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Infectious Disease Detection and Surveillance (IDDS)

Quarterly Report

July 1, 2023–September 30, 2023



Truenat® installation at Chikwewo Health Center in Malawi, September 2023. Photo by IDDS

Submission Date: October 31, 2023

Contract Number: GS00Q14OADU119

Activity Start Date and End Date: May 22, 2018–May 21, 2024

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*This document was produced for review by the United States Agency for International Development
Washington (USAID/Washington)*

Table of Contents

| | |
|---|-----|
| Abbreviations | iii |
| Program Overview | 1 |
| Quarterly Progress | 4 |
| Global Health Security | 4 |
| Integrated Disease Surveillance and Response | 12 |
| U.S. President’s Malaria Initiative | 12 |
| Tuberculosis..... | 13 |
| Middle East and North Africa | 19 |
| Implementation Status | 19 |
| Program Highlights..... | 21 |
| Global Health Security FY 2023 Q4 Achievements..... | 21 |
| Cameroon..... | 21 |
| Democratic Republic of the Congo | 26 |
| Ethiopia | 29 |
| Guinea | 33 |
| India | 37 |
| Indonesia..... | 38 |
| Kenya..... | 42 |
| Liberia..... | 45 |
| Madagascar..... | 48 |
| Mali | 50 |
| Philippines..... | 52 |
| Senegal | 53 |
| Tanzania | 56 |
| Uganda | 57 |
| Vietnam..... | 60 |
| Integrated Disease Surveillance and Response FY 2023 Q4 Achievements..... | 63 |
| U.S. President’s Malaria Initiative FY 2023 Q4 Achievements | 66 |
| Tuberculosis FY 2023 Q4 Achievements..... | 67 |
| Core TB..... | 67 |
| Bangladesh..... | 69 |
| Burma..... | 73 |
| Cambodia | 75 |
| Democratic Republic of the Congo | 77 |
| India | 79 |
| Malawi | 81 |
| Mozambique | 83 |

| | |
|--|----|
| Tanzania | 85 |
| Zimbabwe | 87 |
| Middle East and North Africa FY 2023 Q4 Achievements | 89 |
| Annex A: Activity Implementation Progress | 90 |
| Annex B: Success/Highlight Stories..... | 91 |
| Annex C: Country Monitoring and Evaluation Tables | 92 |

List of Figures

| | |
|----------------------------------|---|
| Figure 1: IDDS project map | 2 |
|----------------------------------|---|

List of Tables

| | |
|--|----|
| Table 1: Project outputs related to strengthening diagnostic networks for FY 2023 Q4 and the countries that contributed to these outputs (includes GHS, IDSR, mpox, PMI, and MENA funding) | 7 |
| Table 2: Project outputs related to strengthening surveillance systems for FY 2023 Q4 and the countries that contributed to these outputs (includes GHS, IDSR, and mpox funding) | 11 |
| Table 3: Truenat EQA scores by country..... | 16 |
| Table 4: Project outputs related to strengthening TB diagnostic networks for FY 2023 Q4 and the countries that contributed to these outputs | 18 |

Abbreviations

| | |
|-------|--|
| AMR | antimicrobial resistance |
| ASF | African swine fever |
| AST | antimicrobial susceptibility testing |
| CAD | computer-aided detection |
| CBS | community-based surveillance |
| CNM | National Center for Parasitology, Entomology and Malaria Control |
| DNA | diagnostic network assessment |
| DL | Directorate of Laboratories |
| DLMEP | Department for Disease Control, Epidemics, and Pandemics |
| DR | drug-resistant |
| DRC | Democratic Republic of the Congo |
| DST | drug susceptibility testing |
| DTC | DataToCare |
| EID | emerging infectious disease |
| EPHI | Ethiopian Public Health Institute |
| EPR | Emergency Preparedness and Response |
| EQA | external quality assessment |
| FAST | Find cases Actively, Separate safely, and Treat effectively |
| FY | fiscal year |
| GHS | Global Health Security |
| IDDS | Infectious Disease Detection and Surveillance |
| IDSR | Integrated Disease Surveillance and Response |
| INRB | <i>Institut National de Recherche Biomédicale</i> (National Biomedical Research Institute) |
| IR | intermediate result |
| IRL | intermediate reference laboratory |
| ISO | International Organization for Standardization |
| JEE | Joint External Evaluation |
| LNSA | laboratory network spatial analysis |
| LPA | line probe assay |
| MDR | multidrug-resistant |
| MENA | Middle East and North Africa |

| | |
|-----------|---|
| MoH | ministry of health |
| MoHCC | Ministry of Health and Child Care |
| MTB | <i>Mycobacterium tuberculosis</i> |
| NAP | national action plan |
| NASIC | National Antimicrobial Stewardship Interagency Committee |
| NCDC | National Center for Disease Control |
| NMRL | national microbiology reference laboratory |
| NPHL | national public health laboratory |
| NRL | national reference laboratory |
| NTLP | National Tuberculosis and Leprosy Program |
| NTP | national tuberculosis program |
| NTRL | national tuberculosis reference laboratory |
| PCR | polymerase chain reaction |
| pDST | phenotypic drug susceptibility testing |
| PMI | U.S. President's Malaria Initiative |
| PT | proficiency testing |
| QMS | quality management system |
| REDSO/ESA | Regional Economic Development Services Office/East and Southern Africa |
| RIF | rifampicin |
| RTRL | regional tuberculosis reference laboratory |
| SAP-CAR | State Action Plan on Containment of Antimicrobial Resistance |
| SIZE | <i>Sistem Informasi Zoonoses dan Emerging Infectious Diseases</i> (Zoonosis and Emerging Infectious Disease Information System) |
| SOP | standard operating procedure |
| SOS | simple one-step |
| SRS | specimen referral system |
| TB | tuberculosis |
| TWG | technical working group |
| USAID | United States Agency for International Development |
| UWA | Uganda Wildlife Authority |
| VAHIS | Vietnam Animal Health Information System |
| WHO | World Health Organization |
| WHO AFRO | WHO Regional Office for Africa |

WRD World Health Organization-recommended rapid diagnostic
XDR extensively drug-resistant

Program Overview

Summary Overview

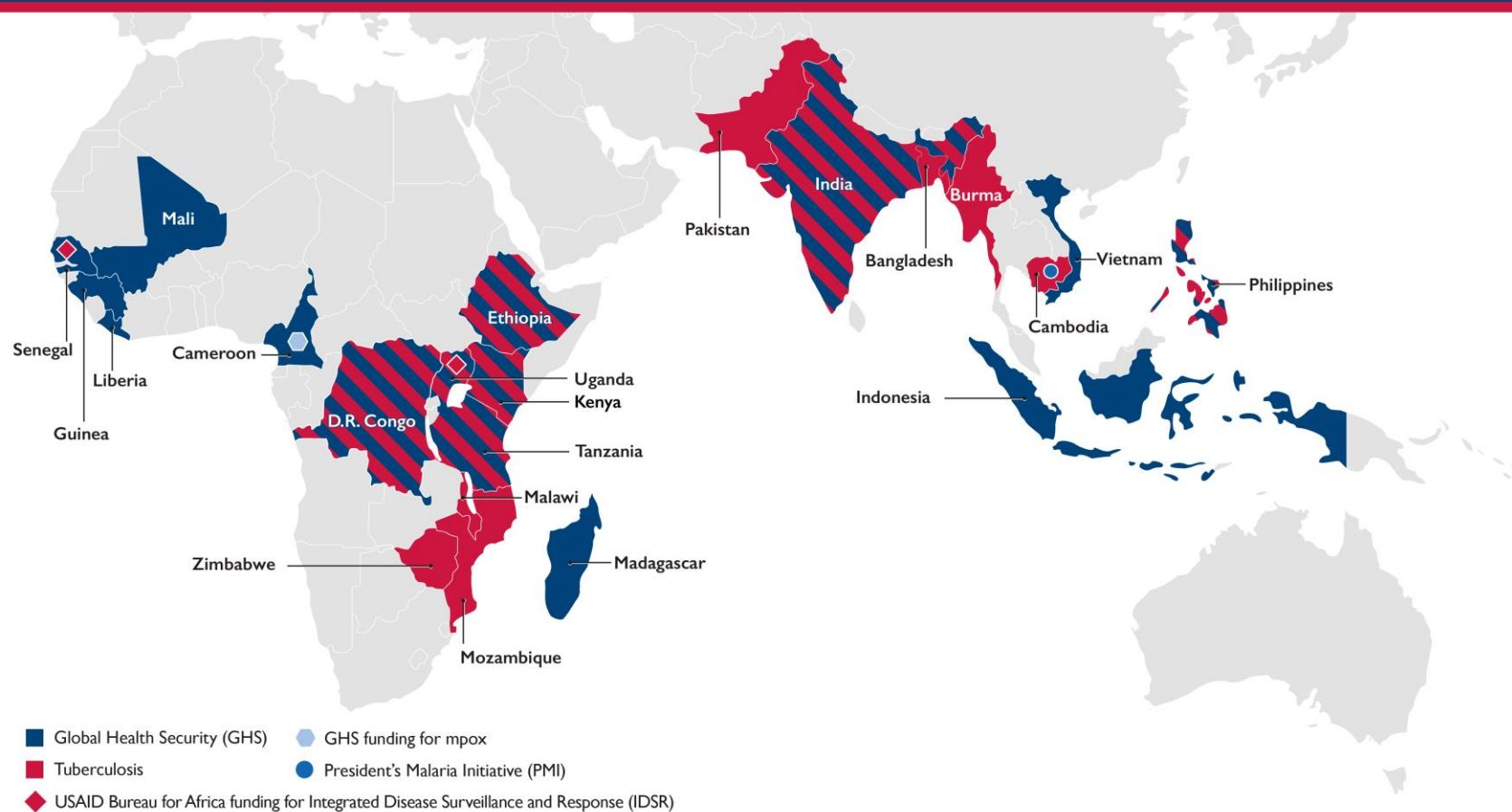
| | |
|--|--|
| Activity Name: | USAID Infectious Disease Detection and Surveillance |
| Activity Start Date and End Date: | May 22, 2018–May 21, 2024 |
| Name of Prime Implementing Partner: | ICF Incorporated, LLC |
| Contract Number: | GS00Q14OADU119 |
| Names of Partners: | FHI 360, PATH, Abt Associates, African Society for Laboratory Medicine, Association for Public Health Laboratories, Gryphon Scientific, Mérieux Foundation, Metabiota |
| Geographic Coverage: | <i>Countries:</i> Bangladesh, Burma, Cambodia, Cameroon, Democratic Republic of the Congo, Ethiopia, Guinea, India, Indonesia, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Pakistan, the Philippines, Senegal, Tanzania, Uganda, Vietnam, and Zimbabwe <i>Regions:</i> Middle East and North Africa |
| Reporting Period: | July 1, 2023–September 30, 2023 |

Program Description

The Infectious Disease Detection and Surveillance (IDDS) project is strengthening the capacity of 22 countries in Africa and Asia to effectively detect and monitor outbreaks of infectious diseases, improve identification and reporting of antimicrobial resistance (AMR), 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, FY 2023 Q4

USAID INFECTIOUS DISEASE DETECTION AND SURVEILLANCE (IDDS) PROJECT WHERE WE WORK, FISCAL YEAR (FY) 2023 Q4



Quarterly Progress

FY 2023 Q4 Overall Achievements

This report summarizes activities that occurred during quarter 4 (Q4) of fiscal year (FY) 2023 and project year 5: July 1, 2023, through September 30, 2023. This quarter, the project implemented Global Health Security (GHS) activities in 15 countries, including supporting mpox outbreak response (1 country). IDDS also implemented U.S. President's Malaria Initiative (PMI) activities in 1 country, Integrated Disease Surveillance and Response (IDSR) activities in 2 countries, and TB activities in 14 countries. TB activities were implemented with both mission and Core TB funding from the United States Agency for International Development (USAID) in Washington, DC. IDDS stopped Core TB work in response to an order from USAID on August 3. For more information, please see the Core TB program highlights. Finally, IDDS implemented diagnostic network strengthening activities in the Middle East and North Africa (MENA) region.

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 GHS Strategy, including for responding to active disease outbreaks such as mpox. IDDS is strengthening preparedness systems and developing 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 tiers of the health system from point-of-care to national and supranational sites

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

In FY 2023 Q4, IDDS continued to support countries to identify and address gaps in diagnostic networks, which included the following: collaborating with local stakeholders to develop and disseminate national-level policies and laboratory regulations; enhancing systems for specimen referral, transport, and reporting; contributing directly to specimen transport activities; and supporting the implementation of quality management systems (QMSs) and preparing laboratories for accreditation.

IDDS supported the **development and dissemination of national-level policies**, including laboratory regulations, national action plans (NAPs), and standard operating procedures (SOPs) in ten countries. In **Cameroon**, IDDS supported the National Public Health Emergency Center to validate and finalize a national preparation and response guideline for viral hemorrhagic fever, through a meeting attended by 33 participants (16 female). In **Ethiopia**, IDDS worked with the Ethiopian Public Health Institute (EPHI), the Animal Health Institute, and the Bahir Dar Veterinary Laboratory to review, revise, and finalize an

animal health job aid and operation manual. In **Guinea**, IDDS developed and updated 27 SOPs and tools for equipment and reagent management. In **India**, IDDS continued to provide technical support for revising both the draft National Action Plan on AMR (NAP-AMR) 2.0 and Sikkim's State Action Plan on Containment of AMR (SAP-CAR), both of which remain under review by the relevant government agencies. This quarter, IDDS developed a framework document for all sectors to share their respective strategic and operational plans detailing how they will contribute to NAP-AMR 2.0 implementation. In **Indonesia**, IDDS worked with partners to hold a cross-sectoral coordination meeting to collect input for the One Health Joint Plan of Action. The meeting was held over 2 days and attended by 50 participants (32 female) on the first day and 38 participants (25 female) on the second day. In **Kenya**, IDDS participated in the process to create a new AMR surveillance strategy—integrated across human, animal, and environmental health sectors—for the period 2023–2027. Specifically, IDDS provided technical and financial support to the National Antimicrobial Stewardship Interagency Committee (NASIC) to convene 3 forums focused on reviewing the existing surveillance strategies, helped NASIC convene a technical working group (TWG) meeting of 18 participants (9 female) to create an outline and roadmap for the new strategy, and participated in drafting and reviewing the new strategy. In **Liberia**, IDDS funded a 4-day meeting attended by 23 participants (8 female) to validate the Integrated AMR Surveillance Strategy for Liberia, which IDDS is now finalizing. In the **Philippines**, IDDS participated in a workshop to develop operational plans for the national laboratory system as well as biosafety and biosecurity thematic areas for the International Health Regulations. In **Senegal**, IDDS participated in the Joint External Evaluation (JEE) that measures the country's core capacities to implement International Health Regulations, as a national counterpart for the AMR technical domain and the national laboratory system domain. In **Tanzania**, IDDS participated in a national self-assessment as part of the JEE and participated in a national AMR TWG meeting to develop a roadmap for revising the National AMR Surveillance Framework 2024–2028, which will be revised after the project closes out in Tanzania.

In four countries, IDDS continued to [support the establishment and expansion of specimen referral systems \(SRSs\)](#) to increase access to quality laboratory testing and improve the timely detection and confirmation of priority disease cases. In the **Democratic Republic of the Congo (DRC)**, IDDS coordinated TWG meetings to prepare for training local airline staff in specimen transport and develop five SOPs for local airlines to use when transporting specimens. IDDS then facilitated an online training for 20 local airline staff (3 female) on the safe handling and transport of biological specimens. IDDS also finalized and shared with the TWG a situational analysis of specimen referral and transport in the supported eastern provinces and across DRC. In **Guinea**, IDDS collaborated with Village Reach and the U.S. Centers for Disease Control and Prevention to assess the IDDS-supported SRS in the Conakry region and surrounding islands, with the aim of expanding to all health centers that are not yet integrated. In **Tanzania**, IDDS collected information on ongoing specimen referral from sites within the catchment areas of supported laboratories and found that two of the four supported laboratories (Morogoro and Temeke regional referral hospitals) are receiving referred specimens from their catchment areas. In **Vietnam**, IDDS conducted two online mentoring sessions to support three Binh Dinh Center for Disease Control staff (one female) to use updated software for specimen data management.

In five countries, IDDS addressed priority gaps in the diagnostic testing pathway by [supporting specimen transport](#) to centralized testing facilities. In **Cameroon**, IDDS supported the transport of 99 shipments of human health specimens (cholera, meningitis, Marburg, influenza) to national reference laboratories (NRLs) for confirmation testing. In **DRC**, IDDS coordinated the transport of plague specimens from Ituri

province to the *Institut National de Recherche Biomédicale* (INRB, or National Biomedical Research Institute) in Goma for bacteriological testing. During FY 2023 Q4, a total of 24 suspected plague cases—19 of which had specimens that were transported to INRB Goma—and 10 deaths from plague were reported. IDDS also identified a champion organization (Malteser International) that will take over plague specimen transport after IDDS closes out in DRC. In **Ethiopia**, IDDS provided financial support for milk sample collection and transportation to Bahri Dar Regional Veterinary Laboratory (an IDDS-supported animal health AMR site) for testing. In **Guinea**, IDDS continues to support specimen transport for the integrated SRS by funding transport costs, Internet data, and telephone calls. In **Vietnam**, IDDS continued to work with a private company (Nhat Tin Logistics) to support human and animal specimen transport in three provinces (Binh Dinh, Dong Thap, and Thai Nguyen). This quarter, after IDDS convened three TWG meetings to assess the functionality of the SRS, the private company engaged for specimen referral (Nhat Tin Logistics) created a standardized “urgent delivery” label intended to speed specimen delivery.

In six countries, IDDS worked to **enhance QMSs** at diagnostic laboratories and **prepare laboratories for accreditation**. In **Ethiopia**, IDDS conducted supportive supervision visits—a key method of the project’s technical approach for improving quality of services—to three sites, mentoring 11 people (5 female) on aspects of quality control and supporting preparations for accreditation assessments. One of the sites (Jimma University Hospital Laboratory) received International Organization for Standardization (ISO) 15189 accreditation in September, and another (Hawassa University Hospital Laboratory) completed its application for accreditation. In **Guinea**, IDDS supported the distribution of external quality assessment (EQA) testing panels to three supported laboratories and provided technical and financial support to the Ministry of Health (MoH) to conduct supportive supervision visits to four of the six supported AMR sites. In **Kenya**, IDDS received the proficiency testing (PT) results from four supported sites that participated in EQA in May and reviewed the findings with staff from the three sites that did not achieve a perfect score to identify and address gaps. In **Liberia**, IDDS held six virtual sessions to ensure that the National Diagnostic Division and implementing partners understand the new ISO 15189:2022 standard. IDDS also provided continuous QMS mentorship to 37 laboratory staff (8 female) from 3 county hospital laboratories (G.W. Harley, Phebe, and Tellewoyan), including to update SOPs that will expire in December and align them to the new ISO standard. In **Senegal**, IDDS supported the Directorate of Laboratories (DL) to organize a round of EQA that will take place at all biomedical laboratories performing bacterial testing and antimicrobial susceptibility testing (AST) and provided support for developing terms of reference. In **Uganda**, IDDS conducted baseline assessments of the Uganda Wildlife Authority (UWA) Diagnostics and Research laboratory at Queen Elizabeth National Park and the Mbale district veterinary laboratory. In preparation for supporting these two sites to achieve ISO 17025:2017 accreditation, IDDS also supported a refresher training on identification and control of nonconformities as well as management reviews—and a separate internal audit training—for six participants (one female) from the two sites. Finally, IDDS conducted a third round of mentorship at both sites, during which eight staff (three female) were mentored and a variety of quality management documents and reports were verified/reviewed or finalized.

Table 1: Project outputs related to strengthening diagnostic networks for FY 2023 Q4 and the countries that contributed to these outputs (includes GHS, IDSR, mpox, PMI, and MENA funding)

| Result area: GHS IR 1.1: Gaps in diagnostic networks identified and essential components supported | | | | | | | | | |
|--|-------|--------------------|-----------------------|----------------------|-----|-------------------|-----------|-----------------|-------------------------|
| | TOTAL | Testing Procedures | Equipment Maintenance | Commodity Management | QMS | Specimen Referral | Biosafety | AMR Dx Advocacy | Other Diagnostic Topics |
| People trained | 332 | | | | 12 | 18 | 20 | | 282 |
| SOPs, plans, and guidelines developed or revised | 76 | 18 | 4 | 4 | 45 | | 5 | | |
| TWG* meetings held | 37 | 17 | | 1 | | 6 | 13 | | |
| Supervisory visits conducted | 10 | | 4 | | 3 | | 3 | | |
| Pilots conducted | 4 | | | | | 4 | | | |
| Assessment reports completed | 3 | | 1 | | 1 | 1 | | | |
| Persons mentored | 70 | 35 | | | 26 | 6 | | 3 | |
| Specimens transported | 655 | | | | | 655 | | | |
| Countries [†] | | | | | | | | | |
| Cameroon | | | | | | • | • | • | • |
| Cambodia | | | • | | | • | | | |
| DRC | | • | | | | • | • | | |
| Ethiopia | | | | | • | | | | |
| Guinea | | • | • | • | | • | | | |
| India | | | | | | | | | |
| Indonesia | | • | | | | | | | |
| Kenya | | | | | | • | | | • |
| Liberia | | • | | | • | | | | |
| Madagascar | | | | • | | | | | |
| Mali | | | | | | | | | |
| Philippines | | | | | | | | | |
| Senegal | | | | | | | | | |
| Tanzania | | | | | | • | | | |
| Tunisia | | | | | | | | | |
| Uganda | | | | | • | | | | |
| Vietnam | | | | | | • | | | |

*TWG=technical working group

[†]Countries listed are those that contributed to specific outputs in FY 2023 Q4.

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

In FY 2023 Q4, IDDS continued to support countries to improve capacity to detect priority pathogens and AMR, which included the following: strengthening laboratory staff capacity to detect priority pathogens and AMR, promoting diagnostic stewardship and utilization of bacteriology services, equipping laboratories with essential supplies and helping them manage commodities, and improving laboratory infrastructure.

IDDS **strengthened laboratory staff capacity to detect priority pathogens and AMR** in four countries during FY 2023 Q4, and the project developed a “diagnostic cheat sheet” for the USAID GHS team to share with missions to guide test selection for common global health priority pathogens. In **Cameroon**, IDDS supported the development of job aids and a registry to record internal quality control results for culture media, which are used to perform AST and resistance phenotyping. In **Guinea**, IDDS provided technical and financial support to MoH to conduct bacteriology mentorship for five people (two female) at Nzérékoré Regional Laboratory, which included coaching on pre-analytical, analytical, and post-analytical procedures. In **Liberia**, an IDDS-supported mentor continued to provide on-site assistance for bacteriology testing at Phebe and G.W. Harley Hospital laboratories, mentoring a total of 19 technicians (6 female). In **Senegal**, IDDS held a meeting with DL to identify designated sites that have not yet participated in an AMR surveillance assessment and propose assessment dates for each site.

IDDS **promoted diagnostic stewardship and use of bacteriology services** in two countries. In **Cameroon**, an IDDS consultant supported the Yaoundé Military Hospital to discuss AMR surveillance results and train 49 biologists and clinicians (19 female) on ways to improve proper use of antibiotics at the hospital. In **Kenya**, IDDS provided technical and logistical assistance to Malindi Sub-County Hospital to convene a clinical-laboratory interface forum, which was attended by 27 health care workers (12 female). IDDS also distributed a survey to five supported AMR surveillance sites to gauge clinicians’ satisfaction with bacteriology services (an important indicator required by the QMS).

Across seven countries, IDDS **equipped laboratories with supplies** needed to detect priority pathogens and helped them **manage commodities**. In **Cameroon**, IDDS equipped nine human health surveillance sites with laboratory antibiotic discs, culture media, reagents, consumables, and small equipment to support AMR detection. In **Guinea**, IDDS equipped the Nzérékoré Regional Laboratory with basic equipment, reagents, and other supplies to support bacteriology testing and AST. MoH coaching at that site (supported by IDDS) also included checking equipment maintenance and stock management documents and data. In **Kenya**, IDDS equipped Malindi and Murang’a county surveillance sites with limited buffer bacteriology reagents to meet their commodity needs. In **Liberia**, IDDS equipped Phebe, Tellewoyan, and G.W. Harley laboratories with bacteriology commodities, such as media, antibiotic discs, glassware, and petri dishes. In **Madagascar**, government agencies validated and signed an IDDS-developed guide that describes how laboratory supplies and medical imaging units will be managed by public hospitals. IDDS also supported a TWG meeting to share the National List of Laboratory Inputs, which included a discussion with the Essential Medicines and Medical Equipment Procurement Center of Madagascar about addressing the supply of laboratory reagents and consumables through updates to their catalog. In **Senegal**, IDDS developed a stock management tool and visited nine project-supported sites to orient them to the new tool, help them complete inventory lists, and collect historical data to further inform the tool. In **Tanzania**, IDDS collaborated with the National Public Health Laboratory (NPHL) to equip three of the four IDDS-supported sites (Maweni, Morogoro, and Temeke regional

referral hospitals) with quality-assured AMR laboratory commodities, such as agar for media preparation, antibiotic sensitivity discs, and blood culture bottles.

To **improve laboratory infrastructure** at supported AMR surveillance sites in **Ethiopia**, IDDS completed minor refurbishments, including renovating the microbiology washing room and media preparation room at Hawassa University Hospital Laboratory and replacing windows and painting areas of the bacteriology room at Gondar University Hospital Laboratory.

Strengthening National Surveillance Systems

Identifying and addressing gaps in surveillance systems (IR 2.1)

In FY 2023 Q4, IDDS provided support to seven countries to **increase their capacity to report complete, timely, and high-quality data** to strengthen their disease surveillance systems. In **Cameroon**, IDDS supported the National Coordination Center to finalize the 2022 Antimicrobial Resistance Surveillance Annual Report, by participating in two review meetings and reviewing the draft report. IDDS also supported NPHL to organize a workshop for 21 participants (13 female) to discuss the process of integrating AMR data from WHONET into DHIS 2. In **Ethiopia**, IDDS supported a WHONET data management training organized by EPHI, during which 16 participants (7 female) from all AMR surveillance sites learned to convert Microsoft Excel data to WHONET data. In **India**, IDDS supported a unit that is assisting the National Center for Disease Control (NCDC) with checking AMR data using WHONET. In **Indonesia**, IDDS participated in 10 meetings to support the development and operationalization of the *Sistem Informasi Zoonosis dan Emerging Infectious Diseases* (SIZE, or Zoonosis and Emerging Infectious Disease Information System) 2.0. Among other progress and accomplishments, IDDS and its partners requested a domain transfer to a national data center, agreed on SMS support for the platform, agreed on SIZE training requirements for staff involved in disease surveillance, and discussed feedback on the SIZE website. In **Kenya**, IDDS fully transitioned analysis and reporting of isolates retesting data to the National Microbiology Reference Laboratory (NMRL) by training and mentoring NMRL staff. IDDS also collaborated with the NPHL informatics team to resolve AMR surveillance data transmission challenges at the Nyeri County Referral Hospital Laboratory, which was experiencing a system configuration error. The site is now able to transmit data to the central data warehouse. In **Liberia**, IDDS provided technical support to the bacteriology focal person at G.W. Harley Hospital to ensure that all bacteriology data for FY 2023 were entered into WHONET. In **Vietnam**, IDDS continued to support five provincial sub-departments of animal health to implement the Vietnam Animal Health Information System (VAHIS). IDDS held quarterly data review meetings with three supported provinces and mentored a total of 25 provincial staff (9 female) on reporting animal disease data into VAHIS, including dog population and rabies vaccination data. IDDS also organized 3 training sessions for a total of 67 provincial and district staff (18 female), during which participants practiced entering data completely and accurately. For two other provinces that had already received training, IDDS continued to provide online coaching on an ad hoc basis.

To support **new tools and resources for monitoring AMR**, IDDS worked in four countries to identify gaps in surveillance systems, develop antibiograms, and establish a national repository for bacterial isolates. In **Cameroon**, IDDS mentored three laboratory staff (all female) from two AMR surveillance sites on internal quality controls for antibiograms, which are a valuable tool to guide clinicians' treatment

decisions while they await laboratory results. In **Ethiopia**, IDDS and EPHI organized a review meeting attended by 47 participants (8 female) from 16 AMR surveillance sites, during which challenges and best practices were identified to inform recommendations and improvements to the AMR surveillance system. In **Kenya**, IDDS continued to provide technical assistance to NMRL to establish a bacterial isolates repository using an IDDS-developed SOP. IDDS also convened virtual consultations with microbiologists and antimicrobial stewardship coordinators from three supported sites to review and refine antibiograms. IDDS staff in **India** contributed to a [chapter on AMR](#) associated with infectious diseases, published by Springer in July in the *Handbook on Antimicrobial Resistance: Current Status, Trends in Detection and Mitigation Measures*.

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

IDDS contributed to **multisectoral integration** of disease surveillance in **Indonesia**, which 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 supported MoH to convene a meeting of the One Health Laboratory Network sub-working group, attended by 59 participants (30 female), during which member organizations agreed to activities that will be implemented in 2023 and 2024. IDDS also held two coordination meetings in collaboration with the Coordinating Ministry of Human Development and Cultural Affairs. During the first meeting, 32 participants (15 female) drafted a concept note and action plan for forming a new team at the central level for prevention and control of zoonoses and emerging infectious diseases (EIDs). During the second meeting, 27 participants (8 female) agreed on criteria for a list of national notifiable diseases. Finally, IDDS developed a report on the pilot implementation of integrated surveillance for leptospirosis in Demak District, West Java.

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

IDDS supported five countries' efforts to **identify and track infectious diseases and public health incidents**, including their efforts to implement community-based surveillance (CBS). In **DRC**, IDDS continued to provide technical support on plague control to a TWG through weekly meetings that focused on stocking commodities, specimen transportation, and challenges with bacteriological culture for plague at INRB Goma. IDDS also participated in MoH meetings about the country's preparedness to respond to current outbreaks of mpox and viral hemorrhagic fevers, as well as five "health cluster" meetings to discuss outbreak preparedness and response activities with partners and stakeholders that provide support to MoH. In **Indonesia**, IDDS contracted consultants to develop a new version of the mobile application for SIZE. This included efforts to assess the user interface and user experience, conduct a trial of the SIZE mobile application, and begin to resolve technical problems discovered during the trial. In **Madagascar**, IDDS developed two monthly IDSR bulletins, which provide information to policymakers about trends in disease patterns and emerging public health threats for the country. IDDS also supported a workshop attended by 38 participants (28 female) to develop a hospital IDSR surveillance protocol that will ensure early detection, prevention, monitoring, and management of infectious diseases and unusual public health events that occur in hospitals. In **Mali**, IDDS continued to monitor the quality of CBS data collected from five health districts. IDDS provided technical and financial support to the Ségou region to conduct the second round of IDSR supportive supervision visits to 80 underperforming community health centers, focusing on improving the quality of data reported to DHIS

2 and developing corrective action plans to address issues. IDDS also supported the General Directorate of Health and Public Hygiene to produce two monthly IDSR bulletins. In **Uganda**, IDDS attended national task force meetings held to coordinate responses to epidemics of rift valley fever, cholera, and TB.

To support [workforce development around AMR surveillance](#) in **Cameroon**, an IDDS consultant participated in reviewing and finalizing masters-level curricula and short AMR certification courses for online delivery by the University of Buea. In **Kenya**, IDDS continued to promote enrollment and completion of the AMR course hosted on the MoH virtual academy, contributing this quarter to reviewing and responding to feedback from learners. IDDS also [published a manuscript](#) on the development and implementation of the curriculum in the peer-reviewed *Frontiers in Microbiology*.

Finally, 10 GHS-related abstracts developed by IDDS were accepted for presentation in December at the African Society of Laboratory Medicine annual meeting. The abstracts include eight posters and two oral presentations that will disseminate learnings from IDDS implementation in seven countries (Ethiopia, Guinea, Liberia, Kenya, Mali, Madagascar, and the Philippines).

Table 2: Project outputs related to strengthening surveillance systems for FY 2023 Q4 and the countries that contributed to these outputs (includes GHS, IDSR, and mpox funding)

| 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 | 83 | | 67 | | 16 | |
| SOPs, plans, and guidelines developed or revised | 3 | | 2 | | 1 | |
| TWG* meetings held | 24 | 10 | 4 | | 1 | 9 |
| Supervisory visits conducted | 94 | | 70 | 24 | | |
| Pilots conducted | 2 | | 2 | | | |
| Assessment reports completed | 0 | | | | | |
| Persons mentored | 25 | | 25 | | | |
| Countries [†] | | | | | | |
| Cameroon | | | • | • | • | |
| Ethiopia | | | | | • | |
| Guinea | | | • | | • | |
| Indonesia | | • | | | | • |
| Kenya | | | | | | • |
| Madagascar | | | | | | |
| Mali | | | • | | | |
| Senegal | | | | | | |
| Tanzania | | | | | | |
| Uganda | | | | | | • |
| Vietnam | | | • | | | |

*TWG=technical working group

†Countries listed are those that contributed to specific outputs in FY 2023 Q4.

Responding to mpox

In **Cameroon**, IDDS technically and financially supported the Department for Disease Control, Epidemics, and Pandemics (DLMEP) to organize supportive supervision visits to low-performing organizations in the Southwest and Northwest regions (those most affected by mpox outbreaks). Across the regions, DLMEP supervised 10 health districts and 13 health facilities, including to **evaluate implementation of mpox surveillance activities** following their IDDS-supported training on IDSR and event-based surveillance. IDDS also technically and financially supported supervisory visits to three of the four laboratories trained in mpox diagnosis to **monitor biosafety, biosecurity, and testing capacity**. After receiving a signature from the Minister of Public Health on the French version of the mpox operational surveillance guidelines, IDDS printed nearly 500 copies for dissemination to 10 regions, where the guidelines will strengthen mpox surveillance and reinforce multisectoral collaboration for mpox response. Finally, IDDS financially supported the **shipment of one mpox specimen** from the Bangué health district to Centre Pasteur Yaoundé for analysis.

Integrated Disease Surveillance and Response

IDSR activities are funded by the USAID Bureau for Africa. Following approval of an “IDSR-2” work plan with a period of performance identified as April 10–December 31, which includes work by IDDS HQ, IDDS staff planned and participated in a consultative meeting with the World Health Organization (WHO) Regional Office for Africa (WHO AFRO) Emergency Preparedness and Response (EPR) team in Brazzaville, Congo, in June. In FY 2023 Q4, IDDS and the WHO AFRO EPR team selected **Senegal** and **Uganda** for field support through the implementation of country assessments that will analyze capacity for IDSR implementation at the subnational level.

U.S. President’s Malaria Initiative

In **Cambodia**, IDDS and the National Center for Parasitology, Entomology and Malaria Control (CNM) conducted a training on the malaria diagnostic network assessment (DNA) tool for 18 assessors and relevant staff (6 female) to prepare the participants for data collection. However, shortly after the training, the malaria DNA was cancelled at CNM’s request and data collection did not proceed.

IDDS completed and submitted a report of CNM’s capacity for malaria species identification through polymerase chain reaction (PCR) testing. The report sets priorities for additional technical assistance to improve laboratory staff capacity. CNM accepted the findings and recommendations, which IDDS used to develop an improvement plan, which is currently with the CNM director for approval.

Tuberculosis

IDDS is implementing programs globally to strengthen TB diagnostic networks with both Core and country funding from USAID. Through its work across 14 countries in FY 2023 Q4, IDDS worked with NRLs, regional TB reference laboratories (RTRLs), and other key partners to build capacity to detect *Mycobacterium tuberculosis* (MTB), drug-resistant (DR) TB, multidrug-resistant (MDR) TB, and pre-extensively drug-resistant (pre-XDR) TB.

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

This quarter, IDDS submitted reports from project-supported TB DNAs and laboratory network spatial analyses (LSNAs), assessed specimen referral linkages, improved quality and strengthened leadership and management of TB diagnostic networks, and continued to engage the private sector. IDDS also submitted numerous abstracts to conferences as part of expanding the knowledge base related to TB diagnostics.

IDDS provided technical assistance for planning a **TB DNA in Mozambique** and developed a scope of work, Gantt chart, and transition plan for USAID to conduct the DNA after IDDS closes out in the country at the end of the quarter. IDDS also submitted TB DNA reports for **DRC, Malawi, and Pakistan**, and will submit the report for **Kenya** next quarter.

IDDS **completed reporting on spatial analyses that will inform diagnostic network improvements** in four countries. In **Burma**, IDDS submitted a draft report to the National TB Program (NTP) with findings from the analysis of GeneXpert® and chest X-ray service coverage, direct and indirect population coverage, and utilization of GeneXpert instruments. NTP will be able to use the findings to procure and distribute digital X-ray and GeneXpert instruments. (IDDS also prepared a summary report outlining the findings to submit to USAID as a technical deliverable.) IDDS submitted the **Ethiopia** and **Malawi** LNSA reports to USAID and will submit the **Zimbabwe** LNSA report next quarter.

In **Mozambique**, IDDS completed a “Strengths, Weaknesses, Opportunities, and Threats” **analysis of the TB SRS**, which included a desk review and visits to three sites in Maputo. The analysis followed the implementation of the “Adapting and Modifying Optimized Sample Transport Routes for Achieving Impact” project. The final report was reviewed by that project and then submitted to USAID.

In **Burma**, IDDS continued to **provide specimen transport support** to fill the gaps in the current system. With IDDS support, NTP transported specimens between regional laboratories and the national TB reference laboratory (NTRL) for genotypic and phenotypic culture, as well as between township laboratories and regional laboratories for molecular diagnostic testing.

IDDS continued its work in two countries to **engage the private sector** in the TB diagnostic network. In **India**, IDDS shared the final data from the “One-stop TB Diagnostic Model” implemented in Hisar district that engages the private sector in TB specimen collection, transport, and testing with IQVIA (a third-party evaluator) for analysis, and the project updated the analysis plan in consultation with IQVIA and the USAID mission. Finally, IDDS prepared a technical deliverable based on the guidance document for assessors from the National Accreditation Board for Testing and Calibration Laboratories prepared for the National TB Elimination Program last quarter. In **Zimbabwe**, IDDS participated in a meeting to

disseminate the Public-Private Partnership Framework and printed 2,000 copies of the document, which the Ministry of Health and Child Care (MoHCC) will distribute to private-sector stakeholders in the country.

IDDS implemented activities to [strengthen leadership and management of the TB diagnostic network](#) in four countries, including by supporting the development of regulatory documents. In **Burma**, IDDS updated two SOPs—one on second-line drug susceptibility testing (DST) using BACTEC MGIT 960, and one on Löwenstein–Jensen media preparation. In **India**, IDDS developed a report ranking intermediate reference laboratories (IRLs) and a guidance document to aid IRLs in conducting self-assessments using an IDDS-developed grading tool. IDDS also supported an NRL at the National TB Institute Bangalore to organize a regional review meeting for linked IRLs and TB laboratories and prepared a report on IDDS support of these meetings over the life of the project. In **Mozambique**, IDDS participated in three TWG meetings for TB genome sequencing, during which the group discussed SOPs for results interpretation and sample selection, terms of reference for the TWG, a new algorithm for TB diagnosis and detection of DR-TB cases, and a national guideline for TB genome sequencing. IDDS also provided on-site mentorship to 16 technicians (5 female) at Beira and Nampula reference laboratories to guide implementation of the SOP for sample selection to perform TB genome sequencing, sample storage, and shipping. In **Tanzania**, IDDS supported the National TB and Leprosy Program (NTLP) to review the TB diagnostic guideline, algorithm, and screening tools, which will inform practices at all levels of the diagnostic network. IDDS also supported NTLP to convene a TWG meeting to discuss TB laboratory commodity management, rapid molecular test implementation, EQA achievements and challenges, DR-TB reporting, and the new diagnostic algorithm.

IDDS worked in four countries to [enhance the quality of laboratory services and ensure workplace safety](#). In **Burma**, IDDS submitted a report summarizing assessments of laboratory biosafety measures that were conducted in September 2022 at four sites. In **Cambodia**, IDDS conducted supportive supervision visits to 14 Truenat sites to review testing operations, quality of sputum, biosafety and waste management practices, stock management, laboratory registers, and connectivity to DataToCare (DTC). In **DRC**, IDDS helped the Kinshasa TB Laboratory develop 8 SOPs on equipment maintenance and update 16 SOPs on biosafety. In **Zimbabwe**, IDDS provided technical support and mentoring to 12 supported laboratories in Harare province. The support was focused on tracking the closure of non-conformities, reviewing laboratory registers, tracking missing test results, extracting Microsoft Excel data from GeneXpert platforms, distributing forms to monitor quality improvement activities, and reviewing quality indicators.

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

To improve laboratory capacity for TB detection, IDDS expanded and improved the use of solutions that provide connectivity to TB diagnostic instruments, delivered training and equipment to improve TB and DR-TB detection, improved TB detection among children through the implementation of stool testing, supported quality control activities for new tools, and engaged in operational research and other knowledge exchange opportunities.

In **DRC**, IDDS assessed NTRL's implementation of the laboratory management information system using the TB-NET tool. This will inform [upgrades to the data management system](#) to streamline data management and facilitate monitoring of laboratory performance.

In four countries, IDDS supported **TB diagnostic connectivity solutions**. In **Burma**, IDDS began developing a comprehensive roadmap to build and implement the electronic laboratory information management system, which includes a blueprint for system design, a work station layout plan, and equipment requirements. The roadmap will guide implementation by another entity after the IDDS project closes out. In **Cambodia**, IDDS installed new software at all 30 GeneXpert sites that were already using DTC and expanded DTC to an additional 10 GeneXpert sites, continuing to work with partners to monitor and correct any issues with interconnectivity between DTC and the TB management information system, as well as between DTC and Truenat instruments. IDDS also trained 21 GeneXpert laboratory technicians and supervisors (all male) from Kandal and Tbong Khmum provinces on DTC connectivity. In the **Philippines**, IDDS funded DTC connectivity through July and identified a USAID-funded project (Tuberculosis Innovations and Health Systems Strengthening) to take over this support in August. In **Tanzania**, IDDS supported NTLF to engage stakeholders in developing a roadmap for linking DHIS 2 with TB diagnostic instruments.

Across seven countries, IDDS **equipped laboratories with supplies** needed to detect TB. In **Bangladesh**, IDDS handed over 4 GeneXpert 10-color instruments and 1,200 Xpert® MTB/XDR cartridges to NTP, which will install the instruments at selected sites and supply the cartridges according to its overall Xpert MTB/XDR implementation plan. IDDS also collaborated with NTP and other partners to distribute 34,000 Truenat test kits that IDDS procured to testing sites. With Core TB funds, IDDS supported the distribution of Truenat reagents to testing sites in **Cambodia** and **Zimbabwe** to resume MTB and rifampicin (RIF) testing after previous interruptions in services. In **DRC**, IDDS worked with the Kinsangani TB Laboratory to update a list of missing materials and equipment needed to restart culture testing, and the laboratory received certification of a new biosafety cabinet. IDDS installed four Truenat instruments in **Malawi** and nine in **Tanzania**; these instruments will support rapid diagnostic testing for TB. In **Zimbabwe**, IDDS equipped 20 Truenat sites with 3,000 MTB Plus chips to support continued access to rapid diagnostic testing.

In two countries, IDDS **supported equipment maintenance** and **completed refurbishments** to house new equipment and safely manage laboratory waste. In **Bangladesh**, IDDS obtained customs clearance and distributed spare parts for annual servicing and certification of the Sylhet RTRL, which will be supported by three Air Filter Maintenance Services engineers whose travel is funded by IDDS. In **Zimbabwe**, IDDS supported maintenance of the containerized laboratory at Bulawayo (completed) and ancillary equipment at NMRL and NTRL (ongoing).

In five countries, IDDS **delivered essential training on new diagnostic tools and approaches**. In **Bangladesh**, IDDS organized a 2-day training on extrapulmonary TB and stool specimen processing for 16 medical technologists (6 female) from 9 laboratories, which will increase access to these types of tests in the Rajshahi Division. IDDS also delivered a 4-day training on Truenat implementation to 12 TB and leprosy control assistants (7 female), who are Damien Foundation staff who will replace the IDDS-supported medical technologists who were terminated in July. To increase access to quality chest X-rays in **Burma**, IDDS trained 13 staff (3 female) from partner organizations on the ultra-portable X-ray system and computer-aided detection (CAD) software. The partner organizations began taking X-rays and using CAD software at three clinics in August. In **Malawi**, IDDS provided technical support to train 12 super-users (all male) on both Truenat MTB/RIF and Xpert MTB/XDR and an additional 8 Truenat end users (1 female). In **Mozambique**, IDDS participated in a training on the use of Xpert MTB/XDR cartridges and

GeneXpert 10-color instruments, which was organized by NTRL and Cepheid and attended by 19 participants. In **Tanzania**, IDDS provided on-site refresher orientation to Truenat end users during the installation of equipment and continued to provide ad hoc virtual technical assistance to all 30 Truenat sites.

In **Malawi**, IDDS delivered two training sessions on the TB FAST (Find cases Actively, Separate safely, and Treat effectively) approach, which is an infection prevention and control strategy for health care and other congregant settings. The project trained 32 health care workers (12 female) from 4 health facilities.

IDDS worked in four countries to **build capacity to detect DR-TB**. In **Bangladesh**, IDDS finalized and submitted an SOP and algorithm for Xpert MTB/RIF Ultra and trained a pool of 12 trainers (6 female) from NTRL and 5 RTRLs on its implementation. In **Burma**, IDDS finalized and submitted to USAID a report analyzing Xpert MTB/XDR test results in the Yangon region, which NTP will disseminate to build understanding of and capacity for DST. In **Cambodia**, IDDS worked with NTRL to finalize key performance indicators for phenotypic drug susceptibility testing (pDST). In **Mozambique**, IDDS participated in a TWG meeting on DR-TB to discuss the implementation of the Xpert MTB/XDR assay, including the validation of the cartridges and the cartridge distribution plan. IDDS also finalized a report summarizing steps taken to establish DST in Chokwé laboratory, which can inform similar efforts at other sites in the future. Finally, IDDS provided on-site mentorship for pDST and genotypic DST for first- and second-line drugs to 2 laboratory technicians (1 female) at Carmelo laboratory, where technicians tested 20 samples for first-line drugs and achieved results that were 100 percent in agreement. With Core TB funds, IDDS submitted to USAID a compendium of DR-TB resources.

To **support quality control for new TB diagnostic tools** and monitor facility performance, IDDS continued to support EQA for Truenat, GeneXpert, and microscopy. In **Bangladesh**, IDDS trained 150 medical technologists (40 female) across 5 sites on GeneXpert EQA processing and testing. NTP completed the customs clearance of testing panels sent by the Vietnam NTRL and distributed the panels to selected sites, where EQA testing and uploading of results is now in progress. In **Cambodia**, IDDS remotely mentored three laboratory technicians (two female) on EQA for the Xpert MTB/XDR assay and assisted NTRL with conducting EQA and submitting results to SmartSpot Quality, an accredited manufacturer of EQA panels. In **Malawi**, IDDS supported Bwaila Hospital Laboratory to conduct Xpert MTB/XDR verification testing and supported three laboratories to participate in EQA for Xpert MTB/XDR. IDDS delivered 8 Xpert MTB/XDR verification panels and 5 Xpert MTB/XDR EQA panels to support the super-user training in **Malawi**, 50 Xpert MTB/RIF Ultra panels to support EQA in **Tanzania**, and 10 Xpert MTB/XDR EQA panels to support EQA in **Zimbabwe**. In **Zimbabwe**, IDDS also supported microscopy PT at NMRL by compiling a list of necessary commodities and seeking quotes from vendors. Finally, with Core TB funds, IDDS partnered with SmartSpot Quality to provide Truenat sites in multiple countries with three cycles of EQA; during FY 2023 Q4 and FY 2024 Q1, six countries received their reported scores (Table 3).

Table 3: Truenat EQA scores by country

| Country | Number of Truenat Sites Participating in EQA | Number and Percentage of Truenat Sites Receiving EQA Scores, by Type of Score | | | | |
|---------|--|---|------------|---------|--------------|------------------------------|
| | | Pass | Acceptable | Concern | Unacceptable | No submission of EQA results |

| | | | | | | |
|--------------------|--|-------------|------------|------------|-------------|------------|
| Cambodia | 15 | 2 (13%) | 1 (7%) | 4 (27%) | 8 (53%) | -- |
| DRC | 38 | 5 (13%) | 2 (5%) | 4 (11%) | 23 (61%) | 4 (11%) |
| Kenya | 38 | 2 (5%) | 1 (3%) | 6 (16%) | 29 (76%) | -- |
| Philippines | 36 (2 of the 38 sites did not enroll in the cycle) | 28 (78%) | -- | 1 (3%) | -- | 7 (19%) |
| Tanzania | 30 | 2 (7%) | 3 (10%) | 5 (17%) | 16 (53%) | 4 (13%) |
| Zimbabwe | 20 | 2 (10%) | 1 (5%) | 5 (25%) | 12 (60%) | -- |

Overall, lower scores across all six countries in 2023 Cycle 1 can partially be attributed to reduced efficiency of Truenat MTB/RIF tests to detect a specific bacterial RNA polymerase (rpoB) gene mutation (H526Y) in an MTB strain that confers RIF resistance (e.g., the Truenat RIF test produced “indeterminate” versus expected “resistant” result).

To **increase TB case detection among children and other vulnerable groups**, IDDS participated in monthly community of practice meetings held by USAID in collaboration with the Uganda Supranational Reference Laboratory and implemented activities in four countries. In **Cambodia**, IDDS provided cascade training for testing stool specimens using Xpert MTB/RIF Ultra. The training reached 103 participants (22 female) from health centers located in 6 operational districts, and test scores improved from 35 percent before the training to 70 percent after the training. In **Malawi**, IDDS collaborated with NTLEP and TB Local Organizations Network partners to finalize a report summarizing the pilot intervention to implement stool testing using GeneXpert, which will inform NTLEP efforts to scale up the intervention to all central and district hospitals before expanding to all TB treatment sites in the country. In **Mozambique**, IDDS provided technical support to train 43 participants (10 female) from Maputo province on the simple one-step (SOS) stool processing method for pediatric TB diagnosis. In **Zimbabwe**, IDDS provided technical and financial support for 15 supportive visits across 3 provinces to supervise 122 health workers (76 female). The aim of the visits was to assess pediatric TB case finding, assess rollout of the SOS method for stool testing, identify best practices and challenges to share with facilities in other provinces, and conduct root cause analysis for problem-solving. IDDS also provided technical support for drafting SOPs and job aids for the SOS stool testing method, which are now under review by MoHCC.

IDDS promoted **exchange of knowledge** and **contributed to TB research** through contributions to global conferences related to TB and infectious diseases, development of thought leadership articles, and sharing of IDDS achievements. IDDS shared research reports from the studies of bacteriologically confirmed TB in **DRC** and **Zimbabwe** with USAID. With Core TB funds, IDDS developed an EQA implementation guide for Truenat, a super-user package for Xpert MTB/XDR that was endorsed by the Stop TB Partnership, and an e-brief on pediatric TB activity implementation, all of which will be submitted to USAID next quarter. In **India**, IDDS supported the Central TB Division to organize two capacity building sessions through the *Nidaan Samwaad* (TB Wednesdays) series, which provides

opportunities for laboratory professionals, clinicians, and other health care professionals to engage with subject matter experts on topics relevant to strengthening the TB diagnostic network.

IDDS published two manuscripts in peer-reviewed journals, highlighting key findings from the implementation of the [“One-stop TB Diagnostic Model”](#) in Hisar district, India, and the comprehensive assessment of [Truenat invalid and indeterminate rates](#) in India. The project also presented to partners the results for the second phase of a study on using Trueprep®-extracted deoxyribonucleic acid for line probe assay (LPA) testing. Finally, IDDS developed materials for presentation at the Union World Conference on Lung Health in November, including for three symposia, three oral presentations, one poster, and two workshops. The project had five TB-related posters accepted for presentation in December at the African Society for Laboratory Medicine annual meeting, and one poster accepted for the Global Digital Health Forum, also in December.

As IDDS moves through its final year, it began [transitioning its TB programming](#) to NTPs and local missions by preparing transition, disposition, and closeout plans for all countries with TB programming. This quarter, IDDS transitioned its work in **Bangladesh** and **Mozambique**. In **Bangladesh**, IDDS held a closeout event on September 17, during which IDDS shared project achievements and outcomes with 45 participants from USAID, NTP, implementing partners, sub-partners, NTRL, and RTRLs. In **Mozambique**, IDDS shared project achievements with USAID on September 26 and with NTP on October 13.

Table 4: Project outputs related to strengthening TB diagnostic networks for FY 2023 Q4 and the countries that contributed to these outputs

| Result area: TB IR 1.1: Gaps in diagnostic networks identified and essential components supported | | | | | | | | | | | |
|---|-------|----------------------|----------------------|-------------------------------------|-----------|-----|-----------------------|-----------------------------------|-----|---------------------------|------------------------|
| | TOTAL | New Diagnostic Tools | Pediatric TB Testing | Other Testing Skills and Procedures | Biosafety | QMS | Equipment Maintenance | Diagnostic Connectivity Solutions | SRS | Private Sector Engagement | Other Diagnostic Topic |
| People trained | 1,501 | 57 | 162 | 1,079 | | 150 | | 21 | | | 32 |
| SOPs, plans, and guidelines developed or revised | 31 | 3 | | 3 | 16 | | 8 | | | | 1 |
| TWG* meetings held | 6 | 4 | | | | 1 | | | | | 1 |
| Supervisory visits conducted | 30 | 15 | 15 | | | | | | | | |
| Pilots conducted | 0 | | | | | | | | | | |
| Assessment reports completed | 8 | | | 2 | 1 | 1 | | | 1 | 1 | 2 |
| People mentored | 34 | 3 | | 2 | | 13 | | | | | 16 |
| Countries [†] | | | | | | | | | | | |
| Bangladesh | | • | • | | | • | | | | | |
| Burma | | • | | • | • | | | | | | |

| Result area: TB IR 1.1: Gaps in diagnostic networks identified and essential components supported | | | | | | | | | | | |
|---|-------|----------------------|----------------------|-------------------------------------|-----------|-----|-----------------------|-----------------------------------|-----|---------------------------|------------------------|
| | TOTAL | New Diagnostic Tools | Pediatric TB Testing | Other Testing Skills and Procedures | Biosafety | QMS | Equipment Maintenance | Diagnostic Connectivity Solutions | SRS | Private Sector Engagement | Other Diagnostic Topic |
| Cambodia | | • | • | | | | | • | | | |
| DRC | | | | | • | | • | | | | |
| Ethiopia | | | | | | | | | | | • |
| India | | • | | • | | • | | | | • | |
| Malawi | | • | | | | | | | | | •• |
| Mozambique | | • | • | • | | | | | • | | • |
| Tanzania | | • | | | | | | | | | • |
| Zimbabwe | | | • | • | | • | | | | | |

*TWG=technical working group

† Countries listed are those that contributed to specific outputs during FY 2023 Q4.

•=Activities implemented with Core TB funding from USAID in Washington, DC

•=Activities implemented with country funding

Middle East and North Africa

With funds from the USAID Bureau for the Middle East, IDDS developed an assessment tool, based on the TB NET tool, to be piloted in MENA countries to assess the diagnostic network capacity and preparedness for emerging and reemerging disease threats. During FY 2023 Q4, IDDS completed the verification phase of the DNA in Tunisia, which verified the findings from the self-assessment phase completed in FY 2023 Q3. IDDS also developed a survey and hosted an after-action review meeting with the Tunisia DNA assessors to solicit feedback, with the aim of improving the DNA tool and processes. After incorporating feedback from the after-action review meeting, IDDS finalized a package of DNA tools and training materials for submission to USAID.

Implementation Status

Work plans and deliverables submitted in FY 2023 Q4 are summarized in the tables that follow.

Work Plans Submitted and Approved in FY 2023 Q4

| Project Area | Submitted/Resubmitted in Q4 | Received USAID Approval in Q4 |
|--------------|--|--|
| GHS | <ul style="list-style-type: none"> Ethiopia: 8/7/2023 Madagascar: 9/26/2023 Cameroon: 7/11/2023, 9/29/2023 Tanzania: 7/11/2023, 9/29/2023 Kenya: 8/4/2023, 9/29/2023 Liberia: 8/7/2023, 8/28/2023, 9/29/2023 Uganda: 8/7/2023, 9/27/2023 DRC: 9/21/2023, 9/26/2023 | <ul style="list-style-type: none"> Uganda (Contingent): July 24, 2023 |

| Project Area | Submitted/Resubmitted in Q4 | Received USAID Approval in Q4 |
|----------------------|--|---|
| TB | <ul style="list-style-type: none"> Malawi redirection request: 9/26/2023 Mozambique PoP extension request: 8/9/2023 DRC: 9/11/2023, 9/25/2023 Zimbabwe: 9/29/2023 Tanzania (Field TB): 8/8/2023, 9/1/2023 Tanzania (PEPFAR COP23): 7/28/2023 India TB (plus GHS): 9/8/2023 REDSO/ESA: 8/18/2023 USAID Bureau for Africa: 7/20/2023, 7/27/2023 | <ul style="list-style-type: none"> REDSO/ESA: 8/24/2023 USAID Bureau for Africa: 8/2/2023 |
| Cross-Cutting | None | None |

Deliverables Submitted in FY 2023 Q4

| Project Area | Number of Key Deliverables Submitted to USAID in Q4 |
|--------------|---|
| GHS | 7 |
| IDSR | 0 |
| TB | 14 |
| Total | 21 |

Program Highlights

Global Health Security FY 2023 Q4 Achievements

CAMEROON

On July 11, 2023, IDDS submitted a new Cameroon GHS work plan covering the period of July 1, 2023–December 31, 2023. IDDS resubmitted the work plan in response to comments on September 29. As of September 30, the Cameroon work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To support workforce development around AMR surveillance, IDDS worked with leadership at the University of Buea, representatives from the USAID Mission in Cameroon, and other GHS implementing partners (USAID's Medicines, Technologies, and Pharmaceutical Services program and the Africa One Health University Network) to develop an AMR e-learning platform. This platform will be used in a master's-level online training program on AMR and infectious disease, as well as three short-term certification programs.
- To increase capacity for and quality of AST, pathogen identification, and proper antibiotic use, IDDS provided technical support and mentorship to NPHL and several AMR surveillance sites in Yaoundé. Specifically, IDDS supported the Yaoundé Military Hospital to discuss AMR surveillance results and train 49 biologists and clinicians (19 female) on ways to improve proper use of antibiotics at the hospital. The project also mentored three laboratory staff (all female) from two AMR surveillance sites in Yaoundé on internal quality controls for antibiograms.

Surveillance Highlights:

- To support national-level monitoring of AMR data, IDDS continued to support the National Coordination Center to finalize the 2022 Antimicrobial Resistance Surveillance Annual Report. IDDS helped convene two review and validation meetings of the document with national stakeholders and held a workshop with NPHL to discuss the process of integrating AMR data from WHONET into DHIS 2 as a means of building on the findings of the annual report.
- IDDS provided technical support to the National Public Health Emergency Center to validate and finalize a guideline on preparing for and responding to viral hemorrhagic fevers, through the organization of a workshop that brought together 33 participants (16 female) from the Ministry of Public Health and the One Health platform as well as their partners (the International Organization for Migration, WHO, Jhpiego).

Mpox Highlights:

- To evaluate the implementation of mpox surveillance activities, IDDS supported DLMEP to organize supportive supervision visits to low-performing health structures in the Southwest and Northwest

regions (those most affected by mpox outbreaks). Across the regions, DLMEP supervised 10 health districts and 13 health facilities.

- To reduce turnaround time for mpox test results, IDDS supported supervisory visits to three of the four laboratories trained in mpox diagnosis to monitor biosafety, biosecurity, and testing capacity. The sites were able to provide accurate test results.

Problems Encountered and Solutions

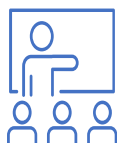
| Problem | Resolution | Status |
|--|---|-------------|
| Disease outbreaks and other public health emergencies have affected implementation progress because Ministry of Public Health stakeholders are unable to prioritize IDDS engagements while addressing the various public health emergencies. | The IDDS team lead in Cameroon maintained frequent communication with government stakeholders and negotiated new dates for engagements as appropriate. | In progress |
| The foreword of the English version of the mpox surveillance guidelines has not yet been signed because of the absence of the Minister of Public Health. | IDDS continues to follow up with the Minister of Public Health. Meanwhile, the French version has been signed, and nearly 500 copies have been printed for dissemination to 10 regions. | In progress |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results

49



People trained

Testing

1



Guideline developed

Data analysis and use

27

Supportive
supervision visitsData quality (24)
Biosafety and biosecurity (3)

1

TWG
meeting heldElectronic reporting
system

3



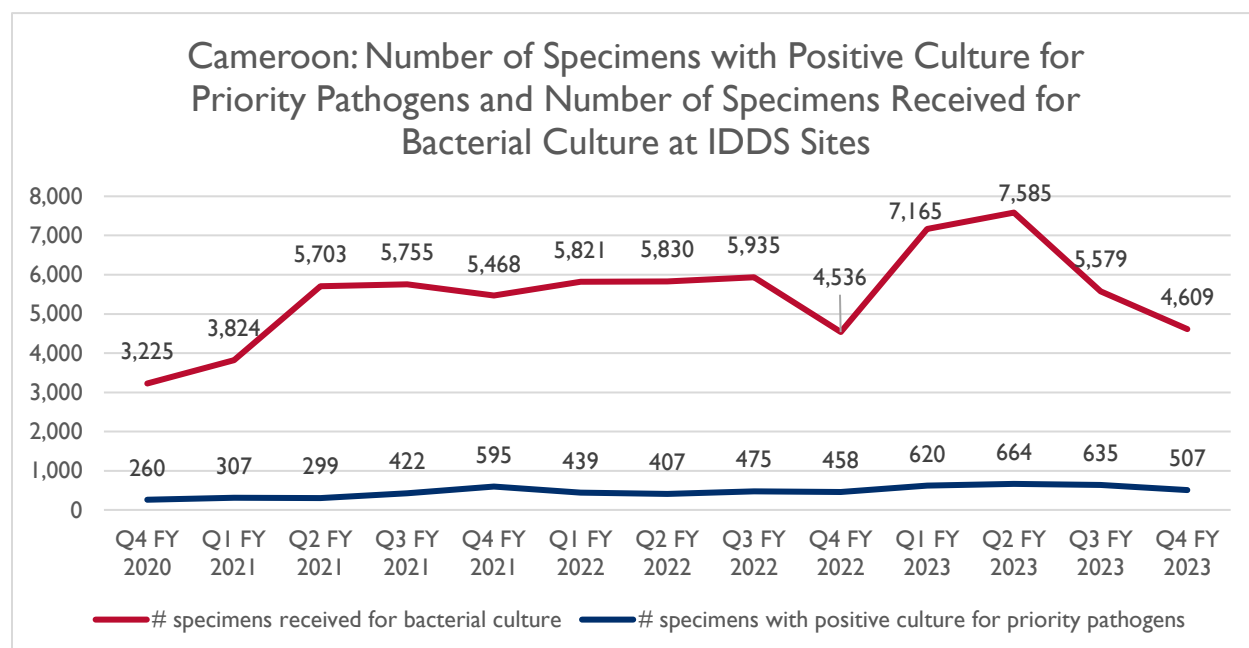
People mentored

QMS

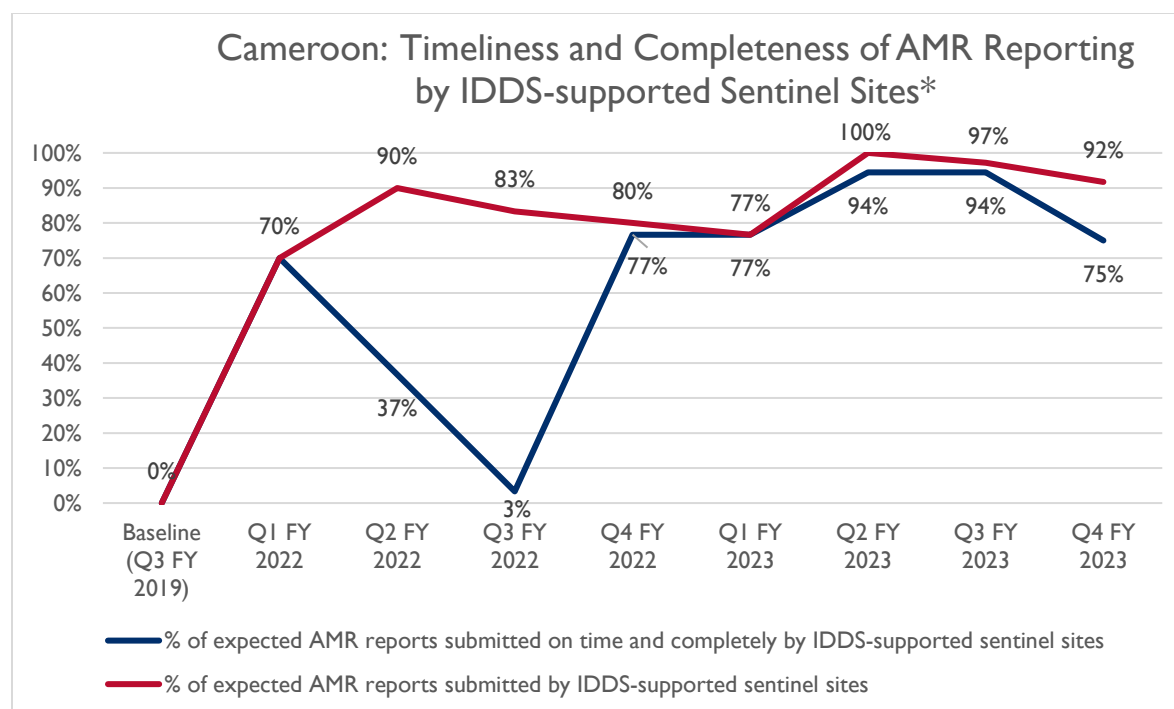
100

Specimens
transportedSRS – GHS (99)
SRS – mpox (1)

FY 2023 Q4 Outcome Results



IDDS is strengthening the capacity for bacteriology testing in nine human health and three animal health sites animal in Cameroon, which has resulted in increased testing and detection of priority pathogens. IDDS began supporting three new sites in FY 2023. The FY 2023 Q4 report included data from only eight human health laboratories and two animal health laboratories. One of the human health laboratories did not submit any data during Q4 because its ownership was transferred to a private firm, requiring a new agreement to obtain the data. Additionally, one of the animal health laboratories underwent renovations and did not receive any specimens in FY 2023 Q3 and Q4. The number of specimens received could also be affected by the seasonality and trends in the incidence of diseases. Only priority bacterial pathogens listed by the national government as being of “primary concern” are reported for this indicator. The priority pathogens reported for Cameroon in FY 2023 Q4 included: *E. coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Salmonella* spp., *Shigella*, *Pseudomonas aeruginosa*, *Vibrio cholerae*, and *Neisseria gonorrhoeae*.



*IDDS-supported sites are nine human and three animal sentinel surveillance sites.

IDDS supports AMR detection and surveillance at human and animal sentinel surveillance sites in Cameroon by providing technical assistance, mentorship, and training on WHONET reporting, AMR data management, analysis, and interpretation. IDDS supported Cameroon to establish the AMR sentinel surveillance sites and reporting system. Initially, IDDS supported eight human and two animal sites. However, at the beginning of FY 2023 Q3, support was expanded to 2 additional sites (1 human and 1 animal), bringing the total number of IDDS-supported sites to 12. The graph shows significant improvement in the AMR reporting rates as well as the timeliness and completeness of the reports. There were no specific reasons provided for the sharp reduction in the timeliness and completeness of AMR reports in FY 2022 Q2 other than the sites slipped in meeting the reporting deadline due to management issues. The decrease in the reporting rate during FY 2023 Q4 was attributed to the transfer of the ownership of one of the IDDS-supported sites to a private firm, which did not submit the result for FY 2023 Q4. One additional laboratory also failed to submit their monthly AMR reports on a timely basis.

DEMOCRATIC REPUBLIC OF THE CONGO

On September 21, 2023, IDDS submitted a new DRC GHS work plan covering the period of June 1, 2023–December 31, 2023. IDDS resubmitted the work plan with an accompanying budget on September 26. As of September 30, the DRC work plan has not been approved by USAID.

Quarterly Highlights

Success Story:

- IDDS Prepares Local Airlines to Safely Handle and Transport Biological Specimens in the Democratic Republic of the Congo

Diagnostic Highlights:

- To facilitate the smooth transport and referral of specimens during disease outbreaks, IDDS trained 20 local staff, including individuals from airline companies, in the safe handling and transportation of biological specimens. This training laid the groundwork for a productive collaboration with local airline companies, primarily within the private sector, which will effectively close critical gaps within the diagnostic network and bolster the efficiency of the SRS in eastern DRC and beyond.

Surveillance Highlights:

- None to report.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|---|-------------|
| Security concerns and the state of emergency in North Kivu and Ituri provinces have continued since May. | IDDS regularly checked security information; security alerts are now more readily available. Staff are only authorized to travel when security permits. Goma-based staff continued to be relocated to Kinshasa. | In progress |

Lessons Learned

- Prioritizing staff capacity building is essential for integrating local airline companies into the transportation of biological specimens during outbreaks.
- Effective leadership from MoH, in collaboration with stakeholders and partners, is crucial for success, particularly in a fragile security environment.

FY 2023 Q4 Output Results

20



People trained

Biosafety and biosecurity

5

SOPs, plans, and guidelines
developed

Biosafety and biosecurity

32

TWG
meetings heldBiosafety and biosecurity (13)
Testing (16)
SRS (3)

1

Assessment
completed

SRS

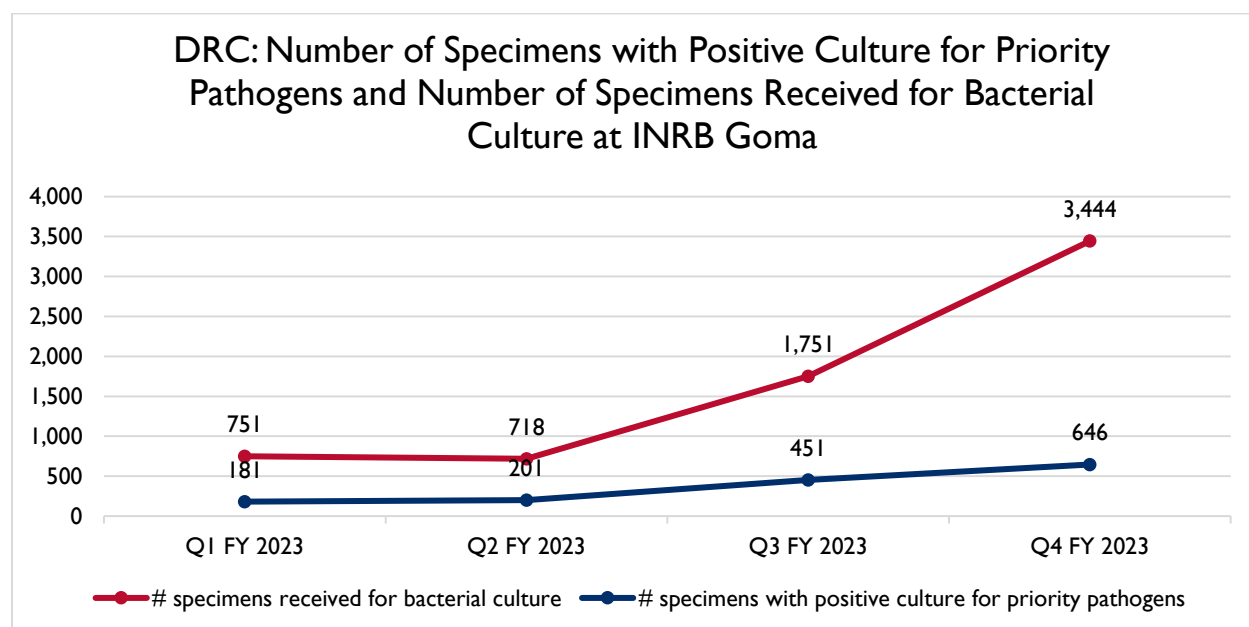
19



Specimens transported

SRS – plague

FY 2023 Q4 Outcome Results



Since FY 2022 Q4, IDDS has focused on strengthening diagnostic capacity of INRB in Goma for the detection of priority pathogens, diagnosis of plague, and waste management by providing technical assistance, limited supplies/reagents, trainings, and supportive supervisions. IDDS started tracking these outcomes in FY 2023. The results reported for INRB Goma for the last four quarters indicate that IDDS support is enabling this laboratory to expand bacterial culture for detecting priority pathogens and AST. While diagnostic capacity has consistently improved, the increase in the number of specimens received and tested during FY 2023 Q4 was mainly caused by the ongoing outbreak of Cholera disease in the region.

ETHIOPIA

On August 7, 2023, IDDS submitted a new Ethiopia GHS work plan covering the period of August 1, 2023–March 31, 2024. As of September 30, the Ethiopia work plan has not been approved by USAID.

Quarterly Highlights

Success Story:

- IDDS Supports Country Self-Evaluation and Implementation of the Core Capacities of the International Health Regulations in Ethiopia

Diagnostic Highlights:

- In a major step toward recognizing the improved quality of laboratory services, Jimma University Hospital Laboratory, an IDDS-supported facility, received ISO 15189 accreditation in September. Hawassa University Microbiology Laboratory, another IDDS-supported facility, has applied for ISO 15189 accreditation.
- To assist laboratories in demonstrating the quality of their services, IDDS and EPHI jointly conducted supportive supervision and mentorship visits at three IDDS-supported microbiology laboratories to support preparations for ISO 15189 accreditation assessments.

Surveillance Highlights:

- To improve AMR surveillance, IDDS, in collaboration with EPHI, organized an AMR data review meeting with AMR sentinel site partners and other stakeholders. During this meeting, lessons learned, best practices, challenges, and recommendations were shared.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|---|-------------|
| A state of emergency was declared in the Amhara regional state. As a result, mentorship and supportive supervision visits have been interrupted at three AMR sites that IDDS supports (Felege Hiwot Hospital, Gondar University Hospital, and Bahir Dar Veterinary Laboratory). | IDDS provided remote support to these sites while waiting for the security situation in the region to improve. IDDS made the USAID Mission in Ethiopia aware of the situation and provided them with regular updates. | In progress |

Lessons Learned

- IDDS learned the importance of engaging physicians to improve the number and quality of specimens sent to AMR site laboratories for testing. IDDS engaged EPHI in continuing this best practice.

FY 2023 Q4 Output Results

16



People trained

Data analysis and use

3



Supportive
supervision visits

QMS

11



People mentored

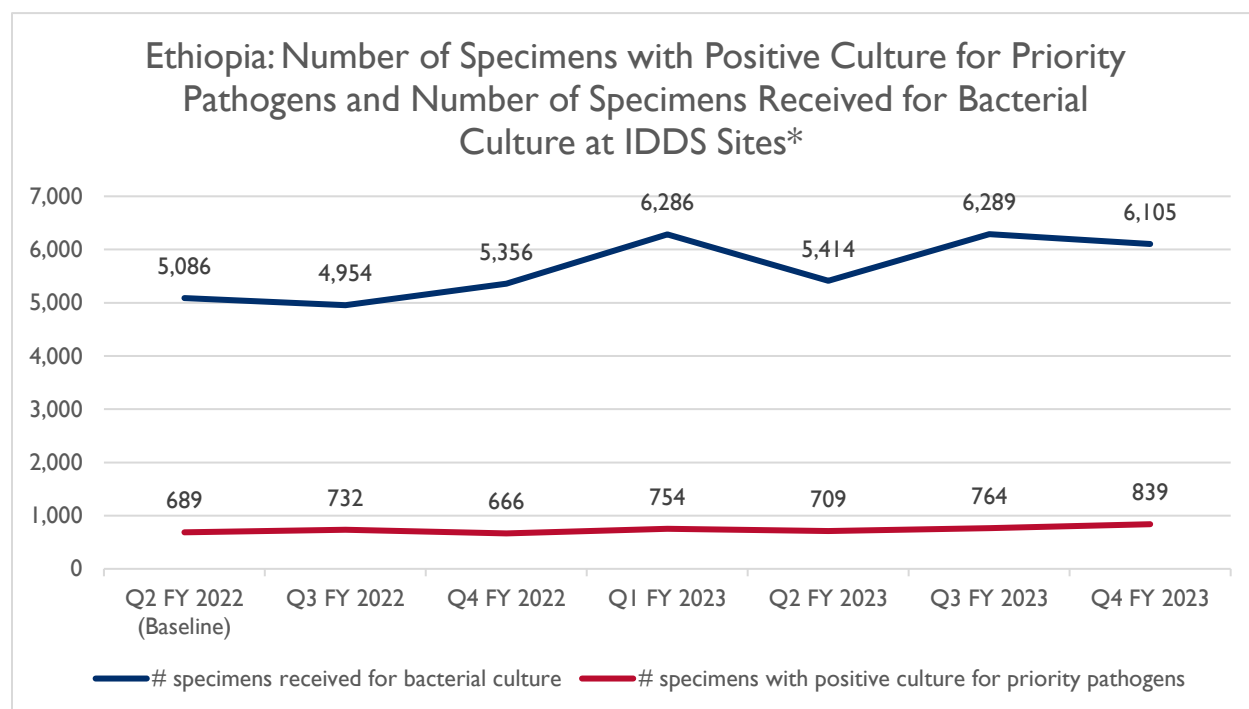
QMS

1



Laboratory accredited
with IDDS support

FY 2023 Q4 Outcome Results



*IDDS sites include five human health laboratories.

IDDS has continued strengthening capacity for bacteriology testing in five human health laboratories in Ethiopia and is engaging clinicians to utilize these testing services. These efforts have resulted in increased testing and detection of priority pathogens. Only priority bacterial pathogens listed by the national government as being of “primary concern” are reported for this indicator. The priority pathogens reported for Ethiopia in FY 2023 Q4 included *Acinetobacter* spp., *E. coli*, *Klebsiella pneumoniae*, *Neisseria gonorrhoeae*, *Pseudomonas aeruginosa*, *Salmonella* spp., *Staphylococcus aureus*, and *Streptococcus pneumoniae*.

GUINEA

IDDS received a final obligation for the Guinea GHS program in Q4. As of September 30, a work plan is still under development and has not been submitted to USAID/W for review.

Quarterly Highlights

Diagnostic Highlights:

- As of June 1, 2023, IDDS expanded the integrated SRS to cover 491 health centers located across the country's 33 health districts. In FY 2023 Q4, IDDS, in collaboration with Village Reach and the U.S. Centers for Disease Control and Prevention, assessed the SRS in the region of Conakry and surrounding islands, with the aim to expand the integrated SRS to all health centers in that region.
- Since expanding its reach to the entire country, the IDDS-led integrated SRS has facilitated the transport of specimens for various vaccine-preventable diseases, such as diphtheria and vaccine-derived polio, as outbreaks of these conditions have developed in the country.

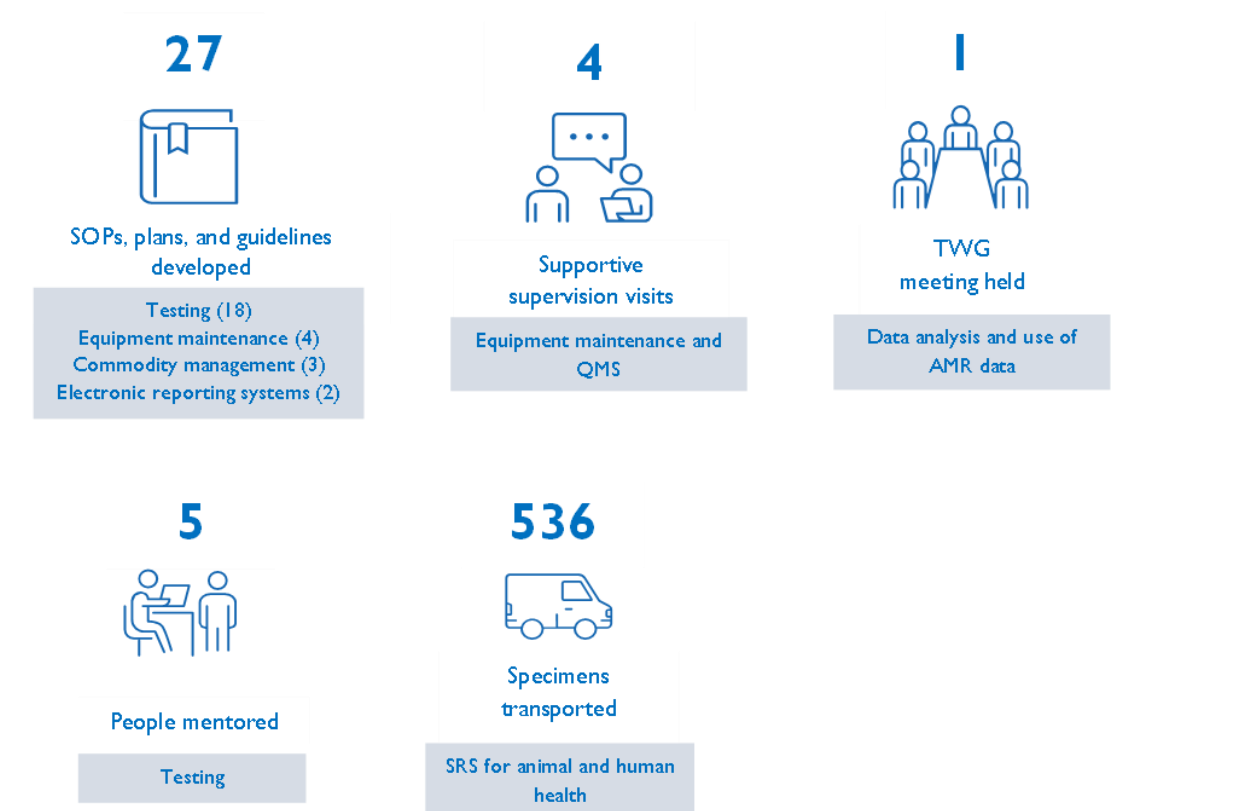
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

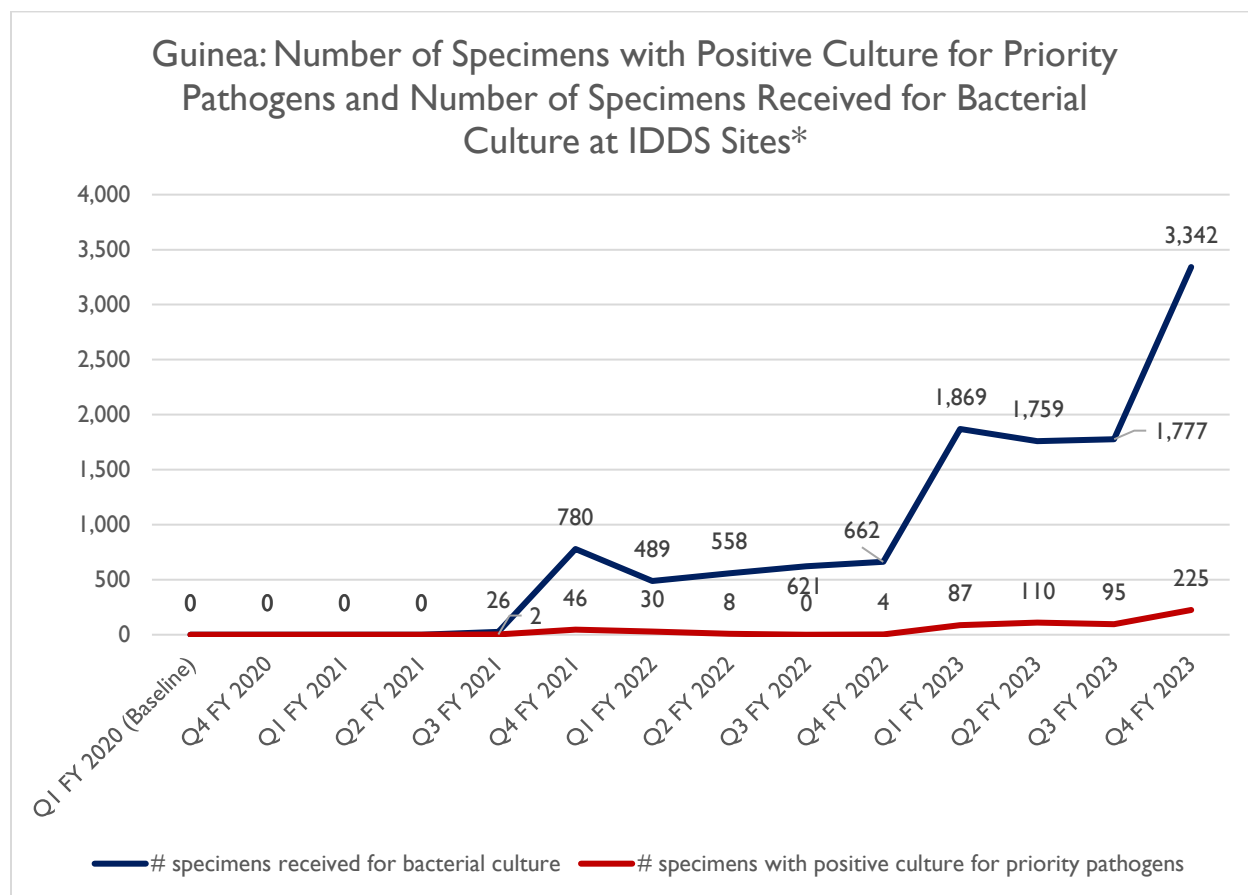
Lessons Learned

- It is important to collaborate with other implementing partners, such as Village Reach, the U.S. Centers for Disease Control and Prevention, and WHO, to improve the implementation and dissemination of the IDDS-developed integrated SRS in Guinea. This will ensure continuity of the system after IDDS closes out in Guinea in March 2024.

FY 2023 Q4 Output Results

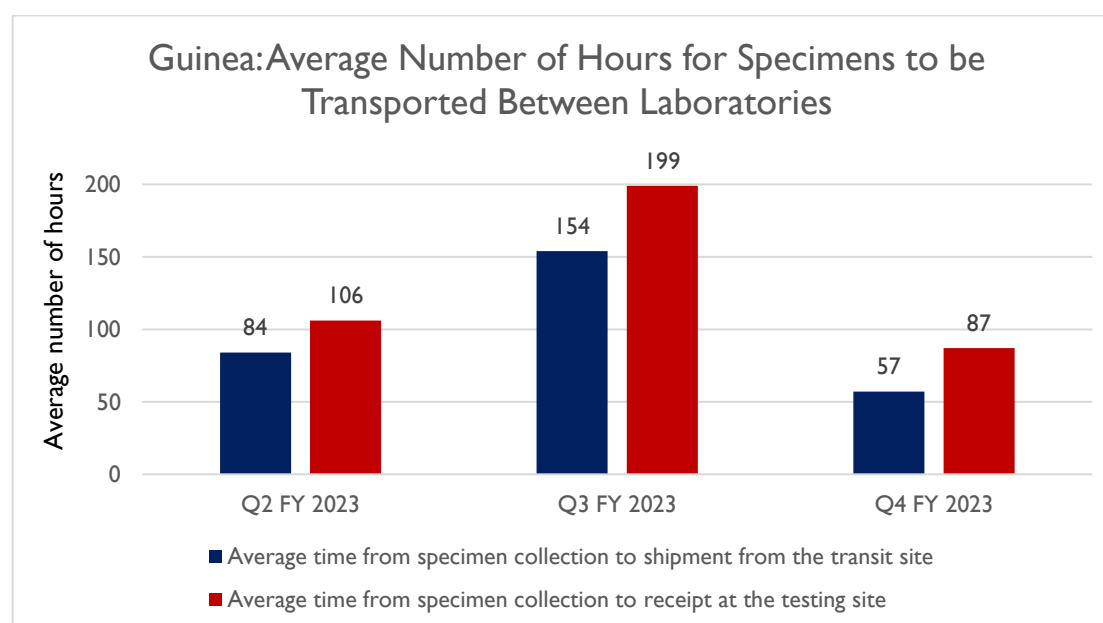
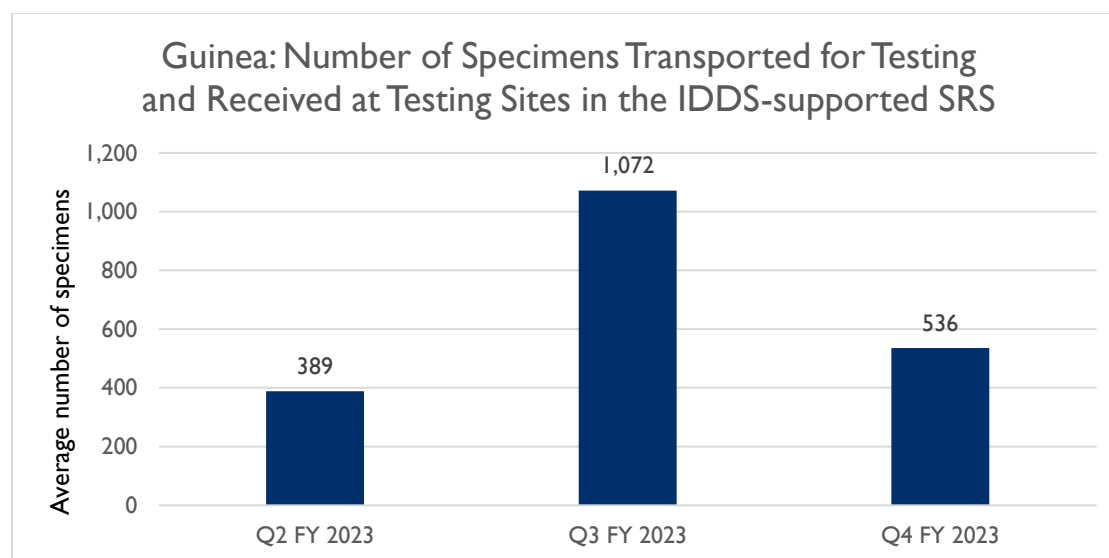


FY 2023 Q4 Outcome Results



*In FY 2021, IDDS enabled bacteriology testing in three laboratories. In FY 2022, IDDS began supporting two additional laboratories for bacteriology and AMR surveillance and in FY 2023 Q1, the same support was provided to one national laboratory. The above data from Q1 to Q3 of FY 2023 are from six IDDS-supported laboratories and the data from Q4 FY 2023 are from seven sites, demonstrating steady increases in specimens received for testing and specimens cultured for priority pathogens. The seventh laboratory just began culture and AST in July 2023. Only priority bacterial pathogens listed by the national government as being of “primary concern” are reported for this indicator, which in most reporting periods for Guinea included *E. coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Staphylococcus aureus*, *Staphylococcus xylosus*, and *Streptococcus pneumoniae*.

In FY 2022 Q3, three IDDS-supported laboratories had stockouts of reagents for culture and AST, causing interruption of testing services and resulting in no specimens with positive culture for priority pathogens. During that period of stockouts in 2022, bacteriology testing (namely gram staining and microscopy) continued at IDDS sites. During Q3 and Q4 of FY 2023, only two IDDS sites had stockouts and none of the sites had testing interruptions in that period. Since AMR testing began in FY 2021, IDDS sites consistently met bacteriology testing timeframe targets, with approximately 97 to 100 percent of the specimens identified on specific randomized dates of the reporting periods. IDDS also supported the National Institute of Public Health to conduct PT in all IDDS-supported sites in FY 2021 Q4, FY 2022 Q4, and FY 2023 Q4 and all sites passed their PT during each round.



The integrated SRS in Guinea, which was developed by IDDS, MoH, and partners, continues to improve in its scope, quality, and speed of specimen transport across the country. The Guinea SRS was piloted in FY 2022, during which human health specimens were transported with reduced costs and transit routes optimized. By the middle of FY 2023, IDDS had completed SRS baseline assessments in six regions, began to transport animal health specimens, and added four other regions across the country to its implementation so that in total, the integrated SRS was rolled out to 491 health centers in 33 health districts across 7 regions in the country. The implementation and scale-up is ongoing, with courier agreements, national policies, costing plans, and routine monitoring systems in place. The graphs above demonstrate reduced time from specimen collection to shipment and from specimen collection to receipt at testing laboratories, with an increase in the number of specimens transported in Q3 and a drop in Q4, but still higher than the number transported in Q2. The Q1 data for FY 2023 are not included here because the data did not meet quality standards and are still under review.

INDIA

On September 8, 2023, IDDS submitted a revised and integrated India TB+GHS work plan covering the period of October 1, 2022–March 31, 2024. As of September 30, the India TB+GHS work plan has not been approved by USAID.

Quarterly Highlights

Surveillance Highlights:

- To advance the development and finalization of the NAP-AMR 2.0—a key policy document for guiding India’s national approach to addressing AMR and achieving the Sustainable Development Goals—IDDS achieved concurrence with NCDC on a framework for the document. This framework will guide each contributing sector’s strategic and operational plan, ultimately detailing how each sector will contribute to NAP-AMR 2.0 implementation.
- To advance subnational implementation of AMR containment, IDDS and the State of Sikkim finalized the SAP-CAR for Sikkim and forwarded it to NCDC for approval. After it is final, this key policy document will represent the fifth SAP-CAR for India and serve as a model for other states to follow.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|-------------|
| Finalization of the NAP-AMR 2.0 has been delayed due to limited staff availability at the NCDC AMR division. | One IDDS team member regularly visits NCDC to provide technical support and expedite the development of NAP-AMR 2.0. The framework has been developed and will be shared with the National Institution for Transforming India Aayog, which is a separate government agency responsible for overseeing adoption and monitoring of the Sustainable Development Goals in India. | In progress |

Lessons Learned

- None to report.

INDONESIA

As of September 30, IDDS did not receive a final obligation for the Indonesia GHS program and a work plan has not been submitted to USAID for review.

Quarterly Highlights

Diagnostic Highlights:

- To improve coordination across sectors in detecting diseases of public health importance, IDDS supported the MoH to convene the One Health Laboratory Network sub-working group to determine the potential work plan among the participating partners (human, animal, and university laboratories). The partners agreed on activities that will be implemented in 2023 and 2024.

Surveillance Highlights:

- To improve coordination across sectors for disease surveillance, IDDS facilitated two coordination meetings in collaboration with the Coordinating Ministry of Human Development and Cultural Affairs. During the first meeting, 32 participants (15 female) drafted a concept note and action plan for forming a new team at the central level for prevention and control of zoonoses and EIDs. During the second meeting, 27 participants (8 female) agreed on criteria for a list of national notifiable diseases. The central-level team will become an important forum for cross-sectoral coordination on disease surveillance, and the list of priority diseases is a necessary step for creating regulations that will require mandatory reporting of cases.

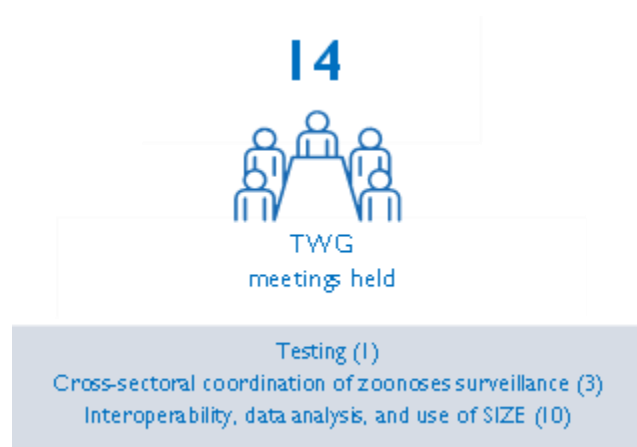
Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|----------|
| IDDS experienced delays in scheduling activities, such as the leptospirosis systematic review meeting and the SIZE regular meeting, due to the difficulty of coordinating across three government ministries with their own priorities and agendas. | IDDS adjusted the timeline for the activities, several of which will take place in FY 2024 Q1. | Resolved |
| It is challenging to accommodate the various needs of central and local government agencies for upgrading SIZE technology, because there are 12 agencies at the central level as well as agencies from 12 districts where SIZE has been implemented. | IDDS collaborated with a technical consultant to accommodate the needs, including changes to the database and coding systems for SIZE. | Resolved |

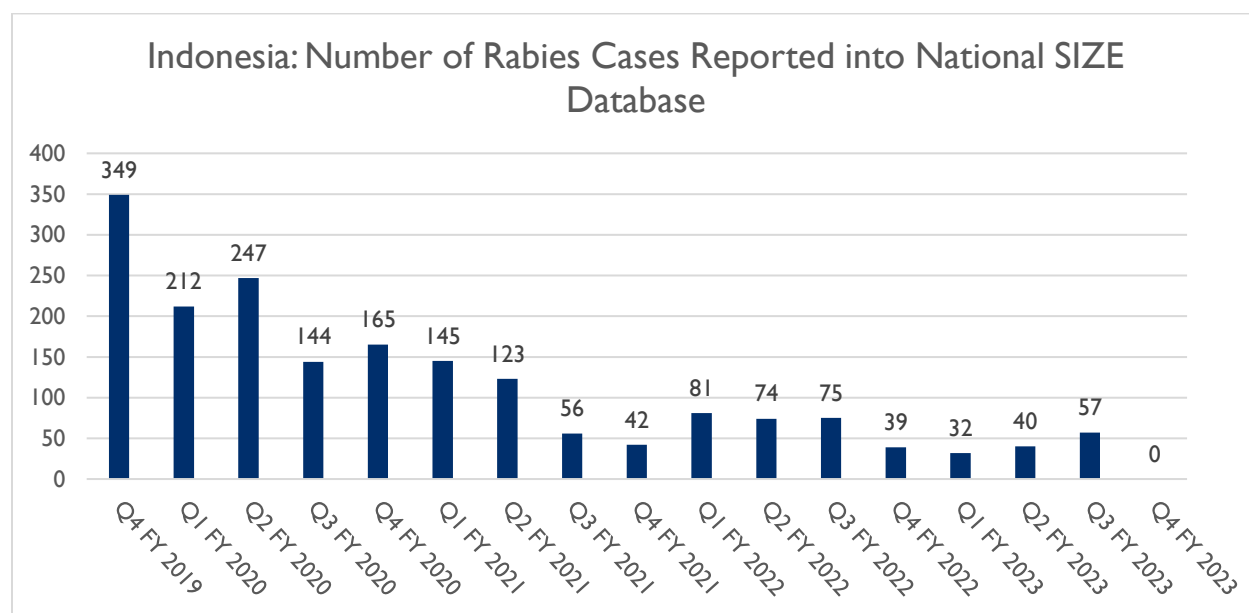
Lessons Learned

- Prior to delivering training, it is important to verify that institutions have enough equipment to practice and implement the new skill in a regular work setting. If possible, a best practice is to advocate that the government support equipment procurement for sustainability in future implementation.
- It will be useful to collaborate with an information technology expert, especially on SIZE technology development, to accommodate government needs for the more advanced, national version of SIZE.
- The existence of a local coordination team (such as the team that was formed in Demak District, an IDDS pilot area) will strengthen efforts to prevent and control zoonosis/EIDs at the local level. New official efforts to tackle the problem of leptospirosis—such as the clean village competition, socialization through local radio, and coordination with community leaders—would be best supported by local coordination teams.

FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results



IDDS is supporting the Indonesian government to develop SIZE, an integrated health information and early warning notification system to share data across three health sectors (human, animal, and environment/wildlife). IDDS is working to increase functionality and use of the SIZE national database. Up until July 2023, only rabies cases were reported into SIZE from four IDDS-supported pilot districts, but the government plans to expand the system.

In Q1 to Q4 of FY 2023, the website and tools to upgrade SIZE into a national application were still under development with IDDS support so as to meet requirements from the government of Indonesia. Once the application is ready, training by the government to over 500 districts can begin. The plan is to capture rabies cases and other EIDs and priority zoonotic diseases, such as leptospirosis, anthrax, and avian influenza. Then, data entry and bulletin production can start. District surveillance officers from the four pilot districts captured rabies cases in SIZE since baseline up to the first three quarters of FY 2023 and by July 2023, stopped entering rabies data into SIZE due to changes in the SIZE platform at the national level and limited human resources at the district level.

In September 2019 (baseline), when SIZE became operational, a high number of rabies cases were recorded in SIZE partly due to officers from multiple government sectors entering historical data at that time, which previously was only kept in the database for each individual sector. Since baseline, there are several reasons for a decrease in case numbers reported into SIZE:

- There was a decrease in incidence of animal bites leading to suspected rabies cases in humans and an increase in rabies vaccination coverage.
- There was a decrease in available government staff to report cases in SIZE at the district level due to staff shortages and moving health staff to new postings without filling gaps.
- The COVID-19 pandemic drained resources from the overall government budget to support general infectious disease surveillance work. Staff in the health sector of the Government of Indonesia (at all

levels) fully participated in controlling the pandemic, and there was a concomitant decrease in reporting cases into SIZE from March 2020 to January 2022.

KENYA

On August 4, 2023, IDDS submitted a new Kenya GHS work plan covering the period of August 1, 2023–March 31, 2024. IDDS resubmitted the work plan in response to comments on September 29. As of September 30, the Kenya work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To sustain capacity for AMR surveillance in Kenya, IDDS fully transitioned management and analysis of bacterial isolates retesting data to NMRL. This major step built on IDDS efforts (beginning in FY 2023 Q2) to build NMRL capacity to manage and analyze AMR surveillance data, through on-site hands-on training and mentorship of designated NMRL staff.
- IDDS participated in the process to create a new national AMR surveillance strategy—integrated across human, animal, and environmental health sectors—for the period 2023–2027. IDDS provided technical and financial support to NASIC to convene three forums focused on reviewing the existing surveillance strategies. This included supporting NASIC to convene a TWG meeting of 18 participants (9 female) to create an outline and roadmap for the new strategy, as well as participating in drafting and reviewing the new strategy.

Surveillance Highlights:

- None to report.

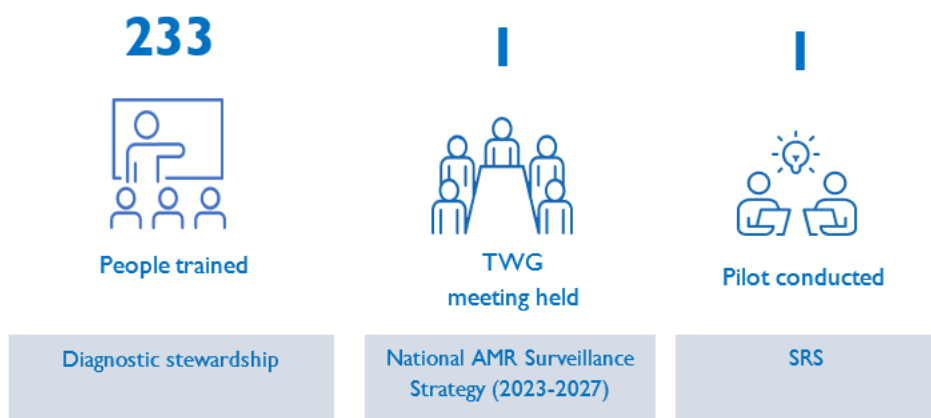
Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|--|----------|
| Nyeri County Referral Hospital Laboratory was unable to transmit more than half of its AMR surveillance records to the national-level Central Data Warehouse. | IDDS worked with the informatics specialists at NPHL to troubleshoot and resolve the issue, which was a system configuration error. The laboratory is currently able to transmit all test records. | Resolved |

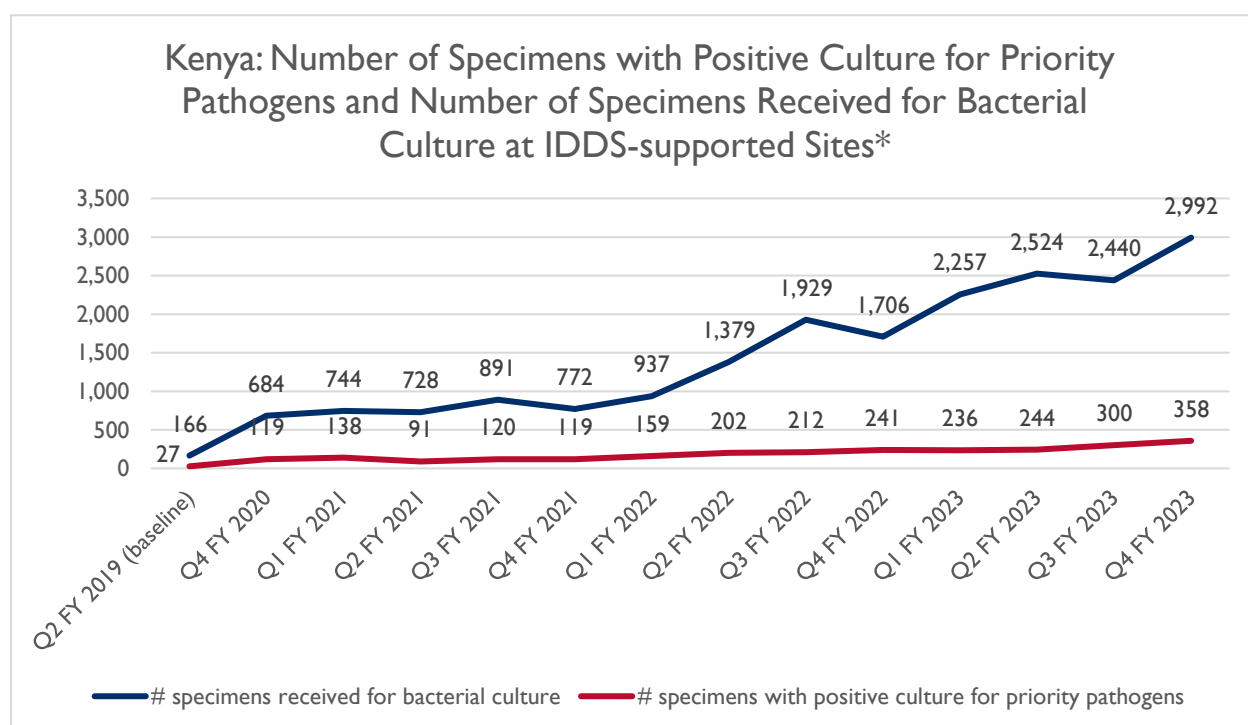
Lessons Learned

- None to report.

FY 2023 Q4 Output Results



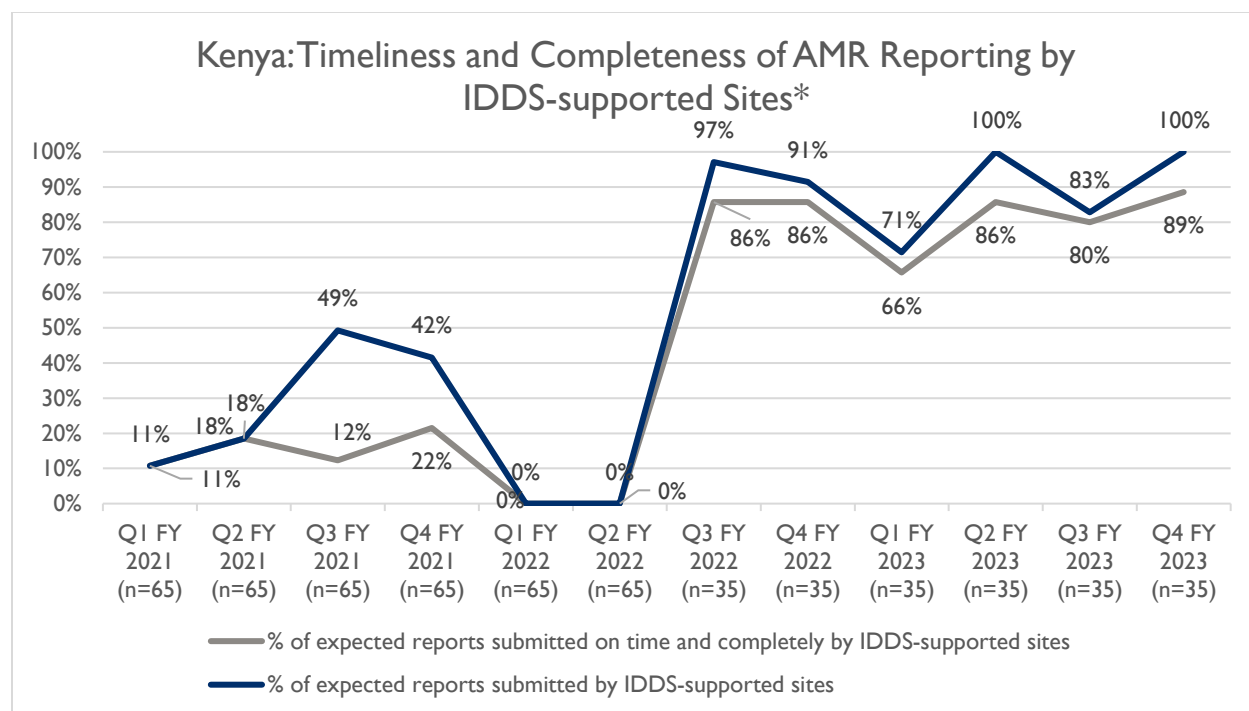
FY 2023 Q4 Outcome Results



*IDDS-supported sites include five bacteriology laboratories.

IDDS observed an increase in the utilization of bacteriology testing in the five IDDS-supported sites. These improved utilization trends demonstrate the impact and effectiveness of IDDS's interventions over the last five years. These interventions included clinician sensitization; promotion of good diagnostic stewardship through webinars, training sessions, and clinical-laboratory interface meetings; and establishing specimen referral from peripheral health facilities. Only priority bacterial pathogens listed by the national government as being of "primary concern" are reported for this indicator. In

Kenya, this includes *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Acinetobacter* spp., *E. coli*, *Klebsiella* spp., *Pseudomonas aeruginosa*, *Salmonella* spp., and *Shigella* spp.



*IDDS-supported AMR sites include five non-referral hospital laboratories.

Malindi Sub-county Referral Hospital Laboratory, Bungoma County Referral Hospital Laboratory, and Murang'a County Referral Hospital Laboratory were originally expected to submit weekly reports, but in the middle of FY 2022 the expectation changed to monthly reporting to be consistent with the surveillance strategy and expectations at the national level. In FY 2022 Q1 and Q2, IDDS was unable to obtain the data due to IT challenges with the reporting system. In FY 2021, Bungoma County Referral Hospital Laboratory's laboratory information system had issues and it was not possible for the site to extract data for submission. Bungoma County Referral Hospital Laboratory was able to submit reports once the site started using WHONET to share data, which occurred in the middle of FY 2022. As of FY 2022 Q3, Malindi Sub-county Referral Hospital Laboratory, Bungoma County Referral Hospital Laboratory, and Murang'a County Referral Hospital Laboratory are expected to submit one report per month while Kitale County Referral Hospital Laboratory and Nyeri County Referral Hospital Laboratory are expected to submit one report per week. In July 2023, Nyeri County Referral Hospital Laboratory did not submit any of the four expected reports on time and completely due to internet connectivity challenges and system configuration issues. The other four sites submitted all their reports on time and completely in FY 2023 Q4.

LIBERIA

On August 7, 2023, IDDS submitted a new Liberia GHS work plan covering the period of September 1, 2023–March 31, 2024. IDDS resubmitted the work plan in response to comments on August 28 and September 29. As of September 30, the Liberia work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To validate the Integrated AMR Surveillance Strategy for Liberia, IDDS funded a 4-day meeting attended by 23 participants (8 female). This policy document will guide the multisector approach to surveillance of AMR in the country.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|-------------|
| There was a reduction in the number of bacteriology specimens received by IDDS-supported sites, due to turnover of intern doctors at the hospitals in which these laboratories are based. | IDDS continues to engage clinicians during grand round meetings to emphasize the importance of utilizing bacteriology services from the hospital-based laboratories. | In progress |
| IDDS could not complete mentorship visits to assist in closing gaps in services, because the project did not have an approved work plan during the reporting period. Therefore, the teams could only work in the county hospitals in which they are stationed because they lacked approval for travel. | IDDS team members in Liberia continue to work with HQ-based staff to fulfill requirements for work plan approval. | In progress |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results

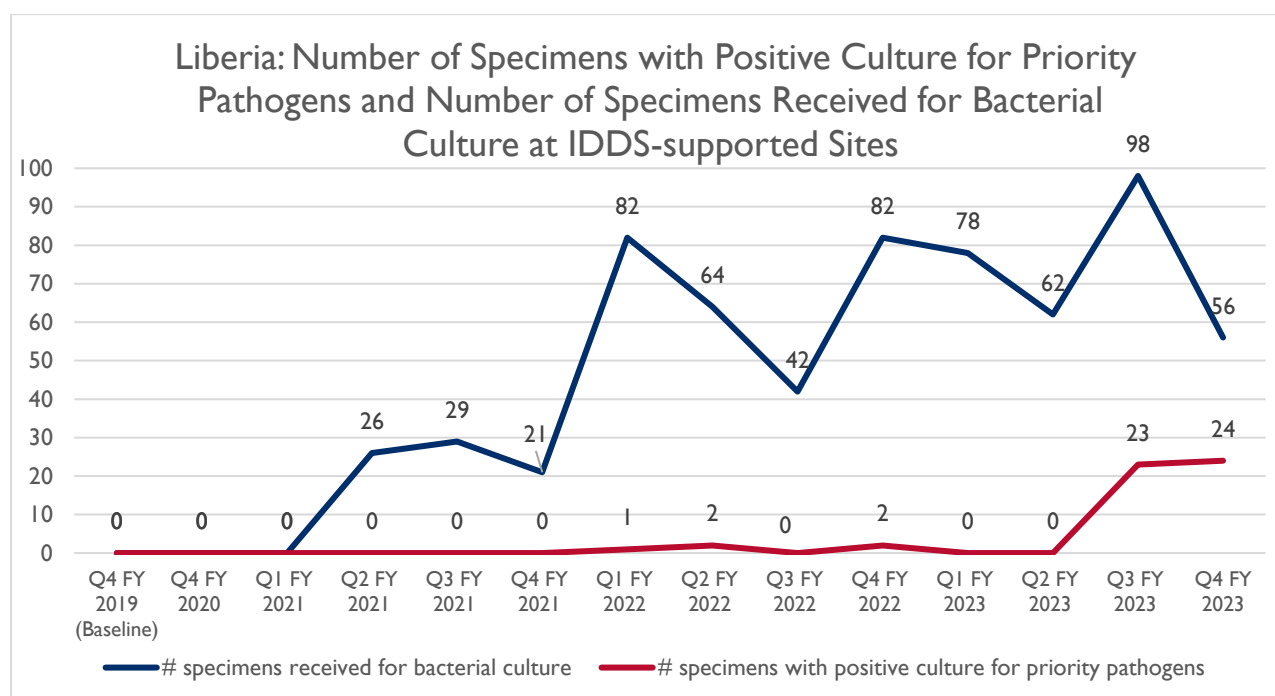
37



People mentored

Testing (30)
QMS (7)

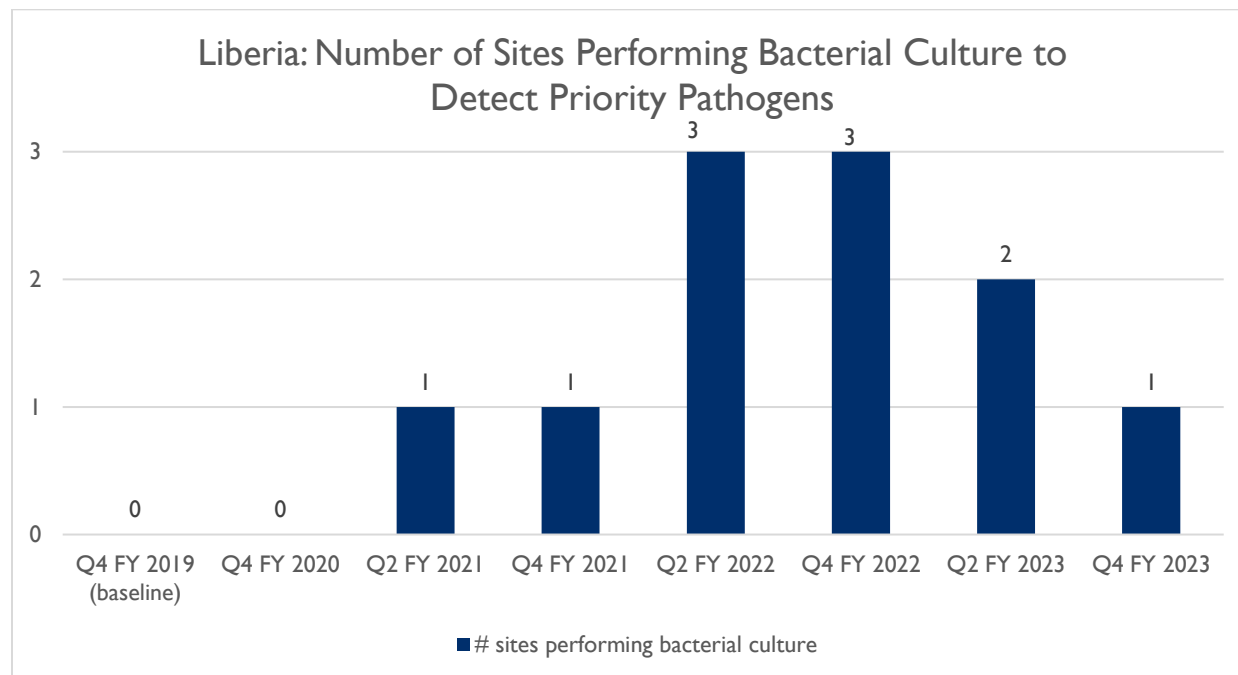
FY 2023 Q4 Outcome Results



*The IDDS-supported sites are G.W. Harley Hospital Laboratory, Phebe Hospital Laboratory, and Tellewoyan Memorial Hospital Laboratory.

IDDS has continued to strengthen capacity for bacteriology testing in the three supported laboratories, which has resulted in increased testing and detection of priority pathogens since the start of the project. Only priority bacterial pathogens listed by the national government as being of “primary concern” are reported for this indicator. In Liberia, this includes *Staphylococcus aureus*, *E. coli*, *Klebsiella* spp., *Pseudomonas aeruginosa*, and *Neisseria gonorrhea*. Since early FY 2023, Tellewoyan Memorial Hospital Laboratory has not been able to perform bacterial culture testing because of an ongoing electrical issue. In FY 2023 Q4, there was a decrease in the number of specimens received due to the deployment of new doctors in August, who need to be trained. In addition, the doctors previously stationed at the sites have been transferred to other locations. To address the challenge, IDDS has been providing

technical assistance to laboratory supervisors to ensure that they provide information to the new intern doctors on the testing capacity and provide training at the laboratories in Phebe Hospital Laboratory and G.W. Harley Hospital Laboratory, with an emphasis on bacteriology testing. Phebe Hospital Laboratory began bacteriological culture testing in FY 2021 Q1 while G.W. Harley Hospital Laboratory and Tellewoyan Memorial Hospital Laboratory bacteriological culture testing in FY 2022 Q1.



Since early FY 2023, Tellewoyan Memorial Hospital Laboratory has not been able to perform bacterial culture testing because of an ongoing electrical issue. In FY 2023 Q4, G.W. Harley Hospital Laboratory did not perform bacterial culture in September because no specimens were received. G.W. Harley Hospital Laboratory had patients, but the new doctors are not aware of when to collect specimens, so none were collected. To address the challenge, IDDS has been providing technical assistance to laboratory supervisors to ensure that they provide information to the new intern doctors on the testing capacity and provide training at the laboratories. New doctors arrived in August and those previously stationed at G.W. Harley were transferred to other sites.

MADAGASCAR

On September 26, 2023, IDDS submitted a new Madagascar GHS work plan covering the period of August 1, 2023–February 29, 2024. As of September 30, the Madagascar work plan has not been approved by USAID.

Quarterly Highlights

Success Story:

- IDDS Successfully Introduced PCR Testing for COVID-19 Detection in Madagascar’s Boeny Region

Diagnostic Highlights:

- To support better forecasting and supply chain management for laboratory commodities, IDDS developed the “*Guide de Gestion des Laboratoires et des Unités d’Imagerie Médicale des Centres Hospitaliers Publics à Madagascar*” (“Management Guide for Laboratories and Medical Imaging Units in Public Hospitals in Madagascar”), which was officially approved this quarter by both MoH and the Directorate of Pharmacies, Laboratories, and Traditional Medicine. Subsequently, IDDS printed 130 copies of this document, which will be disseminated in FY 2024 Q1. This represents a significant accomplishment within the strategic framework of the National Strategic Plan for Laboratory Development 2021–2025. The publication will serve as a valuable reference guide for revenue management and the procurement of laboratory supplies for public health care facilities.

Surveillance Highlights:

- None to report.

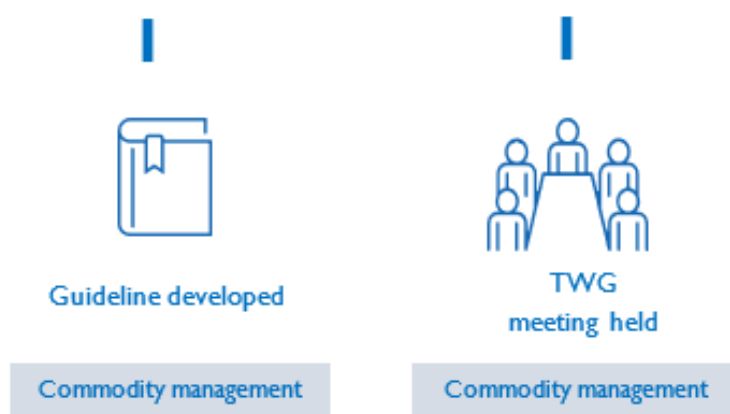
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results



MALI

IDDS received a final obligation for the Mali GHS program in Q4. As of September 30, a work plan is still under development and has not been submitted to USAID/W for review.

Quarterly Highlights

Diagnostic Highlights:

- None to report.

Surveillance Highlights:

- To enhance the effectiveness of disease surveillance, IDDS carried out supportive supervision visits to 80 community health centers that were underperforming in IDSR across the 8 health districts of the Ségou region. The visits aimed to improve the accuracy of data reporting within the facilities included in this initiative.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results

70



Supportive supervision visits

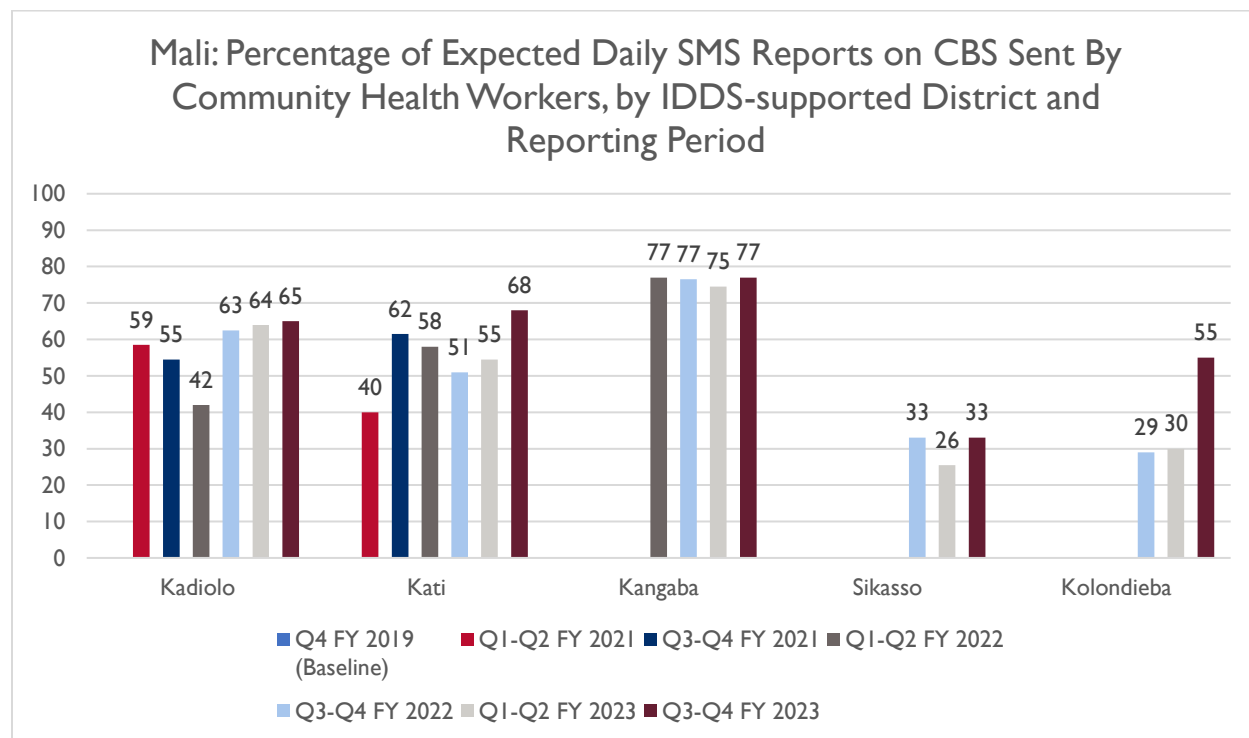
Electronic reporting systems for IDSR

19,732

Visits to national web-based surveillance platform

Data analysis and use

FY 2023 Q4 Outcome Results



From FY 2021 to FY 2022, IDDS trained 330 community health workers from 5 IDDS-supported districts to report suspected disease cases and events/conditions via daily SMS notifications that IDDS helped to establish and roll out. Each district expects one SMS daily to be sent from each community health worker regardless of whether they identified a notifiable disease or event, as defined by the national CBS guidelines. Prior to FY 2021, none of the five supported districts were reporting on CBS data. In Q3 and Q4 of FY 2023, IDDS collaborated with MoH to provide CBS supervision, contributing to improved SMS reporting rates; improvements from prior periods are most notable in Kolondieba district with consistently high rates in Kangaba district due to their experience with tracking Ebola cases. IDDS started implementing SMS reports for CBS in two districts (Kadiolo and Kati) in FY 2021 and expanded to others in subsequent periods. While daily reporting improved after initial implementation, challenges remain to achieving improved reporting rates, including technical problems and coverage with mobile phones, community health worker turnover, inconsistent daily monitoring of community health workers by district and community health center staff due to resource limitations, and irregular payments to the workers by MoH.

PHILIPPINES

Quarterly Highlights

Diagnostic Highlights:

- IDDS developed and shared a concept note/roadmap on strengthening molecular diagnostic capacities for enhanced surveillance of priority diseases with key stakeholders in the animal health, human health, and environment sectors. While IDDS is still gathering feedback and revising the document, its development is a key first step toward providing the Philippine Interagency Committee on Zoonosis with a clear roadmap of actions that will strengthen the integrated surveillance system of priority zoonotic diseases and define the roles of various partners operating in the One Health space.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|---|----------|
| IDDS has had challenges in hiring for two planned positions: the animal health laboratory specialist and a local One Health consultant. | For the animal health laboratory specialist, IDDS identified a candidate and will onboard them in mid-October. For the One Health consultant, a qualified local candidate has been difficult to identify, because One Health is a relatively new concept to the Philippines. As a contingency, IDDS has utilized One Health expertise from within FHI 360 (the implementing partner in the Philippines). The international advisor will work with IDDS staff based in the Philippines to implement activities and customize implementation to the local context. | Resolved |

Lessons Learned

- It is important to receive input from government human, animal, and environmental health sectors when developing a One Health-focused concept note and implementing project activities. Building rapport with each sector facilitates the implementation of project activities and enables the project to extract relevant information with different points of views considered.

SENEGAL

IDDS received a final obligation for the Senegal GHS program in Q4. As of September 30, a work plan is still under development and has not been submitted to USAID/W for review.

Quarterly Highlights

Diagnostic Highlights:

- To assist laboratories with managing their own commodities for the first time, IDDS developed a stock management tool and visited nine project-supported sites to orient them to the new tool, help them complete inventory lists, and collect historical data to further inform the tool.
- To strengthen the national AMR system, IDDS held a meeting with DL to identify AMR sentinel surveillance sites that are part of the national AMR surveillance system and have not yet participated in an assessment. The list of sites to be assessed and a list of assessment dates for each site have been proposed.

Surveillance Highlights:

- To inform national-level recommendations for GHS, IDDS participated in the JEE as a national counterpart for the AMR technical area and the national laboratory system area.

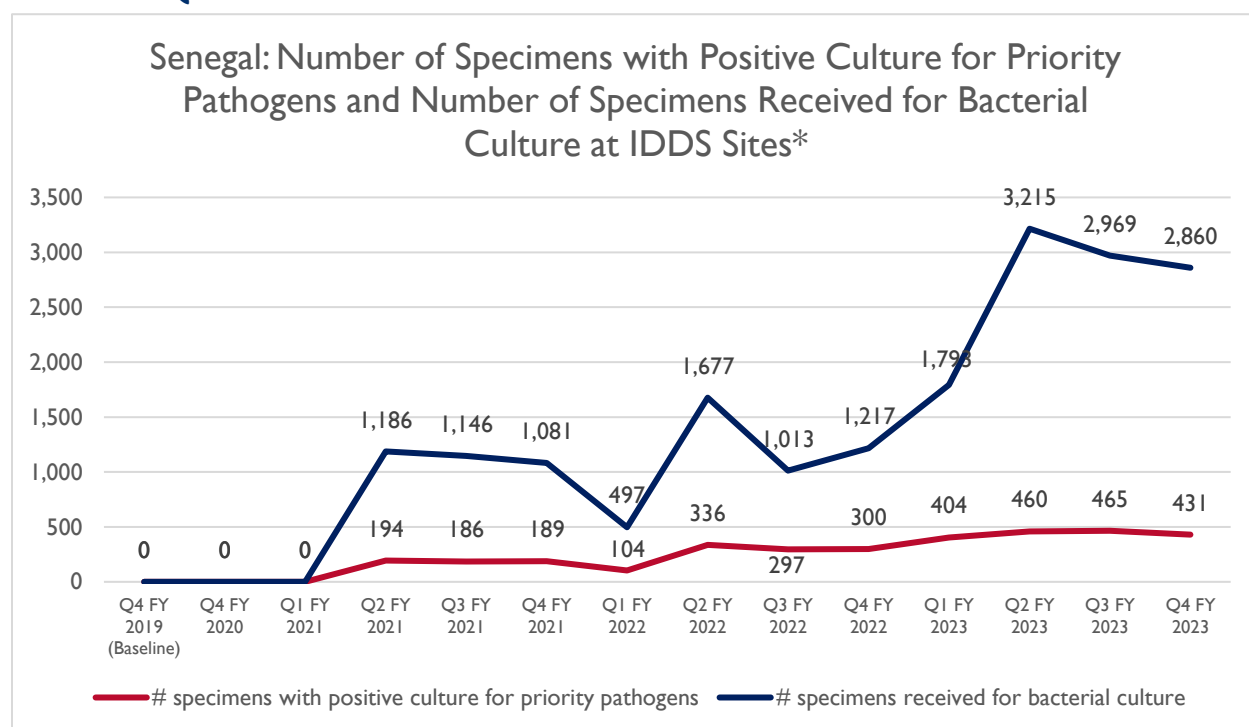
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

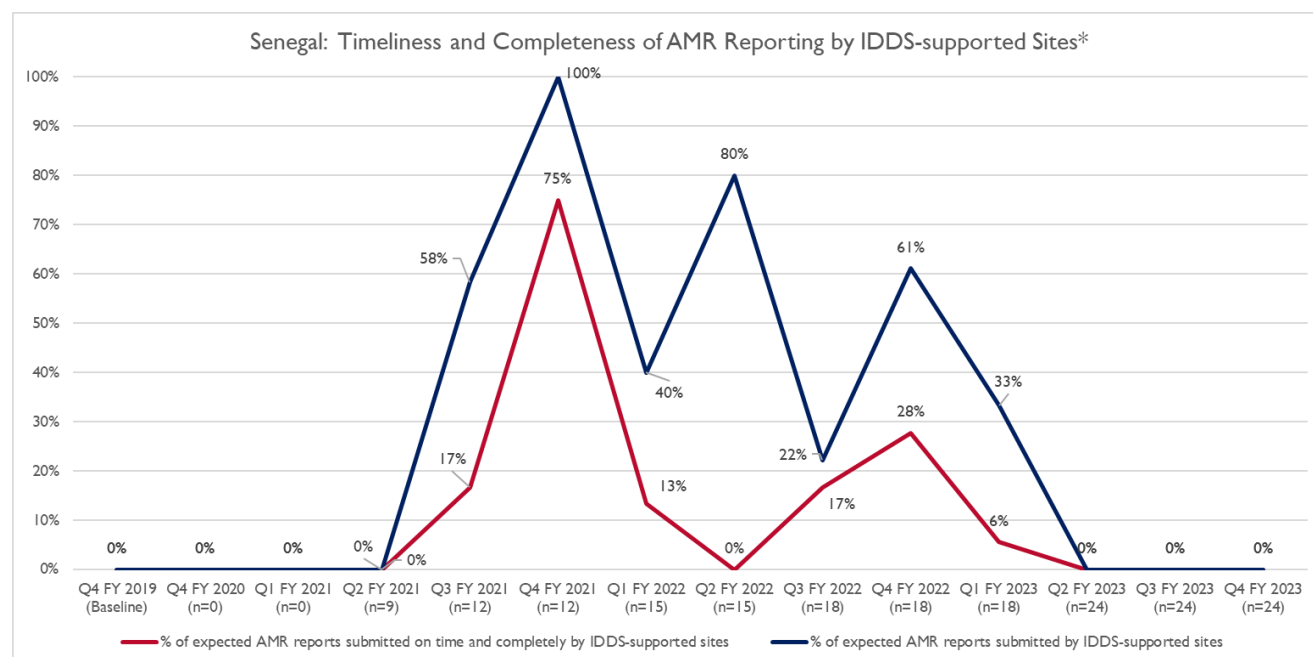
- None to report.

FY 2023 Q4 Outcome Results



*IDDS sites now include nine district laboratories. However, the data illustrated here are from a varying number of sites, as more of them began testing throughout the project: the number of sites was three beginning in Q2 FY 2021, four beginning in Q4 FY 2021, five beginning in Q1 FY 2022, six beginning in Q3 FY 2022, and eight beginning in Q2 FY 2023. The ninth supported laboratory has not yet begun culture and AST due to ongoing site construction.

IDDS continues to strengthen the capacity in Senegal for bacteriology testing in nine district laboratories, observing a steady increase in testing and a slight drop towards the end of FY 2023. As the project progressed, more sites gained the capacity to conduct testing, leading to an increase in the number of specimens received for testing and the number that had positive cultures. Only priority bacterial pathogens listed by the national government are reported for this indicator, which in most reporting periods included *E. coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, and *Enterobacter* spp. Results for FY 2023 show an overall increase in the number of specimens received for culture testing at the district level and an increase in the number of positive cultures for priority pathogens since the program began, demonstrating the effectiveness of IDDS interventions through its supervision and mentoring program, training sessions, development of SOPs and policies, and dedicated monitoring and technical assistance to improve QMS at each site.



*IDDS-supported sites include a varying number of sites as more began testing and reporting throughout the project.

The district-level AMR laboratories in Senegal are all expected to submit monthly reports on time into DHIS 2, which include specimen testing data such as number of specimens received for testing and number tested with various testing methods. DL authorized IDDS-supported sites to begin AMR testing and reporting in early 2021, at which time three sites started to submit monthly reports. By the end of FY 2021, four sites submitted monthly AMR reports. By the end of FY 2022, six sites submitted a few monthly reports and by the end of FY 2023, eight sites were conducting bacteriology, yet report submission ceased in FY 2023 Q1. The reason for the very low rate of report submission in Q2 FY 2022 and all of FY 2023 was that laboratories across the country retained their AMR data as part of the national health workforce strike in Senegal. The strike began in the middle of 2022 and continues to date, and the site staff assert the data retention is a method to push the government to action. Each laboratory continues to provide bacteriology services, with occasional interruptions due to stockouts or renovations, but the sites track their test data in onsite specimen registers, which IDDS observed during the FY 2023 Q2 site QMS audits.

TANZANIA

On July 11, 2023, IDDS submitted a new Tanzania GHS work plan covering the period of July 1, 2023–March 31, 2024. IDDS submitted a revised work plan in response to comments on September 29. As of September 30, the Tanzania work plan has not been approved by USAID.

Quarterly Highlights

Success Stories:

- Sustaining the Laboratory Supply Chain for AMR Surveillance in Tanzania: Benjamin Mkapa Hospital

Diagnostic Highlights:

- In FY 2023 Q3, all four IDDS-supported sites began receiving referred AMR specimens requiring culture and AST from lower-tier health facilities within their catchment areas for the first time as part of a specimen referral pilot. In Q4, two of the four IDDS-supported sites (Morogoro and Temeke Regional Referral Hospitals) received specimens for AMR testing. A functioning SRS ensures broader access to quality laboratory services. In addition, these referred specimens increased the testing volume at two IDDS-supported sites and supported the more generalizable, population-based information for developing antibiograms, which inform patient management and policymaking.

Surveillance Highlights:

- None to report.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results



Pilot conducted

SRS and testing

UGANDA

On June 29, 2023, IDDS submitted a new Uganda GHS work plan covering the period of July 1, 2023–March 31, 2024. IDDS received contingent approval on July 24. IDDS resubmitted the work plan on August 7 and September 27 to address contingencies. As of September 30, the Uganda work plan has not been fully approved by USAID.

Quarterly Highlights

Success Story:

- Two IDDS-supported Laboratories in Uganda Submit Accreditation Applications to South African National Accreditation Scheme

Diagnostic Highlights:

- To evaluate QMSs and support laboratories in preparing their applications for ISO 17025 accreditation, IDDS conducted baseline assessments at two facilities (UWA Diagnostics and Research Laboratory at Queen Elizabeth National Park and Mbale District Veterinary Laboratory). IDDS also provided financial support for an internal audit training for facility staff at the two facilities.
- To improve laboratory staff capacity for ensuring quality of services, IDDS conducted the third round of QMS mentorship at Mbale Regional Animal Disease Diagnostics and Epidemiology Center and UWA Diagnostic and Research Laboratory.

Surveillance Highlights:

- None to report.

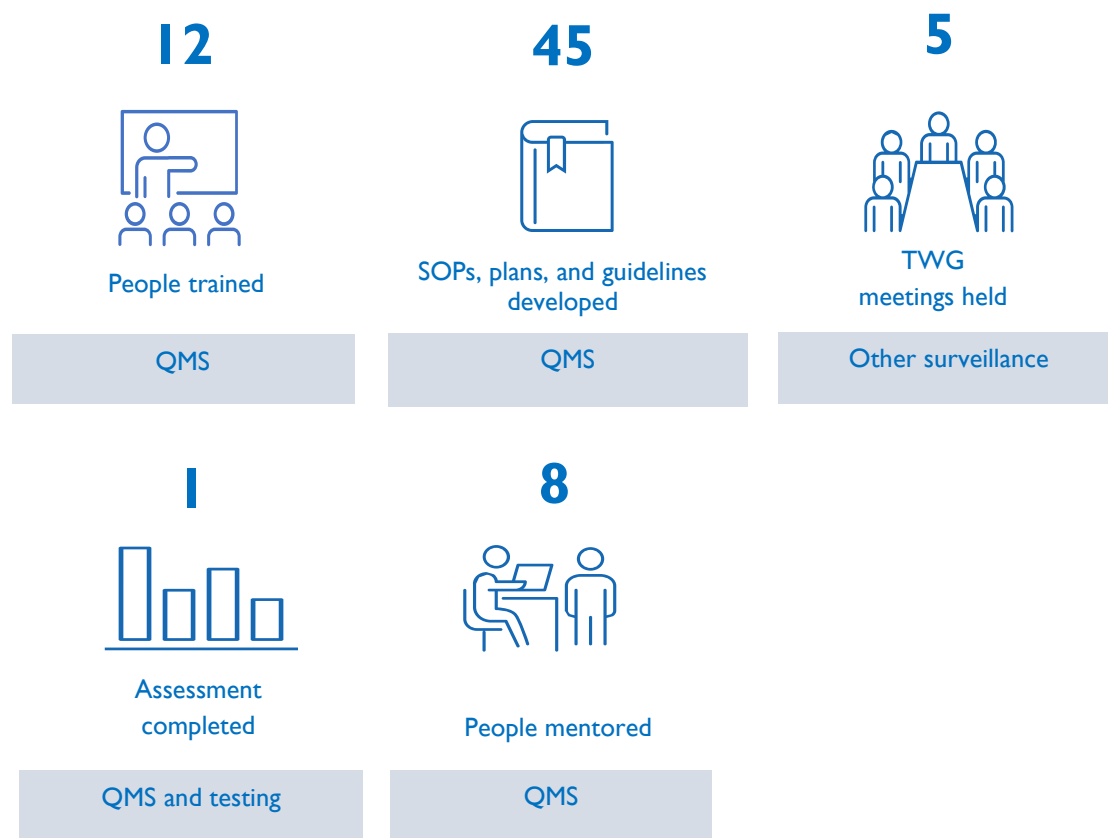
Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|---|----------|
| There were delays in the submission of the South African National Accreditation Scheme accreditation applications. The delays occurred because of the time it took to agree on which tests to present to the accrediting body as test scopes, due to the lack of EQA for most of the tests. | IDDS engaged the Ministry of Agriculture, Animal Industries and Fisheries for the validation of several tests, and the project procured EQA materials for Rose Bengal technique for <i>Brucella</i> screening. A test scope for accreditation has since been agreed upon and accreditation applications have been completed and submitted to the South African National Accreditation Scheme. | Resolved |

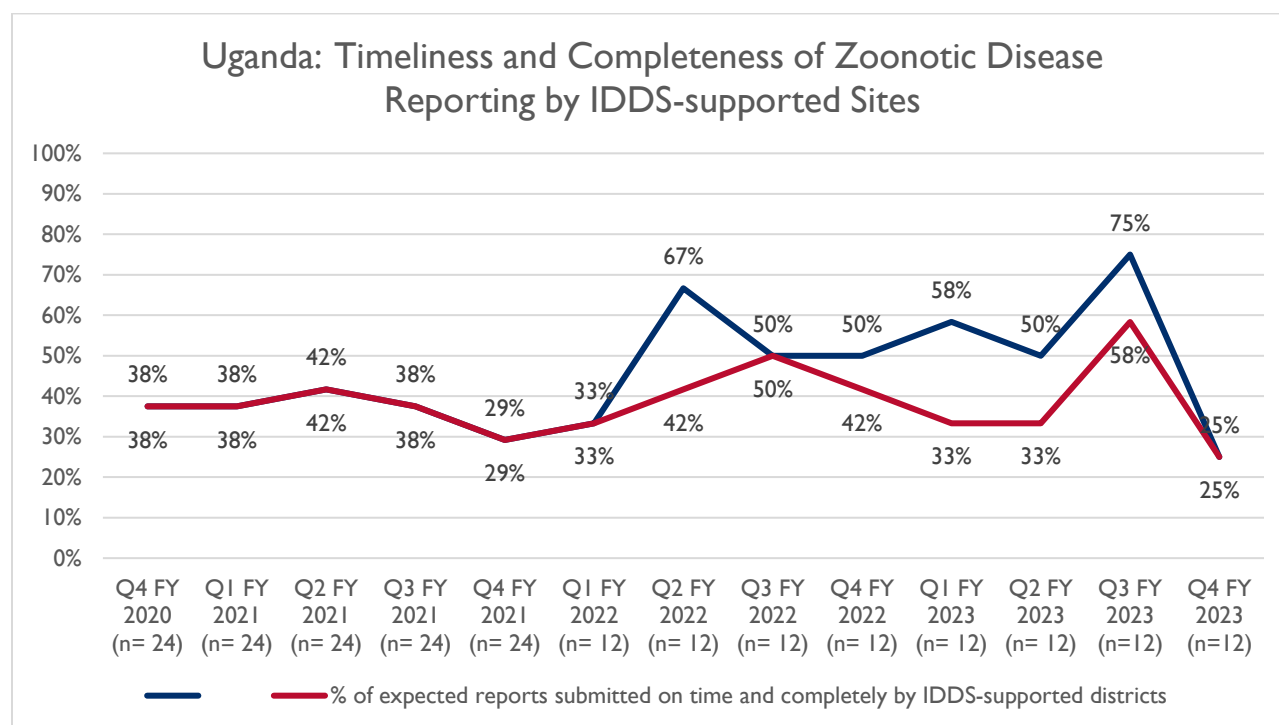
Lessons Learned

- It is vital to have facility management support in all the endeavors related to QMS, because this buy-in drives the agenda forward and fosters ownership of the entire program.
- Constant engagement of facility teams with the same mentors ensures effective collaboration and teambuilding and aids in the implementation of the requirements. Teams tend to be more productive after they have established meaningful working relationships.

FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results



In FY 2022 Q2, IDDS started supporting four districts to improve zoonotic disease surveillance by piloting an Excel-based data entry and analysis tool. In June 2023, IDDS provided technical and financial support to the National Animal Disease Diagnostics and Epidemiology Center to roll out an upgraded tool for reporting indicator-based surveillance data to 34 districts. Some of the surveillance sites started using the revised tool for monthly reporting in June. The initial pilot of the data entry and analysis tool resulted in an increase in reporting rates during FY 2023 Q3; however, IDDS was not able to sustain direct support to the districts in FY 2023 Q4 because the work plan only received contingent approval in Q4 FY 2023 and none of the activities in the current work plan directly address the surveillance reporting. The baseline data (Q3 FY 2019) for this chart were not available.

VIETNAM

As of September 30, IDDS did not receive a final obligation for the Vietnam GHS program and a work plan has not been submitted to USAID for review.

Quarterly Highlights

Diagnostic Highlights:

- Throughout Vietnam, more than a dozen laboratories in both the human and animal health sectors have requested to expand SRS services, including the IDDS-customized specimen courier services. The requests reflect widespread demand for SRS-related products, including IDDS-developed training videos on specimen packaging and transportation, shipping labels that were translated into Vietnamese, and training slides, revealing the value added by the project in strengthening the diagnostic network through specimen referral. IDDS plans to distribute all project materials to MoH and the Department of Animal Health for dissemination to all facilities.

Surveillance Highlights:

- To continue institutionalizing the use of VAHIS, IDDS trained 67 district staff (18 female) from remaining project-supported provinces (Dong Thap, Can Tho, and Thai Nguyen) on VAHIS use for animal disease reporting. In total, five provinces have now received IDDS support. Based on the success of the IDDS pilot, the Department of Animal Health is expected to request that all districts use VAHIS for animal disease reporting starting in 2024.

Problems Encountered and Solutions

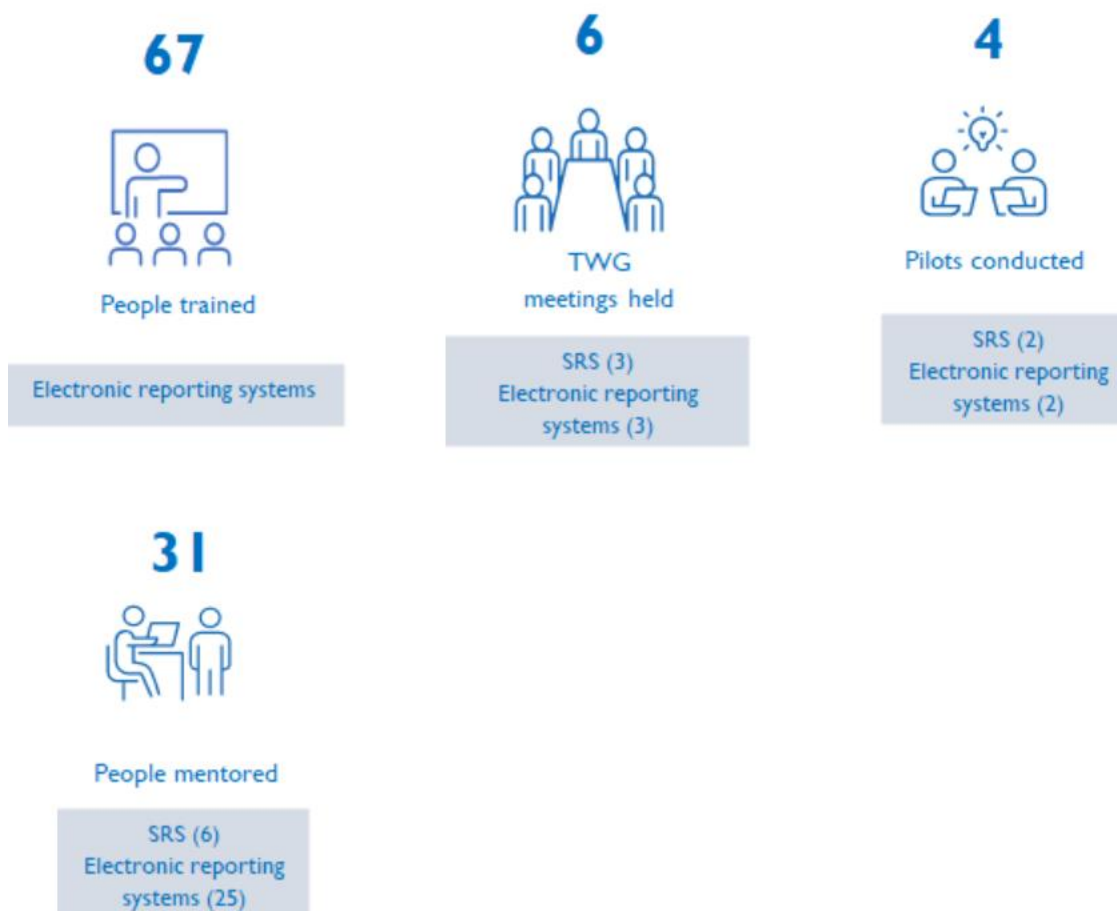
| Problem | Resolution | Status |
|--|--|----------|
| Despite IDDS successfully completing required approval documents and submitting them to MoH, a change in leadership at MoH has resulted in delayed approval from MoH to implement activities in human health sector. | IDDS worked closely with the National Institute of Hygiene and Epidemiology to follow up with the MoH specialist who is responsible for handling the project approval package to address the issue. The approval was signed on September 26. | Resolved |

Lessons Learned

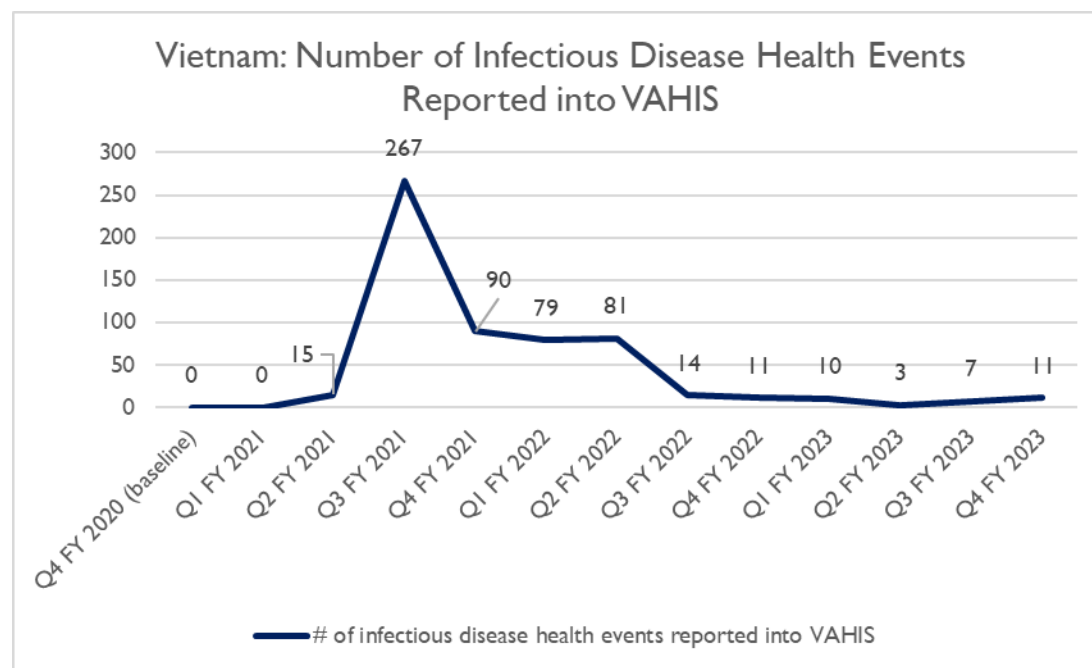
- When seeking approval for animal health activities, IDDS learned that provincial-level government approval is required in addition to national-level approval. IDDS learned that the procedure for obtaining provincial approval for an activity involving a foreign entity (such as an IDDS-supported training) may differ across provinces and tends to take two to three weeks to complete. It is important to work closely with human and animal health government officials to quickly address

their questions and comments on the work plan to decrease turnaround time and facilitate the approval process.

FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results



In FY 2021 Q3, the spike in reported health events was driven by outbreaks in avian influenza, foot and mouth disease, African swine fever (ASF), and lumpy skin disease in Thai Nguyen and Binh Dinh provinces. The number of cases has steadily decreased since FY 2022 because Vietnam completed vaccination campaigns for ASF and lumpy skin disease. In FY 2023 Q4, Thai Nguyen reported three events of lumpy skin disease, Khanh Hoa reported four events of ASF, and Dong Thap reported four events of foot and mouth disease, ASF, and rabies.

Integrated Disease Surveillance and Response FY 2023 Q4 Achievements

IDDS implements IDSR activities in Cameroon, Senegal, and Uganda, funded by the USAID Bureau for Africa. An amended work plan extending the period of performance to June 30 was approved by USAID in Washington on March 21 and was completed this quarter. Uganda did not have activities to report this quarter under the work plan. (An “IDSR-2” work plan was approved on May 17 with a period of performance identified as April 10, 2023–December 31, 2023, which includes work by IDDS HQ, Senegal, and Uganda, but not Cameroon.)

Quarterly Highlights

Surveillance Highlights:

- To continue supporting the rollout of the third edition of the IDSR technical guidelines at subnational level, IDDS discussed the IDSR-2 workplan activities and country capacity assessment approach with the WHO AFRO EPR team and agreed to conduct both field activities and the assessment in Senegal and Uganda. The project will use the WHO AFRO assessment tool developed in 2022 and updated by IDDS along with a supplemental questionnaire that includes areas not covered by the current tool.

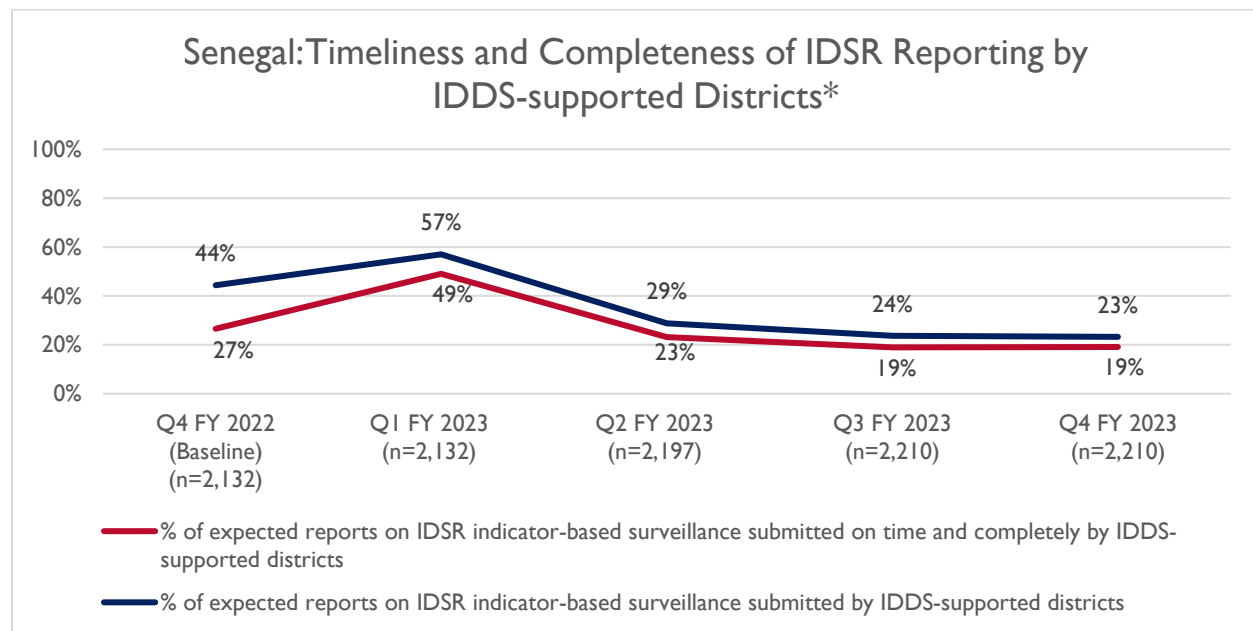
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- It is critical to closely coordinate with regional organizations that are leading public health activities, such as WHO AFRO, to harmonize field support and align expectations.

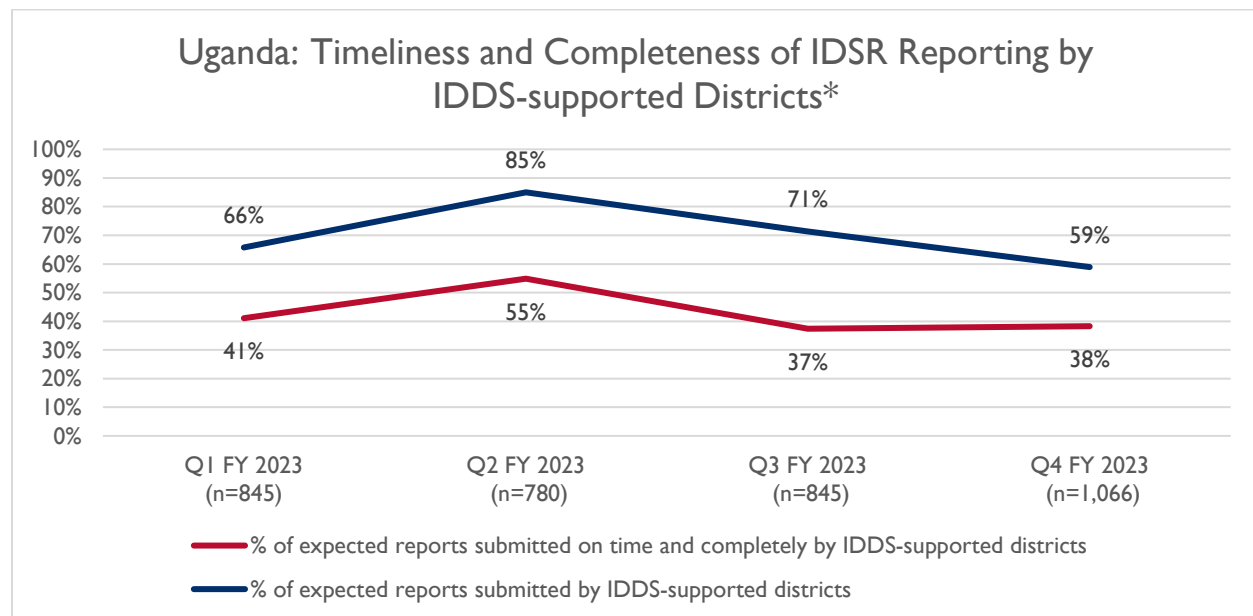
FY 2023 Q4 Outcome Results for Senegal



*IDDS supports seven health districts in the Tambacounda region.

All seven health districts are expected to submit weekly reports on time into DHIS 2. The weekly reports include indicator-based surveillance data on priority diseases in the country. IDSR-funded implementation in this region started in FY 2023 Q1, during which there was a slight increase in reporting rates compared to the prior (baseline) quarter. After that, the timeliness and submission rates of weekly IDSR reports started to fall. The main reason for the decreasing rate of report submission from Q2 to Q4 of FY 2023 was that surveillance staff across the country retained their data as part of the national health workforce strike in Senegal, although some reporting units continued to submit their data on time. The strike began in the middle of 2022 and continues to date, and the site staff assert the data retention is a method to push the government to action.

FY 2023 Q4 Outcome Results for Uganda



*During the first phase of IDSR, IDDS supported 65–69 health facilities in the Buikwe district by disseminating IDSR guidelines and providing technical assistance, training, and supportive supervisions for weekly surveillance reporting. However, IDSR-2 funding is intended to target 13 health facilities on Buvuma Island in the Eastern region of Uganda. The graph depicts trends in the weekly reporting rate, primarily from health facilities in Buikwe district, with the Q4 results also including data from Buvuma Island.

The decline in the reporting rate over the last two quarters was due to the discontinuation of IDSR support to the Buikwe district. It was not possible to sustain timely reporting in the absence of major disease outbreaks. Interventions should be continuous and consistent to sustain improvement in the reporting process.

U.S. President's Malaria Initiative FY 2023 Q4 Achievements

CAMBODIA

Quarterly Highlights

Diagnostic Highlights:

- IDDS completed the report on the assessment of CNM as a PCR laboratory for malaria diagnostics. The report was shared with CNM and will provide a baseline for future laboratory improvements, with the goal of this site becoming an NRL and meeting international standards.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|-------------|
| There has been a delay in the next step for the PCR improvement plan, because IDDS requires the CNM director's approval. | IDDS has developed a work plan for PCR improvement and shared it with the CNM director for review and approval. IDDS is currently awaiting a response from the CNM director. | In progress |

Lessons Learned

- Written approval by the CNM director (in addition to formal and final approval from USAID in Washington) is required for implementation of new activities to avoid unexpected issues and misunderstanding. This is needed even when key technical officials approve a specific activity to proceed.

FY 2023 Q4 Output Results



Tuberculosis FY 2023 Q4 Achievements

CORE TB

IDDS stopped Core TB work in response to an order from USAID on August 3; this is the final Core TB update.

Quarterly Highlights

Diagnostic Highlights:

- To build NTP capacity to understand diagnostic network status and capacity, IDDS supported USAID and NTPs to implement several DNAs. This quarter, IDDS submitted final DNA reports for DRC, Malawi, and Pakistan. IDDS also provided technical assistance to plan for the Mozambique DNA and developed a scope of work, Gantt chart, and transition plan for USAID to conduct the DNA after IDDS closeout in Mozambique.
- IDDS continued its support to NTPs to sustain high-quality diagnostic networks through support for super-user and end user training, procurement of EQA panels, and initiation of the 2023 EQA cycles for Cambodia, DRC, Kenya, Malawi, Tanzania, and Zimbabwe.
- IDDS developed a compendium of DR-TB resources, which compiles all materials developed as part of the DR-TB activities. IDDS also developed an EQA implementation guide for Truenat and a super-user package for MTB/XDR, which was endorsed by the Stop TB Partnership. These “global goods” advance knowledge on rolling out new TB diagnostic technologies around the world.

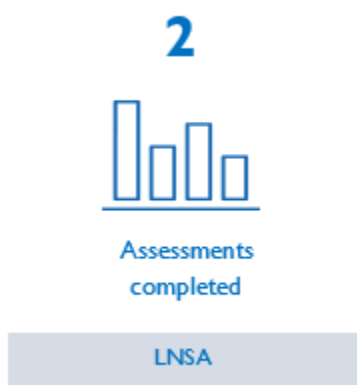
Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|--|-------------|
| Delivery of commodities for Uganda was delayed due to slow response from vendors to requests for information. | IDDS engaged colleagues in Uganda to support outreach to vendors and explain information requirements. Information is being collected and processed. | In progress |
| There were cost control challenges for Core TB activities. | Core TB activities came to an end and activities were moved to field funded work plans, where feasible. | Resolved |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results



BANGLADESH

IDDS operations in Bangladesh closed out on September 30. IDDS held a closeout event on September 17, during which IDDS shared project achievements and outcomes with 45 participants from USAID, NTP, implementing partners, sub-partners, NTRL and RTRLs. There are a few pending technical and administrative activities that will be completed by December 31.

Quarterly Highlights

Success Stories:

- Decentralization for Universal Access to Quality Tuberculosis Testing
- Truenat Shows Great Potential for Rapid Detection of TB cases at the Peripheral Level in Bangladesh

Diagnostic Highlights:

- To improve functionality of the TB diagnostic network, IDDS completed its upgrade of the Chattogram RTRL. IDDS also procured and handed over 4 GeneXpert 10-color instruments and 1,200 Xpert MTB/XDR cartridges to NTP.
- To build laboratory staff capacity for TB detection at NTRL and RTRLs, IDDS organized training sessions on extra-pulmonary TB, stool specimen processing, and a training of trainers on Xpert MTB/XDR at the Rajshahi RTRL and trained a total of 28 medical technologists and microbiologists (12 female). IDDS also finalized and submitted the SOP and algorithm for Xpert MTB/RIF Ultra and trained 12 trainers (6 female) on its implementation.
- To improve quality assurance for diagnostics, IDDS trained 150 medical technologists (40 female) on GeneXpert EQA processing and testing at 5 sites in Dhaka, Chattogram, Khulna, Rajshahi, and Sylhet. NTP dispatched the EQA panels sent by Vietnam to the selected sites.

Problems Encountered and Solutions

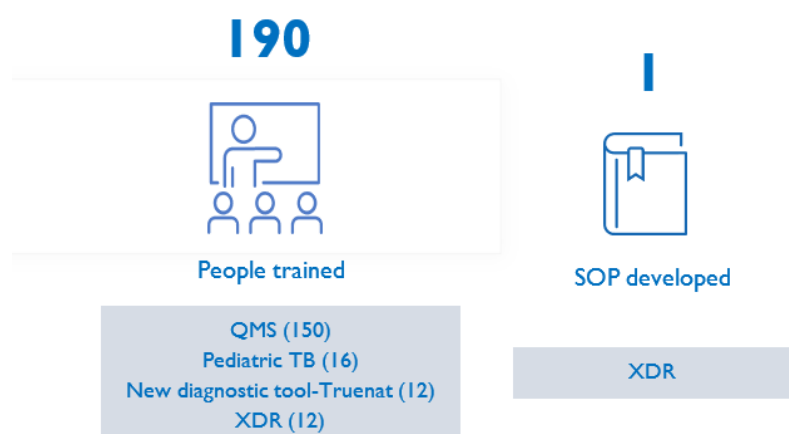
| Problem | Resolution | Status |
|---|---|--------------|
| There was a customs clearance delay for project-supported items, including Truenat test kits. | IDDS continually followed up with NTP to expedite customs clearance. | Resolved |
| NTP declined to approve a training proposed by IDDS because USAID policy does not allow payment of any allowance to local participants. | IDDS held several meetings with NTP and finally received approval for an IDDS-supported training and other events, considering their importance for improving TB diagnostics. | Resolved |
| Power supply to the newly upgraded Chattogram RTRL was not provided by NTP. | IDDS took on the activity of upgrading the Chattogram RTRL after assurance from NTP that it would take responsibility for the required power supply to the laboratory. However, NTP had not | Not resolved |

| Problem | Resolution | Status |
|---|---|--------------|
| | established the required system for power by the time of IDDS closeout in Bangladesh. Therefore, IDDS could not test and validate the functioning of the HVAC system and other equipment at the laboratory. | |
| Annual certification of the BSL-3 laboratory at the Sylhet RTRL by Air Filter Maintenance Services (based in South Africa) was delayed because the engineers did not receive visas for travel to Bangladesh. The international travel has already been approved by USAID. | The IDDS country team is exploring ways to pay for the service in advance of the activity even though the country program is closed out. They are working closely with the NTP and USAID Mission to ensure all are aware of the backup plans. | Not resolved |

Lessons Learned

- Delay in project implementation due to the government mechanism can be resolved with NTP's ownership of the project. IDDS overcame the USAID per diem issue through an open dialogue with NTP.

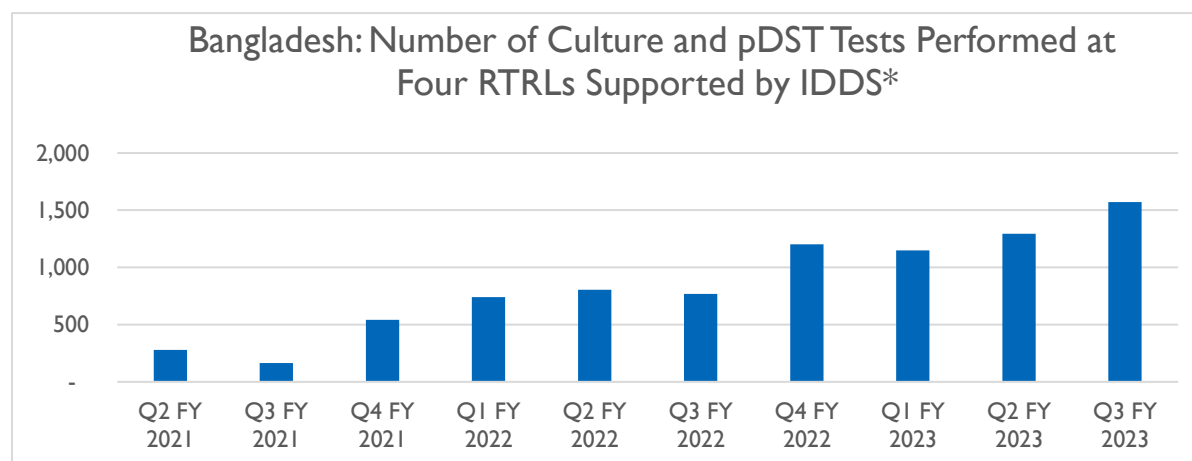
FY 2023 Q4 Output Results



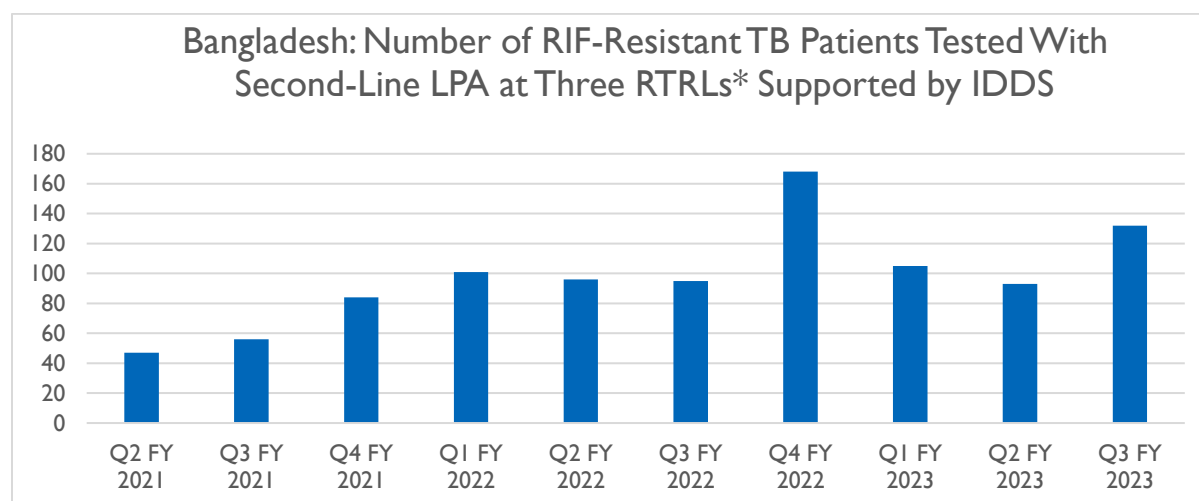
FY 2023 Q4 Outcome Results

Outcome data are provided through FY 2023 Q3.

IDDS decentralized capacity for culture and LPA testing at RTRLs.

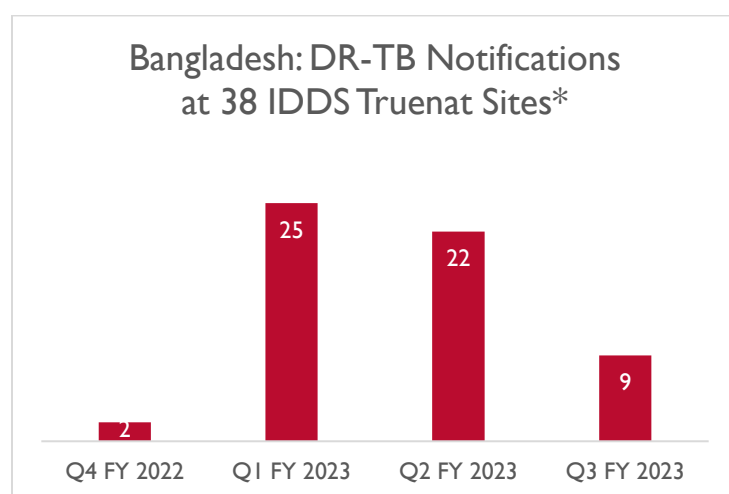
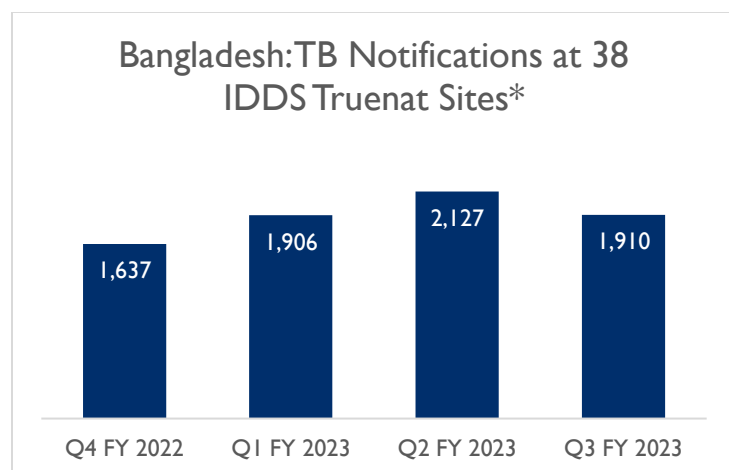


*IDDS-supported sites include RTRL Sylhet, RTRL Rajshahi, RTRL Shyamoli, and RTRL Khulna.



*IDDS-supported RTRLs are RTRL Sylhet, RTRL Rajshahi, and RTRL Shyamoli.

By introducing Truenat in 38 health centers, IDDS increased the number of TB and DR-TB notifications at these sites.



*Truenat sites in Bangladesh include 38 peripheral-level sites located in Natore, Bogra, Dinajpur, Gaibandha, Sirajganj, Pabna, Rangpur, Nilphamari, Jamalpur, Tangail, Kishoreganj, and Netrokona districts.

BURMA

Quarterly Highlights

Diagnostic Highlights:

- To increase access to quality chest X-rays, IDDS, in collaboration with the supplier company (Fujifilm Myanmar), trained 13 staff (3 female) from partner organizations—Myanmar Anti Tuberculosis Association, Sun Community Health, and International Organization for Migration—on the ultra-portable X-ray system, CAD software, and troubleshooting.
- To increase access to diagnostic testing for TB, IDDS continued to provide transportation support to NTP to transport specimens between regional laboratories and NTRL for genotypic and phenotypic culture, and between township laboratories and regional laboratories for molecular diagnostic testing.
- IDDS continued to provide technical assistance to NTRL to review outdated SOPs and align them with global guidelines and recommendations. The project helped update one SOP on second-line DST for MTB by using BACTEC MGIT 960, and another SOP on Löwenstein–Jensen media preparation.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|--|-------------|
| On October 28, the State Administration Council enacted a new organization registration law that includes more severe punishments for any breach of the law. As a result, most partners are struggling to renew the organization registration or memorandum of understanding. | IDDS is taking careful steps to provide advocacy and technical assistance, because the memorandum of understanding renewal process is still ongoing. | In progress |
| The new MoH and NTP leadership has imposed strict and unpredictable instructions on TB implementing partners. The approval process is not yet well defined, and there is still no successful organization to provide official approval for implementation. As the project's end date is getting closer, the risk is increasing that activities will not | The IDDS coordination consultant and the project's program specialist are closely following up with Burma's planning department, the International Relations Division, NTP, the regional health department, and other relevant departments under MoH to speed up the approval process. With engagement at the community and regional levels, some technical assistance activities are being carried out. However, some deliverables have been negatively | In progress |

| Problem | Resolution | Status |
|---------------------------------------|---|--------|
| be implemented as originally planned. | affected or delayed because activities can only be resumed after NTP's official approval. | |

Lessons Learned

- IDDS supported the central NTP, NTP Yangon, and NTRL to conduct critical activities to support their proposal to the Global Fund to Fight AIDS, Tuberculosis and Malaria to continue to provide support to the NTP even while waiting for official approval of IDDS activities. IDDS was able to find ways to provide value to the NTP through close communication with the NTP and the USAID mission.

FY 2023 Q4 Output Results



CAMBODIA

Quarterly Highlights

Diagnostic Highlights:

- To improve connectivity between diagnostic instruments and laboratory reporting systems, IDDS continued working with partners to test the interconnectivity between DTC and the TB management information system and to correct the issues that occurred during testing. The two systems are exchanging data, and most identified issues have been corrected. The new DTC software version was installed at all 30 GeneXpert sites that were already using the system, as well as 10 new sites that first received DTC this quarter.
- IDDS, in collaboration with NTRL, finalized the key performance indicators for pDST and assisted NTRL to initiate pDST for second-line drugs.
- To improve access to and quality of DST for TB, IDDS remotely mentored laboratory technicians at three sites that are using the Xpert MTB/XDR assay. IDDS also assisted NTRL to conduct EQA on Xpert MTB/XDR testing and submit test results to SmartSpot Quality.
- To scale up the use of pediatric TB stool testing, IDDS conducted cascade training on the SOS method for testing stool specimens with Xpert MTB/RIF Ultra. The project trained a total of 103 health center staff (22 female) from 6 operational districts: Battambang, Kampong Tralach, Kong Pisey, Steung Trang, O Raing Ov, and Saang.

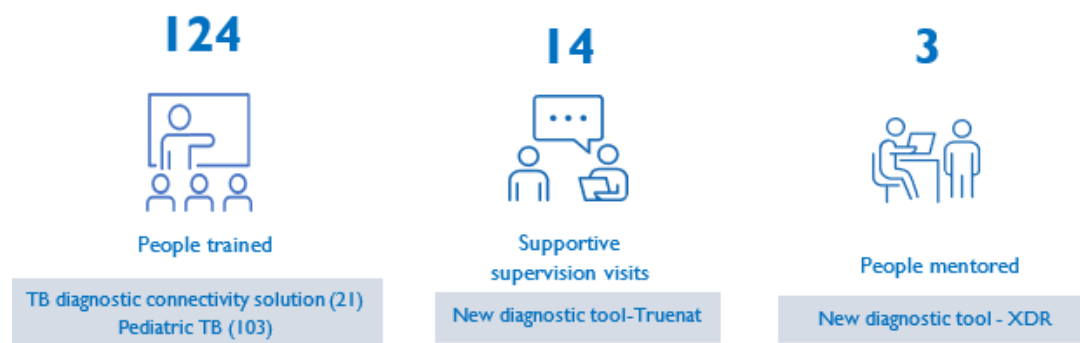
Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|-------------|
| The connectivity between Truenat and DTC does not work well. The data from the Truenat devices cannot be transferred to DTC system regularly, even though new DTC and Truenat software updates were deployed by Savics and Molbio Diagnostics. | IDDS continued working with Savics and Molbio Diagnostics to fix the problems. | In progress |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results



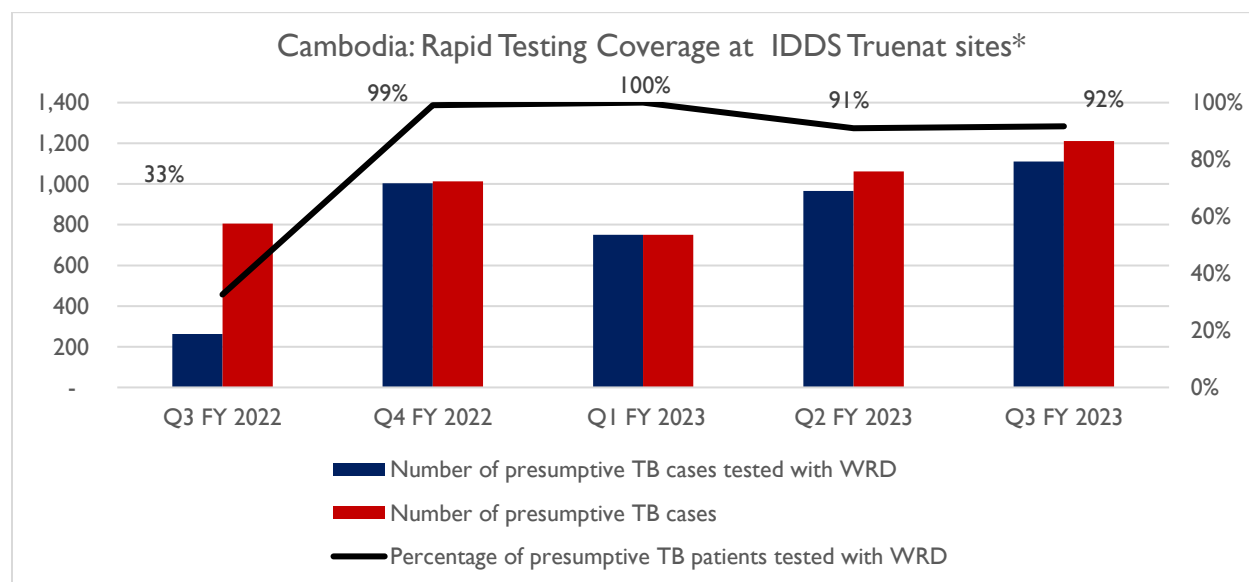
FY 2023 Q4 Outcome Results

Outcome data are provided through FY 2023 Q3.

With IDDS support, Cambodia started Xpert MTB/XDR testing in April 2023 in three laboratories at Battambang, Siem Reap, and Svay Rieng. Between April and June those laboratories conducted 414 Xpert MTB/XDR tests and detected:

- 20 cases of isoniazid mono-resistant TB
- 3 cases of MDR-TB (resistant to RIF and isoniazid)
- 1 case of fluoroquinolone mono-resistant TB
- 1 case resistant to isoniazid and fluoroquinolone (not resistant to RIF)

The introduction of Truenat at 14 health centers, supported by IDDS, helped increase rapid testing coverage at these sites and the number of presumptive TB patients seeking services at the sites.



*IDDS Truenat sites include 14 health centers.

DEMOCRATIC REPUBLIC OF THE CONGO

On September 11, 2023, IDDS submitted a DRC TB work plan covering the period of October 1, 2022–December 31, 2023. IDDS submitted a revised work plan on September 25 in response to comments. As of September 30, the DRC TB work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To enhance the Kinshasa TB Laboratory's overall performance and operational standards, IDDS assisted the laboratory in developing 8 SOPs related to equipment maintenance and revising 16 SOPs related to biosafety.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|---|----------|
| Expired Truelab and Trueprep reagents required disposal, but the sites did not have directions for their destruction. | After a meeting with USAID, IDDS, NTP, and Molbio Diagnostics, the manufacturer (Molbio) shared the SOPs on how to dispose of the expired reagents. IDDS translated the SOPs into French and shared them with all stakeholders. | Resolved |
| There was a stockout of Truenat reagents at the country level. | After several meetings between USAID, IDDS, NTP, and Molbio, Molbio made available the DRC quota that is already stored in the manufacturer's warehouses and needs to be recovered and transported to DRC. | Resolved |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results

24



SOPs developed

Biosafety (16)
Equipment maintenance (8)

FY 2023 Q4 Outcome Results

INDIA

On September 8, 2023, IDDS submitted a revised and integrated India TB+GHS work plan covering the period of October 1, 2022–March 31, 2024. As of September 30, the India TB+GHS work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To improve the quality of diagnostic services and promote peer-to-peer learning, IDDS supported NRL NTI Bangalore to conduct a review meeting for linked IRLs and TB culture and DST laboratories. This meeting provided a platform to resolve issues through direct discussion and improved coordination between laboratories.
- To continue building network capacity and opportunities for continuing education among laboratory staff, IDDS facilitated two virtual sessions of *Nidaan Samwaad* (TB Wednesdays), providing opportunities for diagnostic network staff to engage with subject matter experts. The topics of the sessions were sputum smear microscopy in the age of molecular diagnosis (attended by 726 participants) and experiences with nucleic acid amplification testing (attended by 353 participants).
- To share the evidence gathered through project activities in India, IDDS published two manuscripts highlighting key findings from the implementation of the “One-stop TB Diagnostic Model” in Hisar District and the comprehensive assessment of Truenat invalid and indeterminate rates. Both manuscripts will inform the National TB Elimination Program’s efforts to continue improving diagnostic services for TB, as well as national programs in other countries and the broader scientific community.

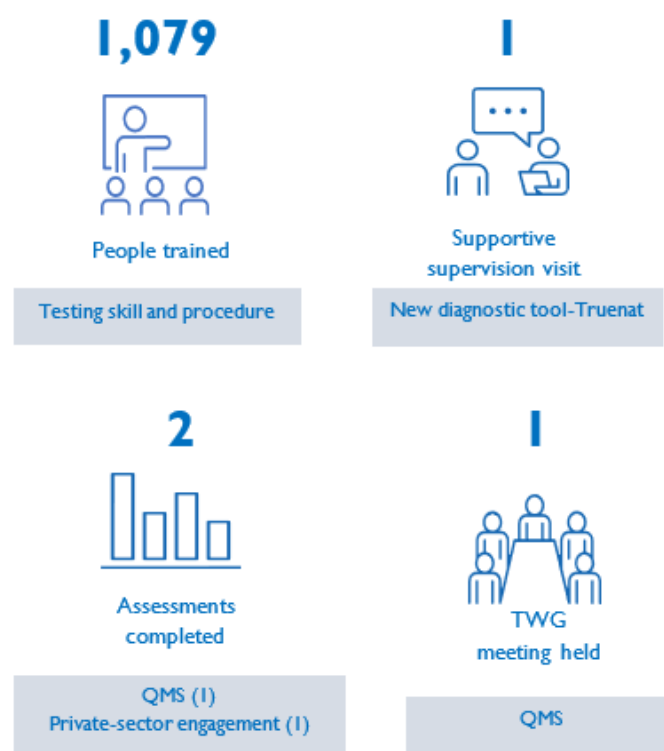
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

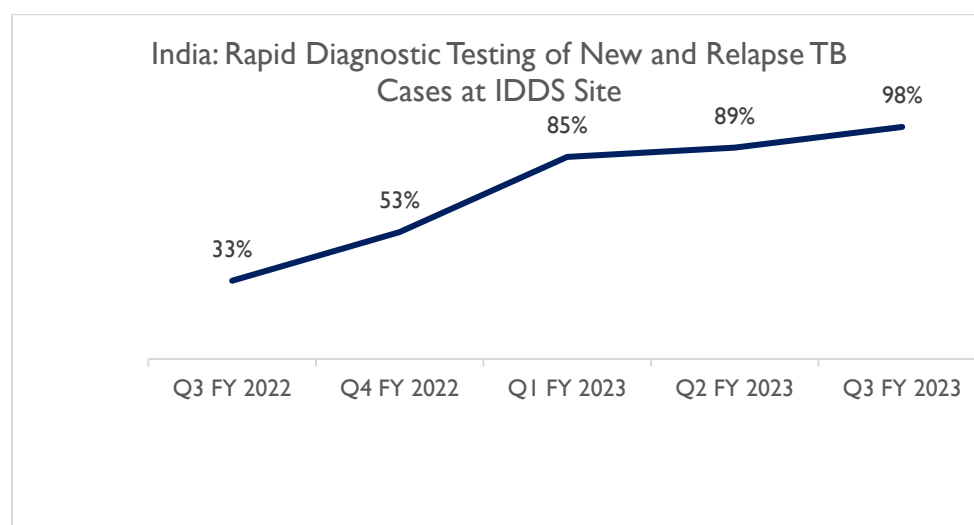
- None to report.

FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results

By partnering with a private-sector laboratory in Hisar district, IDDS was able to increase the percentage of notified TB patients that were diagnosed with a WHO-recommended rapid diagnostic (WRD).



MALAWI

On September 26, 2023, IDDS submitted an activity redirection request for Malawi TB with USAID. As of September 30, IDDS has not received approval for this request.

Quarterly Highlights

Diagnostic Highlights:

- To improve capacity for TB detection using new diagnostic tools, IDDS provided technical support to train 12 super-users (all male) on both Truenat MTB/RIF and Xpert MTB/XDR and an additional 8 Truenat end users (1 female). The super-users will be able to independently mentor end users, troubleshoot problems that arise, and provide supportive supervision to four diagnostic sites.
- To improve access to rapid testing for TB, IDDS installed four Truenat instruments in four different districts. The facilities will benefit hard-to-reach areas where communities lacked access to molecular diagnostic TB tests, so that TB patients can promptly begin appropriate treatment regimens.
- To improve TB case detection, IDDS trained 32 health workers (12 female) on the FAST (Find cases Actively, Separate safely, and Treat effectively) approach. Participants included clinicians, nurses, laboratory technicians, TB focal persons, and other non-medical staff from four health facilities: Salima District Hospital, Lifeline Health Center, Khombedza Health Center in Salima, and Mbera Health Center in Balaka.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|---|-------------|
| IDDS experienced delays in the delivery of the two lead-lined doors for the portable X-ray at Ekwendeni Mission Hospital. This has delayed the related activities, including training. | IDDS HQ expedited the delivery process by directly paying the shipping fees to the manufacturer. The doors arrived on September 29. IDDS is working to expedite installation so that the artificial intelligence-enabled X-ray training can be completed. | In progress |

Lessons Learned

- None to report.

FY 2023 Q4 Output Results

52



People trained

New diagnostic tools - Truenat and XDR

(20)

FAST TB approach (32)

FY 2023 Q4 Outcome Results

Outcome data are provided through FY 2023 Q3.

With IDDS support, Malawi started Xpert MTB/XDR testing in February 2023 in three laboratories at Bwaila, Chikwawa, and Mangochi. Between February and June those laboratories conducted 287 Xpert MTB/XDR tests and detected:

- 5 cases of isoniazid mono-resistant TB
- 3 cases of MDR-TB (resistant to RIF and isoniazid)
- 2 case of fluoroquinolone mono-resistant TB
- 1 case of pre-XDR-TB (resistant to isoniazid, fluoroquinolone, and RIF)

MOZAMBIQUE

IDDS operations in Mozambique closed out on September 30, 2023. IDDS shared project achievements with USAID on September 26, and with NTP on October 13.

Quarterly Highlights

Diagnostic Highlights:

- To provide key learnings for strengthening the diagnostic network, IDDS finalized a report summarizing steps taken to establish DST at Chokwé laboratory. The report can be used to inform similar efforts at other sites in Mozambique.
- To evaluate the functionality of the TB SRS, IDDS completed a “Strengths, Weaknesses, Opportunities, and Threats” analysis, which included a desk review and visits to three sites in Maputo. The analysis followed the implementation of the “Adapting and Modifying Optimized Sample Transport Routes for Achieving Impact” project in Mozambique.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|--|--|----------|
| IDDS was unable to procure GeneXpert equipment and XDR cartridges—activities that were dependent on Core TB funds—following funding challenges with Core TB. | The issue was shared with USAID HQ, the USAID Mission in Mozambique, and NTP. NTP will seek alternate sources of funds for this procurement. | Resolved |

Lessons Learned

- Periodic TWG meetings are crucial to accelerate implementation of activities.
- Continuing meetings with NTP after completion of activities is important to allow follow-up on the activity’s implementation and prompt technical support.
- Regular communication with NTP and the USAID mission on progress of activities is important to ensure that expectations and updates to activities are clear prior to project closeout.

FY 2023 Q4 Output Results

43



People trained

Pediatric TB stool testing

3



SOPs, plans, or guidelines developed

New diagnostic tool- XDR (1)
Genome sequencing (1)
Testing practices and procedures (1)

4



TWG meetings held

New diagnostic tools-
Genome sequencing (3)
XDR (1)

18



People mentored

New diagnostic tool- Genome
sequencing (16)
Testing practices and procedures (2)

TANZANIA

On July 28, 2023, IDDS submitted a new work plan covering the period of October 1, 2023–March 31, 2023, for Tanzania U.S. President’s Emergency Plan for AIDS Relief funds. On August 8 and September 1, 2023, IDDS submitted a new work plan covering the period of July 1, 2023–December 31, 2023, for Tanzania field TB funds. As of September 30, neither work plan has been approved by USAID.

Quarterly Highlights

Success Story:

- IDDS Supports Universal Access to TB and DR-TB Diagnosis Through Supporting the Introduction of Truenat Technology in Tanzania

Diagnostic Highlights:

- To increase access to rapid diagnostic testing for TB and DR-TB, IDDS installed nine Truenat instruments and provided on-site refresher training to end users as well as ad hoc virtual technical assistance. With the addition of these 9 instruments, the country now has 30 Truenat instruments operational within its diagnostic network, fulfilling the goal of Tanzania’s TB Strategic Plan to increase access to rapid diagnostic testing.

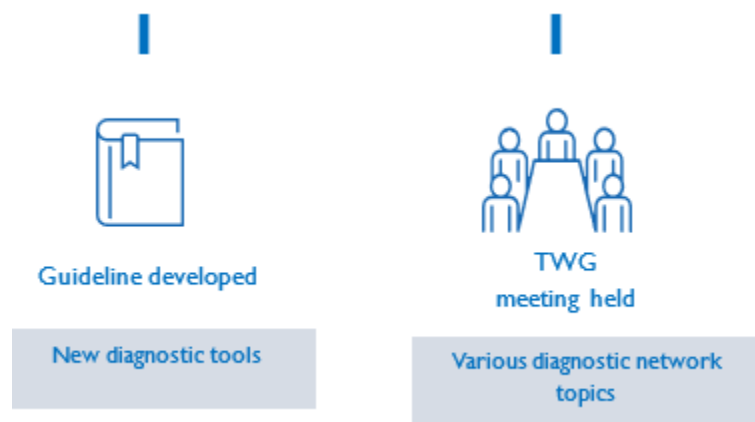
Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- None to report.

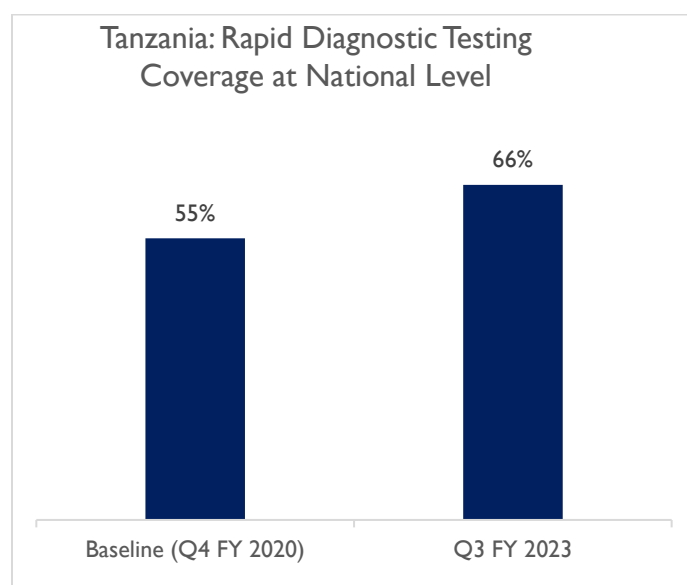
FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results

Outcome data are provided through FY 2023 Q3.

IDDS has been supporting the functionality of the GeneXpert network across Tanzania, which has contributed to increased rapid diagnostic testing coverage at the national level.



ZIMBABWE

On September 29, 2023, IDDS submitted a revised Zimbabwe TB work plan covering the period of January 1, 2023–March 31, 2024. As of September 30, the Zimbabwe work plan has not been approved by USAID.

Quarterly Highlights

Diagnostic Highlights:

- To improve detection of TB among children, IDDS visited 15 sites across 3 provinces to provide supportive supervision. The visits were the first of their kind in Zimbabwe. In total, the project supported 122 health workers (76 female) to assess pediatric TB case finding, assess rollout of the SOS method for stool testing, identify best practices and challenges to share with facilities in other provinces, and conduct root cause analysis for problem-solving.

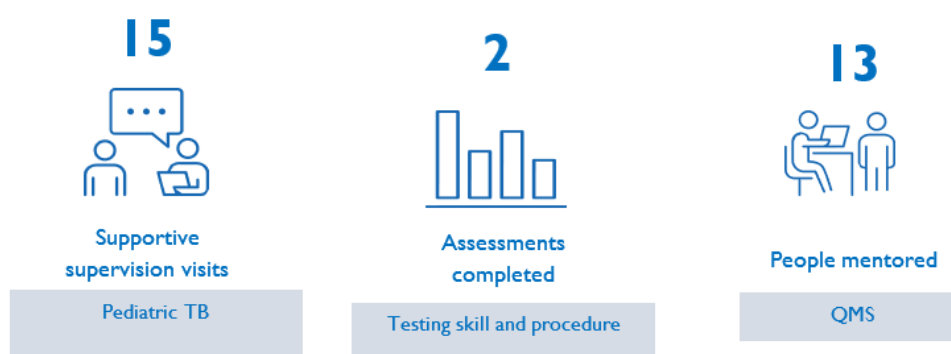
Problems Encountered and Solutions

| Problem | Resolution | Status |
|---|--|-------------|
| IDDS experienced delays in initiating the supportive supervision visits to the sites across the 10 supported provinces, because of competing priorities at MoHCC. (Originally, all 10 provinces were to be visited during the reporting period, but this quarter IDDS was only able to visit sites in 3 of the 10 provinces.) | IDDS expects to visit sites across the remaining seven provinces in FY 2024 Q1. IDDS scheduled the FY 2024 Q1 visits to allow for more flexibility in the availability of teams. Team leads were scheduled to visit provinces based on the availability of team members, rather than moving the whole group of three teams to each province. | In progress |

Lessons Learned

- None to report.

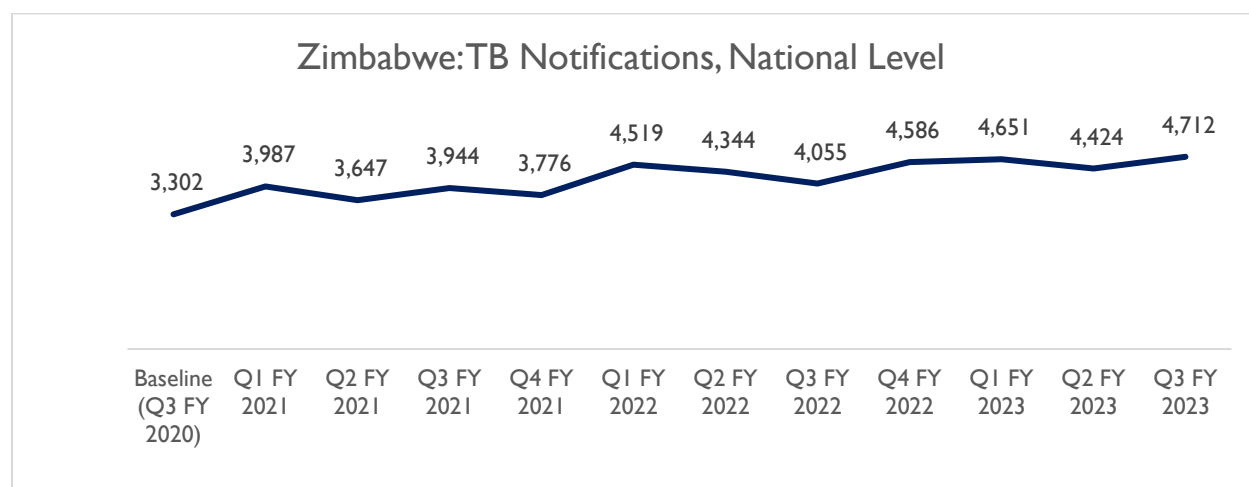
FY 2023 Q4 Output Results



FY 2023 Q4 Outcome Results

Outcome data are provided through FY 2023 Q3.

IDDS support to strengthen the TB diagnostic network has contributed to increases in TB notifications in Zimbabwe.



Middle East and North Africa FY 2023 Q4 Achievements

With funds from the USAID Bureau for the Middle East, IDDS developed an assessment tool, based on the TB DNA, to assess the diagnostic network capacity and preparedness for emerging and reemerging disease threats in MENA countries. All DNA activities in Tunisia have been completed, and no further updates are anticipated.

Quarterly Highlights

Diagnostic Highlights:

- IDDS completed the verification visits for the Tunisia DNA. The verification team drafted the final report and included key findings and evidence-based recommendations to improve the diagnostics network in Tunisia.
- After the completion of the Tunisia DNA, IDDS hosted an after-action review meeting with the assessors and solicited feedback from the teams to improve the DNA tool and process. IDDS reviewed the survey and revised the tools, taking into consideration lessons learned and best practices.

Problems Encountered and Solutions

| Problem | Resolution | Status |
|-----------------|------------|--------|
| None to report. | | |

Lessons Learned

- None to report.

Annex A: Activity Implementation Progress

Annex B: Success/Highlight Stories

Annex C: Country Monitoring and Evaluation Tables