addition, IDDS has been keeping a specimen transport log to track cases over time and has confirmed that the number of cases is indeed decreasing. In the **Philippines**, IDDS continued to support specimen transport activities. Mobile swabbers for COVID-19 testing in Laguna were recruited, and all IDDS-supported sites continue to be operational.

Training and technical assistance

During FY 2022 Q3, IDDS provided technical assistance, training, and ongoing mentorship to **assist laboratory networks across four countries to respond to the COVID-19 pandemic**—**Cameroon**, **Mali**, the **Philippines**, and **Tanzania**. In **Cameroon**, IDDS held a workshop to review of COVID-19 genomic sequencing activities and data. Fourteen people from the Emergency Operation Center, NPHL, Pasteur Center of Cameroon, and polymerase chain reaction (PCR) testing laboratories participated in the workshop that enabled participants to review the genomic surveillance strategy implementation, review COVID-19 genomic sequencing data, and develop recommendations such as

strengthening epidemiological surveillance to detect new cases and clusters in a community and ensuring all whole-genome sequencing platforms are functional at reference laboratories. The meeting report that was developed will be disseminated by the Secretary General of the MoH. In Mali, IDDS supported the development of a new laboratory information management system (LIMS) at the *Institut National de Santé Publique* (National Institute of Public Health). This new system will be integrated into the existing DHIS2 system and will be used to capture both COVID-19 surveillance data and other priority pathogens in-country. This new system will improve data sharing between laboratories and surveillance systems, improve data quality, and support data-informed decision making at the national level. In addition, in Mali, IDDS provided logistics support and technical assistance to the *Direction Générale de la Santé et de l'Hygiène Publique* (General Directorate of Health and Public Hygiene) to hold a workshop on the harmonization of COVID-19 data from national, subnational, and facility databases. Participants reviewed, harmonized, and updated 10 data sets from facility, subnational, and national levels. In the Philippines, IDDS organized several training sessions in the Palawan province, including a qualitative respirator fit test training for 16 participants (11 female), and a ToT on specimen collection, handling, packaging, and transport for 22 participants (17 female). Subsequently, these newly certified trainers cascaded additional specimen collection and transport training out to 39 health care workers (all female) over 2 training sessions. Finally, in Tanzania, IDDS collaborated with the NPHL and Sokoine University of Agriculture to implement a refresher and advanced training on PCR COVID-19 testing for 21 laboratory staff from decentralized sites. The training included an overview of COVID-19 and PCR testing, laboratory safety and standard precautions, specimen management, quality assurance (QA) on PCR testing, transportation and packaging of infectious substances, waste management, pipetting techniques, and decontamination and sterilization.

IDDS continues its ongoing **support for specimen collection and transport** in the **Philippines**. IDDS transported 3,506 specimens from 39 collection sites in the 6 IDDS-supported provinces (Bulacan, Cavite, Isabela, Laguna, Palawan, and Rizal) to testing sites for reverse transcription PCR (RT-PCR) testing. IDDS also transported 213 specimens from 4 collection sites in 3 IDDS-supported provinces (Bulacan, Palawan, and Rizal) to the national capital region for genomic sequencing. Additionally, IDDS mobile swabbers placed in the 5 of the 6 IDDS-supported provinces collected 1,707 specimens for PCR testing and rapid antigen testing.

During FY 2022 Q3, IDDS continued its **support of site-level supervision and ensuring quality laboratory services**. In **Cameroon,** a team of experts provided on-site supervision for laboratories conducting genomic sequencing; the NPHL and the USAID mission in Cameroon emphasized the importance of providing mentorship to laboratories that are providing genomic surveillance data and supported the addition of new laboratories to the specimen referral network for genome sequencing by conducting supervision and refresher PCR testing training at these newly operational sites. IDDS also provided mentorship on specimen packaging and referral in **Cameroon** to further strengthen the network's capacity to provide quality diagnostic services at the decentralized level.

IDDS continued its **support for equipment maintenance** in **Guinea** by contracting Cepheid to service GeneXpert (GX) instruments that were out of order or malfunctioning. Cepheid completed maintenance of four GX instruments at the regional hospital laboratories in Faranah (one instrument) and Nzérékoré (one instrument) and the prefectural hospital laboratory in Guéckédou (two instruments). As part of the GX equipment maintenance activity, IDDS purchased four GX modules that have been installed by Cepheid agents. Additional GX modules have arrived in-country, and IDDS is in the process of clearing these items from customs for final delivery to recipient sites.

Finally, IDDS continued to **support procurement needs for essential COVID-19 supplies** across three IDDS-supported countries. In **Cameroon, Madagascar,** and the **Philippines,** IDDS delivered COVID-19 testing supplies, reagents, and consumables, such as PCR plates, cryovials, nucleic acid extraction reagents, and rapid diagnostic test kits, which will support COVID-19 testing and reporting at reference laboratories in these countries. In **Cameroon**, IDDS procured PCR plates, heating plates, vortexes, and other essential laboratory supplies for COVID-19 testing. In addition, IDDS delivered a -80°C freezer to the NPHL that is being used to store COVID-19 genomic sequencing specimens. In **Madagascar**, IDDS delivered all final PCR testing supplies and equipment to the *Centre Hospitalier Universitaire* (CHU) PZaGa laboratory in Mahajanga region to support PCR testing for COVID-19. the This finalized all IDDS ARP activities in-country. In the **Philippines**, procurement of general COVID-19 laboratory supplies continued through FY 2022 Q3. Items include rapid antigen tests, an extraction machine, and personal protective equipment (PPE); the handover ceremony for these items will likely occur during FY 2022 Q4 and is dependent on the appointment of a new Department of Health secretary.

Middle East and North Africa

IDDS is developing an assessment tool, based on the TB diagnostic network assessment (TB-DNA), that will be used in MENA countries to assess the diagnostic network capacity and preparedness for emerging and reemerging disease threats. During FY 2022 Q3, IDDS developed a second draft of the MENA DNA tool and incorporated feedback from USAID. The revised MENA DNA tool includes a score card system like that used by the IDDS TB-DNA tool for determining the diagnostic network's ability to respond to emerging disease threats. The tool will be piloted in one pre-selected country to capture comprehensive, up-to-date information on the capacities and gaps. The pilot will also reveal the utility of the DNA tool and enable the IDDS team to adjust the questions and scoring guide as needed. Once the DNA tool is piloted and approved, IDDS will implement the DNA in two pre-selected countries to gather data that will then be utilized to inform priorities for technical assistance and training. IDDS included the following topics in the DNA tool: infrastructure, human resources, laboratory testing capacity, supply chain management, biosafety, and One Health practices, among others. The proposed countries for the first-round assessments are Lebanon, Morocco, and Tunisia.

Tuberculosis

Strengthening National Diagnostic Networks

IDDS is implementing programs globally to strengthen TB diagnostic networks with both Core and field funding from USAID. Through its work, IDDS is building diagnostic capacity using new rapid molecular diagnostic tools for TB, drug-resistant (DR)-TB, and multidrug-resistant (MDR)-TB case detection and enhancing capacities of national and regional reference laboratories and staff across 14 countries in FY 2022 Q3.

Identifying and addressing gaps in diagnostic networks (IR 1.1 TB)

This quarter, IDDS prepared for and conducted high-quality TB DNAs and laboratory spatial analyses, strengthened the TB SRS, expanded use of GX and TB diagnostic connectivity solutions, strengthened leadership and management of and within the TB network, and continued to engage the private sector.

IDDS continued **implementation of its flagship DNA** to understand and identify gaps in existing TB diagnostic networks through activities in **Tanzania**, **Ethiopia**, and **DRC**. In **Tanzania**, IDDS provided logistics and financial support to disseminate findings from the DNA in Morogoro in June 2022, including by printing and distributing 40 copies of the report to the regional TB coordinators. IDDS also drafted the DNA report for **Ethiopia** and provided support to a planned DNA in **DRC** by translating an assessors' manual into French and recruiting franco-phone consultants.

IDDS planned for and **conducted laboratory network spatial analyses (LNSAs)** in three countries this quarter, began data analysis in two additional countries. In **Burma**, IDDS organized a stakeholder meeting to share the results of the TB diagnostic network spatial analysis and drafted the final report on **Burma's** laboratory spatial analysis. IDDS also incorporated feedback from USAID to update the **Philippines'** LNSA and presented the revised analysis to country stakeholders. IDDS expanded its LNSA protocol for **Ethiopia** to include the placement of advanced TB diagnostics for second-line drug-susceptibility testing (GX 10-color modules) and began data collection and analysis. IDDS began planning for laboratory spatial analyses in **Uganda** and **Zimbabwe** and finalized introductory briefing presentations.

IDDS implemented activities to **strengthen the TB SRS** in two countries this quarter: **Bangladesh** and **Burma**. In **Bangladesh**, IDDS participated in and provided feedback for a WHO-organized workshop to update the specimen referral SOPs. In **Burma**, IDDS explored sustainable options to ensure a specimen transport mechanism, which is essential to strengthen coverage of private-sector diagnostic networks. Specifically, IDDS conducted the selection process for development of the Sputum Transport System web application and proceeded with the contracting process.

In three countries, IDDS **improved TB diagnostic connectivity solutions.** In **Cambodia**, IDDS contracted a local company to roll out DataToCare (DTC) Short Message Service (SMS) notification to be sent to respective prescribers and patients to shorten the result notification turnaround time and facilitate early treatment or other further evaluation. IDDS also conducted training for data managers to ensure that the data managers understand the DTC connectivity solution and use its data for monitoring and analysis of routine results and standard performance quality indicators. IDDS provided technical support for the DTC super-users, so they continue to provide remote technical support to all 10 pilot sites staff. In **Tanzania**, IDDS finalized installation and configuration of the in-country server by procuring the required accessories and licenses. The server is now in place and ready for data migration and upgrading to Aspect connectivity. IDDS also provided logistics and technical assistance for distribution of 50 GxAlert routers to 50 facilities in Mainland Tanzania and Zanzibar. In **Zimbabwe**, IDDS worked to strengthen connectivity of GX machines by providing financial and technical support for a GxAlert/Aspect super-user training on troubleshooting, inventory management, instrument maintenance, and recording and reporting.

IDDS implemented activities to **strengthen leadership and management of the TB diagnostic network** in four countries in FY 2022 Q3. In **Bangladesh**, IDDS submitted the final version of the costing of the national TB Laboratory Strategic Plan to the National TB Program (NTP), after incorporating feedback and comments received through the workshop with the NTP and other stakeholders held in the previous quarter. IDDS hired an international and a local consultant to support the development of the National Reference Laboratory Strategic Plan, in collaboration with the key TB stakeholders in **DRC.** In **India**, IDDS revised the supervisory, monitoring, and evaluation package, which was finalized and introduced by the Central TB Division (CTD) to the national and intermediate reference laboratories (NRLs and IRLs) for implementation. IDDS also developed a grading tool, and

piloted and collected key information using the tool to support the CTD in ranking of these laboratories. This will help the CTD in assessing NRL and IRL performance and provide feedback on potential areas of improvement, inspiring healthy competition among the sites to achieve tangible quality improvements. Finally, in **Tanzania**, IDDS provided technical and logistic assistance to the Central TB Reference Laboratory to review the TB laboratory operation plan 2022–2023, aimed at strengthening the capacity and testing in the zonal laboratories. IDDS collaborated with the Central TB Reference Laboratory to develop a national roadmap for introduction of new TB diagnostic technologies in the country's TB diagnostic network, by providing financial and technical support for conducting a workshop held in Morogoro from June 20 to 24, 2022.

IDDS worked to **improve QMS** in several countries this quarter. In **Bangladesh**, IDDS developed QMS training materials for the National TB Reference Laboratory (NTRL) that prioritize areas of focus that will directly impact TB diagnostic services and ensure their quality. In **Zimbabwe**, IDDS provided technical and financial support to train 35 laboratory professionals (20 female) from 25 laboratories on internal and external QA, documentation, equipment maintenance, TB testing, and biosafety. After the training, IDDS started conducting on-site mentorship training at these laboratories. The IDDS diagnostic specialist embedded at the NTRL in **Zimbabwe** provided technical assistance as the Bulawayo NTRL prepared for the assessment by the Southern African Development Community Accreditation Service (SADCAS). The laboratory was recommended for accreditation if it addresses identified non-conformities.

IDDS **facilitated multisectoral collaboration** to improve linkages between diverse diagnostic stakeholders across the health system and to support governments to manage and own strengthened diagnostic networks in **DRC** and **India**. In **DRC**, IDDS contributed technical inputs to the process of updating the country's TB diagnostic network guidelines. IDDS also provided technical and logistical support for the June 2022 workshop in which the review and finalization of the guidelines took place. In **India**, IDDS provided technical and managerial support in organizing the National Experts Consultation for the human health component of the National Action Plan on AMR (NAP-AMR) 2.0 (2022–2026). More than 70 experts across the nation attended the meeting. Intensive group work was done by experts involving identification of gaps and challenges of the previous NAP-AMR (2017–2021), collating strategic inputs for development of NAP-AMR 2.0, and designing a draft operational plan and monitoring and evaluation framework for the human health sector.

IDDS continued to engage extensively with the **private sector** across USAID's introducing New Tools Project (iNTP) countries and especially in three countries: **Burma, India,** and **Zimbabwe**. IDDS engaged SystemOne to provide connectivity for the Truenat instruments in the iNTP countries, and a purchase order agreement for connectivity services is in progress. IDDS is also working with Molbio to install a software upgrade on the Truenat instruments, which is necessary to connect them to Aspect Laboratory Information Management System. In **Burma**, IDDS coordinated efforts with the public sector and private sector: IDDS received commitment from the Myanmar Private Hospital Association to establish a private-sector GX network and from TB implementing partners to introduce new tools for TB diagnosis. IDDS successfully advocated to the NTP and the NTRL to accept IDDS's technical assistance in GX *mycobacterium* TB (MTB)/extensively drug resistant (XDR) testing in the public sector and setting up GX networks in the private sector (i.e., deployment of 10-color GX machines in private hospitals). In **India**, IDDS launched the "One-Stop TB/DR-TB Diagnostic Solution model" in Hisar district of Haryana state to engage private-sector laboratories in the National Tuberculosis Elimination Program (NTEP). Implementation of the model is likely to increase the TB case notification under NTEP

and provide patients with advanced TB diagnostics results within required timeframes. It will also reduce the turnaround time for TB diagnostics, allowing clinicians to initiate potentially life-saving treatments. Finally, IDDS consultants finalized the **Zimbabwe** TB-HIV Public-Private-Partnership (PPP) framework, which was approved by the Ministry of Health and Child Care. The TB-HIV PPP framework will guide stakeholders in the public and private sectors as they collaborate to strengthen activities in prevention, diagnosis, and care of patients living with both TB and HIV.

Improving capacity to detect TB, DR-TB, and MDR-TB (IR 1.3 TB)

During this quarter, IDDS improved capacity to detect TB, DR-TB, and MDR-TB by supporting NTPs to introduce new TB diagnostic tools, bolster diagnostic capacity of laboratories and laboratory staff, and increase access to quality chest X-rays (CXRs).

Across five countries in FY 2022 Q3, IDDS **introduced new diagnostic TB tools and approaches,** including Truenat, Xpert/XDR, and ultra-portable X-ray to strengthen national TB case detection and initiate treatment. In **Bangladesh**, IDDS equipped the NTP with 13,000 centrifuge tubes to meet emergency needs at the national and regional TB reference laboratories. IDDS also initiated the procurement process of four Xpert/XDR instruments and 12,500 GX cartridges from Cepheid. In **Cambodia,** IDDS conducted 3 joint supportive supervision visits at 14 Truenat pilot sites and organized a training for 55 participants on Truenat operational research and refresher training for end-users. IDDS also expanded the use of GX in **Cambodia**, where the project explored options to equip three sites with GX 10-color systems, with the help of a local distributor company and in consultation with Cepheid. In **Malawi**, IDDS visited three sites to assess facility preparedness prior to GX 10-color system installation and reviewed data collection and reporting systems. A diagnostic algorithm revision workshop was held to incorporate new diagnostic technologies (Xpert/XDR) into the existing TB diagnostic algorithm, and the zero draft of the revised TB diagnostic algorithm was shared with all participants for feedback. Revision of the diagnostic algorithm will accommodate reflex testing for isoniazid resistance for all rifampicin (RIF) susceptible patients confirmed by GX, which will allow first-line drug susceptibility testing (DST) among bacteriologically confirmed TB cases. In addition, IDDS provided technical and financial support to the National Institute for Medical Research to finalize a verification report for adoption of GX RIF Ultra cartridges in the diagnosis of TB in the country's TB diagnostic work. Finally, in **Vietnam**, IDDS provided technical assistance to the 10 sites that received ultra-portable X-ray machines in Q2, and conducted supervisory visits to four provinces to monitor the use of artificial intelligence (AI) software, support the reading of X-ray films, and observe the medical examinations. IDDS also developed questionnaires for a landscape assessment and disseminated them to the laboratories that implement whole genome sequencing for DR-TB surveillance in **Vietnam.**

IDDS **expanded capacity for GX EQA** in two countries this quarter. In **Bangladesh**, IDDS completed training for 15 microbiologists (7 female) from national and regional TB reference laboratories on the GX EQA process, including testing and reporting results. IDDS shared the final list of 80 GX sites for EQA with the **Vietnam** NTRL, which is providing EQA technical support to the **Bangladesh** NTRL, and completed translation of all EQA-related materials into Bangla. In **Tanzania**, IDDS collaborated with the Central TB Reference Laboratory to update the list of GX sites to be enrolled in the EQA program from 220 in 2021 to 268 in 2022.

IDDS **provided in-person Truenat super-user training** in four countries (**Cambodia, DRC, Kenya** [2 clusters], and **Uganda**), with a total of 83 participants completing the training. These five-day Truenat super-user training sessions include two days of theoretical and three days of practical hands-on

training with the Truenat instrument. Super-users, a cadre of in-country TB diagnostic experts from NTRLs and RTRLs, were taught how to assist Truenat end-users in the field when faced with errors or other maintenance problems. After the training, the super-users began providing immediate support to Truenat end-users, including by supporting their participation in EQA. Further, IDDS provided **operational planning for Truenat** implementation in two countries in FY 2022 Q3. In **Bangladesh**, IDDS organized a ToT for 12 (5 female) microbiologists and doctors on Truenat, completed the pre-installation assessment of Truenat sites, and started site preparation, which is expected to be completed by July 2022. In **Vietnam**, IDDS trained 168 participants (78 female) on Truenat across 34 sites in 19 provinces where the NTP is in the process of distributing Truenat machines. Tekmax, a local agent for the Truenat manufacturer Molbio, has been installing the instruments and conducting on-site user instruction. The distribution and installation processes are expected to be completed by the end of July 2022.

To **support quality control for Truenat testing at sites,** IDDS worked with SmartSpot, an established MTB EQA provider in Africa, to develop additional EQA training materials, including a short video training clip that can be shared with end-users through social media applications, such as WhatsApp. Moreover, IDDS now provides EQA training to super-users, so the super-users can review proficiency testing results by facility and provide targeted mentorship and assistance. After additional IDDS-supported training sessions, EQA performance has improved in other iNTP countries. For example, during the pilot EQA in **Zimbabwe,** only 70 percent of the laboratories were able to report EQA results by the deadline in March 2022. Subsequently, in **DRC**, 38 sites received the first cycle of EQA in May 2022, with 37 of 38 sites (97 percent) successfully reporting EQA results within the cycle deadline. In addition, all 20 **Cambodia** Truenat sites reported EQA results in FY 2022 Q3.

IDDS provided **support for CXR** devices to increase access to digital X-ray to diagnose TB in **Vietnam**. IDDS has been supporting daily communication and technical assistance to implementing sites of AI-enabled CXR reading in Khanh Hoa province. In FY 2022 Q3, the licensing agreement with an AI software company was extended to continue supporting hospital managers and clinical doctors in providing better management results as well as improving the accuracy of the screening process. IDDS organized a monthly meeting in June 2022 with the 10 provinces to address technical issues and discuss the operational plan for each site that is implementing computer-aided detection for ultra-portable CXR. IDDS also **increased access to quality CXRs** in **Cambodia.** IDDS developed standardized reporting formats for experts to assist in the decision-making on CXR reading and interpretation, initiated the procurement process for an AI-enabled CXR software, and reached an agreement with the national Center for Tuberculosis and Leprosy Control (CENAT) to select two sites for the AI-enabled CXR reading pilot.

To **increase TB case detection among children,** IDDS continued expansion of a novel approach—the use a simple one-step (SOS) stool processing method to test stool specimens for pediatric TB diagnosis. . IDDS has been working to create an online data capturing tool for countries to use when implementing the SOS method in pediatric TB detection. In **Vietnam**, IDDS conducted a supportive supervision visit on May 5, 2022, to Dong Thap Lung Hospital and Tam Nong DHC. During the visit, IDDS discussed the GX stool-testing activities with provincial and district TB staff, provided refresher training on the SOP of stool specimen collection, and reviewed package and transportation guidelines. In **DRC**, IDDS in collaboration with the KNCV Tuberculosis Foundation trained 11 laboratory technicians (5 female) on the SOS stool processing method..

As of June 2022, IDDS has seven **operational research studies** at different implementation stages in six TB countries (text box). In **Vietnam**, analysis of trace results was presented to the NRL and a revised algorithm was proposed. The NRL/NTP is updating the national algorithm informed by IDDS's research and recommendations. A research protocol to investigate the causes of the stagnation of Bacc-TB and RIF resistance detection received the ethical and administrative approvals in **DRC**. In **India**, IDDS completed the root cause analysis of Truenat invalid/indeterminate rates and presented the findings and observations to the CTD. The anticipated outcome of this operational research study is expected to potentially help the CTD in generating evidence that will support effective utilization of Truenat at NTEP sites. Other activities to disseminate knowledge included two webinars held on May 11 and June 15, 2022, which raised awareness of IDDS' work to strengthen pediatric TB diagnosis and expand access to essential diagnostic services in district and regional settings. Finally, IDDS had eleven abstracts and one Truenat symposium proposal (in collaboration with Stop TB Partnership) accepted at the 2022 Union World Conference on Lung Health and one Truenat abstract accepted at the 2022 International Conference on Emerging Infectious Disease.

Highlighted **Operational Research Studies:** Countries and Topics

- **Zimbabwe**: Ultra trace calls results, clinically diagnos+ed TB patients using CXR and other TB clinical signs, and smear microscopy hub strategy
- **India**: Trueprep deoxyribonucleic acid extraction studies
- **Cambodia**: feasibility of Truenat implementation pilot study

IDDS continued to improve the **diagnostic capacity of laboratories and laboratory staff** this quarter through refurbishment of infrastructure, training, and supportive supervision. In **Bangladesh**, IDDS organized a preventive maintenance training on TB instruments for the Chattogram Regional Tuberculosis Reference Laboratory (RTRL) and, in collaboration with the NTP, organized a training on phenotypic culture and DST at the NTRL in May 2022. As a result of the training, laboratory staff will be able to perform these tests for routine monitoring of DR-TB patients for first- and second-line TB drugs, including newly introduced drugs (e.g., bedaquiline and delamanid), and help clinicians provide patients with the correct treatment regimen. Finally, IDDS organized a training on extra pulmonary TB (EPTB) and childhood TB specimen processing and testing in June 2022 at the Khulna RTRL. In **DRC**, IDDS completed training on instrument maintenance for two staff of the NTRL; procured two laptops, a printer, and a barcode reader; and completed installation of a logistics management information system (LMIS) platform in the NTRL.

Table 3: Project outputs related to strengthening TB diagnostic networks for FY 2022 Q3 and the countries that contributed to these outputs

TB IR 1.1: Gaps in diagnostic networks identified and essential components supported										
	TOTAL	Equipment Maintenance	Testing skills and Procedures	New Diagnostic Tools	QMS	Diagnostic Connectivity Solutions	Biosafety	TB DNA	Private Sector Engagement	Other Diagnostic Network Topics
People Trained	647	11	48	383	108	63	0	0	0	34
SOPs, Plans, and Guidelines Developed, Revised, or Disseminated	3	0	1	2	0	0	0	0	0	0
TWG Meetings Held	3	0	0	2	0	0	0	0	0	1
Supervisory Visits Conducted	76	0	0	46	25	0	0	0	0	5
Pilots Conducted	3	0	1	1	0	1	0	0	0	0
Assessment Reports Completed	1	0	0	0	0	0	0	0	0	1
People Mentored	0	0	0	0	0	0	0	0	0	0
Countries[1]										
Bangladesh		●	●							●
Cambodia			●	●		●				
Core TB			●	●						●
India					●					
Vietnam			●	●						●
Zimbabwe					●	●	●			●

[1] Countries listed are those that contributed to specific outputs during Q3. Countries that are working toward an output, but have not achieved it, are not included.

IMPLEMENTATION STATUS

Work plans and deliverables submitted in FY 2022 Q3 are summarized in the tables that follow.

Work Plans Submitted and Approved in FY 2022 Q3

	Submitted/Resubmitted in Q3	Received USAID Approval in Q3
GHS	• Ethiopia 5/11/2022, 6/9/2022, 6/13/2022 • IDSR 5/4/2022 • Vietnam 5/5/2022	• None
TB	• Burma 5/17/2022 • Mozambique 5/26/2022 • Vietnam 5/24/2022 • Zimbabwe 5/3/2022	• Core TB expansion 4/8/2022
PMI	• Cambodia 6/14/2022 (addressing contingencies)	• Cambodia 4/21/2022
Cross-Cutting	• Annual 4/27/2022 (addressing contingencies)	• Annual work plan 4/1/2022

Deliverables Submitted in FY 2022 Q3

	Key Deliverables Submitted to USAID during Q3
GHS	6
C-19F/ARP	2
EVD	1
IDSR	0
TB	4
Total	**13**

GHS FY 2022 Q3 Achievements

CAMEROON

Quarterly Highlights

Bacteriology Diagnostics:

- IDDS mentored relevant staff on the use of standard operating procedures for culture media preparation, pathogen identification, and AST in compliance with international norms, the implementation of internal quality control, and participation in external quality controls. A total of 10 mentoring sessions took place from April to May 2022, mentoring 87 laboratory staff (56 female) at 8 AMR surveillance sites. During this quarter, particular emphasis was placed on the continuous quality improvement for antibiograms and updating breakpoint on the antibiogram job aids in accordance with the latest version of AST referential.
- IDDS supported the National Veterinary Laboratory of Douala to operationalize the bacteriology unit laboratory, enabling the diagnosis of bacterial animal health diseases and laying the groundwork for integration of the site into the national AMR surveillance network. IDDS supported staff training in bacteriological diagnosis (culture media preparation, priority bacteria isolation and identification, and AST) and donated required reagents and small equipment to support the launch of the bacteriological analyses in this laboratory.

COVID-19 Diagnostics:

- In April 2022, IDDS organized a workshop to review COVID-19 genomic sequencing activities and data. Fourteen people from the Emergency Operation Center, NPHL, Pasteur Center of Cameroon, and PCR testing laboratories participated in the workshop, during which they reviewed how the genomic surveillance strategy was implemented between March 2020 and March 2022, reviewed COVID-19 genomic sequencing data, and developed recommendations such as strengthening epidemiological surveillance to detect new cases and clusters in a community and ensuring all whole-genome sequencing platforms are functional at reference laboratories.
- IDDS handed over diagnostic equipment (e.g., PCR heating plates), auxiliary COVID-19 diagnostic commodities (e.g., PCR plates and swabs), and general laboratory supplies and equipment (e.g., -86 °C freezer, pipette tips, cryotubes) to the NPHL in June 2022.

Surveillance:

- IDDS supported the National AMR Coordination Committee to perform situational analysis to fight AMR in Cameroon by organizing stakeholders' consultation in the different sectors involved in AMR surveillance and to make recommendations within the new national AMR strategy plan (2022–2026).
- IDDS supported the development of the first national AMR surveillance monthly bulletins. These five monthly bulletins cover the months of January-May 2022. IDDS also created a monthly AMR surveillance bulletin template and SOPs for AMR surveillance monthly data analysis and trained five members of the AMR surveillance technical working group on AMR data management and analysis to aid in the production of future AMR bulletins.

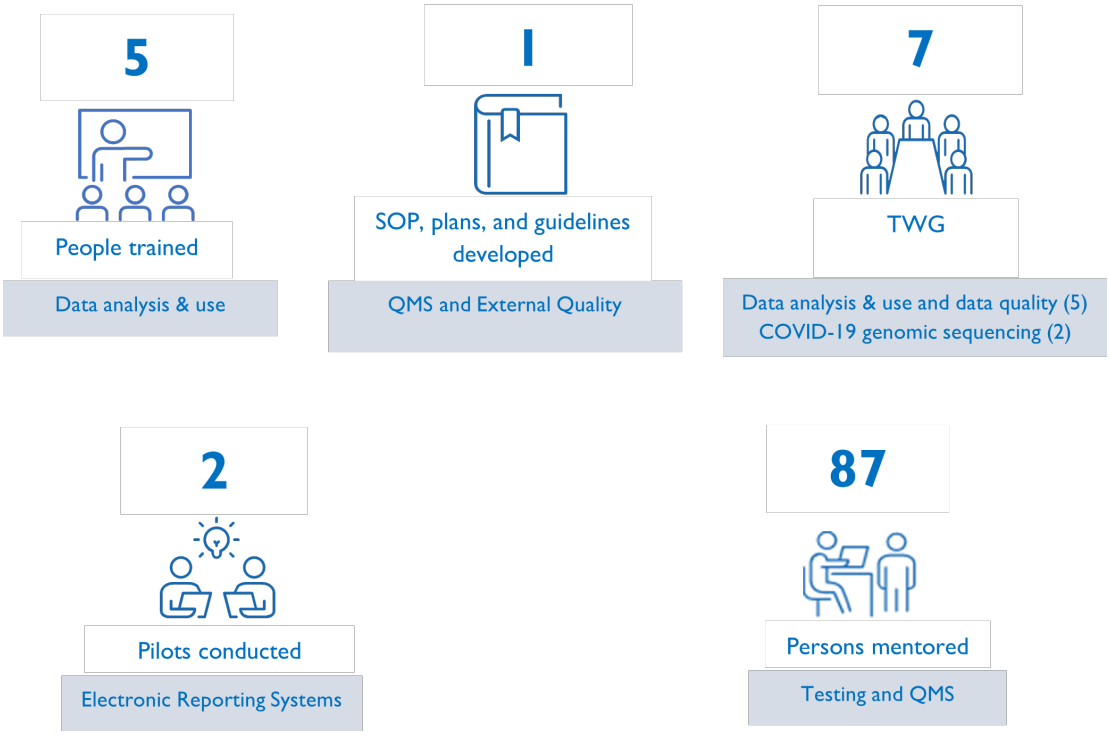
Problems Encountered and Solutions

Problem	Resolution	Status
The NPHL staff in charge of coordinating AMR laboratory activities were unavailable due to competing priorities related to COVID-19 and other activities. This delayed the implementation of many planned activities this quarter.	IDDS continues to communicate with the NPHL and other partners to adjust scheduled activities based on staff availability.	In progress

Lessons Learned

- Close collaboration with government partners, GHS partners, and the USAID mission is important for the successful implementation of activities.
- Co-funding activities with other partner projects in the country helps to save costs and harmonize efforts for greater impact.

FY 2022 Q3 Output Results



DEMOCRATIC REPUBLIC OF THE CONGO

Quarterly Highlights

Diagnostic Highlights:

- To resolve the biosafety and biosecurity gaps within laboratory services in the DRC, IDDS provided technical and financial support to the Ministry of Health (MoH) to develop the training manuals, presentations, and modules and to complete the training of 44 provincial laboratory specialists on biosafety/biosecurity, collection, storage, and transport of biomedical specimens. The MoH and the Directorate of Laboratory Services (DLS) acknowledged the importance of IDDS contribution, and the value added by the developed training resources. The trained trainers were able to develop their own training modules, adapt them to the local conditions of their respective provinces, and disseminate them to colleagues working in other provinces. The updated training tools will be used in laboratories throughout the eastern provinces and will allow laboratory technicians to identify and rectify non-compliant and risky practices.

Problems Encountered and Solutions

Problem	Resolution	Status
The security situation and state of emergency in North Kivu and Ituri continue to hinder the implementation of IDDS activities in those areas. Additionally, flights to Maniema and Kindu have been canceled and IDDS had to put on hold activities in the province due to lack of access to certain areas.	IDDS continues to monitor the security situation daily and updates are regularly shared with staff members. IDDS put in place restrictive measures on staff movement in and out of Goma and continues to advise staff to leave offices during daylight. Staff based in Goma are advised to be more cautious and to travel in and out of the office only when the security situation allows. To address the lack of access to certain regions, IDDS contacted an alternate airline company scheduling flights to Kindu to establish a fixed schedule.	In progress (the state of emergency in Ituri and Nord Kivu continued to be prolonged by the DRC Government)
The departure of the Goma-based Senior Diagnostic Specialist affected the implementation of some activities.	The Senior Diagnostic Specialist position was readvertised for replacement.	In progress (a candidate was selected, and the hiring process is ongoing)

Lessons Learned

- None to report.

FY 2022 Q3 Output Results

14

People trained

Biosafety and Specimen Referral

1

SOP, plans, and guidelines developed

Testing and biosafety

1

TWG meetings held

Testing and equipment maintenance

ETHIOPIA

Quarterly Highlights

Diagnostic Highlights:

- IDDS conducted a rapid baseline assessment of its five human health sites and one animal health AMR surveillance site. Assessment findings informed revisions to the IDDS work plan, as they revealed the gaps that occurred during the interruption of IDDS project implementation for one year and four months.

Surveillance Highlights:

- IDDS conducted a five-day WHONET data management training jointly with the Ethiopian Public Health Institute (EPHI). Five staff from AMR sites were trained along with the 21 trainees from non-IDDS sites. The training will enhance AMR surveillance reporting from facilities to EPHI.

Problems Encountered and Solutions

Problem	Resolution	Status
IDDS project implementation in Ethiopia was interrupted in December 2020. It was initiated again in October 2021, but implementation was delayed until February 2022 because of the war and ongoing security concerns.	Implementation was re-initiated in February 2022. The work plan was revised and submitted to IDDS HQ for review and submission to USAID for approval.	In progress (awaiting approval)

Lessons Learned

- IDDS and EPHI jointly provided WHONET data management training for both IDDS AMR sites and non-IDDS AMR sites. This practice is cost-effective and ensures sustainability in the absence of IDDS.

FY 2022 Q3 Output Results

GUINEA

Quarterly Highlights

Bacteriology Diagnostics:

- IDDS continued providing technical support to the three sub-national IDDS-supported laboratories and the Institut National de Santé Publique (National Institute of Public Health, or INSP) to enable reporting of AMR data to the national-level database and continued to monitor data quality.
- IDDS equipped the INSP with reagents and supplies to support the second round of EQA for the AMR surveillance network. The reagents will be used to conduct EQA to monitor the AMR surveillance sites and will also help the IDDS-supported facilities to resume bacteriology and AST.
- IDDS finalized the specimen referral pilot costed report, which will be used by the MoH to roll out the new SRS developed and piloted by IDDS. The SRS put in place by IDDS reduced the time from collection to delivery at the testing site from 7-10 days for the current system to 24 hours during the pilot study. All specimens were received at the proper temperature. Only one sample was rejected at the reference laboratory for insufficient volume, and the total rejection rate was 0.4 percent (1 of 246).

COVID-19 Diagnostics:

- IDDS engaged Cepheid to provide maintenance to one GeneXpert instrument at Faranah Regional Hospital Laboratory, one GeneXpert instrument at Nzérékoré Regional Hospital Laboratory, and two GeneXpert instruments at Guéckédou Prefectural Hospital Laboratory so the sites could resume testing for COVID-19 using GeneXpert.

Problems Encountered and Solutions

Problem	Resolution	Status
Stockouts of laboratory commodities and equipment failure resulted in testing interruptions in all IDDS-supported facilities.	IDDS initiated a discussion with the National Directorate of Laboratories and hospital management at IDDS-supported sites for the hospitals to procure reagents and consumables for continuity of testing, as well as to increase the demand for bacteriology culture and AST by the clinicians.	In progress (with the support of IDDS, one laboratory procured a small amount of bacteriology reagents in May 2022)
Continuity in the provision of EQA by the NPHL to support the AMR surveillance network for proficiency testing.	IDDS equipped the NPHL with some reagents to make sure that the laboratories are monitored according to ISO standards.	Not yet addressed (In FY 2022 Q4, EQA will be done)

Lessons Learned

- Stock management at the facility level and availability of reagents are essential for AMR surveillance.
- Regular EQA participation is essential to assess the effectiveness and the quality of bacteriology and AST, as well as to identify laboratories with deficiencies that need additional supportive visits and mentorship.
- Engaging the MoH and other implementing in-country partners is crucial for cost-sharing and sustainability.

FY 2022 Q3 Output Results

1

TWG meetings held

Data quality
&
Data analysis and use

INDONESIA

Quarterly Highlights

Success Story:

IDDS Trains Staff on PREDICT Laboratory Protocol in Indonesia (See Annex B for full story)

Surveillance Highlights:

- IDDS conducted a national webinar on Foot and Mouth Disease to raise awareness among among health officers from the human, animal, and wildlife sectors, as well as the broader public about FMD in light of recent outbreaks in Aceh and East Java. The webinar aired on May 28, with a total of 1,112 participants (752 female). The webinar was conducted in partnership with OHLN SWG members including the Coordinating Ministry for Human Development and Cultural Affairs (Kemenko PMK) and technical ministries such as the Ministry of Health (MoH), Ministry of Agriculture (MoA), and Ministry of Environment and Forestry (MoEF).
- IDDS conducted the workshop on SIZE Evaluation for Improving the Capacity of Zoonosis/Emerging Infectious Diseases Detection in collaboration with Kemenko PMK,. The workshop was held online and was divided into three sessions: the first session was for field SIZE users; the second session was for SIZE users at the district and provincial levels; and the third session was for ministries/institutions. The evaluation results will be used to create the National SIZE Technology team,

Problems Encountered and Solutions

Problem	Resolution	Status
Indonesia is serving as the G20 Presidency whereby the MoH has had to dedicate much of its time and efforts, which postponed several other activities.	IDDS rescheduled the meeting to take place after G20 One Health Side Event.	Addressed
Relevant ministries are addressing the emergence of FMD in several provinces in Indonesia, which needed to be managed before Eid Adha.	IDDS shifted the meeting schedule to the week after Eid.	Addressed
The IDDS FY 2022 work plan advised to hold online meetings during pandemic. In mid-April 2022, GoI started to push IDDS to hold on-site meetings rather than online meetings considering it would speed up the progress.	Some of the IDDS online budgeted activities had to be combined and shifted due to the GoI request.	Addressed
The standard IDDS payments to civil servants as key resource persons and transport fees are less than the standard fees decreed by Ministry of Finance (MoF) and applied to all to civil servants, which must be followed by all implementing partners. GoI asked that IDDS adjust the fee because the program asked civil servant staff to do activities beyond their regular work, fees for which are regulated by GoI.	IDDS has communicated with the GoI, USAID mission, and IDDS HQ to adjust the fee amount based on the GoI regulation from the MoF decree that most implementing partners use.	Addressed (but it needs to be communicated to IDDS finance HQ to obtain approval for the next work plan)

Lessons Learned

- Maintaining constant coordination with ministries and other GHS partners is necessary to strengthen the collaboration, particularly in carrying out the activities that can be integrated.

FY 2022 Q3 Output Results

7

TWG
meetings held

Data analysis & use (1)
Interoperability & data analysis and use (2)
One health approach (4)

KENYA

Quarterly Highlights

Diagnostic Highlights:

- Since 2019, IDDS has supported and improved Nyeri County Referral Hospital Laboratory's ability to conduct bacteriology testing through training, mentorship, procurement, and advocacy, among other initiatives. This quarter, IDDS mentored and trained two laboratory technologists on aspects of QMS and general QA from May 30 to June 3, 2022, in preparation for the accreditation assessment by KENAS. KENAS assessed the laboratory between June 27 and 29, 2022 and recommended that bacteriology tests be included in the scope of accreditation. Accreditation of bacteriology tests ensures accuracy, timeliness, and reliability of bacteriology test results. This will increase laboratory users' confidence in the results of laboratory testing, contribute to improved clinical management of patients, and generate quality data for AMR surveillance.
- With technical advice and logistics assistance from IDDS, Kilifi County entered an agreement with BioMérieux for the placement of automated blood culture equipment at Malindi Sub-County Hospital Laboratory. After equipment installation in June 2022, on July 5, BioMerieux trained three laboratory staff (one female) to use the BacT/ALERT instrument. Automated blood culture equipment allows laboratory technicians to identify positive cultures faster than traditional methods, meaning the infectious agent can be more rapidly identified and treated, improving patient outcomes.
- IDDS has been collaborating with Murang'a and Bungoma Counties and other implementing partners to implement a pilot integrated specimen referral system in each county. This quarter, IDDS provided technical assistance to each County Medical Laboratory Coordinator to provide sensitization workshops on timely transportation to preserve specimen viability to 32 specimen transporters (1 female) in Murang'a and Bungoma. Between March and June 2022, a total of 108 bacteriology specimens were referred to Bungoma County Referral Hospital Laboratory from 4 peripheral health facilities, and 43 bacteriology specimens were referred to Murang'a County Referral Hospital Laboratory from 3 peripheral facilities. Specimen referral will bring diagnostic services closer to the people and help them save costs and time associated with travel to seek services at the referral hospitals. This will also increase utilization of the diagnostic capacity that IDDS has helped to build at the referral hospital laboratories and have a larger, more representative volume of AMR surveillance data to inform policy decisions at the county level.
- As of June 30, 2022, 670 learners have enrolled in the AMR surveillance training course hosted on the MoH virtual academy, and 180 (27 percent) have successfully completed the course.

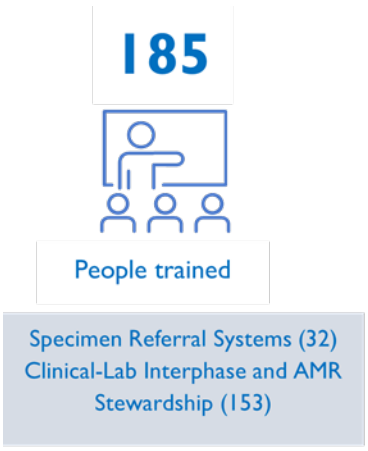
Problems Encountered and Solutions

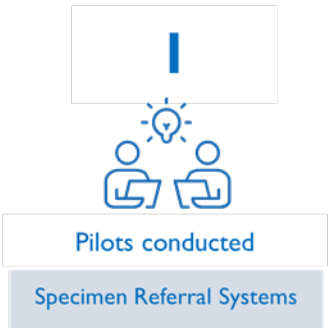
Problem	Resolution	Status
Malindi County Referral Hospital was experiencing data transmission challenges. A technician checked the server and determined that it was damaged beyond repair, meaning that Malindi cannot automatically transmit data to the Central Data Warehouse (CDW).	IDDS and NPHL assisted the site to optimize and use a computer as a temporary server. However, this did not work well for the site due to very low speed. Instead, the site has been submitting data by email, and IDDS has engaged a consultant to manually enter the data into the CDW. IDDS will continue to advocate that the county procures a new server.	In progress
The nonfunctional laboratory information system (LIS) at Bungoma is hindering real-time data transmission.	The site is currently using WHONET software to manage AMR surveillance data and using email to submit the WHONET file to the NPHL. IDDS will explore alternative LIS options and provide technical assistance to Bungoma County Referral Hospital to select a new LIS.	In progress

Lessons Learned

- None to report.

FY 2022 Q3 Output Results



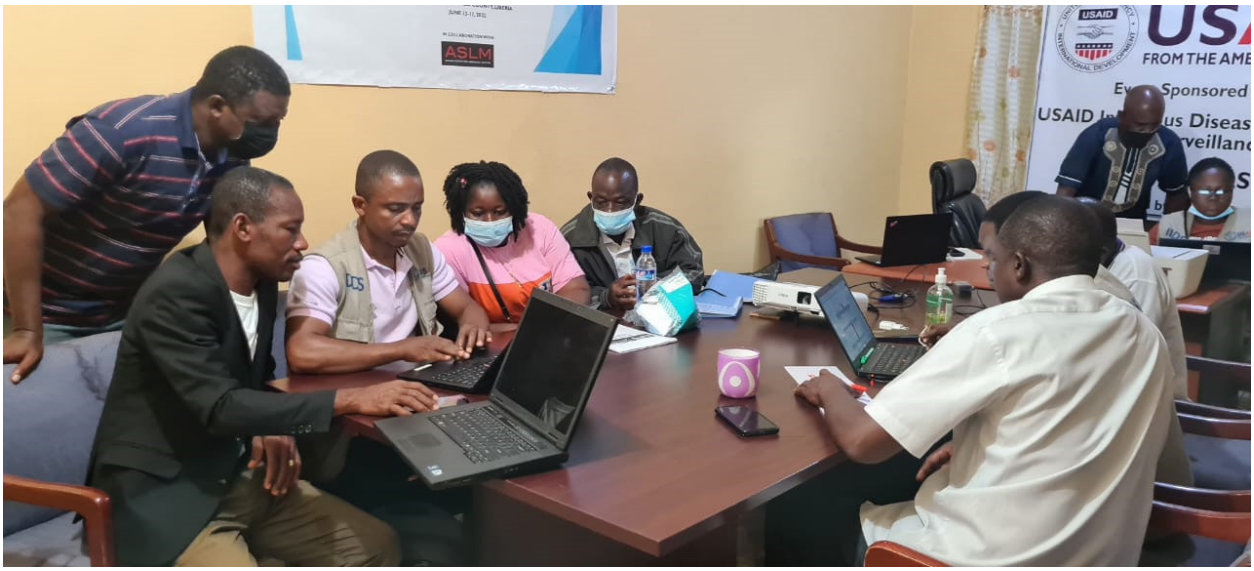


LIBERIA

Quarterly Highlights

Success Story:

Improving Laboratory Testing Quality in Liberia (See Annex B for full story)



Diagnostic Highlights:

- IDDS supported a facility-based QMS training at Phebe hospital laboratory (a county and regional reference laboratory) from June 20–22, 2022. Strengthening the quality of laboratory diagnostics is a key part of building global health capacity. Implementation of quality systems helps to assure and improve patient care while reducing costs. Facility-based QMS training ensures participation of more laboratory staff, facilitating a shared understanding of quality improvement and how they can achieve it as a team.
- IDDS conducted QMS mentorship visits from May 30 to June 10, 2022. A facility-based mentorship approach seeks to effectively translate the theoretical learning provided by many of the didactic training programs into practice and behavior change to achieve rapid and sustainable implementation of QMS in public health and clinical laboratories.

Problems Encountered and Solutions

Problem	Resolution	Status
The Phebe laboratory team disagreed with the auditor on questions of risk management and safety, resulting in the audit being aborted.	The NDD resolved the case based on the facts they got from the investigation and according to the MoH code of conduct. The investigation also recommended a QMS refresher training for the laboratory team which IDDS provided from June 20–22, 2022.	Addressed (Phebe will be audited together with other laboratories in the next round of scheduled audits)
Staff attrition at Kolahun laboratory has resulted in the facility not receiving on-site mentorship visits and SLIPTA audit.	IDDS engaged the MoH/NDD who are currently working with the MoH human resources department to find solutions to the staffing challenges.	In progress
Registration of the bacteriology laboratories with WHO AFRO National Institute for Communicable Diseases EQA program has not been completed, resulting in laboratories not participating in any EQA.	IDDS discussed the way forward with NDD and agreed to put in place an in-country interlaboratory comparison plan for bacteriology laboratories in the public system.	In progress

Lessons Learned

- Collaboration with other partners allows laboratory personnel to learn from each other in addressing the challenges faced by diagnostic system in Liberia.
- Working with the laboratory staff at the level of their understanding encourages them to read and apply the checklist requirements in their daily work.
- Engaging in more discussions with the NDD helps in understanding and streamlining approaches that work for the laboratory system.
- Giving the MoH leading roles in all IDDS activity instills confidence in them knowing that they are improving their own system.
- Building local capacity for EQA is a sustainable approach for a Proficiency Testing scheme, especially for bacteriology.

FY 2022 Q3 Output Results

39

People trained

QMS (25)
Biosafety (14)

3

TWG meetings held

Testing (1)
Specimen Referral Systems (1)
Biosafety (1)

16

Persons mentored

QMS

MADAGASCAR

Quarterly Highlights

Surveillance Highlights:

- During FY 2022 Q3, a draft of the national AMR surveillance protocol was developed and finalized after a four-day workshop. The surveillance protocol, which includes the One Health approach, is currently being validated by the MoH. This protocol aims to provide a common methodology for monitoring pathogens carrying resistance genes in humans, animals, and in the environment.

COVID-19 Diagnostics:

- IDDS delivered an automated nucleic acid extractor, 480 COVID-19 PCR tests and associated reagents, and 1,000 specimen collection swabs to the CHU PZaGa laboratory in Mahajanga region to support PCR testing for COVID-19.

Problems Encountered and Solutions

Problem	Resolution	Status
The increase in the number of COVID-19 cases during this quarter impacted the availability of government partners, which delayed the implementation of the surveillance sub-activity.	IDDS continues to communicate with MoH to adjust the timeline of scheduled activities.	In progress

Lessons Learned

- The close collaboration IDDS maintained with partners at the Fondation Mérieux and with the USAID mission has proven to be the key to a successful implementation of the work plan activities.

FY 2022 Q3 Output Results

MALI

Quarterly Highlights

Success Story:

IDDS Equips Mali for COVID-19 Genomic Sequencing (See Annex B for full story)

Diagnostic Highlights:

- IDDS provided financial and technical support to INSP to conduct equipment maintenance follow-up visits to the regional hospital laboratories (Segou, Mopti, and Sikasso), which received equipment maintenance training with support from IDDS in FY 2019. These visits are expected to foster improved preventive maintenance services for laboratory equipment and reduced risk of testing interruption from equipment failure.

Surveillance Highlights:

- IDDS and the *Direction Générale de la Santé et de l'Hygiène Publique* (General Directorate of Health and Public Hygiene) conducted the first round of supportive supervision and data review visits in May for CBS surveillance in Kadiolo, Kati, and Kangaba health districts. In total, 165 community health workers and 58 community health center directors were supervised and coached. Additionally, 36 nonfunctional simple phones were replaced for data reporting. IDDS has already noted improvements in reporting following the visits in Kadiolo health district.
- IDDS provided technical and financial support to Segou region to conduct the first round of biannual IDSR supportive supervision visits to underperforming community health centers. A total of 80 health centers were visited and a plan to resolve problems detected was produced for each facility. As a result, each facility will have improved IDSR data reporting.
- IDDS expanded CBS to another health district through tool printing, equipment purchasing, and training for 125 personnel (87 community health workers, 34 community health center directors and 4 staff of the referral health center staff) of Sikasso health district between June 29 to July 9. In Sikasso health district 125 personnel are now trained and prepared to implement CBS, which will improve the country's ability to detect disease outbreaks. In total, four health districts are now contributing to the implementation of CBS, with IDDS support.

COVID-19 Diagnostics:

- IDDS sponsored the development of a new epidemiological surveillance module for the LIMS at INSP. The module captures COVID-19 surveillance data, as well as data for other priority diseases, and is interoperable with DHIS2. The module will improve data sharing between laboratories and surveillance systems, improve data quality, and support data-informed decision making at the national level. Additionally, IDDS supported training on the use of this new epidemiological surveillance module for three key staff (one female) at the INSP and one additional consultant hired by IDDS to help roll out further training sessions, which are planned for FY 2022 Q4.
- IDDS provided logistics support and technical assistance to the *Direction Générale de la Santé et de l'Hygiène Publique* (General Directorate of Health and Public Hygiene) to hold a four-day workshop on harmonization of COVID-19 data from national, subnational, and facility databases. Participants reviewed, harmonized, and updated 10 data sets from facility, subnational, and national levels.

Problems Encountered and Solutions

Problem	Resolution	Status
Kadiolo and Kati health districts experienced a decreasing completeness rate for daily SMS reporting.	IDDS used the supervision visit as an opportunity to solve the low rate of daily SMS reporting issue in Kadiolo health district. The team decided to change the sim card of the district surveillance officer and to strengthen feedback to community health workers about missing and received SMS.	Addressed (for Kadiolo health district) and in progress (for Kati health district)

Lessons Learned

- None to report.

FY 2022 Q3 Output Results

129

People trained

Community Based Surveillance (125)
Electronic Reporting Systems (4)

86

Supportive supervision visits

Equipment Maintenance (3)
Electronic Reporting Systems (83)

4

TWG meetings held

COVID-19 surveillance data harmonization (1)
Commodity management (1)
One Health coordination & laboratory partner mapping (1)
Coordination of laboratory system strengthening (1)

PHILIPPINES

Quarterly Highlights

COVID-19 Diagnostics:

- To support efforts to increase access to COVID-19 testing, IDDS delivered 47,720 rapid antigen test kits to Palawan province, 4,660 pieces of PPE to Isabela and Palawan provinces, and 50 specimen transport boxes to Cavite province. Procurement of the rapid antigen tests were funded with the ARP Act's Rapid Response Funds.
- IDDS transported 3,506 specimens from 39 collection sites in the 6 IDDS-supported provinces (Bulacan, Cavite, Isabela, Laguna, Palawan, and Rizal) to testing sites for RT-PCR testing. IDDS also transported 213 specimens from 4 collection sites in 3 IDDS-supported provinces (Bulacan, Palawan, and Rizal) to the national capital region for genomic sequencing. Additionally, IDDS mobile swabbers placed in 5 of the IDDS-supported provinces collected 1,707 specimens for PCR testing and rapid antigen testing.
- IDDS organized several training sessions in Palawan province during this reporting period. IDDS held a qualitative respirator fit test training for 16 participants (11 female) on June 21, 2022. In addition, IDDS organized a ToT on specimen collection, handling, packaging, and transport on June 22, 2022. All 22 participants (17 female) passed the training and were certified as trainers. The newly certified trainers cascaded additional specimen collection and transport training out to 39 health care workers (all female) over two training sessions on June 23 and 24, 2022.

Problems Encountered and Solutions

Problem	Resolution	Status
IDDS activities on specimen transport and mobile swabbing remain operational and uninterrupted in all sites. However, the recent national election in May 2022 may cause some challenges as new local government officials become acclimated to their roles. This change in Local Government Units may result in shifting priorities away from public health.	As a contingency measure, IDDS worked with the Centers for Health Development to certify trainers by conducting a ToT on COVID-19 specimen collection, handling, packaging, and transport to ensure that the sites have an increased pool of trainers to address possible staff turnover. The IDDS team is in constant coordination with the Local Government Units and is making continuous efforts on advocacy to ensure that the COVID-19 response remains a priority.	In progress (IDDS will continue to monitor the situation)

Lessons Learned

- None to report.

FY 2022 Q3 Result

SENEGAL

Quarterly Highlights

Success Story:

Boosting Bacteriology Capacity in Senegal (See Annex B for full story)

Diagnostic Highlights:

- The two new IDDS-supported diagnostic facilities adapted the national SOPs for AMR detection and surveillance and developed their Manual of SOPs. Established SOPs ensure everyone performs the tests exactly the same way so that the same result can be expected from all staff. Also, this was possible because IDDS provided technical assistance to the MoH to develop the National SOPs.
- Staff from all nine supported facilities trained on AMR detection and surveillance. Reinforcement of human resources is fundamental for AMR surveillance. This training will allow facilities to have enough staff trained to perform bacteriology testing, including AST.

Surveillance Highlights:

- IDDS with the MoH provided supportive supervision to surveillance officers of the three health districts of Kédougou to assess how they are implementing data quality reviews on DHIS2. This activity was a follow-on to a training on data quality that IDDS conducted in Q2. This supervisory visit allowed IDDS to know how surveillance officers are applying lessons learned during the session in their daily activities. Since the training, the surveillance officers have started assessing and cleaning the data prior to the weekly submissions.

Problems Encountered and Solutions

Problem	Resolution	Status
The training session of health district on DHIS2 quality modules was cancelled.	This was resolved by the government; however, the team did engage with the medical regions to resume the activity.	Addressed (Tambacounda session was held; IDDS anticipates completion of this activity in FY 2022 Q4)

Lessons Learned

- Engagement with medical regions is fundamental for the field implementation of activities. Given the number of implementing partners, it is a best practice to closely work with the Chief Medical Officers to schedule activities.
- Facilitators for the SOPs adaptation workshop were engaged at the previous IDDS-supported sites that were involved in the development of these SOPs in FY 2021. They were able to share their experiences with the two newly enrolled sites, including evidence-based practices and lessons learned on how useful these SOPs were in the previous sites and how it facilitates and standardizes their testing.

FY 2022 Q3 Output Results

57

People trained

Testing (18)
Electronic Reporting Systems (39)

54

SOP, plans and guidelines developed

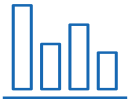
Testing

3

Supportive supervision visits

Data quality

1



Assessments completed

Testing (AMR diagnostic and reporting capacity)

TANZANIA

Quarterly Highlights

COVID-19 Diagnostics:

- IDDS collaborated with the NPHL and Sokoine University of Agriculture to provide advanced and refresher training on PCR COVID-19 testing for 21 laboratory technicians representing the NPHL and 7 decentralized testing laboratories. The training covered an overview of COVID-19 and PCR testing, laboratory safety and standard precautions, specimen management, QA on PCR testing, transportation and packaging of infectious substances, waste management, pipetting techniques, and decontamination and sterilization.

Surveillance Highlights:

- In FY 2022 Q2, IDDS visited two veterinary AMR surveillance sites (Dodoma and Iringa veterinary laboratories) to carry out an assessment using FAO-ATLASS. In FY 2022 Q3, IDDS completed the assessment by analyzing the data (using FAO's updated tool) on laboratory and surveillance capacity, equipment and supply needs, personnel capacity, and training needs. While IDDS previously focused support on detection and surveillance of AMR in the human health sector, this assessment enables IDDS to incorporate a One Health approach into the GHS activities it supports in Tanzania, linking GHS and AMR strategies with animal, environment, and human health sectors and the respective determinants in a holistic manner.

Problems Encountered and Solutions

Problem	Resolution	Status
IDDS experienced a delay in writing the veterinary laboratory AMR surveillance capacity report. Following the on-site assessment, IDDS learned that FAO intended to make some revisions to FAO-ATLASS, which would affect the analysis of the data collected on site and scoring of the assessment.	IDDS remained in close communication with FAO and resumed data analysis and report writing as soon as the updated tool was available. The final report is currently in editorial review at IDDS HQ prior to submission as a key deliverable.	Addressed

Lessons Learned

- Data review workshops and mentorships address quality of data reported from subnational levels when staff capacity is inadequate.

FY 2022 Q3 Output Results

21

People trained

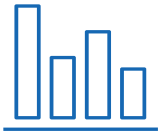
Testing for COVID-19

4

Supportive supervision visits

Data quality
&
Data analysis and use

1



Assessments completed

Testing (AMR diagnostic & surveillance capacity of 2 veterinary labs)

8

Persons mentored

Data analysis and use
&
AMR specimen collection

UGANDA

Quarterly Highlights

Success Stories:

- IDDS Supports Statistical Process Control Training for Laboratory Staff in Uganda (See Annex B for full story)
- Harnessing the Power of Animal Health Data to Detect Outbreaks in Uganda (See Annex B for full story)

Diagnostic Highlights:

- IDDS trained 11 quality managers (3 female) in statistical process control. The training improved knowledge and skills in quality managers to address method verification, validation, and measurement uncertainty requirements. Participant demonstrated considerable gains in knowledge with average test scores improving from 45 percent before training to 70 percent after training.
- IDDS conducted a fourth QMS-related on-site mentorship focusing on process requirements of the ISO 17025:2017. IDDS established documented evidence on-site to fulfill requirements of the ISO 17025:2017 requirements of clause 7. A total of 18 people (4 female) were mentored across the four IDDS-supported veterinary laboratories.

Surveillance Highlights:

- IDDS conducted a ToT for nine MAAIF staff (two female) on the analysis and mapping of animal surveillance data. The effort to establish a pool of national trainers will cascade skills in data analysis to other ministry and district staff.

- IDDS trained 15 district veterinary staff (5 female) in data analysis and routine data quality assessment, building sub-national level capacity in the districts of Gulu, Mbale, Mbarara, and Moroto to analyze and use surveillance data in decision making.

Problems Encountered and Solutions

Problem	Resolution	Status
Some district staff had very limited computer skills.	Facilitators provided one-on-one coaching for the slow adopters.	Addressed

Lessons Learned

- During the last quarter, the use of QMS subject experts as trainers leveraged under the One Health implementing modality is a key enabling factor to foster growth of new QMSs in laboratories.

FY 2022 Q3 Output Results

35

People trained

QMS and equipment maintenance (11)
Data analysis & use and data quality (24)

1

TWG meetings held

Electronic Reporting Systems

1

Pilots conducted

Electronic Reporting Systems

18

Persons mentored

QMS and equipment maintenance

VIETNAM

Quarterly Highlights

Diagnostic Highlights:

- IDDS contracted a local logistics company, Nhat Tin Logistics, which will provide specialized specimen transport services for all three provinces for the SRS pilot. The establishment of a contract with the company that has a nationwide transport network is a key milestone in the development of the specimen transport system and will play an important part in contributing to success of the pilot.

Surveillance Highlights:

- IDDS provided technical support to provincial sub-departments of animal health in Binh Dinh, Cantho, Dong Thap, Khanh Hoa, and Thai Nguyen provinces to increase the use of VAHIS. IDDS advocated to extend the use of VAHIS to district and commune levels to ensure timely reporting of animal disease data. Through the needs assessment, all five provinces indicated the VAHIS use should be extended to the district level. The provinces also identified potential districts for the VAHIS pilot implementation.

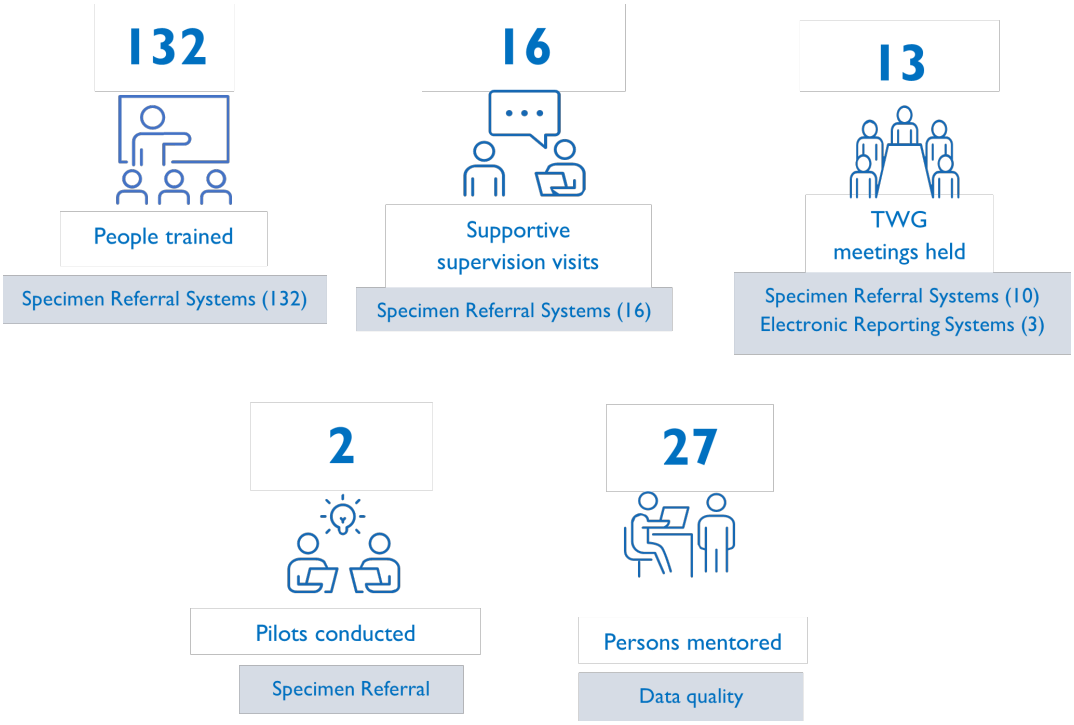
Problems Encountered and Solutions

Problem	Resolution	Status
The human health sector in Vietnam is in a period of political turmoil as more than 20 leadership members of the MoH, provincial departments of health, and PCDCs were subject to disciplinary and/or legal actions. Since the scandals, it has been difficult to engage IDDS focal points in the PCDCs and as such obtaining appropriate permissions and agreement on implementation approaches is taking much longer. It has also been particularly challenging to engage with national and provincial government partners about new or expanded activities, such as systems/tools piloting and financial schemes.	IDDS will continue monitor the situation and re-double efforts to engage with the relevant partners about pilots and financial schemes when stability in the human health agencies is restored.	In progress

Lessons Learned

- None to report.

FY 2022 Q3 Output Results



TB FY 2022 Q3 Achievements

CORE TB

The Core TB expansion work plan was submitted to USAID on March 15, 2022, and approval was received on April 8, 2022

Quarterly Highlights

Diagnostic Highlights:

- IDDS provided in-person Truenat super-user training in four countries (Uganda, DRC, Cambodia, and Kenya (2 clusters)) for a total of 83 participants (20 female). Super-users will support Truenat implementation by providing mentorship, troubleshooting support, and supervision to sites in each country to help ensure successful and sustainable implementation.
- IDDS has 11 abstracts and 1 Truenat symposium proposal (in collaboration with Stop TB Partnership) accepted at the 2022 Union World Conference on Lung Health scheduled for FY 2023 Q1, which will disseminate best practices and lessons learned from IDDS-supported activities to target audiences.
- IDDS translated and posted to the IDDS YouTube channel, videos developed by IDDS staff in Burma on the use of the GX instrument and guidance on taking CXRs. Using voice-overs, the GX videos are available in English and the CXR videos are available in English and French.
- In Malawi, IDDS conducted a diagnostic algorithm revision workshop on June 20 and 21 with 17 participants from the National Tuberculosis and Leprosy Elimination Program, the NTRL, and the local organization network partners (Partners in Hope and Development Aid from People to People) in Lilongwe. The draft of the revised TB diagnostic algorithm was shared with all participants for feedback. Once finalized, the revised diagnostic algorithm will incorporate use of the newer Xpert XDR cartridges in GX instruments and other new diagnostic technologies to enable testing for isoniazid and fluoroquinolone resistance and expand DR-TB testing in the country to allow detection of patients with pre-XDR TB.
- IDDS provided a remote training in DRC to staff at pediatric referral hospitals to introduce stool-based diagnosis of TB among children. Among the first seven samples tested using stool, one positive case was detected, which reinforced for the hospital staff the viability and importance of the technique.

Problems Encountered and Solutions

Problem	Resolution	Status
End users at Truenat laboratories had difficulty reporting EQA results.	IDDS collaborated with SmartSpot to produce short training video clips that can be shared via WhatsApp and provided EQA reporting training to super-users, so they can support the laboratories with reporting results.	Addressed (the percentage of laboratories successfully reporting EQA results in Cambodia and DRC has increased from the pilot EQA cycle in Zimbabwe)
LNSAs have shifting parameters and requests over the course of the analysis, adding time and effort to the process.	IDDS developed a template for a LNSA scope of work similar to the scope of work for the DNA which defines the questions, necessary data sources and estimated delivery timeline. As changes are made, the scope can be adjusted along with expectations for completion date.	In progress (scopes of work for the LNSAs in Uganda and Zimbabwe are being drafted and the upcoming Malawi analysis will also include a scope of work)
Political considerations in Pakistan limit the ability of directly employed IDDS staff to travel to the country for implementation activities.	Through consortium members, IDDS identified consultants who will support on-the-ground activities and IDDS contracted with the Supranational TB Reference Laboratory (SRL) in Milan to provide technical assistance.	Addressed (roles and responsibilities of all implementers have been confirmed, enabling activities to kick off)

Lessons Learned

- Short training video clips that can be shared via WhatsApp and EQA training to ministry of health staff, including district level, can support the laboratories in reporting EQA results and improve the ability of Truenat laboratories to successfully report results.
- As Truenat is a new rapid molecular diagnostic tool being implemented at the peripheral level for the first time and many of the implementing sites have minimal experience with molecular diagnostics, a trained cadre of super-users is essential to introduce quality systems, such as internal quality control, strengthen biosafety practices, and extend good laboratory practices to Truenat laboratories. IDDS will apply these lessons to other new tools including diagnostic connectivity products and diagnostic platforms.
- Hybrid training models, such as that used for the SOS stool processing method in which an expert trainer provides content remotely with an on-site mentor, can provide high-quality content with hands-on training.

FY 2022 Q3 Output Results

339

People trained

New Diagnostic Tools, Truenat (328)
Pediatric TB testing (11)

3

SOP, plans and guidelines developed

Pediatric TV diagnosis (1)
Truenat implementation (1)
Radiography (1)

BANGLADESH

Quarterly Highlights

Success Story:

Bangladesh Rolls Out New TB Testing Technology (See Annex B for full story)

Diagnostic Highlights:

- IDDS conducted training on EPTB and stool testing for laboratory staff, including microbiologists and medical technologists, at the RTRL in Khulna. The training was followed by a workshop to increase the detection of EPTB and pediatric TB. The training was designed to build capacity of the RTRL staff in stool specimen testing. Clinicians from public and private hospitals and NGO implementing partners participated in the workshop. Their support is critical for collection and referral of EPTB and stool specimens to the RTRL for testing. With enhanced capacity of the RTRL staff and support from local implementation partners, these activities will contribute to increasing detection of EPTB and pediatric TB in Khulna.
- IDDS conducted training on phenotypic culture and DST at the NTRL in May 2022. Microbiologists from the NTRL and all five RTRLs participated in and successfully completed the training. This training contributed to filling a critical skill gap for the NTRL and RTRLs to perform quality-assured phenotypic culture and DST for TB drugs. The laboratory staff are now able to perform these tests for routine monitoring of DR-TB patients for first and second-line TB drugs, including newly introduced drugs, such as bedaquiline and delamanid, which will ultimately enable clinicians to provide patients with the correct treatment regimen.
- IDDS organized the ToT on Truenat testing for microbiologists and doctors from the NTP, the NTRL, the Shyamoli RTRL, and for NGO implementing partners. These staff, who are certified as trainers, can train the field-level laboratory staff on Truenat testing and its programmatic components, including specimen collection, recording and reporting, and supply management. The trainers will be a key resource for the NTP to meet its future training needs for implementation and expansion of Truenat in Bangladesh.

Problems Encountered and Solutions

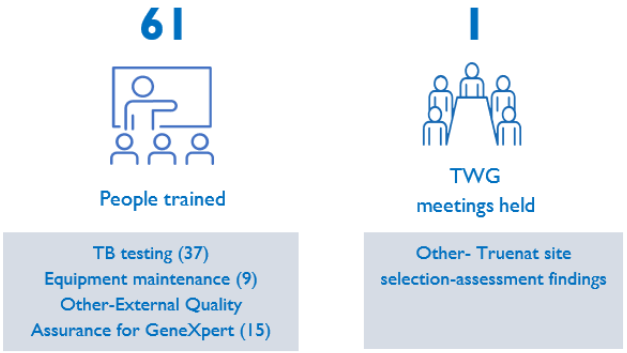
Problem	Resolution	Status
Bangladesh saw an increase in COVID-19 infection during this reporting period. Staff members from the NTP, as well as IDDS, were infected with COVID-19, which caused delays in organizing training and workshops.	IDDS continued to closely coordinate with the NTP to implement activities to the extent possible.	In progress
Supply shortage of reagents impacted diagnostic functions at the NTRL and RTRLs.	As a result of continuous follow-ups from IDDS, the NTP placed an order for reagents, which are expected to be delivered in July 2022.	In progress

Problem	Resolution	Status
There is a procedural delay on the NTP's side in the distribution of Truenat instruments to the sites.	IDDS received an approval from the NTP to complete refurbishment work to make the sites ready for installation of Truenat. The NTP informed IDDS that it will approve distribution of Truenat when the refurbishment is completed.	In progress

Lessons Learned

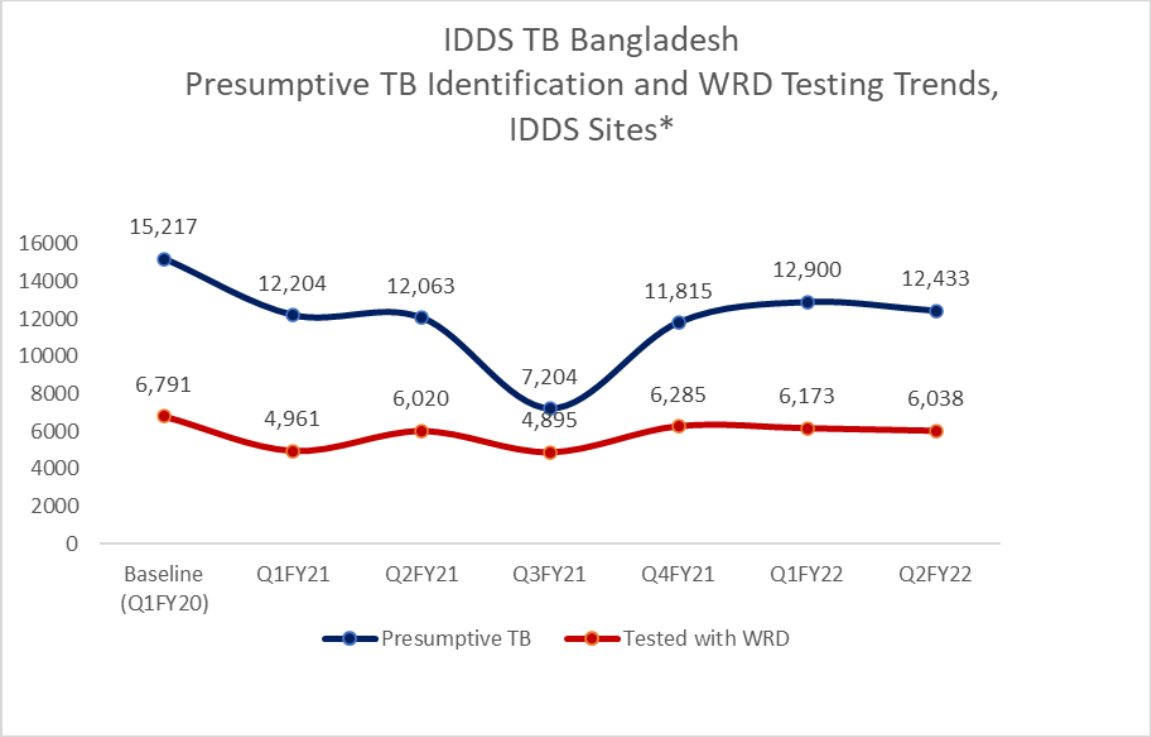
- The customs clearance process with the NTP is extremely arduous. To facilitate clearing shipments through customs, IDDS staff should be more vigilant to ensure accuracy of all information in shipping documents and involve NTP staff at all steps during the process to address any unforeseen problems.

FY 2022 Q3 Output Results

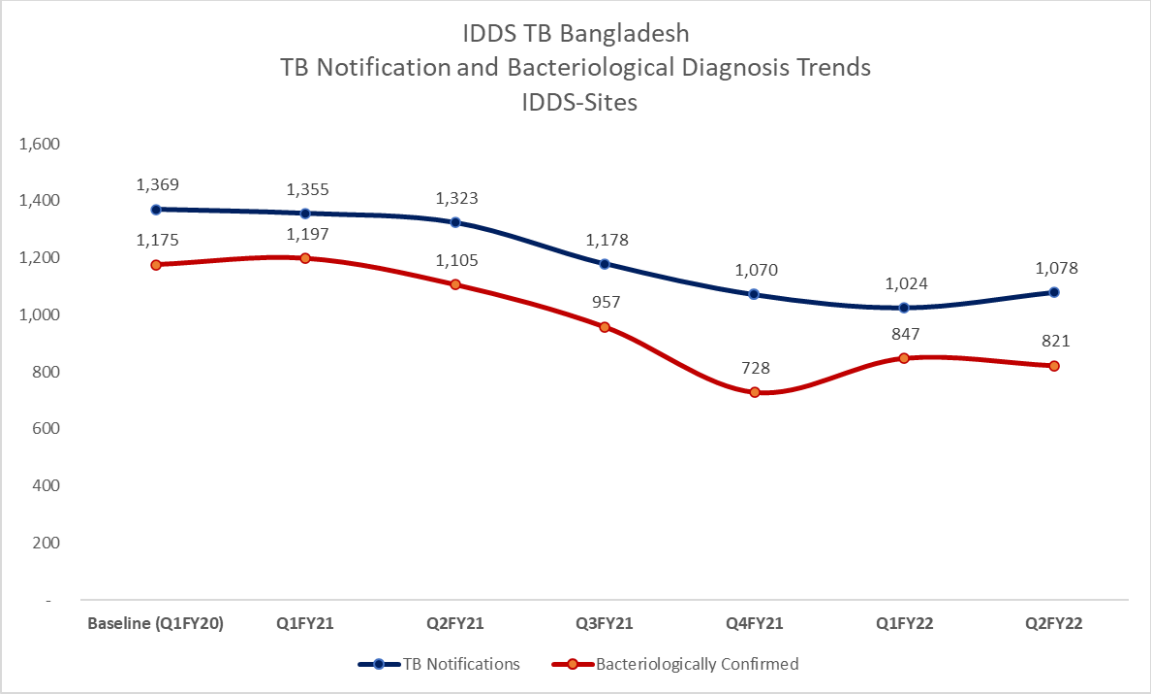


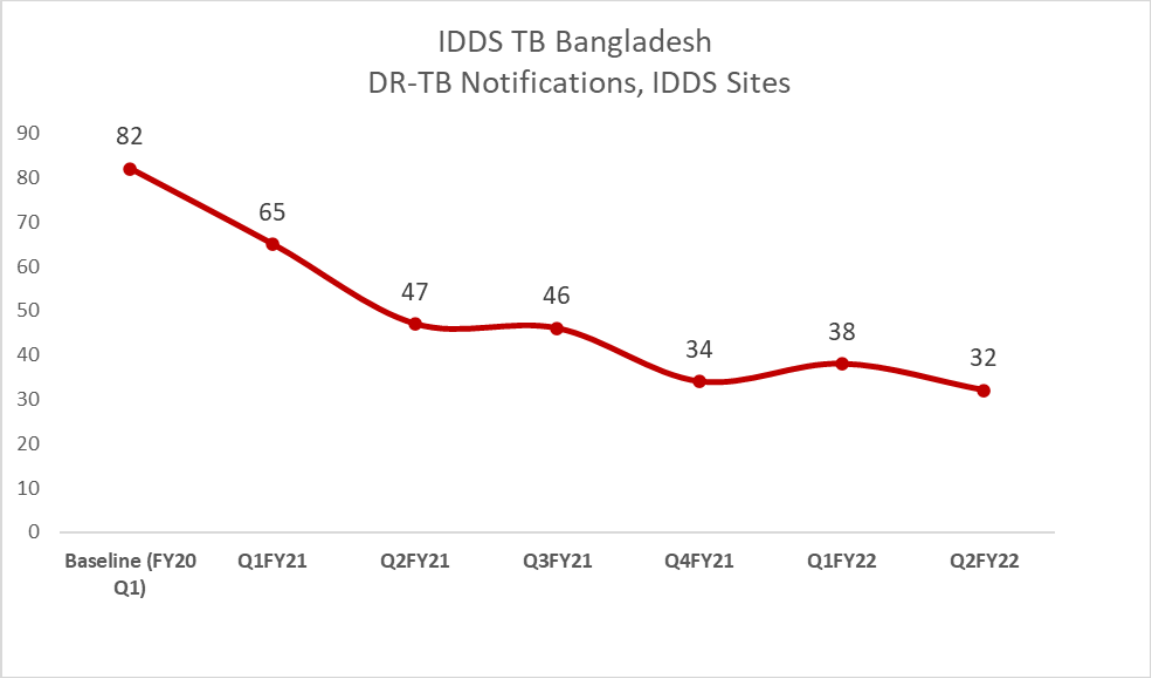
FY 2022 Q3 Outcome Results

- Outcome results presented here are up to FY 2022 Q2, as most TB outcome data are not available until next quarter.



*IDDS sites in Bangladesh include one national and three regional referral hospitals




IDDS TB Bangladesh
DR-TB Notifications, IDDS Sites
90
80
70
60
50
40
30
20
10
0
82
65
47
46
34
38
32
Baseline (FY20 Q1)
Q1FY21
Q2FY21
Q3FY21
Q4FY21
Q1FY22
Q2FY22

BURMA

An amended work plan extending the period of performance to February 2023 and revising activities was submitted to USAID on May 17, 2022.

Quarterly Highlights

Diagnostic Highlights:

- IDDS conducted public-sector engagement to ensure access to essential TB services by community members. IDDS successfully advocated the NTP and NTRL to accept IDDS's technical assistance in GX MTB/XDR testing in the public sector and setting up GX networks in the private sector (i.e., deployment of GX 10-color machines in private hospitals). Since the accessibility to this molecular WHO-recommended rapid diagnostic test is critical for DR-TB detection, NTP and NTRL support will ensure equitable and quality diagnosis for different population segments.
- IDDS explored sustainable options to ensure a specimen transport mechanism to strengthen coverage of private-sector diagnostic networks. IDDS received interest and commitment from private-sector delivery services. Engagement in TB control by private-sector partners from the for-profit sector is limited, especially within TB diagnostic services. Because of IDDS, private hospitals without GX capacity will be linked with private delivery services to ensure timely and quality sputum delivery services.
- IDDS coordinated efforts with the public sector and private sector. IDDS received commitment from the Myanmar Private Hospital Association to establish a private sector GX network and from TB implementing partners to introduce new tools for TB diagnosis.

Problems Encountered and Solutions

Problem	Resolution	Status
Some IDDS activities were negatively impacted and delayed due to strict rules and coordination policies imposed by the central level. There are still persistent challenges in coordination with the NTP, the NTRL, and partner organizations, on development and approval of implementation plans due to unpredictable changes in policy and programmatic limitations. A shift in power balance within the NTP and a hostile situation within the MoH affected IDDS's technical assistance process in both public- and private-sector TB diagnostic services.	IDDS will take initiative with the NTP in July 2022 to ensure that approval of project activities is successfully carried out. IDDS is taking careful steps in each technical assistance activity since most of the TB field activities in country (by several NGOs and INGOs) were requested to stop. Comprehensive support from the technical and program backstop is needed to ensure quality and sustainability of continued technical assistance for essential TB diagnostic services. For some technical assistance that was requested to be temporarily postponed by the NTP, IDDS will revisit and explore possible solutions when the situation allows.	In progress
Beginning in April 2022, IDDS encountered unexpected delays in procurement due to a policy change notice from the Central Bank of Myanmar to control foreign currency.	IDDS discussed how to overcome this challenge with suppliers while maintaining a high level of compliance and emphasizing the project timeline. IDDS is working to secure the foreign currency transactions.	In progress

Lessons Learned

- Despite limitations and drawbacks in implementing each project activity due to nationwide political, organizational, and governmental challenges, IDDS kept collaborating with technical and implementing partners to hold consecutive meetings focused on training, implementation plan development, and site visit assessments within allowed job scopes. This, in turn, will keep the project on track to continue implementation when the situation in Burma becomes stable.
- When there were uncontrollable policy changes made by the Central Bank of Myanmar, IDDS adapted to changes and continued close coordination with external stakeholders to overcome the challenges posed on financial transactions, smooth procurement processes, and meet the project deadlines. Additionally, when there were bottlenecks in coordination and implementing project activities in the public sector, IDDS explored other possible options, focusing on the private sectors such as private delivery services and private hospitals.

FY 2022 Q3 Output Results

- None to report.

FY 2022 Q3 Outcome Results

Burma outcome indicator results are reported on an annual basis from the WHO source in country.

CAMBODIA

Quarterly Highlights

Diagnostic Highlights:

- IDDS conducted training on proper use of DTC for staff from CENAT and Community Mobilization Initiatives to End Tuberculosis (COMMIT) and laboratory technicians from all COMMIT-supported operational districts (ODs) in April 2022 who will serve as DTC data managers. The provincial TB advisors, OD TB supervisors, and referral hospital directors also attended the training. In addition, IDDS organized the training for DTC super-users on DTC software installation, troubleshooting, and end-user training. After the training sessions, DTC software was successfully installed and connected to GX machines at all 10 GX sites in COMMIT's ODs. The administrators at CENAT and data managers are now able to access TB diagnostic data and instrument functionality information online in real time. This enables CENAT staff to monitor and analyze routine results and standard performance quality indicators at all levels. The DTC connectivity will improve the capacity of not only national but also provincial leaders to generate and use the collected data to monitor and respond to real-time TB diagnosis trends in Cambodia. With the initial success of the pilot, CENAT already indicated to IDDS the desire to expand DTC connectivity to all GX sites.
- IDDS organized the training for 14 health centers that are involved in Truenat operational research. Following the training completion, the Truenat operational research implementation started in May 2022. Introduction of Truenat in Cambodia means that a new WHO-recommended rapid diagnostic test of TB is available in Cambodia to improve TB diagnosis. The 14 Truenat instruments are being used as a primary test for MTB complex and RIF resistance at the peripheral level. The increased access to TB diagnosis not only results in increasing TB case finding at remote health facilities but also reducing turnaround time for diagnostic results.
- IDDS conducted Truenat super-user training in June 2022 to create a cadre of Truenat super-users. These super-users are already making contributions to the ongoing Truenat operational research and pilot by troubleshooting issues and providing technical support and mentorship to Truenat implementation sites. Super-users will continue to ensure laboratory staff at the implementation sites are demonstrating competency and confidence in the use of Truenat MTB Plus and Truenat MTB/RIF Dx assays. These super-users will be an asset to CENAT for future expansion of Truenat across Cambodia.

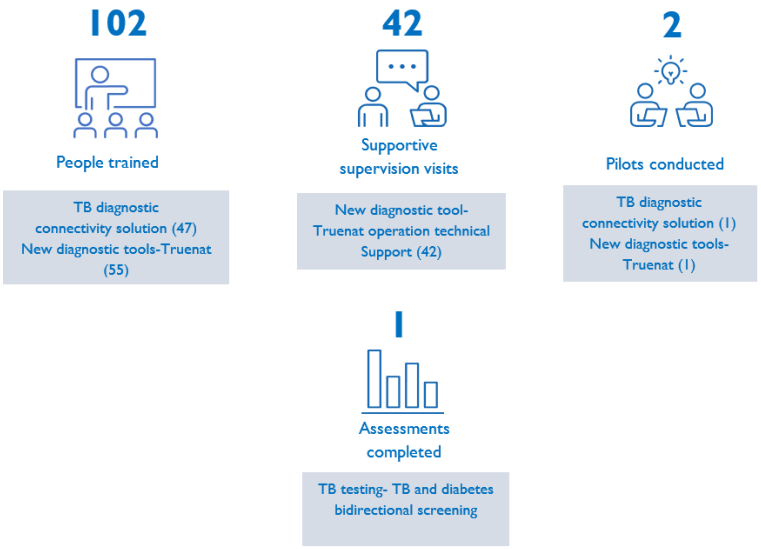
Problems Encountered and Solutions

Problem	Resolution	Status
None to report.		

Lessons Learned

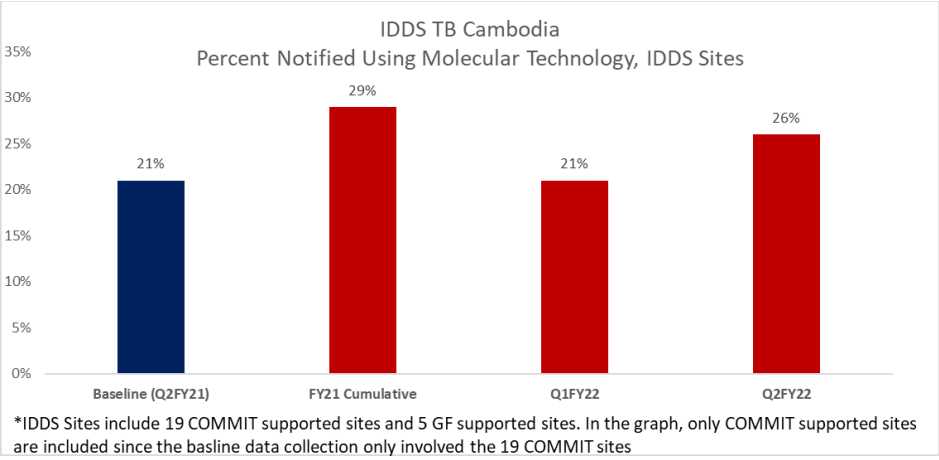
- It is important to plan for obtaining buy-in from the government when it comes to introducing new innovative technologies for TB case finding and management. It took a lot of time and effort for IDDS to get an approval and reach the agreement with CENAT for activities to introduce and pilot DataToCare and Truenat. However, IDDS continuously followed up and had a series of discussions with CENAT, and as a result, IDDS was able to build a good working relationship with the program, obtain approval for piloting these technologies, and reach an agreement to possibly scale up the connectivity to all existing GX sites.

FY 2022 Q3 Output Results



FY 2022 Q3 Outcome Results

- Outcome results presented here are up to FY 2022 Q2 as most TB outcome data are not available until next quarter.



DEMOCRATIC REPUBLIC OF THE CONGO

Quarterly Highlights

Success Story:

Super Users Overcome Challenges to Truenat Rollout in the DRC (See Annex B for full story)

Diagnostic Highlights:

- To address the gaps in biosafety and equipment maintenance, IDDS, in partnership with the NTRL developed a training plan that was implemented during this quarter. IDDS trained two NTRL staff in equipment maintenance. This will ensure that the staff working at the NTRL are well equipped to perform regular preventative maintenance of the laboratory equipment and thereby minimize the risk of infections and specimen contamination.
- IDDS provided financial and logistical support to the NRL to procure compatible computers, printers, and code bar readers to complete the installation of the LMIS platform at the NRL. IDDS had planned to introduce the LMIS to the NTRL earlier this year. However, the process, which had already started with the support of the SRL for Tuberculosis in Cotonou, was suspended because of the incompatibility of the laboratory's computers with the eLMIS platform. With the installation of the newly procured computers, IDDS expects the LMIS to be fully functional.
- With the introduction and implementation of the new tools and the WHO new guidelines, it was important to revise and update the DRC TB diagnostic network guide. IDDS provided the necessary technical support to ensure that the guide was accurately updated.

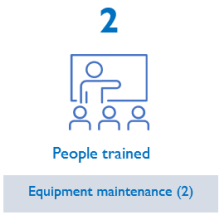
Problems Encountered and Solutions

Problem	Resolution	Status
None to report.		

Lessons Learned

- None to report.

FY 2022 Q3 Output Results



FY 2022 Q3 Outcome Results

- IDDS DRC started its implementation in FY 2022 Q3 and since outcome data are not available until the following quarter, the outcome results for Q3 will be reported in FY 2022 Q4.

INDIA

Quarterly Highlights

Success Stories:

- IDDS Finalizes Supervisory Package for Monitoring TB Laboratories in India (See Annex B for full story)
- IDDS Launches Pilot "One-stop" Model to Improve TB Diagnostic Services in India (See Annex B for full story)
- IDDS Convenes Experts to Draft National Action Plan on Antimicrobial Resistance for the Human Health Sector (See Annex B for full story)

Diagnostic Highlights:

- IDDS revised the supervisory, monitoring, and evaluation package, finalized and introduced by the Central TB Division (CTD) to the NRLs and the IRLs for implementation. Formal introduction of the revised supervisory package to NRLs and IRLs will help in comprehensive, effective, and impactful supervision of the TB diagnostic network, and to identify gaps and challenges.
- IDDS developed the grading tool and piloted and collected key information using the tool to support CTD in ranking of the NRLs and IRLs. This will help CTD in assessing NRLs and IRLs' performance and provide feedback on potential areas of improvement and create a healthy competition for improvement.
- IDDS launched the "One-Stop TB/DR-TB Diagnostic Solution model" in Hisar district of Haryana state for engagement of private-sector laboratories in NTEP. Implementation of the model is likely to increase the TB case notification under NTEP and provide patients with advanced TB diagnostics results within required timeframes. It will also reduce the turnaround time for TB diagnostics.
- IDDS provided technical and managerial support in organizing the National Experts Consultation for the Human Health component of NAP-AMR 2.0 (2022–2026). The existing NAP-AMR ended in March 2022, and IDDS is supporting the National Center for Disease Control (NCDC) in convening multisectoral stakeholders to develop the second phase of NAP-AMR for subsequent years (2022–2026). It will serve as a national level guideline for containment of AMR in country.

- IDDS completed the root cause analysis of Truenat invalid/indeterminate rates and presented the findings and observations to CTD. This operational research study is expected to help CTD in generating evidence that will support effective utilization of Truenat at NTEP sites.

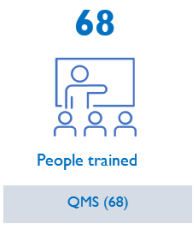
Problems Encountered and Solutions

Problem	Resolution	Status
None to report.		

Lessons Learned

- Involvement of technical experts with relevant experience that is required to give critical inputs in meetings streamlines the process of conducting the activities.

FY 2022 Q3 Output Results



MALAWI

Quarterly Highlights

The Malawi work plan was approved on March 23, 2022, and in FY 2022 Q3 IDDS focused on project start-up activities, including hiring, and onboarding a project team in Malawi. IDDS hired a TB Coordinator, a Diagnostic Specialist, and an M&E Specialist in June 2022.

Diagnostic Highlights:

- A diagnostic algorithm revision workshop was held in June 2022 in Lilongwe, with 17 participants (2 female) from the USAID mission, the NTRL, the NTP, and TB Local Organization Networks partners. The TB diagnostic algorithm is being revised to incorporate new diagnostic technologies including the Xpert XDR cartridge and new guidelines for the diagnosis of DR-TB. The updated diagnostic algorithm will help to strengthen the diagnostic capacity of the country and accelerate the detection of DR-TB.

Problems Encountered and Solutions

Problem	Resolution	Status
Low participation in virtual meetings was noted during the review of the DR-TB algorithm.	Staff resorted to organizing physical meetings instead of virtual meetings.	In progress

Lessons Learned

- None to report.

FY 2022 Q3 Output Results

- No data available yet for Malawi. Baseline data collection is in progress.

TANZANIA

Quarterly Highlights

Diagnostic Highlights:

- IDDS collaborated with the National Tuberculosis and Leprosy Program (NTLP) and the MoH's information technology team to install a server which will house national TB data. In FY 2021, IDDS procured a server, and in FY 2022, IDDS procured some additional accessories and configured and installed the server at the NTLP. At the end of FY 2022 Q3, the server was in place at the NTLP, functional, and ready to house data. In addition to housing national TB data, the in-country server will better accommodate new diagnostic technologies, such as Truenat, through upgrade to Aspect Connectivity, thereby increasing access to molecular diagnostic services. More broadly, the in-country server will foster national data ownership, provide platforms for linking with other information systems and diseases (e.g., HIV), and enhance real-time TB notifications for prompt linkage to treatment services.
- In FY 2021, IDDS conducted a TB DNA. The report was finalized in Q2 of FY 2022. This quarter, IDDS provided logistics and financial support to the NTLP to hold a report dissemination meeting in Morogoro from June 15 to 17, 2022. IDDS printed 40 copies of the report and distributed them to the regional TB coordinators who attended the meeting. The meeting helped sensitize implementing partners to the findings of the assessment which will inform interventions aimed at optimization of the TB diagnostic network.

Problems Encountered and Solutions

Problem	Resolution	Status
None to report.		

Lessons Learned

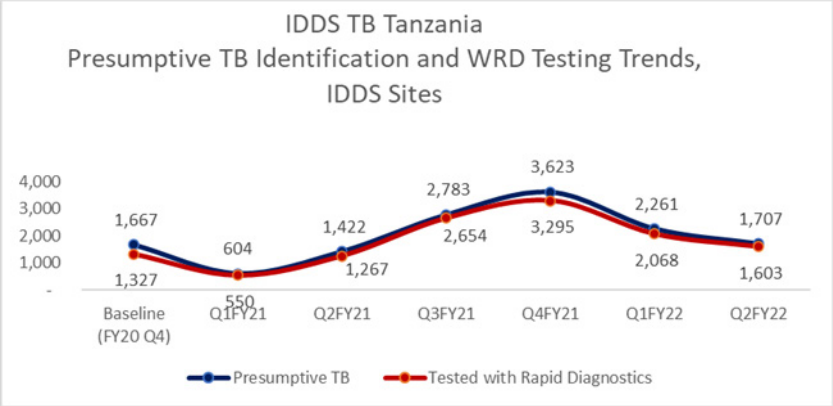
- None to report.

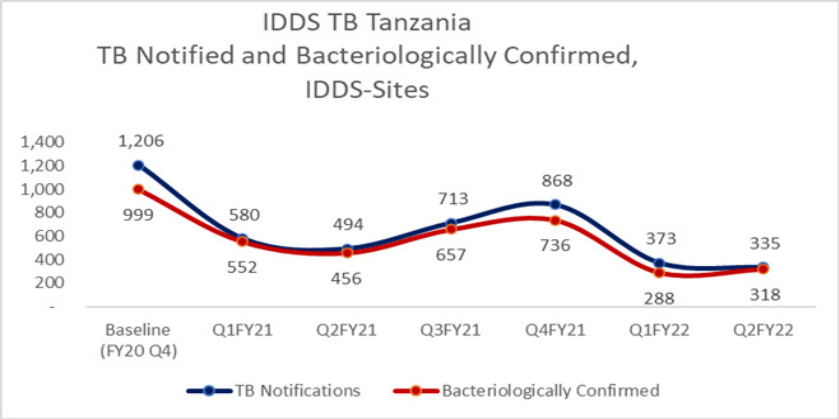
FY 2022 Q3 Output Results

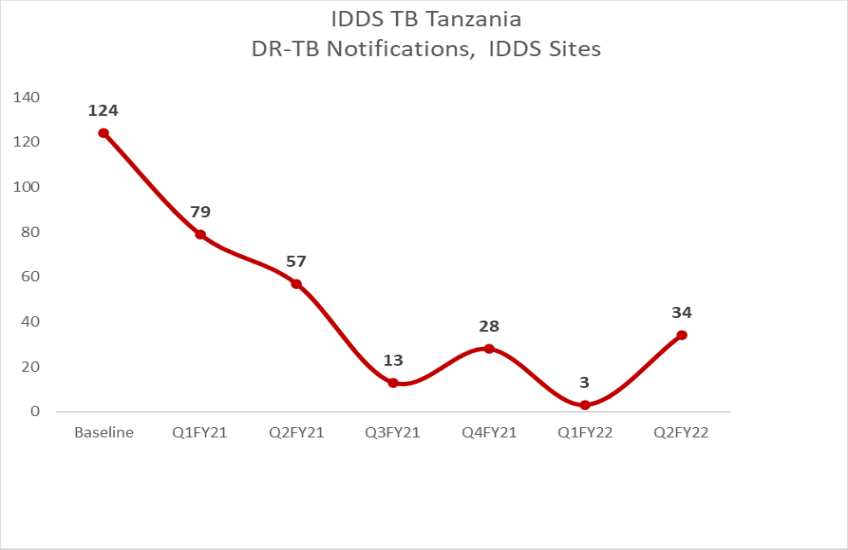
- None to report.

FY 2022 Q3 Outcome Results

Outcome results presented here are up to FY 2022 Q2 as most TB outcome data are not available until next quarter.







*IDDS sites in Tanzania include one NRL and four zonal reference laboratories.

VIETNAM

An amended work plan revising activities and the deliverable schedule was submitted to USAID on May 24, 2022.

Quarterly Highlights

Diagnostic Highlights:

- The pilot of AI-assisted CXR reading is ongoing in Khanh Hoa province. IDDS received positive feedback from hospital managers and clinical doctors at the pilot sites, saying that the quality of result management, as well as the accuracy in screening process, has improved. The activity will continue to support radiologists and clinical doctors to detect more TB presumptive cases through the screening process at health care facilities.
- IDDS presented the analysis of trace results to the NRL and proposed an updated diagnostic algorithm. The NRL and NTP agreed with IDDS' proposal and are working to update the national diagnostic algorithm. The updated algorithm, incorporating trace results in TB diagnosis, is expected to increase TB case detection and help the NTP to follow up with treatment process of patients.
- IDDS completed training on Truenat for all implementation sites, and the instruments will be installed by the end of July. Implementation of Truenat in the TB diagnosis system will contribute to increasing access to TB diagnosis, especially at the peripheral level.

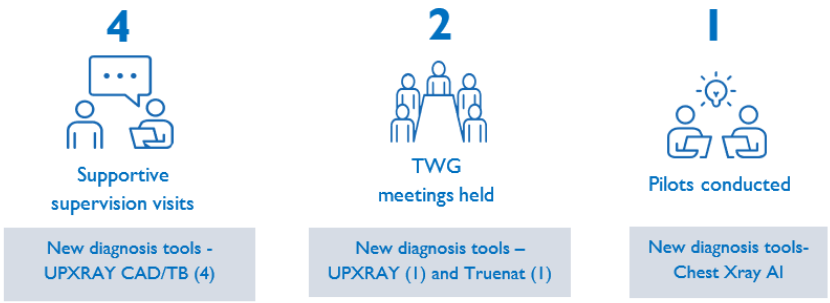
Problems Encountered and Solutions

Problem	Resolution	Status
The NTP did not renew the contract with SystemOne, the provider for the Aspect software and GxAlert for the SRS pilot. With the lack of a software provider, the discussion on this activity was temporarily halted.	IDDS, the NTP, and the NRL discussed alternatives and agreed to explore partnering with Tekmax to use its TB Trans module of TB control system for the SRS pilot. Tekmax agreed to support the pilot. The partnership is pending an official approval from the NTP and NRL.	In progress

Lessons Learned

- Introduction of new innovative technologies, such as Truenat and AI-enabled CXR reading, in Vietnam exemplified the importance of collaboration, coordination, and communication between all actors involved. For Truenat, IDDS worked closely with the NTP, the NRL, Molbio, and Molbio's local agent (Tekmax) to harmonize responsibilities to ensure the distribution and installation of equipment, as well as user training, are completed in a timely manner. For AI-assisted CXR scanning, IDDS has been facilitating communications between the implementation sites and the software manufacturer on a day-to-day basis to ensure the site staff receive prompt guidance from technical experts.

FY 2022 Q3 Output Results



FY 2022 Q3 Outcome Results

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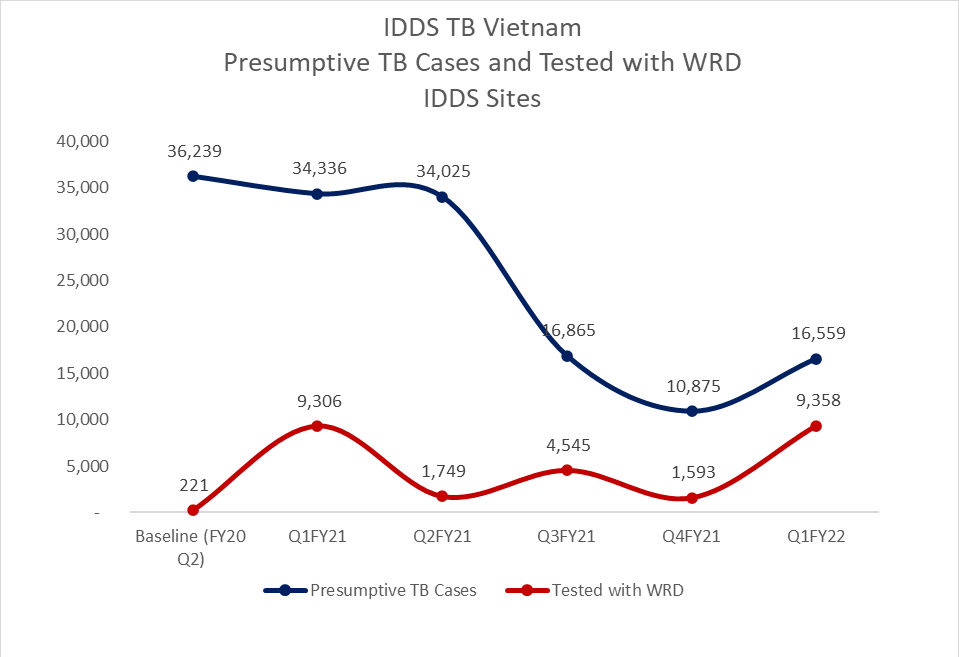
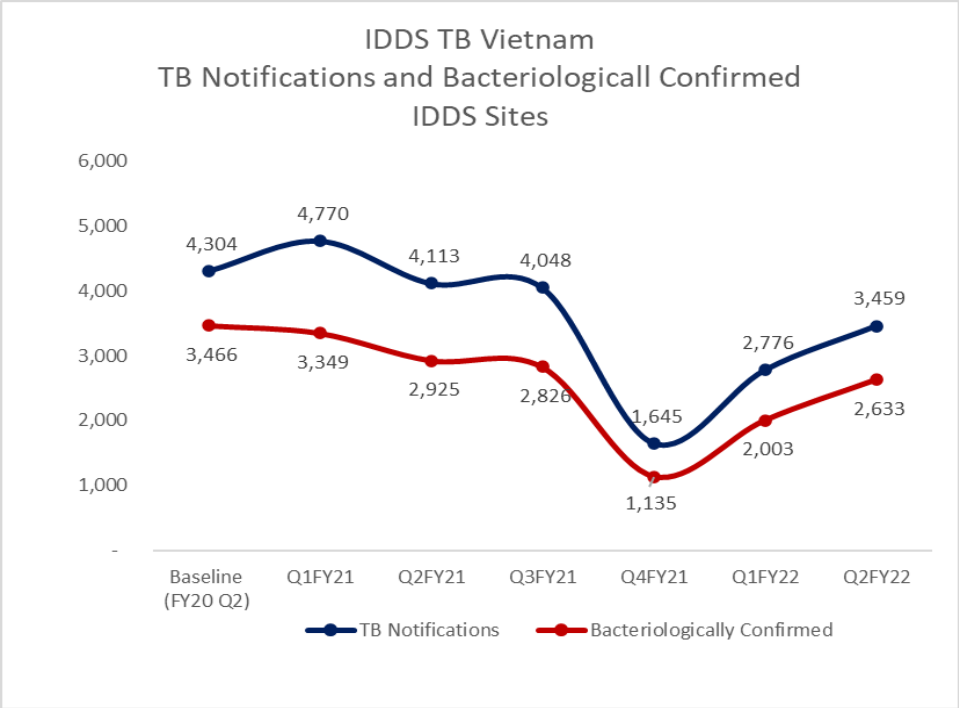
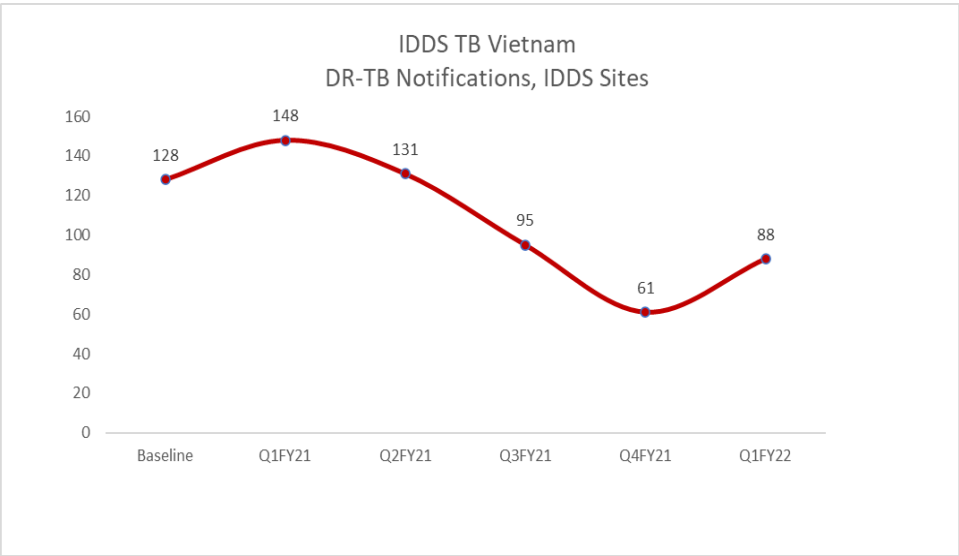






*IDDS sites include laboratories from seven provinces.

ZIMBABWE

An amended work plan extending the period of performance to May 2023 and revising activities was submitted to USAID on May 3, 2022.

Quarterly Highlights

Success Story:

Strengthening Quality TB Testing Through On-site Mentorship (See Annex B for full story)

Diagnostic Highlights:

- IDDS finalized the Zimbabwe TB-HIV PPP Framework, and the framework was reviewed and approved by the Ministry of Health and Child Care. The TB-HIV PPP Framework will provide guidance to stakeholders in the public and private sectors on collaboration to strengthen activities in prevention, diagnosis, and care of TB-HIV patients.
- IDDS provided technical assistance to the Bulawayo NTRL as the laboratory prepared for the assessment by Southern African Development Community Accreditation Service (SADCAS). The laboratory was recommended for ISO 15189:2012 accreditation by the SADCAS. (ISO 15189:2012 can be used by medical laboratories in developing their QMSs and assessing their own competence.) Because of this recommendation, the NTRL has gained confidence that staff are performing their work correctly and to appropriate standards and provides a benchmark for maintaining that competence. In addition, obtaining ISO accreditation commits the NTP to provide financial resources to the NTRL to maintain quality standards.

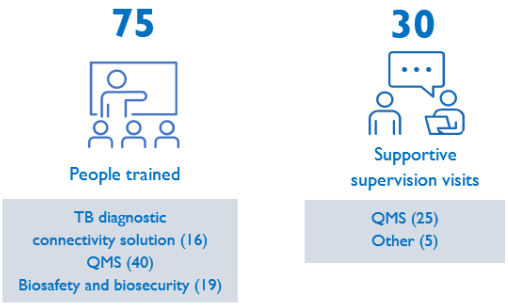
Problems Encountered and Solutions

Problem	Resolution	Status
USAID Mission guidance issued in February 2022 requires all cash payments to the Government of Zimbabwe office to be approved by a waiver from the project's COR. FY 2022 work plan activities had been programmed prior to the guidance.	IDDS has secured approval from the activity manager at USAID Zimbabwe and submitted the waiver request to IDDS COR.	In progress

Lessons Learned

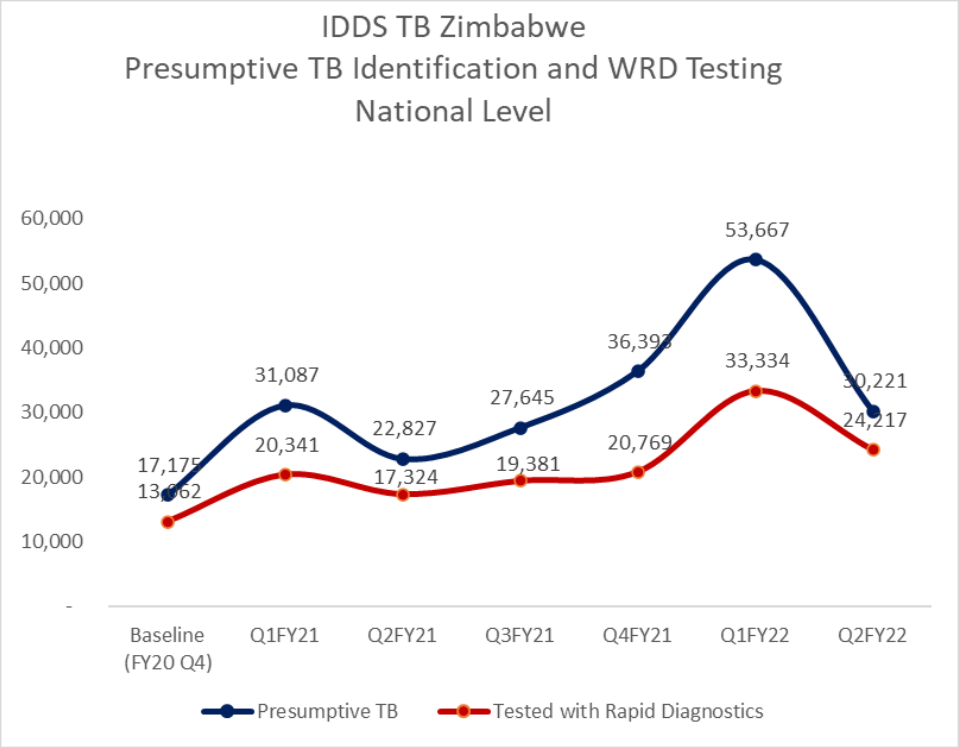
- None to report.

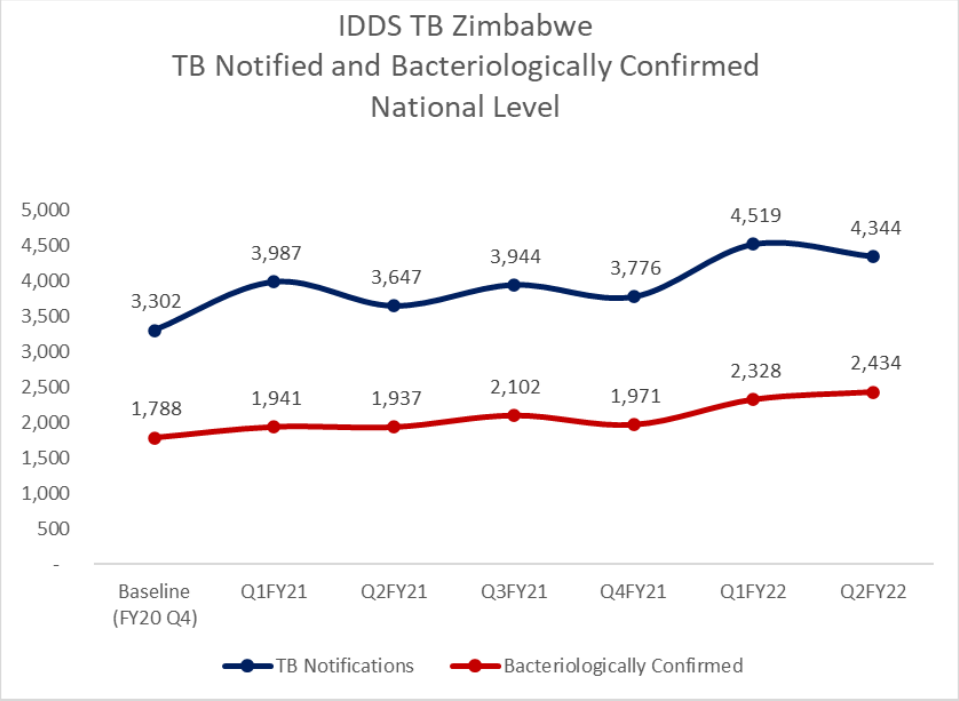
FY 2022 Q3 Output Results

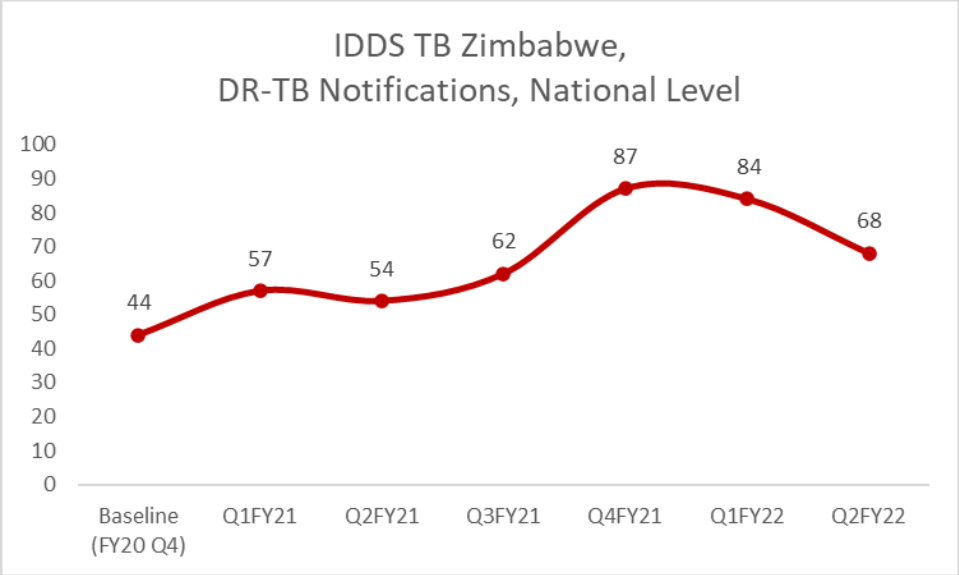


FY 2022 Q3 Outcome Results

Outcome results presented here are up to FY 2022 Q2 as most TB outcome data are not available until next quarter.


IDDS TB Zimbabwe
Presumptive TB Identification and WRD Testing
National Level
60,000
50,000
40,000
30,000
20,000
10,000
-
17,175
31,087
22,827
27,645
36,393
53,667
30,221
13,662
20,341
17,324
19,381
20,769
33,334
24,217
Baseline (FY20 Q4)
Q1FY21
Q2FY21
Q3FY21
Q4FY21
Q1FY22
Q2FY22
Presumptive TB
Tested with Rapid Diagnostics


IDDS TB Zimbabwe
TB Notified and Bacteriologically Confirmed
National Level
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
3,302
3,987
3,647
3,944
3,776
4,519
4,344
1,788
1,941
1,937
2,102
1,971
2,328
2,434
Baseline (FY20 Q4)
Q1FY21
Q2FY21
Q3FY21
Q4FY21
Q1FY22
Q2FY22
TB Notifications
Bacteriologically Confirmed


IDDS TB Zimbabwe,
DR-TB Notifications, National Level
100
90
80
70
60
50
40
30
20
10
0
44
57
54
62
87
84
68
Baseline (FY20 Q4)
Q1FY21
Q2FY21
Q3FY21
Q4FY21
Q1FY22
Q2FY22

PMI Cambodia

The Cambodia U.S. President's Malaria Initiative (PMI) work plan was approved on April 21, 2022. During FY 2022 Q3, IDDS initiated the recruitment of the Malaria Coordinator.

IDDS presented the work plan to Cambodia's National Center for Parasitology, Entomology and Malaria Control (CNM) and the USAID mission in Cambodia on June 13, 2022. At the meeting, IDDS introduced the Malaria DNA and discussed opportunities for integration with the IDDS TB program in Cambodia. In addition, the USAID team provided recommendations on how to strengthen the DNA tool to align with the priority needs of the CNM. The CNM requested that a list of actionable recommendations be included with the assessment results report.

With support and approval from CNM, work plan activities will commence in FY 2022 Q4.

Middle East and North Africa

Quarterly Highlights

Diagnostic Highlights:

- IDDS delivered a revised draft of MENA DNA tool and assessment overview document to USAID that is focused on assessing the ability of the diagnostic network to respond to emerging disease threats.

Problems Encountered and Solutions

Problem	Resolution	Status
Revision of the initial draft DNA tool was necessary to better align with the project objectives described in the scope of work.	The DNA tool working group took into account feedback received from USAID and prepared a revised draft of the tool that was focused on the diagnostic network and ability to respond to emerging disease threats.	Completed

Lessons Learned

- None to report.

Annex A: Activity Implementation Progress

Annex B: Success/Highlight Stories

Annex C: Country Monitoring and Evaluation Tables for GHS