

Bangladesh TB

Work plan period of performance: October 1, 2022–September 30, 2023

Work plan approval date: November 7, 2022

Activity	Status	Activity implementation updates
BGD-TB-NTW-I: A comprehensive TB diagnostic network with strong underlying health systems	In progress	
NTW-I.3: Enable functional TB diagnostic equipment	In progress	<p>In October 2022, the National TB Program (NTP), in collaboration with the World Health Organization (WHO), organized the ninth Joint Monitoring Mission (JMM). The IDDS Senior TB diagnostic specialist participated in the JMM as a member of the Laboratory and Infection Control Team and extensively contributed to data collection and processing and provided recommendations for strengthening the TB diagnostic network. The IDDS team lead also participated in the Laboratory and Infection Control Team and contributed to developing the scope of the JMM visit and priorities for strengthening the TB diagnostic network.</p> <p>On December 12 and 13, 2022, IDDS participated in stakeholders' workshops, sponsored by NTP, and contributed to revising and updating the National TB Strategic Plan (2021–2025). The draft strategy incorporates all the key interventions conceptualized and initiated by IDDS for scale up and further strengthening by NTP through the national program.</p> <p>In December 2022, IDDS, in collaboration with NTP biomedical engineers and National TB Reference Laboratory (NTRL) staff, identified resource needs to establish a workshop/service center at NTP and build capacity of NTP biomedical engineers to support routine repair and maintenance of TB equipment. IDDS documented the tools and supplies required for the service center, and possible plans to build capacity and improve routine practice of preventive maintenance of the TB equipment by the laboratory staff through training and monitoring and supervision. IDDS will finalize a plan and identify areas of support that can be covered with project resources in FY 2023 Q2 and Q3. IDDS support may include procurement of selected tools and spares needed for routine repair of TB equipment, on-the-job training for the</p>

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		<p>biomedical engineers on preventive maintenance, and facilitation of laboratory monitoring to improve compliance with preventive maintenance requirements by the laboratories.</p> <p>Due to competing priorities, IDDS postponed the preventive maintenance of TB equipment training at the Khulna Regional TB Reference Laboratories (RTRLs) until FY 2023 Q2.</p>
NTW-1.4: Procurement planning and forecasting laboratory supplies	Not started	IDDS plans to start this activity in FY 2023 Q2. Subject to approval from NTP, IDDS will organize a workshop in FY 2023 Q2 with NTP, NTRL, and RTRL microbiologists on the use of a tool for forecasting laboratory needs for supplies.
BGD-TB-NTW-2: Strengthened diagnostic capacity of the NTRL and RTRLs	In progress	
NTW-2.1: Enhance NTRL capacity to lead the TB diagnostic network	In progress	<p>IDDS adopted a participatory approach to build NTRL capacity to lead the TB diagnostic network by engaging them in the process of conceptualizing and developing guidelines, systems, and tools relevant to quality assurance of TB diagnostics and monitoring and supervision for performance improvement. IDDS, in collaboration with NTRL and NTP staff, finalized the standard operating procedures (SOPs) for line probe assay, extrapulmonary TB (EPTB), and culture and drug susceptibility testing (DST) after addressing comments received through the workshop held in September 2022. IDDS printed copies of the SOPs and distributed them to NTRL and all five RTRLs. Completion of this activity was delayed due to other project priorities.</p> <p>IDDS organized a two-day workshop on December 5 and 6, 2022, to finalize the quality management systems and biosafety and biosecurity training materials, as well as the checklist that will be used by NTRL for monitoring and supervision of the RTRLs. The materials have been finalized, with feedback received from NTRL and NTP staff during the workshop. The</p>

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		training on quality management systems and biosafety and biosecurity is expected to take place in FY 2023 Q2, subject to approval of the training schedule by NTP. IDDS will also facilitate monitoring and supervision of the RTRLs by the NTRL staff in FY 2023 Q2 and Q3.
NTW-2.2: Continue to strengthen the RTRLs to expand availability and capacity for selected TB diagnostics	In progress	<p>IDDS organized a joint visit with NTP staff to Chattogram RTRL to finalize the laboratory layout and specifications for upgrading the RTRL to the biosafety level 2+ category with biosafety and biosecurity systems for performing liquid culture and DST. Through an open and competitive process, a local engineering firm was selected to upgrade Chattogram RTRL. The refurbishment work was delayed due to a last-minute request from NTP to make some changes to the laboratory layout and refurbishment but is expected to start in FY 2023 Q2. In FY 2023 Q2, IDDS and NTP will also visit the Chattogram site to monitor progress of the refurbishment work, as per the specifications.</p> <p>Installation of the Mycobacterium Growth Indicator Tube (MGIT) at Khulna RTRL, procured by NTP, has been completed with support from a local agent of the MGIT manufacturer. IDDS staff, embedded at Khulna RTRL, assisted with the installation process. Khulna RTRL has started performing liquid culture at the facility.</p> <p>IDDS worked closely with WHO and NTP to review and update the guideline for specimen referral and transportation. IDDS technical staff also supported WHO and NTP to review and address comments and recommendations received from different groups during the workshop held in September 2022.</p> <p>IDDS also completed refurbishment of Khulna RTRL by improving the training room.</p>
NTW-2.3: Develop an e-learning platform for	In progress	IDDS planned to develop an e-learning platform to train laboratory staff on biosafety and biosecurity. The project completed development of the system requirement specification for the platform in September 2022. Further work on this initiative has been postponed per NTP's decision to delay implementation of using the e-learning approach for training. Instead, NTP

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TB laboratory capacity building		<p>requested that IDDS organize an in-person training for the laboratory staff on biosafety and biosecurity.</p> <p>In FY 2023 Q2, IDDS will finalize the relevant training materials through a workshop and organize the training.</p>
NTW-2.4: Strengthen laboratory capacity for testing EPTB specimens and stool for childhood TB at Sylhet, Rajshahi and Chattogram RTRLs	In progress	<p>IDDS, in collaboration with NTP, organized a training on EPTB and childhood TB specimen testing at Sylhet RTRL on November 27 and 28, 2022. A total of 13 (2 female) microbiologists, medical technologists, and laboratory assistants from the RTRL and the United States Agency for International Development-funded Alliance for Combatting TB project were trained. The divisional director of health at Sylhet RTRL and the line director of NTP attended the opening and closing sessions of the training. In FY 2023 Q2, IDDS plans to hold the last two batches of this training for laboratory staff at Rajshahi and Chattogram RTRLs. Implementation of this training was delayed due to competing priorities and the unavailability of staff from NTP. In addition, IDDS will continue to collect and report data on EPTB testing and detection through the IDDS-supported laboratories.</p>
NTW-2.5: Strengthen and expand the specimen referral network for increased access to culture/DST and LPA	In progress	<p>In November and December 2022, IDDS, with BRAC and the Damien Foundation, organized 38 orientation sessions in 38 Truenat sites, located in Natore, Bogra, Dinajpur, Gaibandha, Sirajganj, Pabna, Rangpur, Nilphamari, Jamalpur, Tangail, Kishoreganj, and Netrokona districts. A total of 667 people (202 female) participated in the orientation that covered TB screening and specimen collection and transportation. The orientation participants included different cadres of community-level non-governmental organization and government health workers, including Shasthya Sebikas, community health workers, family welfare assistants, community health care providers, and health assistants. Orientation of these workers, who are primarily responsible for collection and transportation of specimens from presumptive and on-treatment TB patients, is expected to increase referral of specimens to Truenat and GeneXpert (GX) sites for diagnosis and to RTRLs for culture and DST. In FY 2023 Q2, IDDS, in collaboration</p>

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		with partners, will set up a mechanism to monitor the quality and referral of specimens to laboratories for testing.
BGD-TB-NTW-3: Functional network of TB laboratories using molecular techniques established	In progress	
NTW-3.2: Continue to support improving access and utilization of GX	In progress	IDDS, in collaboration with BRAC and the Damien Foundation, has completed procurement and installation of 50 uninterruptible power supply (UPS) to selected GX sites to allow for continuous operation of GX equipment during power outages. In FY 2023 Q2, the Damien Foundation will procure and install the remaining five UPS to selected sites. IDDS will also provide orientation to partner staff on monitoring and supervision of the GX sites to ensure proper functioning of GX systems.
NTW-3.3: Develop an External Quality Assurance (EQA) Program for GX (rapid diagnostic tests)	In progress	<p>NTP completed customs clearance for GX external quality assessment (EQA) panels. As per suggestion from the Vietnam National Reference Laboratory, IDDS conducted EQA tests at five GX sites and shared the results with them to confirm that the EQA panels are good for testing. Following this confirmation, IDDS completed the EQA tests for the remaining 45 GX sites and uploaded the test results to the Vietnam National Reference Laboratory website for EQA. When the EQA test results are available in FY 2023 Q2, IDDS will share the results with NTP and identify additional technical support that might be needed to continue the EQA process and improve the test quality as per EQA findings.</p> <p>Before conducting the GX EQA, IDDS, in collaboration with NTP, organized training on EQA for the medical technologists who operate GX. The training was conducted at five different sites: NTRL in Dhaka on December 8, Rajshahi and Khulna RTRLs on December 11, and Sylhet</p>

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		and Chattogram RTRLs on December 13, 2022. A total of 49 medical technologists (9 female) were trained on the EQA process and on uploading the test results.
NTW-3.4: Support installation and functioning of GX Xpress for bidirectional testing of TB and COVID-19	Not started	NTP is still not ready for implementation of GX Xpress for bidirectional testing of TB and COVID-19.
NTW-3.5: Technical assistance to NTP for transition to Xpert/ Mycobacterium tuberculosis (MTB) and resistance to rifampicin Ultra	In progress	On December 22, 2022, IDDS organized a laboratory sub-group meeting, attended by NTP officials, microbiologists from NTRL, and IDDS staff. The meeting focused on IDDS technical support to transition to GX Ultra, including organizing a workshop to revise the existing diagnostic algorithm for GX Ultra and the recording and reporting templates including drug-resistant TB 06, TB 10A, Laboratory Register, and other relevant documents. These activities are expected to be completed in FY 2023 Q2.
BGD-TB-NTW-4: Introduce new technologies and tools to improve TB diagnosis	In progress	
NTW-4.1: Implement Truenat for detection of TB and DR-TB in peripheral laboratories	In progress	IDDS completed EQA training for Truenat organized at a hotel in Rajshahi on November 8, and at the BRAC Learning Center in Mymensingh on November 10, 2022. A total of 40 laboratory staff (9 female) were trained on the Truenat EQA process and uploading test results to the SmartSpot website. Trainees included 38 medical technologists and 2 laboratory specialists (1 each from BRAC and the Damien Foundation).

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		<p>In December 2022, all 38 Truenat sites completed the first round of EQA and uploaded the test results to the SmartSpot website. Results showed that 31 of the sites achieved a “pass” score (16 out of 16), 3 sites achieved an “acceptable” score (15 out of 16), 1 site received a “concern” score (14 out of 16), and 3 sites received an “unacceptable” score (&lt;14 out of 16). IDDS discussed the EQA results with partners, and in FY 2023 Q2, IDDS plans to provide intensive mentoring support to sites that fell short of the benchmark. In FY 2023 Q2, IDDS will also facilitate implementation of the second round EQA, with the partners.</p> <p>As of FY 2023 Q1, all 38 Truenat sites are functional. In FY 2023 Q1, Truenat sites tested 18,553 presumptive TB cases and detected 1,393 TB and 24 rifampicin-resistant TB cases. The positivity rate for detection of TB by Truenat for FY 2023 Q1 is 7.5 percent, and that for December 2022 was 8.1 percent, which is higher than the previous two months.</p> <p>As reported under activity NTW-2.5, IDDS provided technical and financial support to BRAC to organize orientation sessions with 667 health care workers to increase utilization of Truenat testing services.</p>
NTW-4.2: Implementation of GX/MTB/extensively drug-resistant (XDR) TB to increase access to second-line DST	In progress	<p>The 4 GX 10-color platforms and 1,200 MTB/XDR cartridges are supposed to arrive in the country in FY 2023 Q2. IDDS has been working closely with NTP to ensure timely customs clearance of the supplies. Implementation of this technology was discussed with NTP in the laboratory sub-group meeting held on December 22, 2022, and they agreed IDDS will organize two batches of training for the microbiologists and medical technologists from the laboratory where the XDR platforms will be installed. IDDS plans to finalize the training materials and organize the training in FY 2023 Q2, subject to the arrival of the equipment and prompt customs clearance.</p> <p>IDDS, in collaboration with NTP, will update the existing GX SOP and modify it to incorporate relevant information on the XDR 10-color technology, which will be primarily used for</p>

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		second-line DST. Completion of these activities is expected in FY 2023 Q2, provided the necessary approvals are obtained and NTP participates.



<b>Burma TB Work plan period of performance: October 1, 2021–February 28, 2023</b>		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
BMA-TB-NTW-1: Strengthen the TB diagnostic network framework and systems	In progress	
NTW-1.2: Conduct a comprehensive TB diagnostic network assessment and spatial analysis on the distribution and functionality of TB diagnostic	In progress	<p>On November 11, 2022, IDDS shared the laboratory network spatial analysis report with the National TB Program (NTP) and had an opportunity to explain the process, findings, and recommendations from the report.</p> <p>In FY 2023 Q2, IDDS will engage with NTP during the Global Fund proposal development process to explore opportunities to expand GeneXpert (GX) facilities using the results from the analysis report. IDDS will follow up with TB diagnostic network assessment consultants to review any discrepancies in the report, finalize it, and resubmit it to the United States Agency for International Development (USAID).</p>
NTW-1.3: Introduce a simplified laboratory information management system (LIMS) to strengthen the electronic results reporting	In progress	<p>In November and December 2022, IDDS met with the National TB Reference Laboratory (NTRL) to integrate an electronic LIMS (eLIMS) at the laboratory. IDDS modified the LIMS workflow previously developed by the project to better suit the current workflow used at NTRL, which accounts for HR shortages and changes to operations and programs.</p> <p>In November and December 2022, IDDS conducted several meetings with and visits to NTRL to develop a comprehensive eLIMS integration plan. On November 23, IDDS discussed the workflow with NTRL, and finalized it on November 24, 2022. On December 8, 2022, IDDS and NTRL met with the World Health Organization to discuss collaborating on LIMS development to improve sustainability.</p> <p>In FY 2023 Q2, IDDS will review and finalize the LIMS design, and an eLIMS integration plan will be developed.</p>
BMA-TB-NTW-2: Increase access to quality TB diagnostic services	In progress	

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<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-2.1: Support implementation of updated TB diagnostic algorithms	In progress	<p>As COVID-19 restrictions have been lifted, IDDS and NTP have discussed organizing a dissemination workshop to launch the new TB diagnostic algorithm. NTP requested the workshop be held at the national level, despite the previous plan to hold a workshop at the subnational level.</p> <p>In FY 2023 Q2, IDDS will organize a national-level dissemination workshop to launch the new TB diagnostic algorithm, with participants from both public and private sector TB partners.</p>
NTW-2.2: Strengthen the TB specimen referral and transport system in the private and the public sector	In progress	<p>IDDS intended to pilot a new specimen referral system, but due to constraints in implementation, such as the central NTP's unwillingness to approve this activity, lack of interest from partner organizations, and project timeline limitations, IDDS did not implement this activity and continued to fill gaps in the current specimen transport system in the Yangon region. In December 2022, as requested by NTRL, IDDS provided sample transportation support to transport samples between regional-level laboratories to NTRL for timely referral of specimens for genotypic and phenotypic culture. On December 19 and 26, 2022, IDDS met with the USAID-funded Local Action Against TB project to explore the feasibility of using TB self-help groups and civil society organizations for specimen transport.</p> <p>In FY 2023 Q2, IDDS will initiate a specimen transportation network, using self-help groups and civil society organizations, in close collaboration with the Local Action Against TB project.</p>
NTW-2.3: Increase access to quality chest x-rays	In progress	<p>Between October 4 and 7, 2022, IDDS and Fuji Film Myanmar conducted two two-day sessions of a training on using X-ray with computer-aided diagnosis in the Yangon region. Seven radiographers and medical officers from Myanmar Anti Tuberculosis Association (MATA) attended the training (4 female).</p> <p>After official approval is received from the central NTP, IDDS will continue implementing this activity and providing technical assistance to the Yangon regional NTP.</p>
NTW-2.4: Strengthen the access to GeneXpert (GX) as an	In progress	<p>The IDDS warehouse received the five GX 10-color machines procured and, in close collaboration with the World Health Organization, determined the power supply specifications for the machines. IDDS also advocated for NTP to deploy GX machines in the private-for-</p>

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initial diagnostic test for TB		<p>profit sector to increase case finding, strengthen mandatory case notification, and reduce underreporting.</p> <p>In FY 2023 Q2, IDDS will procure power supply for the GX machines. Then, IDDS will engage with USAID and NTP to determine placement of the machines, with a priority to strengthen the Double X strategy among private sector partners.</p>
NTW-2.6: Pilot use of stool specimens for TB diagnosis in children using GX Ultra	In progress	<p>IDDS modified the research protocol for the use of GX Ultra testing for stool specimen to be used in a pilot implementation plan. The workflow and implementation areas have been identified for feasibility to conduct specimen collection and testing. On December 4, 2022, IDDS and NTP finalized the implementation plan. Official approval is still needed from NTP to initiate the pilot.</p> <p>In FY 2023 Q2, after getting approval from NTP, IDDS will deploy GX machines in two NTP testing sites and the necessary human resources to initiate the pilot implementation plan.</p>
NTW-2.7: Pilot Truenat to expand access to rapid TB diagnostics	In progress	<p>IDDS continued its engagement with MATA to implement TB diagnosis using Truenat assay. On October 12, 2022, three laboratory technicians (2 female) were trained in Truenat testing in Yangon region. After official approval is received from the central NTP, IDDS will continue implementing this activity and providing technical assistance in the Yangon region.</p>
NTW-2.8: Organize TB diagnostic education materials for professionals	In progress	<p>IDDS organized the learning and training materials into a learning package that could be used by TB laboratories and laboratory technicians. The package includes guidelines, standard operating procedures (SOPs), manuals, and training materials. IDDS advocated for MATA to take on the learning package, because MATA is the only professional organization working on TB in Burma.</p> <p>In FY 2023 Q2, IDDS will disseminate the learning package to MATA. IDDS will also engage with NTP to obtain their acknowledgement of the learning package.</p>
BMA-TB-NTW-3: Strengthen TB and multidrug resistant TB	In progress	

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case detection at TB diagnostic facilities		
NTW-3.1: Build diagnostic capacity to perform quality-assured culture, genotypic and phenotypic drug-susceptibility testing, including line probe assay	In progress	<p>IDDS finalized an analysis plan for Xpert <i>Mycobacterium tuberculosis</i>/extensively drug-resistant testing pilot after receiving feedback and approval from the Yangon regional NTP. IDDS worked closely with the Yangon regional NTP on the analysis. IDDS completed data entry, checks, and validation of 1,884 testing records from September 2021 to August 2022. NTP's official approval is needed for data sharing from NTP to IDDS.</p> <p>In November 2022, IDDS submitted a modified laboratory request form, reporting formats, and an SOP on second line drug susceptibility testing with updated media preparation to NTP and NTRL for their review and approval. Then IDDS proposed and discussed with NTRL the development of a set of key performance indicators for performance monitoring at NTRL. NTRL requested IDDS to review and update the other SOPs related to TB diagnostics, which were developed in 2018.</p> <p>In December 2022, IDDS provided in-person technical assistance to lessen the workload of existing resources at the NTRL facility. Diagnostics specialists from IDDS conducted specimen preparation for liquid culture, inoculation, and confirmation testing, in compliance with approved SOPs and guidelines from NTRL.</p> <p>In FY 2023 Q2, IDDS will conduct analysis of Xpert <i>Mycobacterium tuberculosis</i>/extensively drug-resistant testing when IDDS receives the testing statistics from NTP. IDDS will continue to work closely with NTRL to review the outdated SOPs and revise them according to updated global guidelines and recommendations.</p>
NTW-3.3: Strengthen TB laboratory infection control at national and sub-	Completed	In October 2022, IDDS conducted a technical review of TB laboratory biosafety and biosecurity assessment tools, training materials, and training video clips and disseminated those materials to partner organizations.

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national levels in public and private sectors		

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<p>KHM-TB-NTW-I: Implementation of diagnostic connectivity solution in COMMIT and Global Fund-supported sites</p>	<p>In progress</p>	<p></p>
<p>NTW-I.I: Support the establishment of connected GX instruments in COMMIT project ODs and scale-up diagnostic connectivity to the GX instruments in selected Global Fund-supported ODs</p>	<p>In progress</p>	<p>IDDS enabled DataToCare (DTC) connectivity for GeneXpert (GX) at the Mongkul Borey Referral Hospital (RH) on October 5, 2022. The GX instrument could not previously connect with DTC because the computer system was not compatible with the DTC system. This issue was resolved with support from Savics, and super-users led the installation of DTC and hands-on training at the site, with limited support from Savics.</p> <p>IDDS coordinated the process to establish interoperability between DTC and the TB Management Information System (TB-MIS), in collaboration with Savics, the super-users at the National Center for Tuberculosis and Leprosy Control (CENAT), and the United States Agency for International Development’s Community Mobilization Initiative to End Tuberculosis (COMMIT) project. Savics and COMMIT are developing an application programming interface that allows the two systems to communicate with one another and to be synchronized. The synchronization of the two systems is expected to be fully functioning in FY 2023 Q2.</p> <p>IDDS coordinated and accompanied USAID mission staff to conduct a field visit to DTC sites of Rokar Korng RH on December 19, 2022, and Siem Reap and Sot Nikum RHs on December 22, 2022. During the field visits, IDDS and mission staff assessed the functioning of the DTC system and discussed connectivity challenges with system users.</p>

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		<p>In FY 2023 Q2, IDDS plans to: (1) work with Savics to establish interconnectivity between DTC and TB-MIS and enable SMS notification, (2) expand DTC connectivity to 20 new Global Fund-supported operational districts (ODs) and encourage laboratory technicians to use DTC as the monitoring system and produce real-time reporting and turnaround time results, and (3) disseminate the final report of the DTC pilot in the 10 COMMIT ODs with recommendations outlined for the expansion of GX connectivity nationwide.</p>
<p>NTW-1.3: Expand data connectivity to Truenat instruments and TB-MIS</p>	<p>In progress</p>	<p>IDDS configured and tested connectivity between Truenat and DTC at Talun and Prek Anchanh health centers in the Kandal province on November 10–11, 2022, with remote support from Savics and Molbio. Some test results were not properly sent from Truenat instruments to DTC, and Savics and Molbio are working together to enable the transfer of all testing data to DTC. After the connectivity between Truenat and DTC is successfully established at the two sites, IDDS will expand the configuration to other Truenat sites.</p> <p>In FY 2023 Q2, IDDS expects to (1) configure connectivity for the remaining 13 Truenat machines and provide hands-on training on the use of this connectivity solution, and (2) work with CENAT to plan DTC and TB-MIS interoperability for all 15 Truenat instruments.</p>
<p>KHM-TB-NTW-2: Pilot Truenat and 10 color GX to expand access to rapid TB and DR-TB diagnostics</p>	<p>In progress</p>	
<p>NTW-2.1: Pilot Truenat in selected sites and assess the feasibility of testing for TB and rifampicin resistance</p>	<p>In progress</p>	<p>IDDS ended the pilot of Truenat because it reached the target sample size of 1,200 tests. IDDS is collecting and analyzing data and drafting the pilot report, which will be submitted to the National Ethics Committee for Health Research in FY 2023 Q2.</p> <p>With Core TB funding support, IDDS conducted Truenat external quality assessment (EQA) (3<sup>rd</sup> cycle panel) for all 15 Truenat sites in November 2022. The EQA result report, made available</p>

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<p>at peripheral point-of-care health centers</p>		<p>on the SmartSpot portal on December 21, 2022, indicated that 11 of the 15 sites obtained a “pass” score and 4 of the sites obtained an “acceptable” score.</p> <p>IDDS also coordinated and accompanied USAID mission staff to conduct a field visit to a Truenat site in Prek Anchanh health center on December 19, 2022, to monitor Truenat implementation at the site and discuss challenges with the Truenat implementation and compliance with the pilot protocol.</p> <p>In FY 2023 Q2, IDDS plans to document best practices and user feedback and prepare the final report of the Truenat pilot to inform future scale-up by CENAT.</p>
<p>NTW-2.3: Introduce GX with 10 color system</p>	<p>In progress</p>	<p>IDDS procured 3 GeneXpert 10-color machines and 1,320 XDR cartridges with Core TB funding. The instruments and cartridges arrived in Cambodia on December 23, 2022, and will be distributed to the sites in FY 2023 Q2.</p> <p>IDDS helped the National TB Reference Laboratory coordinate the donation of bedaquiline and delamanid powders through the National Institute of Allergy and Infectious Diseases donation program.</p> <p>IDDS is procuring additional drug powders (BACTEC MGIT moxifloxacin, clofazimine, and linezolid) through the Global Drug Facility because these items are not locally available. IDDS is also procuring the MTBc ID/ICA test to confirm MTB complex in culture-positive tubes from a local vendor.</p> <p>Through Core TB funds, IDDS provided financial and technical support to CENAT to conduct a training (October 5–7, 2022) on the use of GeneXpert 10-color instrument, Xpert MTB/XDR testing procedures, and Xpert MTB/XDR test results interpretation. Eight persons were trained (six female), including National TB Reference Laboratory staff and laboratory technicians from</p>



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		<p>Kampong Cham, and four IDDS staff also participated. IDDS helped adapt the training materials and facilitated the training.</p> <p>IDDS developed the detailed implementation plan, diagnostic algorithm, and training materials for GX 10-color implementation. These documents are currently being reviewed.</p> <p>IDDS conducted a drug-resistant TB sensitization workshop with CENAT and stakeholders on December 27, 2022, at Sunway Hotel in Phnom Penh. A total of 36 participants (3 female) attended the workshop from the Ministry of Health, CENAT, staff from Siem Reap and Battambang provinces, IDDS, and other implementing partners.</p> <p>In FY 2023 Q2, IDDS expects to (1) provide necessary training on the use of GX 10-color machines; and (2) train laboratory staff on drug susceptibility testing for new and repurposed anti-TB drugs and culture, including improving sputum quality,</p>
<p>NTW-2.4: Perform a spatial analysis of the rapid molecular diagnostic (RMD) network to inform the placement of new TB WHO Recommended Diagnostics (WRD) for future expansion of molecular diagnostics</p>	<p>Dropped</p>	<p>Activity removed from the Cambodia field TB work plan and will be covered under Core TB work plan.</p>

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Activity	Status	Activity implementation updates
KHM-TB-NTW-3: Improve the CXR reading and Telegram platform for interpretation of CXR	In progress	
NTW-3.2: Develop and disseminate training materials for the use of the platform for CXR interpretation	In progress	<p>IDDS developed the chest X-ray (CXR) Telegram platform training materials for Telegram users and provided virtual training to the six CENAT CXR moderators (all male) on December 9, 2022.</p> <p>IDDS monitored and observed CXR Telegram platform use. More than 180 users are actively using this platform to post the CXR images that are difficult to interpret to get advice from CXR moderators who were assigned by the CENAT director. All CXR moderators are actively responding to the users.</p> <p>In FY 2023 Q2, IDDS plans to (1) provide virtual hands-on individual training for CXR Telegram platform users, and (2) upload training materials to the Telegram platform and establish a system to update and curate the materials based on CXR reading quality and feedback.</p>
NTW-3.3: Develop an online training module and provide training on the correct reading and interpretation of CXR	In progress	<p>IDDS started developing the online training module on the correct reading and interpretation of CXR.</p> <p>In FY 2023 Q2, IDDS plans to (1) work with CENAT and stakeholders to develop online CXR reading and interpretation guidance and manual, and (2) upload and launch the online training module for learners accessing the online CXR courses through the CENAT website.</p>
NTW-3.4: Test the feasibility of artificial	In progress	IDDS is procuring artificial intelligence software from Qure.AI company. The quote has been obtained and is being analyzed.

## Cambodia TB

Work plan period of performance: October 1, 2021–September 30, 2022

**Work plan approval date:** As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.

Activity	Status	Activity implementation updates
intelligence (AI)-enabled CXR reading for TB screening at the peripheral sites and for EQA of CXR in selected ODs		<p>IDDS started drafting a plan to pilot and test the feasibility of artificial intelligence-enabled CXR reading for TB screening at the peripheral sites, and to conduct EQA of CXR in two selected sites (CENAT and Battambang RH).</p> <p>In FY 2023 Q2, IDDS plans to provide CXR reading and EQA training, using the digitized training materials, to the selected sites and support the implementation of the EQA program,</p>
KHM-TB-NTW-4: Provide technical support to improve bi-directional screening for TB-Diabetes Mellitus (DM) comorbidity	Completed	
NTW-4.1: Review COMMIT's approach to bi-directional TB-DM screening and develop recommendations to enhance and expand; disseminate the TB-DM situational analysis report	Completed	<p>IDDS conducted the dissemination workshop for the TB and diabetes mellitus (TB-DM) situation analysis report to inform CENAT and stakeholders about approaches, successes, and challenges of TB-DM bi-directional screening in five COMMIT-supported ODs in Cambodia. The dissemination workshop was conducted in Phnom Penh on November 16, 2022, with 45 participants (2 female). The participants included CENAT, Department of Preventive Medicine, National Center for Health Promotion, USAID, TB supervisors, RHs' TB-DM focal points, and non-governmental organization partners: Khmer HIV/AIDS NGO Alliance, Health and Social Development, MoPoTsyo Patient Information Center, Korea Foundation for International Healthcare, and Sustaining Technical and Analytic Resources.</p>
KHM-TB-NTW-5: Implementation of stool GX testing for improving	In progress	

Cambodia TB

Work plan period of performance: October 1, 2021–September 30, 2022

**Work plan approval date:** As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.

Activity	Status	Activity implementation updates
pediatric TB diagnosis in COMMIT supported ODs		
NTW-5.1: Implement stool specimen testing with GX ultra for pediatric TB diagnosis	In progress	IDDS is working with the CENAT childhood TB technical team to develop the detailed implementation plan, algorithm, training curriculum, and materials for stool testing implementation.  In FY 2023 Q2, IDDS expects to (1) localize the SOPs for implementing the initial stool specimen testing by GX Ultra; and (2) train health care staff, including pediatricians and laboratorians, on stool specimen testing for sample processing, including sample collection, referring, and the new algorithm.

<b>Cambodia PMI</b> <b>Work plan period of performance: May 1, 2022–January 13, 2023</b> <b>Work plan approval date: April 21, 2022</b>		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
MAL-PMI-NTW-1: Malaria Diagnostic Network Assessment	In progress	
NTW-1.1: Conduct a landscape assessment of malaria diagnostic services, resources, capacities, and policies	In progress	<p>On November 4, IDDS met with the World Health Organization (WHO) to present IDDS’s proposal for a laboratory assessment to ensure collaboration and avoid duplication of efforts. During this meeting, the gaps that were revealed during the WHO midterm malaria program review (MTR) included several that specifically pertained to the laboratory sector in Cambodia. IDDS proposed the following technical assistance topic areas based on those gaps:</p> <ul style="list-style-type: none"> <li>• Conduct an assessment for the molecular laboratory and other networks (provincial level) and provide a recommendation/improvement plan</li> <li>• Provide technical assistance support in capacity building in malaria molecular testing: malaria detection, species confirmation, and drug resistance</li> <li>• Provide technical assistance support to review standard operating procedures for malaria slide bank preparation for the malaria National Competency Assessment</li> <li>• Provide technical assistance to support the National Center for Parasitology, Entomology and Malaria Control (CNM) to establish an online malaria microscopy proficiency program for long-term capacity building</li> <li>• Provide technical assistance support and encourage CNM to participate in the ISO 15189 laboratory accreditation process</li> </ul> <p>In early December 2022, IDDS, CNM, and the United States Agency for International Development (USAID) mission in Cambodia met to revisit the results and recommendations from WHO’s MTR report, and to review the IDDS work plan to ensure that it complements and supports the priority gaps highlighted in the MTR. Based on the discussion and on the proposed technical assistance options (listed previously), the work plan will mostly remain the same; however, there was a request to add polymerase chain reaction activities for the plasmodium species identification and drug resistance testing. In late December 2022, IDDS</p>

Cambodia PMI		
Work plan period of performance: May 1, 2022–January 13, 2023		
Work plan approval date: April 21, 2022		
Activity	Status	Activity implementation updates
		collaborated with the USAID mission to begin adjusting the work plan to include technical assistance to improve subnational capacity in microscopy and help CNM increase polymerase chain reaction capacity at the subnational level.
NTW-1.2: Review the progress of the <i>Quality Assurance of Malaria Diagnosis Operational Manual</i> implementation	Not started	This activity is expected to begin in FY 2023 Q2.
MAL-PMI-NTW-2: Develop online trainings for malaria diagnostics	Not started	
NTW-2.1: Develop an online training curriculum for malaria microscopy for all three expert reader levels	Not started	This activity is expected to begin in FY 2023 Q2, but it may be adjusted with the forthcoming work plan revision submitted to USAID in January 2023.
NTW-2.2: Develop an online training curriculum for malaria Rapid Diagnostic Test (RDT)	Not started	This activity is expected to begin in FY 2023 Q2.
NTW-2.3: Develop an online training	Not started	This activity is expected to begin in FY 2023 Q2.

**Cambodia PMI**

**Work plan period of performance: May 1, 2022–January 13, 2023**

**Work plan approval date: April 21, 2022**

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
curriculum for malaria polymerase chain reaction (PCR)		

**CAMEROON GHS**

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: December 6, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
CMR-GHS-NTW-1: Strengthen the capacity of the IDDS-supported surveillance sites to detect priority pathogens and antimicrobial resistance (AMR) in both human health and animal health diagnostic facilities	Benchmark 7.1 Benchmark 3.2	Not started	
CMR-GHS-NTW-1.1: Provide technical assistance, and mentorship to IDDS-supported sites (7 human and 3 animal sites) to implement national AMR standard operating procedures (SOPs). (Continuation of FY 2022 activities)		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.
CMR-GHS-NTW-1.2: Procure basic reagents/equipment and maintenance contracts for the human and animal IDDS-supported sites to improve quality assurance. (Continuation of FY 2022 activities)		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.



**CAMEROON GHS**

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: December 6, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
CMR-GHS-NTW-1.3: Host the national AMR detection and surveillance training materials (training modules) and SOPs developed during FY21 & FY22 in an e-learning platform in collaboration with other USAID GHS partners (Medicines, Technologies, and Pharmaceutical Services [MTaPS], and Africa One Health Network [AFROHUN]) to ensure sustainability of workforce development (New FY 2023 activity that builds on FY 2021 and FY 2022 successes)		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.
CMR-GHS-NTW-2: Support the creation of a One Health specimen referral and transport system	Benchmark 7.2	Not started	
CMR-GHS-NTW-2.1: Convene a workshop with stakeholders to review the		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.

**CAMEROON GHS**

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: December 6, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
current specimen referral and transport systems based on the assessment done by IDDS, and identify gaps and areas of improvement for a One Health specimen referral and transport system (New activity for FY 2023)			
CMR-GHS-NTW-2.2: Support the Ministry of Health (MoH) and the Ministry of Livestock, Fisheries, and Animal Industries (MINEPIA) to develop costed estimates for a One Health specimen referral and transport system plan (New activity for FY 2023)		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.
CMR-GHS-NTW-2.3: Support a pilot integrated human and animal specimen referral and transport system to improve		Not started	This activity will be conducted in FY 2023 Q2 after the consultant's contract modification has been executed.

**CAMEROON GHS**

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: December 6, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
surveillance of diseases with epidemic potential (New activity for FY 2023)			
CMR-GHS-SURV-1: Strengthen AMR surveillance through capacity building to analyze, interpret, and report AMR surveillance data and develop national strategic plans	Benchmark 3.1 Benchmark 3.2	In progress	
CMR-GHS-SURV-1.1: Provide technical assistance to the AMR technical secretariat to develop the AMR strategic plan (2022-2027) in collaboration with other USAID GHS partners (Medicines, Technologies, and Pharmaceutical Services [MTaPS], Food and Agriculture Organization of the United Nations [FAO]) (Carryover from FY 2022)		Not started	This activity will be conducted in FY 2023 Q2. Next steps for this sub-activity are to plan and hold the final validation meeting for the national antimicrobial resistance (AMR) strategic plan.

**CAMEROON GHS**Work plan period of performance: **October 1, 2022–July 31, 2023**Work plan approval date: **December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
CMR-GHS-SURV-1.2: Conduct quarterly AMR surveillance stakeholders review meetings to assess progress and AMR data quality (Continuation of support provided in FY 2022)		In progress	<p>IDDS helped the National Public Health Laboratory (NPHL) organize an online data quality review meeting, which took place on December 22, 2022, and included five AMR surveillance sites (Douala Laquintinie Hospital, Centre Hospitalier d'Essos, National Public Health Laboratory, National Veterinary Laboratory Yaoundé, and National Veterinary Laboratory Garoua). Participants discussed data quality gaps from the previous quarter with the point of contact for each surveillance site and formulated some recommendations for improvements. The meeting also served as an opportunity to share best practices among points of contact from the different surveillance sites and discuss different challenges.</p> <p>In FY 2023 Q2, IDDS will support NPHL to review the AMR data collected from January to December 2022 for the preparation of the annual AMR surveillance report.</p>
CMR-GHS-SURV-1.3: Provide technical assistance to the National Coordination Center to develop the annual surveillance report and policy briefs, and to report National AMR data to the World Health Organization (WHO) Global Antimicrobial Resistance and Use Surveillance System (GLASS) (Continuation of		In progress	<p>IDDS provided technical assistance in the analysis and presentation of AMR data to NPHL for the integrated monthly AMR surveillance bulletins (October, November, December 2022). These bulletins present a monthly AMR profile for priority pathogens in both human and animal health. In FY 2023 Q2, IDDS will continue to support NPHL in conducting data quality review meetings to ensure that quality data related to the AMR surveillance network are gathered.</p>

**CAMEROON GHS**

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: December 6, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
activity implemented in FY 2022)			
<b>CMR-GHS-SURV-1.4:</b> Showcase IDDS detection and surveillance activities during National Public Health Events such as (i) 2022 World Antimicrobial Awareness Week and (ii) Cameroon International Conference on Public Health Emergencies (Continuation of activity implemented in FY 2022)		Completed	<p>IDDS provided technical and financial support to national AMR One Health stakeholders to organize a sensitization campaign during World Antimicrobial Awareness Week (WAAW) 2022, which occurred from November 18 to 24, 2022. WAAW is celebrated every year as a global campaign that aims to improve awareness and understanding of AMR through effective communication, education, and training. IDDS financially supported the AMR Coordination Center (NPHL) to organize a multisectoral roundtable on November 23, 2022, in Yaoundé on the theme of “Preventing Antimicrobial Resistance Together” for the official launch of the Cameroon WAAW 2022. The target audience was decisionmakers; human, animal, and environmental health professionals; laboratory staff; antimicrobials users; environmental specialists; and students.</p> <p>IDDS also provided financial and technical assistance to a campaign to help veterinary and medical health professionals understand the importance of microbiological diagnostics in preventing AMR. IDDS developed posters and communication tools for the campaign. IDDS supported the following sites for this campaign: Laquintinie Hospital Douala, Yaoundé General Hospital, Centre Hospitalier d’Essos, and the Regional Delegation of the Ministry of Livestock in the Center and Littoral Regions. These campaigns targeted laboratory staff, prescribers, and users of antimicrobials agents. During this campaign, presentations, webinars, round tables, and symposiums were held to address antimicrobial abuse as a driver of AMR, with emphasis on the importance of a “One Health” approach as a tool for effectively fighting AMR. At the end of these activities, 49 animal health</p>

**CAMEROON GHS**Work plan period of performance: **October 1, 2022–July 31, 2023**Work plan approval date: **December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
			<p>clinicians, 163 human health professionals, and 120 medical students from Yaoundé and Douala were sensitized during the campaign.</p> <p>IDDS also showcased its contributions to the building of a One Health National AMR Detection and Surveillance System in Cameroon during the 18th National Scientific Conference on November 25–26, 2022, hosted by the Cameroon Association for Medical Laboratory Sciences. This conference convened more than 300 medical laboratory professionals.</p> <p>By supporting the various stakeholders in organizing these activities, IDDS helped raise awareness of AMR as a global public health threat among human and animal health professionals in Cameroon and the need to reduce the general misuse of antimicrobials.</p>
CMR-GHS-SURV-1.5: Conduct one webinar in collaboration with other stakeholders on AMR surveillance and detection (New activity for FY 2023)		Not started	This activity will be conducted in FY 2023 Q2.

## Cameroon Mpox

Work plan period of performance: October 1, 2022–March 31, 2023

Work plan approval date: September 29, 2022

Activity	Status	Activity implementation updates
CM-MPX-NTWI: Technical assistance	In progress	<p>IDDS supported the Government of Cameroon to finalize and validate its strategic plan for the prevention and control of mpox. IDDS provided technical (through the facilitation of the workshop) and financial support to the five-day finalization workshop (October 10–14, 2022) and the two-day validation workshop (December 1–2, 2022), led by the National One Health Platform, with the participation of key national stakeholders (Ministry of Public Health; Ministry of Livestock, Fisheries and Animal Industries; Ministry of Forestry and Wildlife; Ministry of Scientific Research and Innovation; Ministry of Environment, Nature Protection and Sustainable Development; National Laboratory Network). The validation workshop brought together 38 participants (15 female). The strategic plan will improve the performance of both human and animal health systems through an efficient mpox risk management system in Cameroon. It serves as a technical guide to reinforce preventive measures through immunization and outbreak site management, reinforce the surveillance system through a multisectoral One Health approach, and preserve the health of the at-risk population. With this plan, Cameroon also joins the World Health Organization in its call to tackle mpox at a multinational level. In FY 2023 Q2, IDDS will provide financial support to the National One Health Platform to translate the plan from French to English and disseminate the document at the national, regional, and local levels.</p> <p>IDDS joined the Cameroon National One Health Platform at Djeuga Palace Hotel in Yaoundé to celebrate the 2022 edition of World One Health Day (November 3, 2022) by organizing a One Health press briefing on Cameroon’s preparedness to prevent the spread of mpox. This celebration brought together 72 participants from diverse sectors and from central to local levels, with the technical and financial support of IDDS. The press briefing on mpox included experts from the National One Health Platform and ministries in charge of public health, animal health, environmental protection, forestry, and wildlife, and had 26 web editors, press writers, and TV and radio stations participate and learn about Cameroon’s preparedness to prevent the spread of this emerging disease. The press briefing aimed to inform the media about mpox and discuss their role in managing the disease.</p>

## Cameroon Mpox

Work plan period of performance: October 1, 2022–March 31, 2023

Work plan approval date: September 29, 2022

Activity	Status	Activity implementation updates
		<p>IDDS supported Cameroon’s Ministry of Public Health to finalize the mpox surveillance operational guidelines. IDDS provided technical (through the facilitation of the workshop) and financial support to the Department of Disease Control, Epidemics and Pandemics (DLMEP) to organize a multisectoral workshop to finalize the mpox surveillance operational guidelines in Cameroon from December 5 to 9, 2022. Thirty-seven people (14 female) participated, including the following: representatives from the Ministry of Public Health, the National Program for the Prevention and Control of Emerging and Re-emerging Zoonoses, the Ministry of Livestock, Fisheries and Animal Industries, the Ministry of Forestry and Wildlife, and the Ministry of Environment, Protection and Sustainable Development; representatives of laboratory networks such as the Centre Pasteur du Cameroun, the Research Center for Army Health, the Veterinary National Laboratory, and the National Public Health Laboratory; and partners. This document will provide standard operating procedures and tools to guide the implementation of epidemiological surveillance of mpox at all levels of the health pyramid, describing the conduct of investigations and contact follow-up, describing the management of an mpox epidemic/epizootic, and guiding risk communication and community engagement. In FY 2023 Q2, the document is expected to be translated from French to English and disseminated to all the levels of the health pyramid.</p> <p>IDDS helped analyze mpox data for the DLMEP that were incorporated into the mpox situation report N°5. IDDS also provided continuous support to the preparation of the weekly mpox situation presentation, which is presented during the Cameroon weekly surveillance meetings in which all the actors involved in surveillance activities are present to discuss challenges.</p>
CM-MPX-NTW2: Support epidemiologic surveillance activities of monkeypox	In progress	IDDS supported the Ministry of Public Health with the mpox outbreak investigation and response in the Littoral, Southwest, and the North-West Regions of Cameroon to limit the spread at community level. IDDS developed with DLMEP the field investigation protocol and provided financial support to three mpox field investigations. The first one was conducted in the Southwest Region from October 13 to 22, 2022, in Kumba North and South and Mbonge



**Cameroon Mpox**

**Work plan period of performance: October 1, 2022–March 31, 2023**

**Work plan approval date: September 29, 2022**

Activity	Status	Activity implementation updates
and case investigation in affected health districts		<p>Health Districts following the notification on October 6, 2022, by Kumba Health District of a patient suspected of having mpox. The second investigation was conducted in Bamenda 3 District following confirmation by the Bamenda Health District (Nkwen integrated center) of an mpox case coming from Mbanga in the Littoral Region on October 29, 2022. The third investigation was in the Littoral-Southwest Region, specifically in Loum, Mbanga, Njombe-Penja Health District (Littoral), and Bangem, Tombel, Tiko Health District (Southwest) from November 30 to December 7, 2022. This investigation was planned because the Southwest and the Littoral Regions are neighboring regions and cases are circulating through these two regions. The objectives of these investigations were to describe the outbreak, conduct active case search and contact tracing, evaluate the circulation of the virus in the different regions, and initiate preventive and control measures. Active case search and contact tracing revealed additional cases during the investigations. As a result, Ministry of Health staff initiated case management, sensitization in the community and briefing health personnel on mpox case identification and investigation. Contacts were identified and followed up with for 21 days. The key recommendations were to reinforce surveillance in animal health and veterinary sanitary inspection as well as in human health, to provide materials for case management and sampling of mpox cases to the health facilities and to intensify sensitization in the community.</p> <p>IDDS also technically (through facilitation of the training) and financially supported the training session on integrated disease surveillance and response to reinforce mpox surveillance indicators in the Southwest Region from November 22 to 23, 2022. Twenty-one people (12 female) participated from 18 of the 19 Health Districts in the Southwest Region and the Southwest Regional Delegation of Public Health. The training focused on four main modules: background, introduction, leadership, and coaching. This training will improve mpox case detection, timely data collection and reporting, data analysis/interpretation, and laboratory surveillance. This activity was co-funded by both integrated disease surveillance and response and mpox funds.</p>

Cameroon Mpox		
Work plan period of performance: October 1, 2022–March 31, 2023		
Work plan approval date: September 29, 2022		
Activity	Status	Activity implementation updates
		In FY 2023 Q2, trainees will be supervised, and the mpox surveillance key indicators will be evaluated each week, such as completeness and timeliness of the surveillance reports, quality of data filled in the DHIS2 (number of cases, number of deaths, etc.), and surveillance activities will be conducted.
CM-MPX-NTW 3: Strengthening monkeypox diagnostics in regional laboratories of the affected regions	In progress	<p>IDDS recruited a senior mpox diagnostic consultant to provide technical and mentorship support for mpox diagnostic decentralization and establish additional testing capacity in two regional laboratories to identify mpox cases. IDDS conducted an mpox laboratory needs assessments in key human and animal health laboratories (the Centre Pasteur du Cameroun, the Veterinary National Laboratory, and the National Public Health Laboratory).</p> <p>In FY 2023 Q2, IDDS's work will include the following activities: (1) design and deliver training sessions to strengthen diagnostic capabilities of laboratory technicians, including applying a standardized mpox diagnostic algorithm and safe sample collection and transport; (2) procure critical supplies, such as mpox test kits, polymerase chain reaction extraction reagents, and associated laboratory consumables; and (3) support the safe specimen transport of mpox virus samples.</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
CTB-NTW-1: TB-NET tool Revisions and Translation	In progress	
NTW-1.2: Develop quality control component for Remote TB DNA	Not started	Activity was deprioritized because the on-site TB diagnostic network assessment (DNAs) resumed when the COVID pandemic lockdowns were lifted.
NTW-1.6: Addendum to assessors' manual on selection of priorities in a limited scope DNA	Not started	Implementation will begin in FY 2023 Q2.
CTB-NTW-2: Conduct the TB DNA	In progress	
NTW-2.1: Conduct laboratory diagnostic network analyses in USAID Priority Countries	In progress	<p><b>Overall:</b> IDDS is working on a curriculum to build the capacity in conducting spatial analysis in United States Agency for International Development (USAID) priority countries. The first workshop is planned for Zimbabwe in FY 2023 Q2.</p> <p>IDDS has been working with Ministry of Health/National TB Program (NTP) in Malawi and Zimbabwe on data collection for spatial analyses and will start the analyses in FY 2023 Q2.</p> <p><b>Ethiopia:</b> IDDS completed the spatial data analysis for placement of GeneXpert (GX) 10-color instruments and relocation of GX 6-color instruments. IDDS has been developing a draft report and will submit the final report in FY 2023 Q2. IDDS shared an executive summary of the finding with the Ethiopia NTP and the USAID mission per the country's request.</p> <p><b>Tanzania:</b> IDDS completed the spatial analysis for placement of 6-color GX instruments and completed the analysis report. IDDS received a new request from NTP and USAID for an</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
		<p>additional analysis to inform the placement of Truenat instruments. In FY 2023 Q2, IDDS will undertake data collection for the additional analysis and determine whether to include both analyses in a single report.</p> <p><b>Uganda:</b> IDDS completed the data collection for a countrywide spatial analysis. The analysis has been postponed until further notice from USAID due to potential redundancy with activities implemented by other organizations.</p> <p><b>Pakistan:</b> The planned spatial analysis for Pakistan was canceled per USAID’s request.</p>
NTW-2.2: Expand the LNA process to incorporate second-line DST	In progress	Spatial analyses in Ethiopia, Uganda, Malawi, and Zimbabwe incorporate drug resistant diagnostics that include second-line drug susceptibility testing (DST), GX MTB/XDR (i.e., 10-color GX), and Truenat MTB/RIF.
NTW-2.3: Expand, update, and verify the roster of consultants able to implement DNAs	In progress	IDDS has recruited and contracted about 25 international consultants and 25 local consultants to support the TB DNAs in Malawi, Democratic Republic of the Congo (DRC), and Pakistan.
NTW-2.4: Conduct DNAs	In progress	<p><b>Overall:</b> IDDS completed the translation of the TB DNA presentation, assessor’s manual and TB-NET tool into Portuguese.</p> <p><b>Malawi:</b> The Malawi DNA verification visit has been rescheduled to FY 2023 Q2. IDDS worked on planning the activity with the Ministry of Health/NTP with support from the USAID mission.</p> <p><b>DRC:</b> IDDS provided self-assessment training to NTP officers for the use of the TB-NET tool (November 28–29, 2022) and guided them to use the tool to evaluate the current status of the TB diagnostic network (November 30–December 2, 2022). A total of 37 people (10 female) attended the training. The verification visit is planned for FY 2023 Q2.</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
		<b>Pakistan:</b> IDDS has been working with the Pakistan NTP on planning and implementing the DNA. The self-assessment training and workshop and verification visit are planned for FY 2023 Q2.
NTW-2.5: Track status of laboratory network analyses and DNAs for all USAID priority countries	In progress	IDDS continues to track the status of the TB DNA and spatial analyses supported by the project and presents updates weekly to USAID.
CTB-NTW-3: TB Diagnostic New Tools Implementation	In progress	
NTW-3.2: Introduce Truenat in iNTP and non-iNTP countries	In progress	<p><b>Overall:</b> During the Union Conference, held virtually in November 2022, IDDS gave two presentations related to Truenat implementation. In a symposium session held with the STOP TB Partnership and USAID, IDDS presented the Truenat implementation support package (which includes super-users and external quality assessment [EQA]) that IDDS is rolling out in several countries. In a satellite session organized by SmartSpot, IDDS shared experience in practical implementation of Truenat EQA in Zimbabwe and Cambodia.</p> <p><b>Zimbabwe:</b> IDDS contracted the local Molbio agent to uninstall one Truenat instrument from Jambezi Clinic in November 2022 due to lack of staff. IDDS redeployed the instrument in Thorngrove Hospital in Bulawayo and trained one end-user in the new site.</p>
NTW-3.3: Introduce / Scale-up diagnostic connectivity solutions	In progress	<p><b>Mozambique:</b> IDDS completed the connectivity installation of 25 GX instruments and started conducting site visits to monitor GX connectivity. The Global Fund is expected to support connectivity starting in FY 2023 Q2.</p> <p><b>Zimbabwe:</b> IDDS connected 144 of 176 GX instruments to Aspect. IDDS conducted site visits and reported increased connectivity, which peaked at 74 percent of all connected GeneXpert devices. In addition, IDDS trained six super-users (all male) on the connectivity software on November 3, 2022, who are now on call to solve in-country issues. By the first</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
		<p>week of December 2022, IDDS supported approximately 3,000 SMS messages for GX tests. On Truenat implementation, IDDS started to connect 20 Truenat instruments in December 2022, and expects to finish installation in FY 2023 Q2.</p> <p><b>Bangladesh:</b> Bangladesh expects to scale up Truenat implementation, and IDDS will support up to 93,000 tests from 300 to 400 instruments by the end of FY 2023 Q3. IDDS is working on logistics with the subcontractor SystemOne to install connectivity software for Truenat instruments.</p> <p><b>Tanzania:</b> Stop TB funding ended in October 2022, and IDDS started funding connectivity solutions in November 2022. By the first week of December 2022, IDDS supported 116,000 messages for GX instruments. All GX instruments have been upgraded to Aspect. IDDS will work with Molbio to update Truenat instruments in FY 2023 Q2 and will provide global SIM cards for Truenat connectivity. Transitioning from cloud-based to country-based server data migration has been slower due to the large number of newly connected instruments; therefore, historical data migration function must be done manually for now.</p> <p><b>Philippines:</b> IDDS re-started connectivity support for 50 GX sites that had participated in an earlier pilot project.</p>
NTW-3.4: Implementation support for Truenat (super-users)	In progress	<p><b>Overall:</b> IDDS developed an electronic Truenat failure log that was disseminated to the introducing New Tools Project (iNTP) countries. IDDS logged the most commonly encountered errors when using the Truenat system. To address these errors, IDDS collaborated with Molbio (India) to develop job aids that have been added to the Truenat training library and disseminated with the aim to reduce recurrences.</p> <p><b>Kenya:</b> In response to the gaps revealed during supportive supervision visits in September, IDDS organized a Truenat end-user refresher training in Nakuru City from October 31 to November 9, 2022. A total of 78 (29 female) laboratory technicians and 3 National TB Reference Laboratory (NTRL) staff (2 females) attended the training to improve Truenat implementation and build capacity for technical assistance and sustainability. In addition, IDDS</p>

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Activity	Status	Activity implementation updates
		<p>revised the Truenat supervisory visit checklist tool to incorporate a scoring component to better monitor performance. The revised checklist was disseminated to iNTP countries.</p> <p><b>Uganda:</b> IDDS supported Truenat end-user refresher training from November 28 to December 1, 2022. The refresher training was delivered to technicians from the 38 Truenat sites and was led by IDDS-trained super-users from NTRL. A total of 39 technicians participated in the training (7 female), and posttest scores showed a 16-percentage point increase over pretest scores.</p> <p><b>Tanzania:</b> IDDS organized the Truenat super-user training workshop from November 28 to December 2, 2022, in Arusha. The workshop trained 30 super-users (10 female). Posttest scores were 29 percentage points higher than pretest scores, and each super-user demonstrated competency at the conclusion of the training. Four country facilitators, three trainers, and local agents from Molbio led the training workshop. Thirteen representatives from the Ministry of Health and one staff from USAID Washington also joined and observed the workshop.</p> <p><b>Nigeria:</b> IDDS postponed the Truenat super-user training workshop, which was planned from November 13 to November 26, 2022, in two clusters: Northern cluster in Keffi, Nasarawa State and South cluster in Port Harcourt, River State. IDDS had to postpone this workshop due to the heightened security situation in Abuja, which restricted non-essential travel. With a new update on travel clearance in the Abuja RSO region, the workshop is expected to take place in FY 2023 Q2.</p> <p><b>Philippines:</b> Planning for the Truenat super-user training workshop is currently delayed. IDDS will resume planning after USAID approves the budget for this activity.</p>
NTW-3.5: External quality assessment (EQA) support for molecular diagnostic tools	In progress	<p><b>Overall:</b> IDDS HQ and country teams for Cambodia, Kenya, and Zimbabwe met to compare results across EQA cycles, identify common errors, and discuss potential causes and implementing corrective actions to improve performance. The country teams will engage laboratories to discuss results and corrective actions. A similar meeting will be held in FY 2023 Q2 to discuss results for DRC.</p>

CORE TB

Work plan period of performance: April 1, 2022–December 31, 2022

Activity	Status	Activity implementation updates
		<p>IDDS developed a Practical Guide for Implementing EQA for Truenat. This document outlines key components of an EQA process and steps to implement the program in countries and describes lessons learned. IDDS included this guideline as a part of the super-user and EQA package for Truenat implementation.</p> <p><b>Bangladesh:</b> Bangladesh completed the first cycle of Truenat EQA with a 100 percent reporting rate for the 38 sites and 82 percent of sites achieving a passing score. SmartSpot released individual reports for each site. In FY 2023 Q2, Bangladesh will complete cycle 2 whose due date was extended to January 20, 2023.</p> <p><b>Philippines:</b> The Philippines received EQA panels from SmartSpot in November 2022. However, the EQA process is postponed due to a lack of trained staff on several sites. IDDS is discussing possible relocation of one or two machines to other sites and onboarding new laboratory staff. The EQA panels will be distributed to sites in FY 2023 Q2.</p> <p><b>Cambodia:</b> EQA cycle 2 (completed in September 2022) results were received. In cycle 2, 67 percent of sites achieved a “pass” score, 27 percent of sites had an “acceptable” score, and 7 percent had a “concern” score. No sites in Cambodia had an “unacceptable” score. Cambodia completed cycle 3, and all 15 sites from Cambodia submitted their results; 73 percent obtained a “pass” score, and 27 percent had an “acceptable” score.</p> <p><b>Zimbabwe:</b> Zimbabwe completed EQA cycle 2. Thirty-two percent of sites earned a “pass” score, 5 percent had an “acceptable” score, 11 percent had a “concern” score, and 47 percent had an “unacceptable” score. IDDS organized an online debrief meeting with the country team on November 21, 2022, to compare results across two cycles of EQA and identify issues and potential solutions.</p> <p><b>Kenya:</b> Kenya completed EQA cycle 2 in September 2022, and results were received this quarter. For cycle 2, 58 percent of sites earned a “pass” score, 13 percent had an “acceptable” score, 18 percent had a “concern” score, and 11 percent had an “unacceptable” score. Kenya completed cycle 3 in November with only 1 site out of 38 failing to submit results. Results for cycle 3 are expected in FY 2023 Q2.</p>



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Activity	Status	Activity implementation updates
		<p><b>DRC:</b> DRC completed EQA cycle 2 in October 2022. Forty-two percent of sites earned a “pass” score, 11 percent had an “acceptable” score, 11 percent had a “concern” score, 34 percent had an “unacceptable” score, and 3 percent (1 site) did not submit results. Cycle 3 ended on November 30, 2022, with 33 of 38 sites submitting their results. The SmartSpot report is pending.</p> <p><b>Uganda:</b> EQA cycle 2 was completed in November 2022, but 9 of 38 sites were unable to submit their results. After SmartSpot has released the group report, IDDS will organize a debrief to review the challenges encountered in testing and reporting.</p>
CTB-NTW-4: Introduce Stool-Based Diagnosis Using WRDs for Children	In progress	
NTW-4.1: Build IDDS capacity to support pediatric TB detection	In progress	<p>IDDS developed an activity tracker tool to help countries plan, track, and budget for implementing the simple one-step (SOS) stool testing method for pediatric TB detection. IDDS collaborated with Zimbabwe and Cambodia country teams to adapt and fill out the tracker.</p> <p>IDDS is collaborating with USAID, the Stop TB partnership, and KNCV to develop a protocol validating the use of Truenat to test stool samples.</p>
NTW-4.2: Expand access and use of simple-one step specimen processing protocol	In progress	<p><b>Overall:</b> IDDS held discussions with counterparts in Burma and the Philippines on implementing the SOS stool processing method and supported protocol development.</p> <p><b>Cambodia:</b> The National Center for Tuberculosis and Leprosy Control (CENAT) requested to review the training materials and postpone the planned SOS training. The training is pending CENAT approval.</p> <p><b>DRC:</b> IDDS concluded the pilot of the SOS method for stool-based testing at 24 sites in Kinshasa after reaching the target of testing 500 children for TB, but with encouragement from the NTP and others, IDDS is continuing to test more children as supplies allow. IDDS is</p>

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Activity	Status	Activity implementation updates
		<p>analyzing the data and documenting the lessons learned. On December 5, 2022, IDDS held a virtual meeting with USAID Washington and the mission to discuss the next steps for the SOS implementation in DRC. IDDS will continue to engage with the USAID mission and NTP to determine the next steps and discuss scale-up plans for the SOS method in the country.</p> <p><b>Malawi:</b> Eight district hospitals began piloting the SOS method for stool processing in November 2022. IDDS conducted site visits in November 2022 to provide mentorship during the start-up phase and resolved bottlenecks. IDDS continues to provide technical support, including mentoring and monitoring sites implementing the SOS method.</p> <p><b>Zimbabwe:</b> IDDS, in partnership with KNCV, trained 26 participants (6 female), including laboratory scientists (12), TB partners (5), and representatives from the Ministry of Health (9) on the SOS method for stool testing. This training was held in Bulawayo, Zimbabwe, from November 1 to 4, 2022. IDDS will continue to support the country in scaling up SOS training, supervision, and monitoring of sites implementing the SOS method.</p>
NTW-4.3: Expand use of community and home-based stool specimen collection	Not started	DRC, Malawi and Zimbabwe are piloting stool-based testing at health facilities. IDDS will support DRC and Zimbabwe to develop scale up plans during FY2023 Q2.
NTW-4.4: Regional capacity building for stool-based Xpert testing	In progress	IDDS collaborated with KNCV to conduct a master training on the SOS stool method in Zimbabwe from October 29 to November 5, 2022, for staff from the Uganda Supranational Reference Laboratory (SNRL) and other consultants to allow them to start training in other countries. Six participants (3 females) from Uganda, Zambia (1), Sierra Leone (1), qualified as master trainers. Additionally, representatives from Uganda's national TB program (2), IDDS and Zimbabwe NTRL, participated. This training was in parallel with the basic SOS training held in Zimbabwe (November 1-5), where master trainers supervised and mentored trainees

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Activity	Status	Activity implementation updates
		for the basic SOS training. The master trainers will continue to receive KNCV's mentorship in the next quarter.
CTB-NTW-5: Mono-Isoniazid and Second-line Drug Resistance Testing Strengthened in USAID Priority Countries	In progress	<p><b>Overall:</b> IDDS drug-resistant TB (DR-TB) activities are underway in Cambodia, Malawi, Pakistan, and Uganda. The DR-TB country action plan in Mozambique was approved by USAID this quarter, and implementation will begin in FY 2023 Q2. IDDS also supported limited DR-TB activities in Nigeria.</p> <p><b>Cambodia:</b> IDDS procured of 3 GX 10-color instruments and 1,320 MTB/XDR cartridges to expand access to second-line molecular DST and support sentinel surveillance. The instruments and cartridges arrived in Cambodia on December 23, 2022, and installation will take place in FY 2023 Q2. IDDS also revised Cepheid XDR training materials for the country context and trained 8 senior laboratory staff from NTRL and the Provincial Reference Hospital of Kampong Cham (6 female) on use of the GX 10-color instruments. Four IDDS staff also participated in the training. To expand phenotypic DST of newer drugs at the NTRL, IDDS helped CENAT obtain donations of drug powders (Bedaquiline and Delamanid) through the National Institute of Allergy and Infectious Diseases donation program. A diagnostic specialist joined the IDDS country team to support the implementation of DR-TB activities. The IDDS-developed XDR validation protocol was approved by NTP/NTRL. Validation of XDR cartridges will take place in FY 2023 Q2. Finally, IDDS, in collaboration with CENAT, conducted a DR-TB workshop on December 27, 2022, in Phnom Penh to orient participants on the use of XDR/MTB cartridges, identify key performance indicators for genotypic DST and phenotypic DST, and plan for monitoring and evaluation data collection.</p> <p><b>Malawi:</b> IDDS continued technical support to develop the harmonized diagnostic algorithm at the national level, which incorporated recommendations for integrating MTB/XDR testing into the national diagnostic algorithm. IDDS submitted the report on the diagnostic algorithm revision to USAID in October 2022. IDDS compiled a list of datasets for the DR-TB laboratory hubs and spokes so that spatial analysis can be conducted to inform how to revise the specimen transportation network to include GX 10-color machines. IDDS procured three GX 10-color instruments, including one 16-module instrument, and MTB/XDR cartridges,</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
		<p>which arrived in Malawi in December. Installation will take place in FY 2023 Q2. IDDS is developing a training package to support the training of super-users at the selected GX sites after the instruments are delivered.</p> <p><b>Mozambique:</b> IDDS conducted a tour of duty from December 12 to 16, 2022, during which the specimen transport network and DST options and modalities were explored.</p> <p><b>Pakistan:</b> IDDS developed the first draft of the Drug Resistant Survey (DRS) and sentinel site surveillance protocols and proposed the sample size for the DRS and sentinel site surveillance. IDDS also identified pilot sentinel surveillance sites to be part of the system following assessment of potential sites based on diagnostic and epidemiological data. IDDS also formalized regular meetings with the World Health Organization to discuss the DRS. In FY 2023 Q2, IDDS will finalize the DRS protocol and continue to build the capacity of pilot sentinel surveillance sites, including through placement of laboratory technicians at sites to support the surveillance activities. This activity involves close coordination with NTW-8.</p> <p><b>Uganda:</b> IDDS finalized the site selection report for Lira and Mbarara regional referral hospitals outlining site-level capacities and needs and shared it with USAID in November 2022. IDDS also continued technical support to organize calls with NTRL and USAID to define the scope for cross-border spatial analysis; the scope is being drafted in a manner to complement existing efforts and build on findings of the national-level analysis. IDDS began procurement of two GX 10-color instruments and MTB/XDR cartridges as part of strengthening DST in the country, and delivery is expected in FY 2023 Q2. In addition, IDDS will work with the supply chain staff at NTRL and the USAID mission to procure needed whole genome sequencing and next generation sequencing commodities, and microbroth dilution commodities, as well as to define use cases for whole genome sequencing and next generation sequencing in the country.</p> <p><b>Nigeria:</b> IDDS provided financial support for laboratory assessments at 40 facilities across 6 states (Abia, Adamawa, Lagos, Nasarawa, Oyo, and Rivers), which includes assessing the capacity for DST.</p>

<b>CORE TB Work plan period of performance: April 1, 2022–December 31, 2022</b>		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-5.0: Preparation and Management of DST	In progress	Updates are provided above.
NTW-5.1 and 5.2: Increased number of patients with confirmed rifampicin resistance receiving fluoroquinolone resistance testing	In progress	Updates are provided above.
NTW-5.3: Increased capacity for susceptibility testing for new and repurposed drugs	In progress	Updates are provided above.
NTW-5.4: Health care providers follow DST algorithms reflective of WHO guidance	Not started	Implementation will begin in FY 2023 Q2.
NTW-5.5: DST quality and timeliness improved	Not started	Implementation will begin in FY 2023 Q2.
NTW-5.6: Evaluations and Recommendations	Not started	Implementation will begin in FY 2023 Q3.
CTB-NTW-6: Share Relevant Information to a Wide-ranging Audience	In progress	

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
NTW-6.1: Document best practices, guidance, and models	In progress	<p><b>Overall:</b> IDDS participated in the 52nd Union World Conference on Lung Health held virtually from November 8 to 11, 2022, and presented 14 abstracts (11 E-posters and 3 oral presentations) from countries including Bangladesh, Cambodia, Tanzania, Vietnam, and Zimbabwe.</p> <p>IDDS is currently piloting Truenat MTB/RIF in nine iNTP countries. IDDS started drafting a research protocol to assess the usability, performance, and impact of these novel tools on TB indicators. IDDS will complete the development of this protocol in FY 2023 Q2 and begin implementation discussions with selected countries.</p> <p>IDDS hired a research consultant to assess the impact of the Laboratory Network Spatial Analysis activity based on a protocol drafted by IDDS in FY 2022. IDDS finalized a paper to document and disseminate the Laboratory Network Spatial Analysis protocol. This paper will be submitted to a peer-reviewed journal after it is cleared by USAID.</p> <p>As of December 2022, IDDS is conducting seven operational research projects at different implementation stages in six TB countries, including Zimbabwe (Ultra trace calls results, clinically diagnosed TB patients using chest X-ray and other TB clinical signs, and smear microscopy hub strategy studies); India (Truenat indeterminate/invalid results, Trueprep DNA extraction studies); and Cambodia (feasibility of Truenat implementation pilot study).</p> <p><b>DRC:</b> Regarding the Bacteriologically confirmed TB (Bacc-TB) Study, which aims to investigate the causes of the stagnation of Bacc-TB case detection, IDDS provided technical support for the implementation of this activity in DRC through a field mission conducted in this country by the research and learning advisor in November 2022. Phase I of this study has been completed in DRC. In FY 2023 Q2, IDDS will validate the report and start drafting a journal manuscript.</p> <p><b>India:</b> IDDS completed the Truenat indeterminate/invalid results and the Trueprep DNA (phase I) studies. IDDS, in collaboration with NTP and USAID, drafted two papers from these studies, and in FY 2023 Q2, will prepare them for submission to peer-reviewed journals.</p>

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
		<p><b>Tanzania:</b> The Bacc-TB study is pending approval. IDDS received feedback from the country’s Internal Review Board and resubmitted the protocol after responding to the comments.</p> <p><b>Zimbabwe:</b> IDDS completed data collection for the Ultra trace calls study in Zimbabwe. IDDS will provide technical support for the writing of the study report and manuscript in FY 2023 Q2.</p> <p><b>Zimbabwe:</b> The Bacc-TB study has been fully approved, but implementation is pending approval of an application for exemption from the USAID mission. IDDS hired research consultants and assistants to support this activity.</p>
CTB-NTW-8: Strengthening TB Diagnostics and Surveillance in Pakistan	In progress	
NTW-8.1: Conduct a remote laboratory spatial analysis	On hold	NTP and USAID suggested putting this activity on hold because a similar Diagnostic Network Optimization activity is being implemented in the country by FIND.
NTW-8.2: Conduct a limited scope TB Diagnostic Network Analysis	In progress	<p>IDDS initiated discussions on the DNA with USAID and the Pakistan NTRL and shared required background materials for the DNA. A kickoff meeting was held on December 1, 2022, to discuss the requirements and timelines for the DNA. IDDS is also working with the Pakistan NTRL and the Supranational TB Reference Laboratory in Milan to identify consultants who can support the DNA in Pakistan.</p> <p>In FY 2023 Q2, IDDS will work jointly with USAID and NTRL to conduct the DNA verification visits and will aim to draft a preliminary report with key recommendations that will inform and aid the country in submission of its Global Fund application for receiving additional funding for TB in early March 2023.</p>
NTW-8.3: Develop a TB Laboratory	Not started	Implementation will begin in FY 2023 Q2.

CORE TB Work plan period of performance: April 1, 2022–December 31, 2022		
Activity	Status	Activity implementation updates
Network Strengthening Roadmap		
NTW-8.4: Strengthening laboratory management toward accreditation	In progress	<p>IDDS continued training the 50 NTRL staff (12 female), completing 11 of the 12 modules of the quality management system (QMS) training. In addition, IDDS continued supporting adaptation of the technical and management standard operating procedures, guidelines, and materials required for International Organization for Standardization (ISO) 15189 accreditation at the four selected laboratories (NTRL and three provincial laboratories: Sindh, Punjab, and Khyber Pakhtunkhwa). IDDS arranged QMS implementation calls with each of the four laboratories to fulfill the ISO certification requirement and trained three laboratory staff (one quality officer and two deputy quality officers) from each of the four laboratories on internal auditing procedures because it is a prerequisite for the ISO certification process. This training was conducted virtually on December 15 and 16, 2022, and was attended by 12 laboratory staff (4 female). In FY 2023 Q2, IDDS will complete the QMS training and will procure proficiency testing panels for the laboratories.</p>



DRC EVD Work plan period of performance: October 20, 2022–April 30, 2023		
Work plan approval date: November 22, 2022		
Activity	Status	Activity implementation updates
DRC-EVD-NTW-1: Train health workers on specimen management (collection, packaging, storage, and shipment)	Not started	The activity was initially anticipated for December 2022 but has been postponed because of the deteriorating security situation in eastern Democratic Republic of the Congo (DRC) (including Goma), which led to the evacuation and relocation of Goma-based IDDS staff. Training of health workers on specimen management (collection, packaging, storage, and shipment) is anticipated for FY 2023 Q2 if the security situation in Goma stabilizes and IDDS, in consultation with the <i>Institut National de Recherche Biomédicale</i> (INRB), determines that it is safe to operate in the Goma region.
DRC-EVD-NTW-2: Specimen transportation	In progress	<p>IDDS shipped 75 Ebola Virus Disease (EVD) Zaire GeneXpert cartridges from INRB Goma to Beni.</p> <p>IDDS facilitated the transportation of 16 suspected EVD specimens through commercial flights from INRB sentinel sites (i.e., Beni and Butembo) to the INRB Goma laboratory for testing, confirmation, and quality control. Upon receipt, IDDS provided technical assistance to INRB Goma for checking the quality of transported specimen packages.</p> <p>Following a request from the INRB for assistance, IDDS engaged the United Nations Humanitarian Air Service to transport specimens from the 12th (February 7–May 3, 2021) and 13th (October 8–December 16, 2021) EVD outbreaks, which are currently stored at the INRB sentinel sites in Beni and Butembo, to the INRB laboratory in Goma. This will ensure that the specimens receive appropriate cold storage and biosafety/biosecurity protections. IDDS has made a payment to the United Nations Humanitarian Air Service, and the shipment will occur in FY 2023 Q2 after isothermal packing materials arrive at the sentinel sites.</p>
DRC-SUV-NTW-3: Waste management	Not started	<p>This activity was delayed due to the security situation and staff evacuation.</p> <p>In FY 2023 Q2, IDDS will procure bins for waste management for four laboratories (Butembo, Beni, Mangina, and Bunia). IDDS also plans to support the incineration of used GeneXpert cartridges transported from INRB sentinel sites in Goma by organizing transportation and providing financial support.</p>

**DRC EVD**

**Work plan period of performance: October 20, 2022–April 30, 2023**

**Work plan approval date: November 22, 2022**

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
DRC-EVD-NTW-4: Support for joint supportive supervisions (IDDS-DPS-INRB Goma)	Not started	<p>The start of this activity was delayed due to the deteriorating security situation in eastern DRC and the subsequent evacuation of IDDS staff based in Goma.</p> <p>IDDS continues to monitor the security situation in this region and tentatively plans to hold joint supportive supervision visits in collaboration with the provincial Ministry of Health and INRB Goma in FY 2023 Q2 if the security situation permits.</p>
Coordination meeting for lab support to the Ebola response in the DRC	In progress	IDDS participated in the bi-weekly meetings with the MoH/DPS, INRB Goma, CDC, and WHO to discuss the status of EVD cartridges stock in the country, the procurement plan by partners, and challenges for the EVD outbreak response & surveillance in North Kivu.

**DRC TB****Work plan period of performance: May 1, 2021–September 30, 2022****Work plan approval date:** As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
DRC-TB-NTW-1: Upgrade DRC National TB Reference Laboratory (NTRL)	In progress	
NTW-1.3: Print the new NTRL SP for dissemination	In progress	<p>IDDS worked with consultants and National TB Reference Laboratory (NTRL) staff to integrate all stakeholders' inputs into the NTRL strategic plan. IDDS also supported the costing of the strategic plan. The document is undergoing final technical review by IDDS and NTRL. IDDS anticipates disseminating the strategic plan during FY 2023 Q2.</p> <p>With Core TB funds, IDDS is supporting a TB Diagnostic Network Assessment in DRC. As part of this assessment, IDDS is conducting a spatial analysis exercise in collaboration with TB diagnostic working group members to guide the placement of TB diagnostic instruments, including GeneXpert, Truenat, and X-ray. The spatial analysis allows all TB diagnostic and treatment sites to be placed in a map to find service coverage gaps and improve the use of TB services, and it can help determine efficient specimen transportation routes. In FY 2023 Q2, IDDS will continue to support this analysis and gather the missing data for some structures.</p>
DRC-TB-NTW-2: Improve service delivery in the three TB reference laboratories	In progress	
NTW-2.1: Reinforce diagnostic service capacity in Kinshasa TB Laboratory	In progress	IDDS is enhancing the laboratory waste management system at the NTRL by replacing the incinerator to properly handle waste. The new incinerator will be installed in FY 2023 Q2.

<b>DRC TB</b> <b>Work plan period of performance: May 1, 2021–September 30, 2022</b>  <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		IDDS conducted a visit to the NTRL in Kinshasa on December 12 and 13, 2022, with National TB Program (NTP) and United States Agency for International Development representatives to identify existing gaps and provide recommendations to strengthen laboratory services.
NTW-2.2: Reinforce diagnostic service capacity in Lubumbashi TB Laboratory	Completed	<p>IDDS procured materials and equipment for Lubumbashi Provincial TB Laboratory to reinforce biosafety and waste management and to perform all necessary tests while preventing the risk of contamination. The personal protective equipment materials, trash bins, and other supplies for waste management were delivered in December 2022.</p> <p>IDDS conducted a visit to Lubumbashi Provincial TB Laboratory on December 5 and 6, 2022, with NTP to identify existing gaps and provide recommendations to enable the resumption of TB diagnostic operations.</p> <p>IDDS also provided financial support for provincial laboratory staff to implement the supervision plan for lower-level laboratories.</p>
NTW-2.3: Reinforce diagnostic service capacity in Kisangani TB Laboratory	Completed	<p>The items procured by IDDS in FY 2022 Q4 for the Kisangani Provincial TB Laboratory (including a new power generator, a biosafety cabinet, distiller, incubator, personal protective equipment materials, trash bins, and other supplies for waste management) were delivered in November 2022.</p> <p>IDDS and NTP visited the Kisangani Provincial TB Laboratory on December 8 and 9, 2022, to assess existing gaps and provide recommendations to enable the resumption of culture testing services. IDDS also provided financial support for staff from the Kisangani Provincial TB Laboratory to conduct supervision of lower-level laboratories.</p>

Ethiopia GHS

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: November 21, 2022

Activity	IHR benchmark	Status	Activity implementation updates
ETH-GHS-NTW-I: Strengthen the antimicrobial resistance (AMR) surveillance diagnostic facility network	Benchmark 3.2	In progress	
ETH-GHS-NTW-I.1: Support the diagnostic stewardship at the five human health (HH) sites bacteriology laboratories		Not started	This sub-activity will be started in FY 2023 Q2.
ETH-GHS-NTW-I.2: Provide technical assistance, training, and mentorship on AMR detection at five HH sites based on existing standardized modules		In progress	IDDS and the Ethiopian Public Health Institute (EPHI) jointly conducted a two-day mentorship visit at each of the five IDDS-supported human health and animal health antimicrobial resistance (AMR) sites from December 13-30, 2022. A total of 20 staff were mentored (9 female). The purpose of the visit was to oversee the implementation of the planned AMR surveillance activities and provide technical and administrative support on AMR surveillance to the IDDS -supported sites. During the supervision, IDDS performed the following tasks: <ul style="list-style-type: none"><li>• Observed site improvement activities supported by IDDS</li></ul>

Activity	IHR benchmark	Status	Activity implementation updates
			<ul style="list-style-type: none"> <li>• Provided laboratory supplies (petri dishes), ancillary equipment (PH meter), waste containers, and laboratory stools to the IDDS-supported AMR sites</li> <li>• Discussed program implementation progress and gaps based on previously conducted support supervision findings</li> <li>• Provided recommendations based on identified gaps during the visit for further improvement on AMR detection and surveillance</li> <li>• Discussed with the AMR sites' hospital management the gaps identified and how to jointly address those gaps in collaboration with EPHI</li> </ul> <p>IDDS will continue to provide on-site mentorship during FY 2023 Q2.</p>
<p>ETH-GHS-NTW-I.3: Conduct minor infrastructure improvements at three AMR surveillance sites to improve workflow, biosafety, and biosecurity</p>		In progress	<p>Based on the gaps identified from the rapid baseline assessment conducted jointly by IDDS and EPHI in April 2022, IDDS included minor site improvements in the FY 2023 Q1 work plan. IDDS procured a bacteriology laboratory door access control instrument and facilitated its installation at five of its human health AMR sites. These sites are Hawasa Hospital University, Felege Hiwot Hospital, Gondar Hospital, Jimma Hospital, and St Paul Hospital microbiology laboratories. This will help the laboratories ensure that biosafety and biosecurity measures are adhered to because it allows only authorized persons to enter the laboratory. IDDS also relocated an aluminum wall partitioning at Felege Hiwot Hospital Microbiology Laboratory to enhance the workspace. All the walls of the bacteriology laboratory were painted, with paint and labor costs covered by IDDS.</p> <p>IDDS will continue the site improvements in FY 2023 Q2.</p>
<p>ETH-GHS-NTW-I.4: Support Jima University Hospital</p>		In progress	<p>IDDS, in collaboration with EPHI, conducted five days of ISO 15189 training for its five human health AMR sites. The training was held at Adama, Hill Side International Hotel from December 5 to 9, 2022. A total of 19 people (7 female)</p>

Ethiopia GHS

Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: November 21, 2022

Activity	IHR benchmark	Status	Activity implementation updates
Bacteriology Laboratory and St. Paul Hospital Bacteriology Laboratory for ISO 15189 accreditation			<p>were trained. The purpose of this training was to introduce the ISO 15189 standard to laboratory personnel to support the preparation and implementation of the same standard for laboratory accreditation and eventual contribution to the strengthening of Ethiopia’s AMR surveillance system. The specific objectives were as follows:</p> <ul style="list-style-type: none"><li>• Understand and interpret the requirements of ISO 15189</li><li>• Identify required documents and records</li><li>• Identify relevant performance monitoring approaches</li><li>• Introduce ISO15189 accreditation process to AMR surveillance sites and begin improvement plans towards accreditation audit</li></ul> <p>In FY 2023 Q2, IDDS will provide on-site mentorship to help AMR sites in addressing the ISO technical and management documents identified during the assessment.</p>
ETH-GHS-NTW-1.5: Support Bahir Dar Regional Veterinary General Laboratory to share laboratory AMR surveillance testing report to the Ethiopian Public Health Institute and Animal Health Institute		Not started	This sub-activity will be started in FY 2023 Q2.

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Work plan approval date: November 21, 2022

Activity	IHR benchmark	Status	Activity implementation updates
ETH-GHS-NTW-1.6: Support operationalization of the standard operating procedures (SOPs) and guidelines for detection of priority AMR pathogens in one AH surveillance site (Amhara Regional Veterinary Laboratory)		Not started	This sub-activity will be started in FY 2023 Q3.
ETH-GHS-NTW-2: Support the diagnostics supply chain management system to ensure uninterrupted AMR detection	Benchmark 3.2	In progress	
ETH-GHS-NTW-2.1: Supply basic microbiology/AMR reagents and commodities to five HH AMR sentinel surveillance sites		In progress	Hawasa Hospital Microbiology Laboratory reported a stockout of antibiotic discs for antimicrobial susceptibility tests. The other four IDDS-supported AMR sites are running out of antibiotic disks for antimicrobial susceptibility testing. To fill this critical gap, IDDS procured antibiotic disks from Kenya because most of the items in the list were not available from vendors in Ethiopia. The antibiotic discs were shipped to Ethiopia in December 2022. The antibiotic discs are expected to be received and distributed in FY 2023 Q2.



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Activity	IHR benchmark	Status	Activity implementation updates
			The supportive supervision, mentorship, and baseline assessment report from the IDDS sites also indicated a gap in complying with minimal laboratory biosafety requirements and availability of laboratory stools. To fill these gaps, IDDS procured laboratory stools and waste containers to its six AMR sites. In addition, IDDS also procured and delivered two benchtop PH meters for two IDDS-supported AMR sites and petri dishes for its five human health AMR sites.
ETH-GHS-NTW-2.2: Supply basic AMR reagents and commodities to five Phase 2 AH AMR surveillance sites.		In progress	The supportive supervision, mentorship, and baseline assessment report from the IDDS sites also indicated a gap in complying with minimal laboratory biosafety requirements and availability of laboratory stools at the Bahir Dar Veterinary Diagnostic Laboratory, which is an IDDS-supported animal health AMR site. To fill these gaps, IDDS procured laboratory stools and waste containers for the Bahir Dar Veterinary Diagnostic Laboratory animal health AMR site.
ETH-GHS-NTW-2.3: Facilitate microbiology/AMR supply chain management training and onsite mentorship to the five HH and one AH AMR sites		No started	This activity will be conducted in FY 2023 Q2.
ETH-GHS-NTW-3: Strengthen equipment procurement, operations,	Benchmark 7.1	In progress	

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Activity	IHR benchmark	Status	Activity implementation updates
and preventive maintenance systems.			
ETH-GHS-NTW-3.1: Facilitate the trained biomedical engineers to support maintenance of laboratory equipment in the six IDDS-supported surveillance sites.		Not started	This activity will be started in FY 2023 Q2.
ETH-GHS-NTW-3.2: Supply a limited range of critical auxiliary microbiology/AMR equipment for six supported sites		In progress	Two PH meters were procured in October 2022 and delivered to two AMR sites. IDDS will continue the procurement in FY 2023 Q2.
ETH-GHS-Surv-1: Improve the efficiency of AMR surveillance data management.	Benchmark 9.3	In progress	
ETH-GHS-Surv-1.1: Provide WHONET mentorship and training on data entry		In progress	IDDS conducted this site-level WHONET data management mentoring with the mentorship done under sub-activity ETH-GHS-NTW-1.2: The mentoring includes

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at the five Phase 2 HH AMR surveillance sites			<p>how to generate a report from the software and how to improve the quality of data that the facility enters into the software database.</p> <p>IDDS will continue to provide mentorship for the remainder of the fiscal year.</p>
ETH-GHS-Surv-1.2: Support quarterly AMR surveillance review meetings to review progress and share best practices and lessons learned		In progress	<p>Between October 17 and 19, 2022, an annual AMR surveillance report writing workshop was jointly conducted by IDDS and EPHI at EPHI's training center. IDDS provided both technical and financial support for the workshop, helping draft the AMR annual surveillance report. A total of 13 participants participated in the 3-day workshop. The participants were from EPHI, IDDS, and the Ohio State University One Health initiative. The objectives of the meeting were to clean, analyze, and interpret AMR surveillance data to produce the annual (2021–2022) AMR Laboratory Surveillance Implementation Technical Report. The workshop brought together team leads, the AMR surveillance coordinator, AMR quality officers and technical personnel from EPHI, and the diagnostic specialist and team lead from IDDS. After completion of the report, EPHI will disseminate it to relevant One Health AMR actors to increase awareness and guide program interventions and national policy. The technical report will be also disseminated to AMR site health facilities to improve patient health care outcomes through quality diagnostic testing and response capacity. Dissemination of the report is expected to take place in FY 2023 Q2. In addition, the annual AMR surveillance aggregated data are reported to the World Health Organization's Global Antimicrobial Resistance and Use Surveillance System to ensure that the AMR situation in Ethiopia is captured by the global community. This will be followed by a half-day review of the draft and finalization of the technical report.</p> <p>IDDS participated in the One Health annual meeting held in Hawassa on December 16, 2022, to commemorate Global One Health and World Rabies Day. The theme of the meeting was "Towards a Better Health for Humans,</p>

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Activity	IHR benchmark	Status	Activity implementation updates
			Animals and the Environment.” The event was broadcast on local media to create awareness. The meeting was attended by participants from the Ministry of Health, Ministry of Agriculture, Environmental Control Authority, Food and Agriculture Organization of the United Nations, USAID Global Health Security Agenda implementing partners, Centers for Disease Control and Prevention, and partners supporting the One Health initiatives.

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Work plan approval date: November 16, 2022

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
GIN-GHS-NTW-1: Strengthen antimicrobial resistance (AMR) detection and surveillance through technical assistance (TA) at six supported regional laboratories plus Ignace Deen National Laboratory	Benchmark 3.2	In progress	
GIN-GHS-NTW-1.1: Provide TA, training, and mentorship on AMR data management and analysis to the IDDS-supported surveillance sites		Not started	IDDS is planning the training and mentorship for FY 2023 Q2.
GIN-GHS-NTW-1.2: Provide technical support to the National Institute of Public Health (Institut National de Santé Publique, INSP) to		Not started	The activity will start in FY 2023 Q2.

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
report national AMR data to the Global Antimicrobial Resistance Surveillance System (GLASS)			
GIN-GHS-NTW-1.3: Provide internet data connection to the IDDS-supported laboratories		In progress	IDDS provides continuous support to antimicrobial resistance (AMR) surveillance sites to ensure that data are collected and submitted to the central level at the National Institute of Public Health on a weekly basis. The project also provides monthly Internet data to the AMR surveillance sites. This support will continue in FY 2023 Q2.
GIN-GHS-NTW-3: Build capacity of four regional laboratories to detect antimicrobial resistance and priority IDSR/epidemic-prone diseases by reinforcing skills and competencies in quality assurance, microbiology/antibiotic susceptibility testing (AST) and immunology/serology	Benchmark 7.1	In progress	

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
GIN-GHS-NTW-3.1: Enhance the implementation of laboratory quality management systems by supporting internal quality control (IQC) and external quality assurance (EQA) testing at the three existing AMR surveillance sites		Not started	This activity is combined with NTW-1.1; support to the quality management system at the AMR sites will be done during the mentorships.
GIN-GHS-NTW-3.2: Facilitate monthly supportive supervision visits to improve the implementation of the quality management systems (QMS) at the IDDS-supported laboratories		Not started	This activity will start in FY 2023 Q2.
GIN-GHS-NTW-3.3: Conduct baseline assessment of bacteriology and		In progress	IDDS completed the assessment of Nzérékoré regional laboratory in December 2022. The assessment report is being developed and is expected to be finalized in FY 2023 Q2.

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
serology/immunology testing capacity at Nzérékoré Regional Laboratory			
GIN-GHS-NTW-3.4: Procure basic equipment and reagents to set up bacteriology and serology unit at Nzérékoré Regional Laboratory		In progress	IDDS received quotations to procure reagents and consumables through local vendors. IDDS expects to procure these items in FY 2023 Q2.
GIN-GHS-NTW-3.5: Conduct training of laboratory technicians on basic microbiology and serology at Nzérékoré Regional Laboratory		Not started	The training is scheduled for FY 2023 Q2.
GIN-GHS-NTW-3.6: Conduct mentoring of laboratory technicians on microbiology at		Not started	The mentorship is scheduled for FY 2023 Q2.



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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
Nzérékoré Laboratory			
GIN-GHS-NTW-4: Strengthen the ability to test for priority zoonotic diseases including Lassa, Ebola and Marburg	Benchmark 7.3	In progress	
GIN-GHS-NTW-4.1: Train staff on Lassa fever testing if necessary and monitor the quality of testing		Not started	Training will be conducted after the procurement of Lassa reagents in FY 2023 Q2.
GIN-GHS-NTW-4.2: Purchase and deliver viral hemorrhagic fever reagents to testing laboratories		In progress	IDDS received quotations to procure viral hemorrhagic fever reagents through local vendors. IDDS expects to procure these items in FY 2023 Q2.
GIN-GHS-NTW-5: Support the extension of an integrated specimen referral system in Nzérékoré, Kankan, and Labe regions and consolidate	Benchmark 7.2	In progress	

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
implementation in the first three supported regions			
GIN-GHS-NTW-5.1: Provide financial support and technical assistance for an integrated specimen referral system in three existing regions and three new regions		In progress	IDDS conducted baseline site assessments for an integrated specimen referral system in two regions (Kankan and Labe) to identify gaps. IDDS expects to submit a report about the assessments in FY2 2023 Q2.
GIN-GHS-NTW-5.2: Provide technical assistance to the Ministry of Health (MoH), INSP, and Direction Nationale des Laboratoires [DNL] to roll out of the integrated specimen referral system developed and piloted by IDDS to additional regions not supported by IDDS		In progress	Following specimen referral system trainings conducted in September 2022, IDDS provided financial support to initiate specimen transport in the Nzérékoré region starting in October 2022.

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
GIN-GHS-NTW-6: Support laboratory mapping	Benchmark 7.3	Not started	
GIN-GHS-NTW-6.1: Organize training on use of the laboratory mapping database for data analysis for 3 participants		Not started	This activity is expected to begin in FY 2023 Q2.
GIN-GHS-NTW-6.2: Develop a flowchart and a plan describing the coordination of information between laboratories at different levels of the health network and laboratories of the animal health sector		Not started	This activity is expected to begin in FY 2023 Q3.

<b>IDSR</b> <b>Work plan period of performance: May 1, 2022–December 31, 2022</b> <b>Work plan approval date: As of December 31, 2022, there has been no formal extension of the FY 2022 work plan. These updates relate to the completion of FY 2022 activities.</b>		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
IDSR-1-Cameroon	In progress	
CMR-IDSR-SURV2: Provide technical assistance to conduct supportive supervision at the district level	In progress	<p>IDDS provided technical and financial support to the Regional Centers for Epidemics Prevention and Control for the Southwest Region, to establish a regional integrated disease surveillance and response (IDSR) mentorship/coaching program to follow up after IDSR training activities. IDDS trained 21 people (12 female), including 18 district surveillance focal points, on November 22–23, 2022, on coaching approaches to improve IDSR indicators in the Southwest Region. This activity was co-funded by both IDSR and mpox funds.</p> <p>Surveillance focal points have been given monthly phone credits to follow up regularly with health facilities about weekly IDSR data reporting and participate in the weekly online data review meetings at the regional level. These focal points have also been added to a community of practice WhatsApp group, in which they can collaborate and share best practices and challenges. This is a three-month pilot (December 2022–February 2023) mentorship/coaching program that will be evaluated to assess the impact on the IDSR surveillance performance of the Southwest Region.</p> <p>In FY 2023 Q2, IDDS will also provide technical and financial assistance to conduct supportive supervision in the low-performing health district to improve completeness and timeliness of IDSR indicators.</p>
IDSR-2-Senegal	In progress	
SEN-IDSR-SURV1: Provide training of nurses and capacity building for health district officers (medical officers, surveillance officers,	In progress	<p>IDDS conducted the trainings in Goudiry, Kidira, and Dianke Makha districts in December 2022. Seventy-six people (38 female) were trained.</p> <p>IDDS is following up with the manager of the Tambacounda medical region regarding the date to train staff in Bakel district.</p>

<b>IDSR</b> <b>Work plan period of performance: May 1, 2022–December 31, 2022</b> <b>Work plan approval date: As of December 31, 2022, there has been no formal extension of the FY 2022 work plan. These updates relate to the completion of FY 2022 activities.</b>		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
and data managers) in Tambacounda Region		
SEN-IDSR-SURV2: Data review sessions will occur at the district level to ensure adherence to IDSR and assess training impact	Not started	IDDS expects to organize one review meeting at the regional level in FY 2023 Q2 after the last district is trained and will invite the four health districts.
IDSR-3-Uganda	Not started	
UGA-IDSR-SURV1: Provide ToT and capacity building for district One Health teams, village health teams, and health-facility based staff in Eastern Region, Uganda	Not started	<p>IDDS met with the World Health Organization and Ministry of Health (MOH) IDSR focal team to harmonize the IDDS-led training of trainers (TOT) with the World Health Organization-led TOT ahead of the upcoming IDDS-led TOT. The date for the TOT has not yet been determined.</p> <p>The MOH IDSR focal team agreed that IDDS could support IDSR capacity building in Buikwe district. Activities will begin in FY 2023 Q2 since IDDS received an approved exemption memo from the United States Agency for International Development mission on December 23, 2022, to facilitate government officials' participation in project activities.</p>
UGA-IDSR-Surv2: Follow-up supportive supervision sessions will occur at least once after the training to ensure adherence	Not started	<p>The MOH IDSR focal team agreed that IDDS can provide supportive supervision to Buikwe district.</p> <p>Activities will begin in FY 2023 Q2 since IDDS received an approved exemption memo from the United States Agency for International Development mission on December 23, 2022, to facilitate government officials' participation in project activities.</p>

**IDSR**

**Work plan period of performance: May 1, 2022–December 31, 2022**

**Work plan approval date: As of December 31, 2022, there has been no formal extension of the FY 2022 work plan. These updates relate to the completion of FY 2022 activities.**

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
and assess training impact		

<b>India TB Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
IND-TB-NTW-1: Institutional strengthening of public sector network of TB laboratories to improve the quality and efficiencies of the TB diagnostics care cascade in NTEP	In progress	
NTW-1.1: Update and upgrade the existing supervision, monitoring, and evaluation (SME) framework into an integrated and comprehensive framework	In progress	<p>IDDS revised the supervision, monitoring, and evaluation (SME) package and shared the revised “Comprehensive Guidance Document for Conducting External Quality Assurance (EQA) by Laboratory Supervisory Staff in National Tuberculosis Elimination Program (NTEP)” with the National Reference Laboratories (NRLs) for review. The final document with NRL inputs will be shared with the Central TB Division (CTD) in FY 2023 Q2.</p> <p>IDDS prepared an assessment report based on the information collected from NRLs using the laboratory grading tool to support CTD in the ranking of NRLs. The report will be shared with CTD in FY 2023 Q2.</p> <p>IDDS received a self-assessed filled grading tool from 28 Intermediate Reference Laboratories (IRLs) and two TB Culture and Drug Susceptibility Testing laboratories. Information was verified from the laboratories, and initial findings from the assessment were presented to CTD on December 9, 2022, to support the ranking of IRLs. Out of 28 IRLs, 7 (IRL Karnal, IRL Puducherry, IRL Gangtok, IRL Chennai, IRL Delhi, IRL Ahmedabad, and IRL Cuttack) were proposed to CTD for verification of provided information through on-site visits. IDDS visited IRL Karnal on December 8, 2022, for on-site verification of provided information in the laboratory grading tool. IDDS developed and shared a brief interim assessment report on the ranking of IRLs with CTD on December 22, 2022, to select the laboratories and plan on-site visits to validate the information received in September and October 2022.</p>

<b>India TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		<p>IDDS developed the TB laboratory biosafety manual and its monitoring mechanisms and shared it with NRL experts for review. IDDS plans to share the manual with CTD in FY 2023 Q2.</p>
<p>NTW-1.2: Reinforce management capacity of all NRLs and 12 IRLs to lead the laboratory diagnostic network in assigned institutions and geographies and strengthen NRLs and IRLs for supportive supervision, monitoring, mentoring, and troubleshooting</p>	In progress	<p>On November 16–18, 2022, IDDS and the NRL Japanese Leprosy Mission for Asia held a joint on-site evaluation visit to IRL Lucknow and associated districts (Basti, Barabanki) in the state of Uttar Pradesh on the revised supervision, monitoring, and evaluation package. The summary report of the visit was shared with the state TB officer and CTD. IDDS will provide similar need-based support to the NRLs in the implementation of the revised supervisory formats in FY 2023 Q2.</p> <p>An IDDS representative joined the Ministry of Health and Family Welfare Joint Supportive Supervision Mission team to visit the state of Sikkim (IRL Gangtok, District TB Center [DTC] and nodal drug-resistant TB [DR-TB] center at Sir Thutob Namgyal Memorial Hospital) from November 29 to December 2, 2022. The purpose of the visit was to monitor, supervise, and assess activities under the National TB Elimination Program (NTEP).</p>
<p>NTW-1.3: Develop a forecasting tool to assist NRLs, IRLs, and TB C&amp;DST laboratories to estimate the requirement of laboratory consumables</p>	In progress	<p>IDDS prepared a draft list of all consumables required for diagnostic services at TB Culture and Drug Susceptibility Testing laboratories in NTEP based on the discussions with a few NRLs and IRLs. The consumables list has been prepared for the development of the forecasting tool.</p> <p>IDDS's information technology specialist is working on the framework to develop the forecasting tool. IDDS expects to complete the tool development in FY 2023 Q2.</p>



<b>India TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
IND-TB-NTW-2: Private sector laboratory engagement for the TB/DR-TB diagnostic care cascade	In progress	
NTW-2.1: Initiate demonstration of "One-stop TB diagnostic solution" model for private sector laboratory engagement for TB/DR-TB diagnostic care cascade in collaboration with CTD	In progress	<p><b>Implementation of the model:</b></p> <p>IDDS held periodic technical discussions with the Thyrocare Mumbai team to oversee the model implementation and address the challenges in the specimen collection and transportation mechanism, payment initiation, data entry, and update in the Google spreadsheet and Ni-kshay.</p> <p>To accommodate the increasing volume of tests, and based on IDDS suggestions to Thyrocare management, Thyrocare is working to deploy an additional GeneXpert machine in Gurugram facility to minimize the turnaround time for the Hisar model, and to establish a data entry mechanism at the Thyrocare Gurgugram office to accelerate the test results entered into Ni-kshay. Also, in-person follow-up visits were conducted to the Thyrocare Mumbai facility on November 25–26, 2022, to understand the flow of laboratory procedures and provide necessary technical support to help improve the laboratory processes and bring enhanced efficiencies to the model.</p> <p>IDDS conducted a joint visit with district NTEP staff (Medical Officer-TB Control), senior TB laboratory supervisor, district program coordinator, DR-TB coordinator) to health facilities from November 28–30, 2022, to help establish these facilities as new Designated Microscopy Centers (DMCs) (in addition to the existing 20 DMCs) for specimen collection for the phased expansion of the model to Health and Wellness Centers/Public Health Institutions/Community Health Centers. The facilities visited were Data, Mirchpur, Khandi Kheri, and Maharaja Agrasen</p>

<b>India TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		<p>Medical College Agroha. In collaboration with Thyrocare, IDDS revised the specimen collection route plan to extend the model’s reach below subdistrict-level health facilities.</p> <p>With the help of a media agency, IDDS supported the production of videos showing the model’s impact from the perspectives of patients and stakeholders. To shoot the videos, IDDS and the media agency visited DTC Hisar, private hospitals, and State TB Cell, Panchkula, and Haryana, and held a model orientation in November and December 2022. The remaining interviews for the videos are expected to be conducted in FY 2023 Q2.</p> <p><b>Monitoring and supportive supervision:</b></p> <p>The District NTEP team, IDDS consultant in Hisar, and Thyrocare Mumbai team conducted regular remote monitoring of the model implementation through periodic coordination meetings.</p> <p>IDDS conducted field visits, along with the district NTEP team and state World Health Organization consultant, to the DMCs at Bass, Sorkhi, Sisai, Adampur, Pabra, and Siswal, and DTC Hisar from October 17 to 19, 2022, and to Mangali, ESI-I and III, Aryanagar, and Chawdharywas DMCs and Maharaja Agrasen Medical College Agroha from November 9 to 11, 2022, to oversee the model implementation and address the observed challenges.</p>
NTW-2.2: Review of “One-stop TB diagnostic solution” model for private sector laboratory engagement for TB/DR-TB diagnostic care cascade	In progress	<p><b>Baseline assessment of the model:</b></p> <p>IDDS and IQVIA presented Hisar model baseline data to the state TB officer, NTEP, Haryana on October 31, 2022, to build consensus before the midline evaluation/assessment and development of the model’s sustainability plan.</p> <p><b>Mid-course assessment of the model:</b></p> <p>IDDS held a series of discussions with IQVIA and iDEFEAT TB/The Union team on October 11, 13, 17, 18, and December 12, 2022, to facilitate mid-course data collection, analysis, and help finalize the mid-course data presentation framework. IDDS held meetings on December 19 and 21, 2022, with the United States Agency for International Development (USAID)</p>

<b>India TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		mission, iDEFEAT TB/The Union, and the IQVIA team to discuss the draft findings from the mid-course assessment of the “One-Stop TB/DR-TB Diagnostic Solution” model before moving forward for wider dissemination of mid-course assessment findings. IDDS will be working with IQVIA to conduct patient interviews in FY 2023 Q2 after receiving necessary approvals from the district.
NTW-2.3: Explore other possible options for engagement of private sector laboratories for TB diagnostic care cascade	In progress	<p>IDDS worked with CTD on October 31, 2022, to assess the suitability of private laboratories for certification by NTEP in 13 states: Assam, Delhi, Gujarat, West Bengal, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, and Uttar Pradesh. IDDS coordinated with the states (contacted Rajasthan, Gujarat, and Uttar Pradesh) to conduct the assessment visits using a comprehensive laboratory assessment tool, systematically document the observations, and prepare the assessment report for submission to CTD.</p> <p>IDDS also revised the pre-assessment tool of the existing NTEP form titled “Accreditation of Mycobacteriology Laboratory for Culture and Drug Sensitivity Testing under NTEP” to assess the suitability of laboratory certification by NTEP. These revisions included input received from CTD. The tool was shared with CTD in December 2022 for approval. The tool is updated considering the advancements in NTEP in recent years and aims to conduct a holistic and uniform assessment of the strategic laboratory elements.</p>
IND-TB-NTW-3: Support the Central TB Division and USAID in design and conduct of research on new TB and DR-TB diagnostics	In progress	

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<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-3.1: Comprehensive assessment of Truenat invalid and indeterminate results for <i>Mycobacterium tuberculosis</i> and Rifampicin resistance testing at NTEP's sites and possible solutions to address the same	In progress	<p>Based on the learnings from the Truenat invalid and indeterminate study, IDDS, in collaboration with the National Institute for Research in Tuberculosis (NIRT) Chennai and iDEFEAT-TB team, developed 10 short videos of Truenat procedures highlighting Good Laboratory Practices. CTD provided feedback on the videos, and the finalized videos are expected to be shared with all program managers and technical staff during the planned dissemination meeting in FY 2023 Q2.</p> <p>In addition, IDDS drafted and revised briefers to serve as a guiding tool for efficient utilization of Truenat MTB-RIF Assay for NTEP program managers and supervisory and technical staff, as per the suggestions from the CTD team.</p> <p>IDDS shared the study report on Truenat MTB-RIF invalid and indeterminate rates with NIRT and CTD on October 20, 2022, for review, inputs, and concurrence after receiving inputs from the USAID mission. This report documented the evidence and findings, and identified causes for the high and low invalid/indeterminate rates in the Truenat assay at various NTEP sites.</p> <p>IDDS shared the paper on the findings, learnings, and outcomes of the Truenat invalid and indeterminate study with NIRT Chennai for final inputs and concurrence from CTD. After concurrence is obtained, IDDS will submit the paper to a peer-reviewed journal.</p>
NTW-3.2: Feasibility of using Trueprep extracted DNA for line probe assay testing in NTEP	In progress	<p>IDDS drafted the Phase I report of the Trueprep extracted DNA feasibility study in collaboration with NIRT, Chennai, and it is currently under review.</p> <p>IDDS and NIRT Chennai jointly developed and submitted a paper on the outcome of Phase I of the Trueprep extracted DNA feasibility study to the International Journal of Tuberculosis and Lung Disease peer-reviewed journal for publication.</p> <p>In Phase II of the Trueprep extracted DNA feasibility study, specimen collection started in the first week of October 2022 at all four study sites: NRL NIRT-Chennai, NRL Regional Medical Research Centres Bhubaneswar, IRL Ahmedabad, and IRL Delhi. IDDS and NIRT jointly completed initial visits to monitor the study's progress at IRL Delhi, NIRT Chennai, IRL Ahmedabad, IRL Bhubaneswar, and IRL New Delhi Tuberculosis Centre Delhi on October 14–</p>

<b>India TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		<p>15, October 22–23, October 11–14, November 15–16, and November 17–18, 2022, respectively.</p> <p>IDDS trained two laboratory technicians in November 2022 on entering data into the REDCap software, which manages the database of ongoing research studies.</p> <p>Specimen collection and laboratory investigations are ongoing in Phase II. A total of 507 (estimated sample of 400) specimens have been enrolled in the study from October 1 through December 31, 2022. Sample uptake is completed.</p>
<p>NTW-3.3: Situational analysis, desk review and deliberation with CTD to assess the potential of new technologies, tools and approaches and research questions to be evaluated in NTEP</p>	<p>In progress</p>	<p>As requested by CTD, IDDS drafted and shared an assessment report on Roche Cobas 6800 MTB and RIF/INH assay with CTD for technical review.</p> <p>IDDS revised the report on novel diagnostic technologies based on comments from IDDS HQ. IDDS is also developing an article based on the report for NTEP.</p>
<p>NTW-3.4: Support, mentor and monitor relevant USAID-funded programs and partners for development and evaluation of new diagnostic tools</p>	<p>In progress</p>	<p>This sub-activity is based on USAID’s request. IDDS will provide technical support for capacity building and monitoring as and when required by USAID.</p>

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<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
IND-TB-NTW-4: Support NCDC and identified laboratory(ies)/ laboratory networks for AMR containment and surveillance	In progress	
NTW-4.1: Technical and managerial support for development of new NAP-AMR with the leadership of NCDC	In progress	<p>IDDS developed the consultation meeting report for the National Centre for Disease Control (NCDC) based on the inputs compiled from the national experts' consultations for the Human Health and Research component of the new National Action Plan for Antimicrobial Resistance (NAP-AMR) from June to September 2022. IDDS provided similar support in compiling the inputs from the national experts' consultation for the Professional Associations and Civil Society Organizations component of the NAP-AMR conducted on December 15 and 16, 2022, in collaboration with NCDC and the World Health Organization India office.</p> <p>IDDS will conduct the remaining sectoral meeting for environment stakeholders in FY 2023 Q2 in consensus with NCDC.</p>
NTW-4.2: Support developing the State Action Plan on Containment of Antimicrobial Resistance (SAP-CAR) for the identified state(s) aligned to NAP-AMR	In progress	<p>IDDS had a preliminary discussion with the state of Sikkim's joint director cum state program officer and director cum state surveillance officer to assess and understand the need for support to develop a State Action Plan on Containment of AMR in consultation with NCDC. IDDS aims to support the state of Sikkim to develop the State Action Plan on Containment of AMR in FY 2023 Q2.</p>
NTW-4.3: Develop and demonstrate a	Not started	<p>This sub-activity has not started and is pending formal communication from NCDC leadership to the states about IDDS support to demonstrate the district-level AMR surveillance. This</p>

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<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
model of district level AMR surveillance in the identified district(s) of Punjab		activity is delayed because NCDC is prioritizing the development of the NAP-AMR first. This sub-activity is expected to start in FY 2023 Q2 after the development of NAP-AMR.

<b>Indonesia GHS</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.			
<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
IDN-GHS-NTW-1: Support the One Health Laboratory Network (OHLN) Sub-Working Group (SWG)	Benchmark 4.1  Benchmark 7.1	In progress	
NTW-1.1: Support and facilitate regular OHLN SWG meetings		In progress	No activity in this quarter.  In FY 2023 Q2, IDDS is planning to discuss the leptospirosis systematical review as part of the One Health Laboratory Network Sub-Working Group output.
NTW-1.3: Provide technical assistance (TA) for the development of outputs from the OHLN		In progress	The policy brief development has been carried over to-FY 2023 and moved to SURV-1.3. The dissemination is planned to be held in FY 2023 Q3.
NTW-1.4: Support and facilitate Predict Laboratory Protocol training		In progress	No activity in this quarter.  In FY 2023 Q2, IDDS is planning to conduct the monitoring and supervision in selected laboratories that have been trained. In -person monitoring will be held in one laboratory, and the other three laboratories will be monitored virtually.



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Activity	IHR benchmark	Status	Activity implementation updates
IDN-GHS-SURV-1: Integrate Laboratory and Surveillance Systems and Revitalize 4-Way Linking (4WL)	Benchmark 4.1	In progress	
SURV-1.3: Develop a 4-Way Linking Guideline revitalization review document based on the workshop result with GOI stakeholders		In progress	No activity in this quarter.  In FY 2023 Q3, IDDS expects to develop a policy brief to advocate to the Government of Indonesia to strengthen zoonosis/emerging infectious diseases control. It will be disseminated in FY 2024.
SURV-1.5: Develop/revise the 4WL document to revitalize 4WL implementation for various diseases		In progress	IDDS participated in the meeting to harmonize the draft of the Coordinating Minister Regulation (Permenko PMK), which is the follow-up to Presidential Instruction No. 4/2019 (INPRES) concerning the improvement of zoonoses and new infectious disease detection and prevention. This regulation is required to strengthen cross-sectoral coordination on surveillance and early response. IDDS facilitated the development of three of the six annexes of the Permenko PMK in previous quarters. The meeting took place from October 3 to 6, 2022, in Alana Hotel Solo, Central Java. The meeting was led by the Ministry of Law

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Activity	IHR benchmark	Status	Activity implementation updates
			and Human Rights and attended by the representatives from 11 ministries and institutions and relevant development partners. The meeting participants discussed the Permenko PMK draft. Since the meeting, the regulation has been ratified and signed by the Coordinating Minister.
IDN-GHS-SURV-2: Advance National Surveillance Integration in Indonesia	Benchmark 4.1	In progress	
SURV-2.1: Support and facilitate regular Integrated Surveillance SWG		In progress	In FY 2023 Q2, IDDS expects to conduct the evaluation on INPRES and also support the government on the launching of the Coordinating Ministry of Human Development and Culture Affairs Regulation.
SURV-2.8: Support and facilitate the development of a cross-sectoral integration surveillance system on zoonosis IEDs		In progress	No activity in this quarter.  In FY 2023 Q2, IDDS expects to monitor the integrated surveillance pilot in Demak and facilitate the development of technical guidelines on triangulated surveillance.

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Activity	IHR benchmark	Status	Activity implementation updates
and AMR/AMU guideline			
SURV-2.11: Implementation Pilot of Integrated Surveillance Guidelines document for various diseases at the cross-sectoral levels		Completed	IDDS conducted a follow-up activity on cross-sectoral integrated surveillance for leptospirosis in Demak District on November 1–2, 2022. The activity was attended by representatives of the Ministry of Health, Ministry of Agriculture, BBTKLPP Yogyakarta, BBVet Wates, B2P2VRP Salatiga, Central Java Provincial Health Office, Demak District Health Office, RSUD Sultan Fatah, Department of Agriculture, and Food of Demak District. The activity included a discussion on the design of cross-sectoral integrated surveillance, which was disseminated online to the local hospitals, Puskesmas, and Puskesmas in Demak District. The activity then followed with sample collection in humans at RSUD Sunan Kalijaga, RSUD Sultan Fatah, Labkesda Demak; sample collection on a farm and in rats; and sample collection in soil and water. Sample collection was carried out at the high-risk locations for leptospirosis and where the latest cases of leptospirosis occurred. Samples were then delivered to the sectoral lab (BBTKLPP Yogyakarta dan BBVet Wates) to be examined, and Microscopic Agglutination Test (MAT) testing was completed in November 2022 at the referral laboratory (B2P2VRP Salatiga).
IDN-GHS-SURV-3: Support the Development and	Benchmark 9.2	In progress	

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Activity	IHR benchmark	Status	Activity implementation updates
Operationalization of Sistem Informasi Zoonoses Dan Emerging Infectious Diseases (SIZE) 2.0			
SURV-3.3: Support the facilitation and reporting of the SIZE CG regular meeting		In progress	No activity in this quarter.  In FY 2023 Q2, there will be <i>Sistem Informasi Zoonoses Dan Emerging Infectious Diseases (SIZE) Sub-Working Group</i> meeting to discuss the update on SIZE upgrading and development to move from v2.1 to v2.2.
SURV-3.6: Support the development of a regulatory strategy for the operationalization of the SIZE		In progress	IDDS participated in the coordination meeting on the SIZE evaluation on November 24–25, 2022. The meeting was conducted by the Ministry of Agriculture, supported by the Food and Agriculture Organization of the United Nations, and coordinated by the Coordinating Ministry for Human Development and Culture Affairs. The meeting aimed to map SIZE's advantages and the action plan for SIZE expansion nationwide. The following decisions were made:  (1) SIZE will add four of six One Health zoonotic disease prioritized diseases in the first phase: leptospirosis, rabies, anthrax, and avian influenza,  (2) The three information systems and SIZE will interact so they can receive and send data to one another.

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Activity	IHR benchmark	Status	Activity implementation updates
			<p>(3) The <i>Sistem Informasi Kesehatan Hewan Nasional yang Terintegrasi</i> (Integrated National Animal Health Information System) will be upgraded to facilitate SIZE alerts in its system so the systems can interact with one another to receive and send data in real time. <i>Sistem Kewaspadaan Dini dan Respon</i> (Early Warning Alert and Response System) and SehatSatli will use SIZE to update coordination data. Updates from SIZE to the other systems and from the other systems to SIZE will occur in phase 2.</p> <p>(4) Upgrade to SIZE 2.</p> <p>The updates are expected to be completed in FY 2023 Q2, and government officers at the local level will be trained.</p> <p>In FY 2023 Q2, IDDS expects an alpha and beta test with training modules and handover knowledge to prepare training to be completed.</p>
SURV-3.10: Conduct training for OH concept and SIZE 2.0 for technical staff at a district level		In progress	<p>No activity in this quarter.</p> <p>In FY 2023 Q2 and Q3, IDDS plans to conduct the SIZE technical training for 30 government officers.</p>

**Kenya EVD****Work plan period of performance: October 20, 2022–April 30, 2023****Work plan approval date: November 7, 2022**

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-1: Train health workers on specimen collection, packaging and transportation and provide essential commodities in high-risk counties	In progress	<p>IDDS provided technical assistance to the Government of Kenya through the laboratory subcommittee of the national Ebola preparedness technical coordination committee, to train health care workers from 10 high-risk counties on how to collect, package, and transport specimens from suspected Ebola cases. The training also covered donning and doffing of personal protective equipment, Ebola case management, and infection prevention and control measures. The 10 counties from which health workers have been trained are Bungoma, Busia, Homabay, Kakamega, Kericho, Kisumu, Migori, Nakuru, Siaya, and Trans-Nzoia.</p> <p>The training was offered over 10 2-day sessions between November 28 and December 9, 2022—1 session for each county trained. A total of 318 people (131 female) were trained. Individuals trained included laboratory workers, clinicians (doctors and clinical officers), nurses, disease surveillance officers, public health officers, health records officers, and a pharmacist. IDDS supported the training through facilitation of some of the sessions, printing of training materials, providing meeting catering and covering travel costs for trainees and facilitators.</p> <p>IDDS plans to support the government to train health workers from 10 additional counties in FY 2023 Q2. IDDS will also procure personal protective equipment and specimen transport commodities for distribution in the high-risk counties.</p>
NTW-2: Provide technical assistance to national preparedness coordination and to develop guidelines and standard operating procedures	In progress	<p>To provide health workers in testing laboratories and counties across the country with standard guidance and reference tools, IDDS is working with the laboratory subcommittee of the national Ebola preparedness technical coordination committee to develop, design, and print an Ebola preparedness laboratory testing strategy and associated standard operating procedures (SOPs) and job aids. IDDS diagnostic specialists provided inputs to the draft testing strategy and associated job aids that had been drafted by the laboratory subcommittee.</p> <p>On December 15, 2022, IDDS provided logistical and technical assistance to the subcommittee to organize a hybrid one-day workshop in Nairobi and facilitated some of the sessions. The following job aids and SOPs were reviewed and finalized during the workshop:</p>

Kenya EVD

Work plan period of performance: October 20, 2022–April 30, 2023

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Activity	Status	Activity implementation updates
		<p><b>Job aids and tools</b></p> <ul style="list-style-type: none"><li>• Sampling and testing algorithm for suspected Ebola virus disease (EVD) cases</li><li>• Specimen collection and packaging</li></ul> <p><b>SOPs</b></p> <ul style="list-style-type: none"><li>• Blood specimen collection guideline for health care workers</li><li>• Specimen collection procedure for semen for EVD testing</li><li>• Specimen packing for transportation</li></ul> <p>Nine people (3 female) from the Ministry of Health’s National Public Health Laboratory and Division of Disease Surveillance and Response and IDDS gathered in person for the workshop. Three people from the Kenya Field Epidemiology and Laboratory Training program and the National Public Health Laboratories joined virtually.</p> <p>IDDS will assist the Ministry of Health to design and disseminate the finalized job aids and SOPs in print or electronic formats, as appropriate, in FY 2023 Q2.</p> <p>IDDS also participated in national EVD preparedness coordination committee meetings, Incident Management Committee (IMC) meetings, and laboratory subcommittee meetings. During the IMC meetings, the secretariat provided an update on the outbreak situation in Uganda, and each subcommittee provided updates on the progress with the preparedness measures and any challenges—for discussion and direction by the IMC. The meeting also helped the IMC coordinate actions across different subcommittees to ensure synergy.</p> <p>IDDS also participated in four laboratory subcommittee meetings to coordinate specific laboratory-related activities. The meetings were convened by the chairperson of the subcommittee from the Ministry of Health. IDDS also consulted with and participated in joint meetings of the training and the case management/infection prevention and control subcommittees to harmonize trainings. The project pushed for the inclusion of the laboratory</p>

**Kenya EVD****Work plan period of performance: October 20, 2022–April 30, 2023****Work plan approval date: November 7, 2022**

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		<p>components and laboratory personnel participation in the case management national target conducted by the World Health Organization in Naivasha in November 2021.</p> <p>From November 22 to 26, 2022, the IDDS diagnostic specialists and the country team lead participated in a weeklong training of trainers practical training session on EVD case management, infection prevention and control, and laboratory diagnostics, conducted by a team from the World Health Organization HQ and the Africa Regional Office. The training equipped the IDDS country team with knowledge and skills that were incorporated into the activities later rolled out by IDDS. Some of the sessions comprehensively covered were infection prevention and control practices related to EVD, case management, and personal protective equipment donning and doffing.</p>
NTW-3: Provide technical assistance to strengthen EVD laboratory testing capacity by training additional laboratory technologist	Completed	<p>To increase the country's preparedness to respond to Ebola, IDDS provided logistical and financial support to the laboratory subcommittee to train 21 laboratory professionals (11 female) on how to receive, process, test, and report results of suspected Ebola specimens using polymerase chain reaction testing techniques and required biosafety and biosecurity measures. Trainers from the Kenya Medical Research Institute (KEMRI) and the Centers for Disease Control and Prevention (CDC) trained laboratory technologists from three national Ebola testing laboratories, between November 16 and 18, 2022. The two-day trainings were conducted as follows:</p> <ul style="list-style-type: none"><li>• November 16 and 17: 10 laboratory professionals (5 female) from the KEMRI Center for Global Health Research Kisumu. The training was conducted at the KEMRI/CDC laboratory in Kisumu.</li><li>• November 17 and 18: 4 laboratory professionals (2 female) from KEMRI Center for Global Health Research Nairobi and 7 laboratory professionals (4 female) from the National Public Health Laboratories (11 total). The training was conducted at the KEMRI/CDC laboratory in Nairobi.</li></ul>





**Kenya GHS**      **Work plan period of performance: October 1, 2022 – July 31, 2023**  
**Work plan approval date: November 16, 2022**

Activity	IHR benchmark	Status	Activity implementation updates
KEN-GHS-NTW-1: Enhance national-level multi-sectoral antimicrobial resistance (AMR) detection and surveillance leadership and coordination	Benchmark 3.2	In progress	
KEN-GHS-NTW-1.1: Promote the AMR surveillance training course hosted on the Ministry of Health (MOH) virtual academy (VA) through digital and print methods, and during meetings such as the World Antimicrobial Awareness Week (WAAW)		In progress	IDDS continued to promote the antimicrobial resistance (AMR) e-learning course hosted on the Ministry of Health (MOH) virtual academy. In November 2022, the project printed 500 copies of the e-flier that was previously developed jointly with the United States Agency for International Development’s University of Nairobi Health IT project and circulated them during the World Antimicrobial Awareness Week (WAAW) national symposium and launch held on November 17–18, 2022, at the Radisson Blue Hotel in Nairobi. A total of 144 people (60 female) attended the launch on-site, and approximately 300 people attended virtually. The fliers help create awareness about the training among health workers and increase demand. IDDS will distribute the remaining printed fliers during other national forums and engagement with the counties and will continue to disseminate electronic copies through professional associations and other mechanisms.
KEN-GHS-NTW-1.2: Monitor enrollment and completion of the AMR surveillance training course on the		In progress	A total of 1,276 (458 female) learners had enrolled in the course as of December 13, 2022, representing a 38.3 percent increase from 922 enrollments in September 2022. The enrollments increased from 670 to 1,276 after circulation of the course flier in July and November. Of the 1,276 total enrollments, 562 people enrolled in the laboratory track of the course, 410 people enrolled

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Activity	IHR benchmark	Status	Activity implementation updates
<p>MOH VA, conduct a refresher training for trainers and mentors, and actively support learners to navigate through the course (directly and on interactive forums) to improve course completion rates</p>			<p>in the health professionals track, and 304 people enrolled in the veterinary professionals track. To support the growing number of learners who have enrolled in the course, IDDS will collaborate with the Health IT project to conduct a virtual refresher training on the MOH virtual academy for course managers in FY 2023 Q2. The refresher training will enable course managers to promptly respond to learners' queries and participate in discussion forums.</p>
<p>KEN-GHS-NTW-I.3: Provide technical assistance (TA) to MOH and work with the Health IT project to advocate for a waiver of the annual course accreditation fees by the regulatory bodies. This will ensure regulatory bodies that have previously accredited the course, for award of continuous professional development points,</p>		<p>Not started</p>	<p>Although IDDS has held informal discussions with Health IT about this activity, structured implementation will start in FY 2023 Q2 and continue through Q4.</p>

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Activity	IHR benchmark	Status	Activity implementation updates
maintain the accreditation status, and new regulatory bodies accredit the course to promote uptake by targeted learners			
KEN-GHS-NTW-I.4: Participate in National Antimicrobial Stewardship Interagency Committee (NASIC) and County Antimicrobial Stewardship Interagency Committee (CASIC) activities and provide technical inputs during the revision of national and county documents on AMR prevention and control in Kenya		In progress	<p>IDDS played an active role in preparing for the 2022 WAAW (November 18–24, 2022) celebration in the country by participating in national planning committee meetings, participating in the symposium and launching subcommittee engagement, and supporting the five IDDS-supported counties to organize events throughout the week. IDDS provided inputs for the program development of the national symposium and launch. The project also helped the National Public Health Laboratories (NPHL) develop and design the materials used to publicize the event. In addition, the project provided technical assistance to the National Antimicrobial Stewardship Interagency Committee (NASIC) to prepare, design, and print copies of the National AMR Surveillance Report of 2022, which was formally launched and disseminated during the WAAW national launch on November 18, 2022.</p> <p>At the county level, the project provided logistic assistance to convene continuing medical education (CME) sessions in four of the five project-supported counties (Bungoma, Kilifi, Nyeri, and Trans-Nzoia), and analyzed data and prepared presentations that were used during the CMEs. A total of 19 CME sessions, attended by 890 people (513 female), were held across the 4 counties between November 18 and December 8, 2022. Health workers who participated in the CME sessions comprised 274 clinicians, 251 nurses, 114 laboratory</p>

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Activity	IHR benchmark	Status	Activity implementation updates
			<p>personnel, 56 pharmacists, and 195 people from other cadres. The focus of the CME sessions was to promote diagnostic stewardship for prudent use of antimicrobials, to prevent and control AMR.</p> <p>On November 11, 2022, IDDS participated in Nyeri CASIC review workshop to deliberate on progress in implementation of its workplan (2018-2022), plan for WAAW celebrations, and review CASIC membership and current composition. The meeting was organized by the CASIC and attended by CASIC members from across the three core sectors (human health, animal health and environment) and partners representatives (IDDS and MTaPS). Review of the current workplan set the pace for development of the next workplan (2023-2025) aligned to the national action plan on prevention and containment of AMR. IDDS and MTaPs projects agreed to collaborate in providing technical and logistics assistance to the county to celebrate WAAW 2022, which happened between November 18-24, 2022.</p> <p>On November 17 and 18, 2022, the project provided logistic and financial assistance to two surveillance sites (Bungoma and Murang'a) to enable their laboratory personnel to participate in person at the WAAW national launch and share outputs of their AMR surveillance work.</p> <p>IDDS will continue to engage in national- and county-level activities that promote diagnostic stewardship and contribute to the fight against AMR. Specifically, IDDS will actively participate in the finalization of the revised national action plan for AMR prevention and control, and the revision of the national AMR surveillance strategy during FY 2023 Q2 through Q4.</p>

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Activity	IHR benchmark	Status	Activity implementation updates
KEN-GHS-NTW-2: Strengthen diagnostic services in five county referral hospitals	Benchmark 3.2	In progress	
KEN-GHS-NTW-2.1: Provide quarterly virtual and onsite mentorship to the five IDDS-supported surveillance sites to address any diagnostic and surveillance gaps		In progress	<p>IDDS diagnostic specialists continued to virtually provide guidance and answer questions from surveillance sites on organism identification (ID), antimicrobial susceptibility testing (AST), and quality assurance practices. The diagnostic specialists also actively participated in and facilitated sessions for the NPHL extension of community health outcomes platform sessions. All AMR surveillance sites, including IDDS-supported sites, participate in these sessions every two weeks. During the extension of community health outcomes platform sessions, surveillance sites and microbiology experts discuss routine and unusual cases encountered in their laboratory practice. IDDS-supported surveillance sites also presented their work during the sessions. On November 9, 2022, Murang'a County Referral Hospital Laboratory (CRHL) made a case presentation on <i>Providencia alcalifaciens</i> isolated from the stool specimen of a pediatric patient. The bacteria are known to cause gastrointestinal infections in pediatric patients but are rarely reported as a pathogen following standard reporting guidelines.</p> <p>IDDS diagnostic specialists also shared information with surveillance sites in the country on organism ID and AST through a WhatsApp forum in which laboratories share challenging cases on isolated pathogens. Bungoma CRHL supported Kitale CRHL to perform pathogen ID and AST of difficult organisms using its automated platform.</p> <p>The in-person mentorship visits to the surveillance sites will be conducted in FY 2023 Q2.</p>

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Activity	IHR benchmark	Status	Activity implementation updates
KEN-GHS-NTW-2.2: Engage with the five IDDS-supported county leadership and equipment vendors to secure three-year equipment maintenance service contracts for the counties to strengthen microbiology equipment preventive maintenance to guarantee service continuity and quality		Not started	IDDS has initiated informal discussions with the counties and vendors on the equipment service contracts. With IDDS support, formal structured engagements will start in FY 2023 Q2 and continue through Q4. The service contracts will be between the vendors and county governments where IDDS supports.
KEN-GHS-NTW-2.3: Procure limited buffer reagents to support Murang'a county to avoid service interruption and ensure automation of bacteriology services		In progress	IDDS has begun compiling a list of essential commodities based on the needs of each site, especially for Murang'a automation. The project will initiate the procurement process in FY 2023 Q2, when the needs are well defined.
KEN-GHS-NTW-2.4: Facilitate engagement		In progress	IDDS has initiated discussions between a potential equipment placement vendor (BioMérieux) and the Murang'a county team for the placement of VITEK 2

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Activity	IHR benchmark	Status	Activity implementation updates
between Murang'a County Referral Hospital and equipment placement vendors to acquire and place automated organism ID and AST equipment in the hospital			compact organism ID and AST automated equipment. Hass Scientific, a local distributor of BioMérieux, will be placing the VITEK 2 equipment in the sites. In FY 2023 Q2, IDDS will actively facilitate engagements between the vendors and the county. IDDS will also procure limited automated testing laboratory commodities to facilitate staff training and kick-off testing after the equipment has been placed. This process is expected to continue through FY 2023 Q4.
KEN-GHS-NTW-2.5: Organize semi-annual virtual AMR forums between counties and partners to share lessons and learn from each other about AMR surveillance, including external quality control aspects		Not started	This activity will be conducted in FY 2023 Q2.
KEN-GHS-NTW-2.6: Organize quarterly national webinars on select bacteriology and AMR surveillance topics to strengthen		Not started	This activity will be conducted in FY 2023 Q2.



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Activity	IHR benchmark	Status	Activity implementation updates
AMR surveillance detection and surveillance			
KEN-GHS-NTW-2.7: Support preventive maintenance of microbiology equipment (i.e., servicing of automated equipment and calibration of select auxiliary equipment) in the five IDDS-supported AMR surveillance sites		In progress	<p>IDDS is actively following up with vendor BioMérieux on the preventive maintenance of the automated organism ID and AST equipment at Kitale and Malindi CRHLs. BioMérieux has indicated that Pentium processor computers have been shipped into the country and are going through customs clearance. The processors will enable compatibility of the automated equipment software upgrade. Equipment servicing is expected to take place in FY 2023 Q2.</p> <p>In FY 2022 Q4, IDDS reported that a new contract for equipment servicing was needed to proceed with this activity. It was determined that a new contract for BioMérieux was not needed and that the previous version that had already been signed by the counties would suffice.</p>
KEN-GHS-NTW-3: Increase demand and utilization of diagnostic capacity established at the five IDDS-supported county referral hospitals laboratories	Benchmark 7.2	In progress	
KEN-GHS-NTW-3.1: Provide virtual TA to Murang'a and		Not started	This activity was not conducted due to other competing priorities at the county level and the formation of new county governments after the general elections in

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<p>Bungoma counties to convene quarterly specimen referral system technical working groups (TWGs), to coordinate referral of all specimens in the county. IDDS will help to analyze specimen referral data and prepare presentations for the meetings</p>			<p>August 2022. IDDS will support the counties to convene these meetings starting in FY 2023 Q2.</p>
<p>KEN-GHS-NTW-3.2: Continue to support bacteriology specimen referral in Murang'a and Bungoma counties by supplementing transportation costs</p>		<p>In progress</p>	<p>IDDS continued to track bacteriology specimen referral from high-volume peripheral health facilities to Bungoma and Murang'a county testing hubs within the established specimen referral mechanisms. The project provided specimen collection and packaging materials for distribution to peripheral health facilities, provided technical assistance (sensitization materials and data analysis) to the county teams to sensitize clinicians, and provided specimen transportation costs (fuel costs in Murang'a and motorbike riders' transport cost reimbursements in Bungoma) to complement support from the county and other partners. In October and November 2022, a total of 11 specimens from 3 health facilities were referred in Bungoma, and 32 specimens from 3 health facilities were referred in Murang'a. This brings the total number of specimens referred to the</p>

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			<p>2 sites in calendar year 2022 to 193 in Bungoma and 147 in Murang'a. The number of health facilities that referred specimens remained constant.</p> <p>IDDS convened CME forums in the counties during the WAAW celebrations to bolster bacteriology specimen referral. IDDS will continue to provide assistance and advocate for bacteriology specimen referral to guide the prudent use of antibiotics and generate representative AMR surveillance data in the IDDS-supported counties throughout FY 2023.</p>
KEN-GHS-NTW-3.3: Provide TA to the IDDS-supported sites to convene clinical-laboratory interface meetings on a quarterly basis. IDDS will support the sites to prepare resource materials (e.g., presentations) to be used during the meetings		In progress	<p>During the WAAW week celebrations, IDDS provided technical and logistic assistance to the five IDDS-supported sites to organize CME sessions which brought together clinicians, laboratory personnel, nurses, pharmacists and other health workers to discuss the importance of laboratory diagnostics in promoting prudent use of antimicrobials to prevent and control AMR. IDDS assisted sites to analyze data and prepare presentations for the CME sessions. More detail on the number of CME sessions, participants, and their cadres are described under the updates for NTW-1.4 in this report.</p>
KEN-GHS-NTW-3.4: Monitor bacteriology isolate referral from the surveillance sites to the National		In progress	<p>IDDS continued to work closely with the MOH's National Microbiology Reference Laboratory (NMRL) to track isolates referral by the surveillance sites, analyze data, and provide feedback to the sites. A total of 156 isolates were submitted by 10 of 17 surveillance sites between October and November 2022. This brings the total isolates referred between January and November 2022 to</p>

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Microbiology Reference Laboratory (NMRL) for retesting (as part of external quality assurance [EQA]) and provide support to the surveillance sites to transport the isolates on a need basis			<p>497. Of the 156 total isolates, 118 (75 percent) were submitted by the 5 IDDS-supported sites. The results of the isolates data analysis were published in the National AMR Surveillance Report of 2022. IDDS will continue to track submission of isolates to the NMRL by the surveillance sites as a critical external quality assessment (EQA) approach for the National AMR Surveillance Program throughout FY 2023.</p> <p>On November 2, 2022, IDDS, in collaboration with the NMRL and the International Center for AIDS Care and Treatment, held a virtual refresher training for AMR surveillance sites on isolates referral. A total of 24 health workers (15 female) participated from 16 surveillance sites, including the 5 IDDS--supported sites.</p>
KEN-GHS-NTW-3.5: Provide TA to NMRL to develop a bacteriology isolates biorepository by preparing an excel-based tool and a standard operating procedure (SOP) for bacteriology isolates from the counties and those from outbreak response activities		In progress	<p>On December 2, 2022, the IDDS diagnostic specialist met with the head of the NMRL to discuss the development of a biorepository for bacteriology isolates. During the meeting, they agreed to develop a standard operating procedure (SOP) to guide the establishment of the biorepository and further explore tools to manage the repository, both of which will be worked on in FY 2023 Q2 and Q3. The biorepository will support the NMRL to manage valuable biological materials in their custody, mainly bacterial isolates, for use in future research.</p>

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KEN-GHS-NTW-4: Provide assistance to surveillance sites to maintain their Kenya Accreditation Service International Standards Organization accreditation status, as part of the continuous quality improvement monitoring	Benchmark 7.4	In progress	
KEN-GHS-NTW-4.1: Provide TA to the five IDDS-supported sites to monitor internal quality controls using key performance indicators such as blood culture contamination rates and specimen rejection rates, and by reviewing the facilities' own clinicians/customer satisfaction surveys		In progress	IDDS has designed tools to help the NMRL monitor laboratories' key performance indicators (i.e., blood culture contamination rates, specimen rejection rates, and EQA performance). The project along with the NMRL will use these tools to monitor the five IDDS-supported sites' internal quality controls starting in FY 2023 Q2.

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done annually as part of the accreditation requirements			
KEN-GHS-NTW-4.2: Monitor the five sites' EQA performance on a quarterly basis and assist the sites to take corrective actions to maintain their accreditation statuses		In progress	The five IDDS-supported surveillance sites performed their EQA in November 2022, and results are expected in FY 2023 Q2. IDDS will review the sites' performance and assist them with taking any required corrective actions to maintain their accreditation status.
KEN-GHS-NTW-4.3: Provide TA to NASIC and the IDDS-supported sites to update bacteriology SOPs. Carry out a desk review and compile a list of amendments that need to be made for various SOPs.		In progress	In preparation for the revision of the bacteriology SOPs, IDDS has worked with the surveillance sites' laboratories and NMRL to identify technical SOPs with key gaps and opportunities for improvement. Some of the SOPs identified include the following: SOP on AST using Kirby Bauer disc diffusion method; SOP on automated bacteriology organism ID and AST equipment (VITEK 2 Compact and Phoenix); SOPs on bacterial culture processing from blood, sterile body fluid, cerebrospinal fluid, pus, and urine specimen types; and SOP on bacterial biochemical ID of gram positive and gram negative priority pathogens ( <i>Staphylococcus aureus</i> , <i>Streptococcus pneumoniae</i> , <i>Escherichia coli</i> , <i>Klebsiella pneumoniae</i> , <i>Pseudomonas aeruginosa</i> , and <i>Acinetobacter baumannii</i> ).  IDDS will work with the sites to update and customize the SOPs in FY 2023 Q2 and Q3.

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KEN-GHS-SURV-1: Strengthen AMR surveillance data analysis and use at the county and national levels	Benchmark 3.2	In progress	
KEN-GHS-SURV-1.1: Conduct on-the-job, hands-on WHONET refresher trainings in the five IDDS-supported AMR surveillance sites		Not started	This activity will be conducted in FY 2023 Q2.
KEN-GHS-SURV-1.2: On a monthly basis, review AMR surveillance data submitted to the Central Data Warehouse (CDW) from IDDS-supported and other AMR surveillance sites, and monthly workload data submitted to IDDS from the sites		In progress	IDDS continued to monitor AMR detection and surveillance activity progress at the surveillance sites. All sites continued to provide uninterrupted ID and AST services. A total of 1,601 bacteriology culture tests were conducted, and 257 organisms were isolated in October and November 2022. This brings the total number of culture tests done between January to November 2022 to 6,904, with 1,235 organisms isolated during that time. This is a substantial increase compared to the 3,337 culture tests done and 710 organisms isolated between January and December 2021. The commonly isolated organisms across the 5 sites in October and November were <i>Staphylococcus aureus</i> (53) and <i>Escherichia coli</i> (45). This is consistent with the national bacterial isolation patterns published in the National AMR Surveillance Reports of 2021 and 2022, which showed that <i>Staphylococcus aureus</i> and <i>Escherichia coli</i> are the most commonly isolated priority pathogens in Kenya. Other priority pathogens isolated from the 5 IDDS-supported sites in October and November were <i>Klebsiella spp.</i> (27), <i>Pseudomonas aeruginosa</i> (21),

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			<i>Acinetobacter spp.</i> (12), <i>Streptococcus pneumonia</i> (1), <i>Salmonella typhi</i> (2), and <i>Shigella spp.</i> (1).
KEN-GHS-SURV-1.3: Provide TA to NASIC to organize a national AMR surveillance data review meeting		Completed	<p>From October 26 to 28, 2022, IDDS provided technical and logistic assistance to the NASIC secretariat to organize a data review, validation, and analysis workshop in Limuru, Kiambu County. The workshop was attended by 25 (8 female) participants, who included members of the AMR surveillance technical working group; the NPHL informatics and monitoring and evaluation teams; partners, including IDDS, the U.S. Centers for Disease Prevention and Control Kenya, Association of Public Health Laboratories, the Fleming Fund through Foundation for Innovative New Diagnostics, and the International Center for AIDS Care and Treatment Programs; representatives of four surveillance sites (Kitale CRHL, Murang'a CRHL, Kenyatta National Hospital, and the Kenya Medical Research Institute); animal health sector representatives; and microbiology experts.</p> <p>During the workshop, the participants reviewed and validated cumulative data from 17 surveillance sites in the national AMR surveillance network collected between 2019 and September 30, 2022. After verifying the completeness and accuracy of all records in the Central Data Warehouse (CDW), the participants focused on a subset of the data testing records, in which a national AMR surveillance priority pathogen had been isolated. The participants screened the records for correct specimen-pathogen combination, and correct pathogen-antibiotics combinations using the Kenya AMR surveillance strategy, the Clinical and Laboratory Standards Institute guidelines, and expert opinions on choice of appropriate antibiotics. Incorrectly matched drug-bug combinations were removed from the data used in the final antibiogram analysis. Records that had priority pathogens without AST data were also dropped from the final analysis.</p>



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			The outcome of this data cleaning and analysis was used to develop the National AMR Surveillance Report for 2022, and the data were submitted to the World Health Organization (WHO) Global Antimicrobial Resistance and Use Surveillance System (GLASS).
KEN-GHS-SURV-2: Enhance AMR surveillance data quality, sharing, and use within and across sectors and partners	Benchmark 3.2	In progress	
KEN-GHS-SURV-2.2: Support NASIC to collate, clean, and analyze AMR data, prepare a national AMR surveillance report, and submit data to GLASS during the 2022 data call		Completed	IDDS provided ongoing support to the NASIC secretariat to collate AMR data from 17 AMR surveillance sites (5 supported by IDDS) and to organize a national AMR surveillance workshop to clean, validate, and analyze the data. The 17 human health AMR surveillance sites enrolled in the surveillance network are required to send data regularly to the NPHL CDW, either in real time using laboratory information systems or weekly or monthly using WHONET or Excel files developed by NPHL. In preparation for the national AMR surveillance data review, cleaning, validation, and analysis, IDDS provided technical assistance to the NASIC secretariat and the NPHL informatics team to actively solicit up-to-date data from the sites and upload them to the CDW. IDDS also provided assistance to the NASIC secretariat and NPHL to review the data to identify any gaps or inconsistencies in comparison to the actual site reports, determine completeness of the different variables, and fill gaps, where possible. The project provided technical and logistic assistance to the NASIC secretariat to organize a meeting on October 17, 2022, attended by 11 participants, to assess the status of

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			<p>data received in the CDW in preparation for the national data review, validation, and analysis.</p> <p>The collated data were cleaned, validated, and analyzed during the national AMR data validation and analysis workshop described in the updates for SURV-1.3 in this report. The outcome of the data review and cleaning was used to develop the National AMR Surveillance Report of 2022, which was formally launched and disseminated during the WAAW launch on November 18, 2022. IDDS provided technical assistance to NASIC to develop, design, and print copies of the report. IDDS also assisted NASIC to formally submit the cleaned data to WHO GLASS on October 30, 2022, in response to the WHO 2022 call for AMR surveillance data.</p>
<p>KEN-GHS-SURV-2.3: Provide TA to the surveillance sites and NASIC to analyze and disseminate AMR surveillance data, within and outside the IDDS-supported counties</p>		In progress	<p>IDDS provided technical assistance to the five IDDS-supported sites to analyze and disseminate AMR surveillance data during WAAW, as reported in the updates for activities NTW-1.4 and NTW-3.3.</p> <p>IDDS produced the National AMR Surveillance Report of 2022 as a bulletin in November 2022. The report contained information on AMR resistance patterns across 17 human health AMR surveillance sites and survey-based AMR surveillance data from the animal health sector.</p> <p>In FY 2023 Q2, IDDS will support sites to analyze and share their data as needed.</p>
<p>KEN-GHS-SURV-2.5: Provide TA to Bungoma and Murang'a surveillance sites to initiate</p>		Not started	<p>This activity will be conducted in FY 2023 Q3 and Q4.</p>

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development of antibiograms/ antibiotic formulary/treatment guidelines based on the AMR surveillance data from the sites			
KEN-GHS-SURV-3: Strengthen national- and county-level integration and use of information systems to manage AMR surveillance data	Benchmark 3.2	In progress	
KEN-GHS-SURV-3.1: Provide TA to the NPHL to finalize the information systems interface between WHONET and CDW so that data may be directly uploaded from WHONET to the CDW		In progress	IDDS is working with NPHL and NASIC to configure the CDW and the WHONET files received from the sites to allow for a seamless upload of data from the surveillance sites to the CDW. This was identified as a major challenge during the national AMR surveillance data review and validation workshop in October 2022, because the WHONET files required significant configuration before being uploaded to the CDW. This led to distortion or loss of data and required a significant level of effort. This activity will continue through FY 2023 Q2 and Q3 to ensure smooth uploading of data from the WHONET files to the CDW.

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KEN-GHS-SURV-3.2: Provide TA to strengthen AMR surveillance data and information systems operation and management at NPHL and IDDS-supported counties		In progress	IDDS continued to provide informatics assistance to support NASIC and NPHL to operate and maintain AMR surveillance information systems. IDDS plans to continue this support through FY 2023.
KEN-GHS-SURV-3.3: Engage the new county governments to sensitize them to IDDS's work and advocate for continued support for AMR prevention and control		Not started	<p>This activity will be conducted in FY 2023 Q2. It was delayed to give the newly elected and appointed county leaders from the August 2022 general election time to settle into their offices. IDDS has reached out to all surveillance sites to indicate the most appropriate timelines for the visits in FY 2023 Q2.</p> <p>IDDS will conduct supportive supervision visits to the counties alongside the engagement of the new county governments to advocate for continued ownership, support, and sustainability of capacities that IDDS has helped establish. During this time, IDDS will also conduct a joint Laboratory Assessment of Antibiotic Resistance Testing Capacity with the MOH and the counties to assess the current AMR diagnostic and surveillance capacities and progress made since the last assessment. These findings will be used to prioritize high-impact interventions for the duration of the project.</p>
KEN-GHS-SURV-3.4: Conduct an assessment of AMR surveillance capacity		Not started	This activity will be conducted in FY 2023 Q2 and will coincide with the visits to the counties to engage with the new county leaders. In preparation for the activity, IDDS has shared an electronic version of the Laboratory Assessment of Antibiotic Resistance Testing Capacity tool with IDDS-supported sites to

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Activity	IHR benchmark	Status	Activity implementation updates
using the LAARC tool in all five IDDS-supported sites and work with counties to address identified gaps			conduct their self-assessments, ahead of the joint IDDS and NASIC assessment that will take place in FY 2023 Q2.

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Activity	IHR benchmark	Status	Activity implementation updates
LBR-GHS-NTW-4: Strengthen county level implementation of Strengthening Laboratory Management Toward Accreditation (SLMTA)-based quality management system (QMS) in supported laboratories in Lofa, Nimba, and Bong	Benchmark 7.4	In progress	
LBR-GHS-NTW-4.1: Provide SLMTA-based on-site training, mentorship, and support visits to the 9 laboratories enrolled in QMS in Bong, Nimba, and Lofa		In progress	<p>IDDS provided quality management system (QMS) mentorship at Ganta United Methodist Hospital laboratory from December 5 to 9, 2022. The topics covered included tracking of quality indicators, equipment maintenance, and development of a corrective and preventive action plan to address the gaps identified during the Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) audit. IDDS mentored a total of 12 technicians (5 female).</p> <p>In the county facilities (Phebe, Tellewoyan, and G.W. Harley), IDDS provided mentorship on the development of corrective and preventive action plans to also address the SLIPTA audit gaps identified in the September/October audit. A total of 5 technicians (1 female) were mentored at Phebe, 16 technicians (2 female) were mentored at G.W. Harley, and 6 technicians (all male) were mentored at Tellewoyan. In FY 2023 Q2, IDDS will provide on-site QMS mentorship and</p>

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Activity	IHR benchmark	Status	Activity implementation updates
			<p>technical assistance remotely to the district laboratories and work with county laboratory staff in addressing QMS gaps to ensure improvement in QMS implementation.</p> <p>In G.W. Harley, IDDS conducted a health and safety (biorisk mitigation) training on December 14, 2022 with seven participants (all male).</p> <p>IDDS also assisted in the development of the Advisory Services SOP in G.W. Harley and provided an orientation on the SOP on October 13, 2022. In Lofa county, IDDS assisted in the development of the General Specimen Collection Guidelines for Curran and Foya Boma hospital laboratories.</p> <p>IDDS attended a three-day mentors’ meeting organized by the National Diagnostic Division in Monrovia from December 14 to 16, 2022. The objective of the meeting was to share best mentorship practices among mentors, with the aim of improving laboratory QMS outcomes. The meeting was also focused on how to standardize approaches used in mentorship by the different partners supporting QMS in the country.</p>
<p>LBR-GHS-NTW-4.2: Conduct Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) audits for the laboratories enrolled in SLMTA in</p>		<p>In progress</p>	<p>IDDS provided financial support to conduct SLIPTA audits for Lofa county at Tellewoyan (October 6–8, 2022), Foya Boma (October 3–5, 2022), and Curran (October 10–11, 2022) laboratories, and at Phebe hospital laboratory (October 13–14, 2022). The Ministry of Health African Society for Laboratory Medicine-certified auditors and trainee auditors conducted the audits. Tellewoyan scored 107/269 (39.7 percent), Foya Boma scored 102/269 (37.2 percent), Curran scored 115/269 (42.7 percent), and Phebe scored 146/269 (54.3 percent).</p>

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Activity	IHR benchmark	Status	Activity implementation updates
the supported counties			The next audits are scheduled for FY 2023 Q3. In FY 2023 Q2, IDDS will provide mentorship to close gaps identified during the audits.
LBR-GHS-NTW-4.3: Provide technical assistance (TA) on establishment of an in-country bacteriology external quality assessment (EQA) program at the National Public Health Reference Laboratory (NPHRL) (inter-laboratory comparison)		In progress	IDDS convened a meeting on December 21, 2022, with the National Diagnostic Division and the National Public Health Reference Laboratory to discuss the participation of the bacteriology laboratory supported by IDDS in an interlaboratory comparison program that will be coordinated by Phebe laboratory, where the bacteriology national trainer is stationed. The external quality assessment will begin in FY 2023 Q2. IDDS is currently providing technical support to the bacteriology national trainer on the documentation needed for the external quality assessment process.
LBR-GHS-NTW-7: Strengthen capacity to perform and report quality-assured microbiology, including antimicrobial resistance (AMR) detection, in the three supported counties	Benchmark 7.1 Benchmark 3.1	In progress	
LBR-GHS-NTW-7.1: Strengthen laboratory data management and		In progress	IDDS worked together with the national trainer to mentor two technicians stationed in the bacteriology section at Phebe laboratory on the WHONET



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Activity	IHR benchmark	Status	Activity implementation updates
reporting using WHONET			software. Patient reports were being generated from WHONET following the assistance.
LBR-GHS-NTW-7.2: Provide TA on promoting appropriate, timely diagnostic testing and patient management guided by timely microbiological data		In progress	<p>IDDS is providing continuous mentorship to the three IDDS-supported laboratories through the support of embedded staff to improve their diagnostic capacity. Topics that were addressed through mentorship include specimen collection, bacterial culture and identification, antimicrobial sensitivity testing, data entry and reporting using WHONET and clinician sensitization on availability of bacteriology testing. A total of 2 people (1 female) were mentored at Phebe, 3 people (all male) were mentored at G.W. Harley, and 1 person (male) was mentored at Tellewoyan.</p> <p>With IDDS support, Phebe laboratory collected a total of 45 specimens, G.W. Harley collected 25 specimens, and Tellewoyan collected 2 specimens between October 1 and December 20, 2022.</p>
LBR-GHS-NTW-7.3: Support the development of the Integrated (One Health) Antimicrobial Resistance Surveillance Strategy for Liberia		In progress	This activity is scheduled to start in FY 2023 Q2 with the development of the scope of work for the consultant. Currently, IDDS has developed a draft scope of work, which is still being reviewed in country before being shared with IDDS HQ.
LBR-GHS-NTW-7.4: Support procurement of essential bacteriology reagents,		In progress	Working together with the supervisors of the three bacteriology laboratories and the national bacteriology trainer, IDDS compiled a list of essential items (reagents, media, and supplies) to be procured for the three bacteriology laboratories. In FY 2023 Q2, IDDS will provide financial support to procure

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Activity	IHR benchmark	Status	Activity implementation updates
supplies, and consumables and provide contracts for equipment service and calibration to support culture and antimicrobial susceptibility testing (AST) for Phebe, Tellewoyan, and G.W. Harley			these essential items used in the detection of priority pathogens and antimicrobial resistance.

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
MDG-GHS-NTW-2: Continue to support diagnostic capacity building of laboratories in the Mahajanga Region for bacteriology testing to identify priority pathogens	Benchmark 7.1	Completed	
MDG-GHS-NTW-2.1: Conduct a supportive supervision visit and workshop to continue to strengthen the pre-analytical phases--specimen referral, packaging, transport--in the Boeny Region		Completed	<p>In October 2022, IDDS worked with the United States Agency for International Development (USAID) in Madagascar to prepare for the pre-analytic capacity building of the Boeny laboratory. During the meeting sessions, IDDS developed a supervision schedule for four basic health centers in Boeny Region and introduced the biologists who would support the Boeny Regional Health Department.</p> <p>IDDS provided financial support for supervision visits held at four basic health centers between November 7 and 11, 2022, to support the Boeny Regional Health Department. IDDS also provided financial support to a workshop held on December 16, 2022, to report on the results from the supervision visits and strengthen the capacity of other health facilities in Boeny Region. During the workshop, IDDS supported a training on pre-analytical phases, specimen referral, packaging, and transport on December 16, 2022, during which 44 laboratory professionals (such as biologists and laboratory technologists) (24 female) were trained.</p>

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
			<p>Following the exchange and training workshop on the pre-analytical phase of sample collection for SARS-COV-2 polymerase chain reaction testing, which took place in June 2021, IDDS provided financial support to a follow-up evaluation program implemented in the field to assess the current state of knowledge and practices regarding the pre-analytical phase by health care personnel at the basic health care facilities in Boeny Region. For this activity, a survey was conducted in the field, not only for COVID-19, but also for other infectious diseases with epidemic potential in Madagascar. Four second-level public Basic Health Centers were targeted for a pilot, and a unique monitoring framework was established to identify common priority problems for each Basic Health Center. IDDS organized a feedback workshop on December 16, 2022, in Mahajanga to share the results obtained and to establish an action plan for strengthening the pre-analytical phase in these Basic Health Centers.</p> <p>One of these four second-level public Basic Health Centers also received a 4-day training (December 13- 16, 2022) for five lab staff (4 female) as part of the implementation of bacteriological analyses. IDDS provided the financial support for this training.</p>
MDG-GHS-NTW-2.2: Provide basic equipment and reagents to strengthen laboratory capacity		Completed	IDDS handed over basic laboratory equipment (such as a McFarland Densitometer, slide drying hotplates, slide staining trays, and microscope slide racks) and laboratory consumables (such as blood culture bottles, selenite cystine broth, and antibiotic discs for antibiotic susceptibility testing) to CHU PZaGa and CHUMA laboratories in December 2022.

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
(PZaGa and CHUMA labs)			
MDG-GHS-NTW-3: Support the implementation of the National Laboratory Strategic Plan (NLSP)	Benchmark 7.3	Completed	
MDG-GHS-NTW-3.2: Organize one-day monthly meetings and two 1/2 to 1-day workshops to follow up on NLSP implementation		Completed	<p>IDDS provided financial and logistics support to the Ministry of Health to organize a workshop to launch the National Strategic Plan for the Development of Laboratories 2021-2025 on October 21, 2022. The purpose of this workshop was to officially present the National Strategic Plan for the Development of Laboratories as well as to mobilize technical and financial partners to position themselves to participate in one or more of the activities described in the plan according to their areas of work. The discussions focused on the activities to be implemented, the amounts allocated, and the gaps and positioning of the technical and financial partners.</p> <p>The workshop on the National Strategic Plan for the Development of Laboratories 2021-2025 was successful in raising awareness and disseminating the document. Many technical and financial partners, including the Global Fund, IDDS, Mérieux Foundation, Pivot, Population Services International, World Bank, and USAID, identified activities in which they could potentially contribute. In response, the <i>Service des Laboratoires</i> in the Directorate of Pharmacy, Laboratories and Traditional Medicine has committed to following up with these</p>

<b>Madagascar GHS Work plan period of performance: March 1, 2022–March 31, 2023</b> <b>Work plan approval date: As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.</b>			
<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
			partners and beginning the implementation of the plan, which has now been completed, officially approved, and presented to all stakeholders.
MDG-GHS-SURV-2: Improve coordination of IDSR by supporting review and dissemination of the monthly integrated disease surveillance and response (IDSR) bulletin	Benchmark 9.3	Completed	
MDG-GHS-SURV-2.1: Support the organization of a two-day workshop to review IDSR bulletin once a month		Completed	<p>Real-time detection of alerts and potential outbreaks followed by prompt responses are the basis of effective surveillance. Twenty-nine diseases and events of public health importance are targeted for integrated disease surveillance and response (IDSR) surveillance. Data reporting for disease surveillance are provided by health facilities using either the paper version of the weekly surveillance report or electronically through tablets. IDDS collaborated with the Directorate of Health Monitoring, Epidemiological Surveillance, and Response to develop and review two monthly IDSR bulletins and disseminate them electronically to stakeholders, thus improving the coordination of IDSR.</p> <p>IDDS organized workshops on the following dates:</p> <ul style="list-style-type: none"> <li>• October 27 and 28</li> <li>• November 24 and 25</li> </ul>

**Madagascar GHS Work plan period of performance: March 1, 2022–March 31, 2023**

**Work plan approval date: As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.**

Activity	IHR benchmark	Status	Activity implementation updates
			<ul style="list-style-type: none"> <li>December 29 and 30</li> </ul> <p>To develop the IDSR bulletin, representatives from various directorates of the Ministry of Health involved in the surveillance system attended the workshops. Workshop attendees included the following: Directorate for the Fight against Communicable Diseases; Directorate of Studies, Planning and Information System; and partners (Institut Pasteur de Madagascar, USAID mission, USAID/President’s Malaria Initiative MEASURE Malaria, USAID/ACCESS, Fondation Merieux, World Health Organization).</p> <p>The aim of this bulletin is to communicate results of the weekly monitoring of health events and diseases to the various public health actors, such as health professionals at all levels of the health system and institutional or academic partners of Directorate of Health Monitoring, Epidemiological Surveillance, and Response (e.g., Institut Pasteur de Madagascar, USAID mission, USAID/President’s Malaria Initiative MEASURE Malaria, USAID/ACCESS, Fondation Merieux, World Health Organization, and Antananarivo University), so they can visualize trends, make evidence-based decisions, and carry out public health actions. The bulletin contains six sections: performance reporting (from the health facility to the health district and from the health district to the central level), alerts and investigations, IDSR at the health facility level, IDSR at the hospital level, border surveillance and vigilance, and health surveillance.</p>

Malawi TB Work plan period of performance: February 1, 2022–May 21, 2023		
Activity	Status	Activity implementation updates
Malawi-TB-NTW-1: Assessment of TB Testing Access and Demand	In progress	
Milestone-NTW-1.1: Conduct Laboratory Network Analysis	In progress	<p>IDDS collaborated with the National Tuberculosis and Leprosy Elimination Program (NTLEP) to develop a master facility list to inform the ongoing laboratory network analysis and to consolidate other required documentation, including a list of GeneXpert (GX) facilities and inventory of GX machines, including the number of modules, a list of X-ray facilities, a distribution plan for 50 GX machines that the NTLEP is procuring, the Malawi census report, and testing statistics for GX, among others. Through the same NTLEP collaboration, IDDS is developing a scope of work for the laboratory network spatial analysis with detailed guiding questions.</p> <p>IDDS, NTLEP and the National TB Reference Laboratory continue to hold regular weekly meetings to clean the various data documents and obtain more data as needed before the actual analysis. The laboratory network analysis report is expected to be completed by FY 2023 Q3.</p>
Milestone-NTW-1.2: Conduct Diagnostic Network Assessment	In progress	<p>Following the diagnostic network assessment (DNA) self-assessment exercise held in FY 2022 Q4, IDDS, in collaboration with NTLEP, hosted a virtual dissemination meeting of the findings on October 25, 2022. A total of 15 participants attended the meeting.</p> <p>IDDS held several DNA planning meetings covering both technical and logistical aspects ahead of the DNA verification visits scheduled for January 2023. Through these meetings, a comprehensive DNA verification program and a site verification itinerary were developed and agreed upon by the various stakeholders, including NTLEP and the United States Agency for International Development in Malawi. Recruitment of both local and international assessors was completed, and invitation/notification letters were sent to facilities that will be visited during the DNA verification exercise.</p>



Malawi TB Work plan period of performance: February 1, 2022–May 21, 2023		
Activity	Status	Activity implementation updates
		IDDS and NTLEP consolidated policy documents as part of evidence to support the DNA verification exercise.
Malawi-TB-NTW-2: Increase Diagnostic Capacity	In progress	
Milestone-NTW-2.1: Revise diagnostic algorithm to use molecular diagnostic tools as the initial test	In progress	IDDS participated in an NTLEP-convened TB guideline review with stakeholders in Liwonde from November 21 to 25, 2022. The revised algorithm awaits NTLEP's approval. Following the approval, IDDS will update its training package to incorporate the approved algorithm and support the dissemination of the revised algorithm at the three IDDS-supported sites (i.e., Bwaila, Mangochi, and Chikwawa hospitals).
Milestone-NTW-2.2: Introduce Truenat as a first-line molecular diagnostic tool	In progress	IDDS worked with NTLEP and the National TB Reference Laboratory to select four sites (Nthalire, Ngokwe, Mayani, and Kawamba) to install Truenat machines. IDDS is adapting super-user and end-user training materials from other countries that have introduced Truenat to the Malawi country context. IDDS procured four Truenat machines, which are expected to be delivered in FY 2023 Q2.
Milestone-NTW-2.3: Introduce/expand access to artificial intelligence software to existing digital X-ray instruments	In progress	<p>Refurbishments of the X-ray facility at Ekwendeni Mission Hospital began on October 12, 2022, and by the end of FY 2023 Q1, an estimated 40 percent of the work has been completed. However, the work was halted due to unavailability of materials, such as the lead doors and lead windows. The date of completion is yet to be determined due to unavailability of materials in the country.</p> <p>IDDS procured and delivered to Ekwendeni Mission Hospital the Delft Light Full Kit ultra-portable kit X-ray machine, which will be installed when refurbishments are complete.</p>
Milestone-NTW-2.4: Expand and institutionalize stool-specimen collection,	In progress	The National Health Sciences Research Committee provided NTLEP with a certificate of ethics approval on October 30, 2022, for the study to assess stool-based GeneXpert MTB/RIF as an alternative diagnostic test of pulmonary TB in children. NTLEP issued a study start date of November 18, 2022. Between the National Health Sciences Research Committee approval

Malawi TB Work plan period of performance: February 1, 2022–May 21, 2023		
Activity	Status	Activity implementation updates
processing and testing for pediatric TB		<p>date and the start date, IDDS collaborated with NTLEP to procure and distribute the necessary consumables, data collection tools, and barcodes to the eight study sites.</p> <p>In the first week of implementation (November 28–December 2, 2022), IDDS supported logistics and technical input through site visits and mentorship. Study teams were mentored on the job and supported on preliminary bottlenecks so they could begin the study. A total of 53 facility staff (13 female) were mentored. A follow-on supportive supervision visit was conducted at all eight sites from December 18 to 22, 2022, to further support the study teams and verify submitted data. As of December 15, 2022, all study sites had begun the study, and 35 stool specimens have been processed, with 4 <i>Mycobacterium tuberculosis</i> cases and 2 rifampicin-resistant cases detected.</p> <p>IDDS also procured and delivered 1,000 GX Ultra cartridges to NTLEP to support the ongoing study on simple one-step stool processing method to test stool specimens for pediatric TB diagnosis.</p>
Milestone-NTW-2.5: Bi-directional testing for COVID-19 and TB	Not started	Planning is in progress, and the activity will be implemented in three districts: Chikwawa, Mangochi, and Lilongwe beginning in FY 2023 Q2.
Malawi-TB-NTW-3: Strengthen Existing TB Diagnostic Systems	In progress	
Milestone-NTW-3.1: Support for new rapid molecular diagnostic instruments	In progress	Through Core TB funds, IDDS procured three GeneXpert 10-color machines, which arrived in-country in December 2022. IDDS also procured four Truenat machines, which are expected to be delivered in FY 2023 Q2. IDDS is adapting both GX and Truenat training materials for super-users and end-users. The refresher training for the GX super-user cohort will coincide with the installation of the machines.

Malawi TB Work plan period of performance: February 1, 2022–May 21, 2023		
Activity	Status	Activity implementation updates
Milestone-NTW-3.2: Improve specimen referral network	In progress	Planning is in progress for this activity. A meeting with NTLEP stakeholders is expected to take place in FY 2023 Q2 to move forward with implementation of this activity.
Milestone-NTW-3.3: Build sustainable mechanisms for diagnostic network improvement	In progress	The planned biweekly calls did not begin in FY 2023 Q1, because other key partners were engaged in competing priorities. However, IDDS plans to host review meetings with TB Local Organizations Networks implementing partners and United States Agency for International Development in Malawi colleagues to identify key opportunities for capacity building in FY 2023 Q2.
Malawi-TB-DR-CAP-1: Improve Access to and Availability of Drug-susceptibility Testing	In progress	
Milestone-DR-CAP-1.1: Increase testing for resistance to existing drugs	In progress	See update under NTW-3.1.

**Mali GHS****Work plan period of performance: October 1, 2022–July 31, 2023****Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
MLI-GHS-NTW-1: Map national diagnostic facilities and their capacities	Benchmark 7.3	Not started	
MLI-GHS-NTW-1.1: Complete the laboratory capacity mapping by collecting data in the remaining regions (Mopti, Gao, Timbuktu, Kidal, Taoudenit, and Menaka) (Carryover activity from FY 2022)		Not started	Due to contractual delays and challenges, there are no updates for FY 2023 Q1, and the activity has been pushed to FY 2023 Q2.
MLI-GHSA-NTW-1.2: Hold a data verification and validation session in Mopti with data collectors before uploading onto the ASLM platform (Carryover activity from FY 2022)		Not started	This activity will start after data collection (NTW-1.1) is completed.

**Mali GHS** Work plan period of performance: October 1, 2022–July 31, 2023

Work plan approval date: November 16, 2022

Activity	IHR benchmark	Status	Activity implementation updates
MLI-GHS-NTW-1.3: Support attendance cost of 3 government staffs (from Direction de la Pharmacie et du Medicament [DPM] and Institut National de Santé Publique [INSP]) to the regional training workshop for lab capacity mapping data analysis through ONA platform (workshop location TBD) (Carryover activity from FY 2022)		Not started	This activity is planned for FY 2023 Q2.
MLI-GHS-NTW-2: Strengthen diagnostic equipment systems (procurement, availability, operating status, and preventive maintenance)	Benchmark 7.3	In progress	
MLI-GHS-NTW-2.1: Work with the equipment committee		In progress	IDDS provided technical and financial support to the <i>Institut National de Sante Publique</i> (INSP, or National Institute of Public Health) to hold two meetings (in October and December 2022) of the Multisectoral Committee for Laboratory

**Mali GHS**

**Work plan period of performance: October 1, 2022–July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
to support the development or revision of national equipment policies, guidelines, and standard operating procedures (SOPs) through quarterly meetings of the multi-sectoral committee for laboratory system strengthening (Continuation of activities from FY 2020, FY 2021, and FY 2022)			<p>System Strengthening. The meeting participants were the 15 committee members from the key ministries of the One Health platform, including INSP (Ministry of Health), University Clinical Research Center, Laboratoire National de la Sante, Centre Hospitalier-Universitaire Point G, Laboratoire de Biologie Moleculaire Appliquee, and Centre national de transfusion sanguine among others. The objectives of the meetings were to discuss the following: (1) advocacy preparation for the establishment of the National Laboratory Directorate; (2) presentation of a quality control process for concentrates of red blood cells at the national blood transfusion center; and (3) laboratory equipment management challenges in the hospitals of Sikasso, Mopti, and Ségou.</p> <p>In FY 2023 Q2, IDDS will continue to support the bimonthly meetings of the Multisectoral Committee for Laboratory System Strengthening by providing technical and financial support.</p>
MLI-GHS-NTW-2.2: Develop a costed plan for identified equipment needs (maintenance contracts, equipment repair, and/or procurement) during a 3-day workshop		Not started	This activity is planned for FY 2023 Q2.

**Mali GHS**

**Work plan period of performance: October 1, 2022–July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
(Carryover activity from FY 2022)			
MLI-GHS-NTW-3: Strengthen support for the accreditation process for the serology section at the INSP and the laboratory of Segou Regional Hospital	Benchmark 7.4	In progress	
MLI-GHS-NTW-3.1: Organize an assessment and coaching visit for the Quality Management System (QMS) international expert to INSP and Ségou Hospital (Carryover activity from FY 2022)		In progress	In FY 2022 Q4, IDDS shared with INSP and Ségou Hospital the draft terms of reference for the quality management system (QMS) consultant assessment and coaching visit. Due to contractual delays and challenges, there are no updates for FY 2023 Q1, and the activity has been pushed to FY 2023 Q2.
MLI-GHS-NTW-3.2: Conduct two rounds of quarterly visits to INSP and Segou Regional Hospital Laboratory to follow		Not started	This activity will take place after the QMS consultant completes the assessment and coaching visits.

**Mali GHS**      **Work plan period of performance: October 1, 2022–July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
up the implementation of the international QMS expert assessment recommendations (Carryover activity from FY 2022)			
MLI-GHS-NTW-3.3: Support INSP to finalize the QMS documents during a workshop with participation of the Centre d'Infectiologie Charles Merieux		Completed	IDDS provided technical (writing) and financial support to INSP to finalize the quality manual for the accreditation process during a workshop on December 6–9, 2022, held in Fana and Koulikoro regions. Fifteen participants attended, and consisted of technicians, lab managers, directorate representatives from INSP, and two central laboratories with accreditation process experience (Centre d'Infectiologie Charles Merieux and Laboratoire National de la Sante). Two IDDS laboratory specialists also participated in the workshop. The document will be used as a reference for quality management at INSP.
MLI-GHS-SURV-1: Provide technical and financial support for community-based surveillance (CBS) implementation through support to districts already covered (Kadiolo, Kati, Kangaba, Sikasso and Kolondieba)	Benchmark 9.1	In progress	



**Mali GHS****Work plan period of performance: October 1, 2022–July 31, 2023****Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
<p>MLI-GHS-SURV-1.1: Support the communication costs (SMS and internet fees) of CBS actors in the health districts of Kadiolo, Kati, Kangaba, Sikasso and Kolondieba (Continuation of activities from FY 2021 and FY 2022)</p>		In progress	<p>IDDS continued to monitor the quality of the data collected from the health districts of Kadiolo, Kati, and Kangaba.</p> <p>Across the 5 IDDS-supported districts (Kadiolo, Kangaba, Kati, Kolondieba, and Sikasso), 523 signals were received, and all were verified. A total of 14,648 daily SMS were sent by community health workers across the five supported districts in FY 2023 Q1. Reporting rates (percentage of expected daily messages sent) in FY 2023 Q1 for these districts are as follows:</p> <ul style="list-style-type: none"> <li>• Kadiolo: 66 percent</li> <li>• Kangaba: 79 percent</li> <li>• Kati: 45 percent</li> <li>• Kolondieba: 42 percent</li> <li>• Sikasso: 26 percent</li> </ul> <p>In FY 2023 Q2, IDDS will continue to monitor the quality of data reported from the five health districts.</p>
<p>MLI-GHS-SURV-1.2: Print and hand over CBS data collection tools to the health districts covered (Continuation of activities from FY 2022)</p>		In progress	<p>IDDS initiated solicitation of vendors for the printing of community-based surveillance data collection tools. IDDS received three quotes from vendors. The purchase order was issued on December 21, 2022, and the delivery is planned for FY 2023 Q2.</p> <p>In FY 2023 Q2, IDDS will hand over the tools to the various health districts.</p>
<p>MLI-GHS-SURV-1.3: Conduct 2 rounds of</p>		Not started	This activity is planned for FY 2023 Q2.

**Mali GHS** Work plan period of performance: October 1, 2022–July 31, 2023

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Activity	IHR benchmark	Status	Activity implementation updates
supportive supervision visits to CBS activities implementers in the health districts of Sikasso, Kolondieba, Kadiolo (Sikasso region) and Kati, Kangaba (Koulikoro region) (Continuation of activities from FY 2022)			
MLI-GHS-SURV-2: Strengthen Integrated Disease Surveillance and Response (IDSR) geographical areas that have underperforming surveillance reporting and support the updating of national guides	Benchmark 9.1	Not started	
MLI-GHS-SURV-2.1: Support health districts in Ségou region to organize two rounds of		Not started	The first round of this activity in FY2023 is planned for Q2.

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**Work plan period of performance: October 1, 2022–July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
quarterly IDSR supportive supervision visits to underperforming community health centers (Continuation of activities from FY 2022)			
MLI-GHS-SURV-2.2: Support training sessions of community health center staff in the use of the new IDSR guideline in the health districts covered with community- based surveillance: Sikasso, Kolondieba, Kadiolo (Sikasso region) and Kati, Kangaba (Koulikoro region)		Not started	The training sessions are planned for FY 2023 Q2.
MLI-GHS-SURV-3: Improve sharing of real-	Benchmark 9.3	In progress	

<b>Mali GHS</b> <b>Work plan period of performance: October 1, 2022–July 31, 2023</b> <b>Work plan approval date: November 16, 2022</b>			
<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
time monitoring data and information			
<p>MLI-GHS-SURV-3.1: Provide technical assistance to the DGSHP to develop and disseminate IDSR annual and monthly bulletins to stakeholders at central, regional, and district levels (Continuation of activities from FY 2022)</p>		In progress	<p>IDDS provided financial, technical (writing), and coordination support to the General Directorate of Health and Public Hygiene (DGSHP) to produce three integrated disease surveillance and response bulletins (for September, October, and November 2022). All bulletins were published on the IDDS-developed surveillance website.</p>
<p>MLI-GHS-SURV-3.2: Support DGSHP to update and monitor the developed web-based online platform for surveillance document storage and sharing (Continuation of</p>		In progress	<p>IDDS supported the DGSHP to hold the second session of online training on December 2, 2022, for surveillance officers in regional health directorates, health districts, and the DGSHP surveillance section on the use of the web-based platform developed with IDDS support for surveillance information and document sharing. A total of eight government staff (three female) were trained in the use of the site.</p> <p>In FY 2023 Q2, IDDS will continue to provide technical support (as needed) to government staff on the use of the website.</p>

**Mali GHS**

**Work plan period of performance: October 1, 2022–July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
activities from FY 2022)			

**MENA****Work plan period of performance: October 1, 2021–September 30, 2022****Work plan approval date:** As of December 31, 2022, there has been no formal extension of the FY 2022 work plan. These updates relate to the completion of FY 2022 activities.

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-2: Finalize the IDDS MENA DNA tool	In progress	
NTW-2.1: Pilot assessment to validate the IDDS developed MENA DNA tool in one selected MENA country	In progress	<p>IDDS completed translation of the Diagnostic Network Assessment (DNA) tool to French and Arabic and is developing an electronic version using Airtable and SurveyCTO for the pilot assessment. Key features include the ability to select the language and the level of the diagnostic network so that only relevant questions are selected, to improve efficiency and user experience. Furthermore, the tool will incorporate the ability to score each question and provide a summary score for each capacity of the TB diagnostic network assessed.</p> <p>IDDS will plan pilot DNA assessments in two of the MENA countries, Morocco and Tunisia, which were chosen in collaboration with the United States Agency for International Development (USAID) in FY 2022 Q4. Lessons learned and best practices from the pilots will be incorporated into the final MENA DNA tool. The pilot implementation of the DNA tool is planned for early 2023, pending confirmation from the USAID MENA Bureau.</p>
NTW-2.2: Perform MENA DNA assessment using finalized tool in selected USAID priority countries	Not started	This activity is expected to begin after the USAID MENA Bureau provides its approval.
NTW-3: Perform MENA DNA assessment using finalized tool in selected USAID priority countries	Not started	

**MENA****Work plan period of performance: October 1, 2021–September 30, 2022****Work plan approval date:** As of December 31, 2022, there has been no formal extension of the FY 2022 work plan. These updates relate to the completion of FY 2022 activities.

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-3.1: Conduct MENA DNA assessments in selected countries	Not started	IDDS is awaiting approval from the USAID MENA Bureau to proceed with the two DNA assessments.
NTW-3.2: Provide detailed MENA assessment report	Not started	This activity cannot begin until NTW-3.1 is completed.

**Philippines GHS****Work plan period of performance: October 1, 2022, to July 31, 2023****Work plan approval date: December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-1: Strengthen molecular diagnostic capacity in human and animal health laboratories	Benchmark 7.3	Not started	
NTW-1.1: Coordination meetings with the Department of Health Office for Health Laboratories (DoH-OHL), Research Institute for Tropical Medicine (RITM), Department of Agriculture, Bureau of Animal Industry, CDC Philippines, and WHO to discuss assessment and capacity building strategies and regional priorities		Not started	<p>In FY 2023 Q2, IDDS will conduct coordination meetings with the Department of Health to present the proposed GHS activities and identify other relevant stakeholders and local partners. These meetings will involve the following:</p> <ul style="list-style-type: none"><li>• Finalizing coordination and collaboration arrangements for technical assistance provided nationally</li><li>• Identifying and finalizing priority sites and recipients of technical assistance and support</li></ul>
NTW-1.2: Conduct assessment of human and animal health		Not started	Implementation of NTW-1.2 activities is linked with the completion of NTW-1.1 deliverables.



**Philippines GHS****Work plan period of performance: October 1, 2022, to July 31, 2023****Work plan approval date: December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
laboratories in priority regions			
NTW-1.3: Develop and implement customized capacity building plans for localized twinning program to improve diagnostic capacity including creation of joint opportunities in improving expertise of selected subnational laboratories		In progress	IDDS is drafting a job description and scope of work for the consultant for the human and animal health laboratory twinning program implementation (NTW-1.3). Implementation will start when the NTW-1.2 sub-activity is completed.
NTW-1.4: Demonstrate localized twinning program for the human and animal health laboratories		Not started	Implementation of NTW-1.4 activities is linked with the completion of NTW-1.3 deliverables.
NTW-1.5: Procure reagents for molecular diagnostic training purposes		Not started	Implementation of NTW-1.5 activities is linked with the completion of NTW-1.3 deliverables.

**Philippines GHS****Work plan period of performance: October 1, 2022, to July 31, 2023****Work plan approval date: December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-1.6: Develop and disseminate information, education, and communication (IEC) materials for localized twinning program		Not started	Implementation of NTW-1.6 activities is linked with the completion of NTW-1.3 deliverables.
NTW-2: Build capacity of selected subnational laboratory personnel on biosafety and biosecurity	8.1	Not started	
NTW-2.1: Conduct coordination meetings with the University of the Philippines' National Training Center for Biosafety and Biosecurity (UP-NTCBB) and DoH-OHL		Not started	Implementation of NTW-2.1 activities is linked with the activities of NTW-1.1. IDDS will conduct coordination meetings in FY 2023 Q2 with the Department of Health, the Research Institute for Tropical Medicine, the University of the Philippines' National Training Center for Biosafety and Biosecurity, the World Health Organization, and other stakeholders to determine priority sites and technical assistance recipients for biosafety and biosecurity.
NTW-2.2: Conduct training on biosafety and biorisk management for subnational		Not started	Implementation of NTW-2.2 activities is linked with the completion of NTW-1.1 and NTW-2.1 deliverables.

**Philippines GHS**

**Work plan period of performance: October 1, 2022, to July 31, 2023**

**Work plan approval date: December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
laboratory personnel in collaboration with the UP-NTCBB			
NTW-3: Provide support to finalize the Joint Administrative Order of the Department of Health and the Department of Agriculture	Benchmark 7.3	Not started	
NTW-3.1: Coordination meetings with the DoH-OHL, Epidemiology Bureau, Department of Agriculture, WHO, CDC Philippines, DTRA, and Global Fund		Not started	Implementation of NTW-3.1 activities is linked with the completion of NTW-1.1 deliverables.  IDDS is drafting a job description and scope of work for a senior technical consultant for policy development.
NTW-3.2: Conduct workshop to review and update the Joint Administrative Order		Not started	Implementation of NTW-3.2 activities is linked with the completion of NTW-1.1 and NTW-3.1 deliverables.

**Philippines GHS**

**Work plan period of performance: October 1, 2022, to July 31, 2023**

**Work plan approval date: December 6, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
NTW-3.3: Consolidate workshop output and finalize the Joint Administrative Order		Not started	Implementation of NTW-3.3 activities is linked with the completion of NTW-3.2 deliverables.

**Senegal GHS**

Work plan period of performance: October 1, 2022 – July 31, 2023

Work plan approval date: November 16, 2022

Activity	IHR benchmark	Status	Activity implementation updates
SEN-GHS-NTW-1: Strengthen the antimicrobial resistance (AMR) national surveillance system	Benchmark 3.2	Not started	
SEN-GHS-NTW-1.1: Support the Directorate of Laboratories (DL) to designate officially AMR National Reference Laboratory (AMR-NRL) and sentinel sites involved in AMR surveillance		Not started	This activity is expected to start in FY 2023 Q2. IDDS initiated discussion with the Directorate of Laboratories (DL) of the Ministry of Health for the identification/selection of the AMR National Reference Laboratory (AMR-NRL) and the sentinel sites within the national diagnostic network.
SEN-GHS-NTW-1.2: Establish/Improve the national external quality assessment (EQA) program under the leadership of the DL		Not started	This activity is expected to start in FY 2023 Q2.
SEN-GHS-NTW-2: Strengthen quality management systems	Benchmark 7.4	Not started	

**Senegal GHS****Work plan period of performance: October 1, 2022 – July 31, 2023****Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
(QMS) in biomedical laboratories			
SEN-GHS-NTW-2.1: Strengthen QMS in biomedical laboratories		Not started	This activity is expected to start in FY 2023 Q2.
SEN-GHS-Surv-1: Strengthen real time surveillance	Benchmark 9.1	Not started	
SEN-GHS-SURV-1.1: Support the implementation of the events-based surveillance (EBS) system		Not started	This activity is expected to start in FY 2023 Q2. IDDS has had discussions with the Directorate of Prevention (DoP) to agree on the methodology for implementing these sub-activities. The DoP is developing the terms of reference to implement the activities.
SEN-GHS-SURV-1.2: Support the Directorate of Prevention (DP) to scale up the Senegalese Syndromic Sentinel Surveillance network (4S network) Installation of two new sites		Not started	This activity is expected to start in FY 2023 Q2. IDDS has had discussions with the DoP to agree on the methodology for implementing these sub-activities. The DoP is developing the terms of reference to implement the activities.

**Senegal GHS**

**Work plan period of performance: October 1, 2022 – July 31, 2023**

**Work plan approval date: November 16, 2022**

<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
SEN-GHS-SURV-1.3: Organize an annual meeting to monitor surveillance activities of the 2 new sentinel sites and share lessons learned for improvement		Not started	This activity will start after SEN-GHS-SURV-1.2 is completed. This activity is expected to start in FY 2023 Q3.

<b>Tanzania TB</b> <b>Work plan period of performance: October 1, 2021–September 30, 2022</b> <b>Work plan approval date:</b> As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.		
<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
TZA-TB-NTW-1: Reinforce Tanzania TB Diagnostic Network	In progress	
NTW-1.1: Strengthen the capacity and quality of testing in four zonal TB laboratories	In progress	<p>In October 2022, IDDS provided financial, technical, and logistic support to enable 30 National TB and Leprosy Program (NTLP), Central TB Reference Laboratory, and zonal TB laboratory staff, staff from academic and research institutions, and staff from TB laboratory implementing partners to participate in a TB laboratory technical working group meeting, held in Morogoro. IDDS provided technical advice during the meeting discussion, venue arrangement, and printing of the meeting agenda. During this meeting, the ultra-cartridges evaluation report and recommendations were presented to TB stakeholders for their awareness and buy-in.</p> <p>In FY 2023 Q2, IDDS will follow up on the implementation of the proposed action items aimed at strengthening the capacity and quality of testing at the zonal TB laboratories and across the country's TB diagnostic network.</p>
NTW-1.4: Support introduction of new TB diagnostic technologies	In progress	<p>IDDS trained 26 staff (4 female) from the National TB and Leprosy Program, Central TB Reference Laboratory, the Ministry of Health, and some GeneXpert super-users and implementing partners as future trainers of trainees on TB data analysis and use through the Aspect platform, which can also be applied to new diagnostic technologies such as Truenat. The training took place in Arusha from October 6 to 8, 2022.</p> <p>In October 2022, IDDS disseminated the report on the findings of the GeneXpert ultra-cartridges evaluation and provided recommendations to TB stakeholders, as described under NTW-1.1. This activity was pushed back from FY 2022 to FY 2023 Q1 due to the unavailability of targeted key stakeholders.</p>



**Tanzania TB****Work plan period of performance: October 1, 2021–September 30, 2022****Work plan approval date:** As of December 31, 2022, the FY 2023 work plan was pending approval. These updates relate to completion of FY 2022 activities.

<b>Activity</b>	<b>Status</b>	<b>Activity implementation updates</b>
		In FY 2023 Q2, IDDS will conduct a follow-on of the super-user training to train Truenat end users and support the installation of Truenat instruments in selected sites in Tanzania. This activity was pushed back from FY 2023 Q1 because the Ministry of Health adopted a new training model in which the super-users training precedes the end users training. IDDS will provide support for external quality assessment enrollment and supervision for all 30 facilities after the trainings and installation of instruments in the selected sites are completed.

Activity	IHR benchmark	Status	Activity implementation updates
TZA-GHS-NTW-I: Work with government agencies to support the national diagnostics supply chain, ensuring essential, quality-assured microbiology commodities are available at four IDDS-supported antimicrobial resistance (AMR) surveillance sites to enable uninterrupted detection of AMR at the sites	Benchmark 3.2	In progress	
TZA-GHS-NTW-I.1: Provide technical assistance for managing microbiology commodities to ensure AMR surveillance and diagnostic services are uninterrupted		In progress	<p>IDDS collected information on monthly stock status from Morogoro Regional Referral Hospital (RRH) and Maweni RRH. IDDS also advocated to the Assistant Director of Diagnostic Services to fast-track the inclusion of antimicrobial resistance (AMR) commodities into the Medical Stores Department catalogue. The official request letter will be written and sent to the relevant government authorities to request the inclusion of the commodities into the Medical Stores Department catalogue.</p> <p>In FY 2023 Q2, IDDS will use the information collected on monthly stock status to advise the IDDS-supported sites on managing supplies to avoid stockouts and interpreting test results.</p>

Tanzania GHS

Work plan period of performance: October 1, 2022 – July 31, 2023

Work plan approval date: November 16, 2022

Activity	IHR benchmark	Status	Activity implementation updates
TZA-GHS-NTW-I.2: Conduct bi-annual onsite mentorship programs and integrated quarterly supportive supervision at the four IDDS-supported laboratories, with a focus on supply chain and inventory management for laboratory supplies required for AMR testing		Not started	IDDS will conduct this activity in FY 2023 Q2. In Q2, IDDS will conduct the first round of on-site mentorship and supportive supervision visits to the four IDDS-supported laboratories.
TZA-GHS-NTW-I.3: Conduct training on diagnostic stewardship to engage a hospital-level multi-cadre approach to implement AMR surveillance and infection prevention and control, and ensure stewardship activities link and		Not started	IDDS will conduct this activity in FY 2023 Q3.

Tanzania GHS

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Activity	IHR benchmark	Status	Activity implementation updates
complement each other			
TZA-GHS-SURV-I: Enhance antimicrobial susceptibility testing performance and AMR data collection, analysis, and reporting on urine, blood, and wound specimens at IDDS-supported sites	Benchmark 3.2	In progress	
TZA-GHS-SURV-I.1: Provide supportive supervision and onsite mentorship, in collaboration with USAID Medicines, Technologies, and Pharmaceutical Services, to holistically address AMR surveillance, infection prevention and control, and stewardship interventions to		Not started	IDDS will conduct this activity in FY 2023 Q2. In FY 2023 Q2, IDDS will collaborate with the United States Agency for International Development's Medicines, Technologies, and Pharmaceutical Services Program and the Ministry of Health to conduct supportive supervision using the Afya supportive supervision tool to monitor AMR surveillance, infection prevention and control, and stewardship interventions at the IDDS-supported sites and use the findings to enhance impact and ownership of AMR surveillance data.

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Activity	IHR benchmark	Status	Activity implementation updates
enhance impact and ownership of AMR surveillance data			
TZA-GHS-SURV-I.2: Support AMR data collection, analysis, and reporting from the four site's catchment areas by implementing sensitization and strengthening sample referral mechanisms at lower levels		In progress	<p>In October 2022, IDDS visited one of the catchment areas of Morogoro RRH to collect information on available specimen referral mechanisms (e.g., number of patient or specimens referred, mode of referral) to the testing laboratory and how to strengthen the specimen referral mechanism.</p> <p>In FY 2023 Q2, IDDS will visit the catchment areas of the remaining three IDDS-supported sites to sensitize the local government's health management teams on AMR specimen referral to the testing laboratories and the need for collaborative efforts to strengthen the referral mechanisms.</p>
TZA-GHS-SURV-I.3: Support national AMR coordination mechanisms including reviewing the National Action Plan (NAP) for AMR and the National AMR Surveillance Framework to ensure IDDS's contribution and visibility is		In progress	<p>In October 2022, IDDS provided technical assistance and participated in the National Action Plan (NAP) stakeholder validation meeting held in Dar es Salaam. This validation was a necessary step to the approval and launching of the document by the Chief Medical Officer. The launching took place in the meeting held in Dar es Salaam on November 22, 2022.</p> <p>In November 2022, IDDS collaborated with partners and the Ministry of Health to launch World Antimicrobial Awareness Week and participated in the launch event in Dodoma.</p> <p>IDDS provided financial and logistic support (e.g., transport and accommodation) to enable staff from the IDDS-supported sites to participate in</p>

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Activity	IHR benchmark	Status	Activity implementation updates
<p>sustained. This will be accomplished through support for one multi-sectoral coordinating committee meeting and two national AMR surveillance technical working group meetings (one human health sub-group meeting and one animal health sub-group meeting).</p>			<p>and showcase IDDS's work at the National AMR Symposium in November 2022 in Dar es Salaam.</p> <p>The project provided financial support to print 10 copies of the new NAP for AMR (2023-2028) for use at the World Antimicrobial Awareness Week launch event and 250 copies of AMR books for use at the National AMR Symposium.</p> <p>In FY 2023 Q2, IDDS will provide technical assistance to develop an AMR surveillance protocol for the implementation of the NAP on AMR.</p>
<p>TZA-GHS-SURV-2: Enhance AMR data quality for reporting and use at subnational and national levels, and globally through the Global Antimicrobial Resistance Surveillance System</p>	<p>Benchmark 3.2</p>	<p>In progress</p>	
<p>TZA-GHS-SURV-2.1: Conduct semi-annual data quality assessment/review at</p>		<p>Not started</p>	<p>IDDS will conduct this activity in FY 2023 Q2. In FY 2023 Q2, IDDS will conduct a refresher training on WHONET AMR data analysis, interpretation, management, presentation, and reporting.</p>

Tanzania GHS

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Activity	IHR benchmark	Status	Activity implementation updates
the four IDDS-supported sites and facilitate a refresher training on WHONET AMR data analysis, interpretation, management, presentation, and reporting, as needed			
TZA-GHS-SURV-2.2: Conduct quarterly data collection to track progress and demonstrate impact of AMR activities at IDDS-supported sites		In progress	In October 2022, IDDS collected data to track progress and demonstrate the impact of IDDS activities completed at the IDDS-supported sites in FY 2022 Q4.  In FY 2023 Q2, IDDS will collect data on the FY 2023 indicators to track progress and demonstrate the impact of AMR activities.

**Vietnam GHS**      **Work plan period of performance: October 1, 2022–July 31, 2023**  
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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
VNM-GHS-NTW-1: Strengthen the Human Specimen Referral System (SRS)	Benchmark 7.2	In progress	
VNM-GHS-NTW-1.14: Refine the SRS procedures and management at the project sites based on pilot evaluation results		In progress	IDDS summarized Specimen Referral System (SRS) evaluation data on timeliness, biosafety and biosecurity issues, operation cost, and effectiveness of the SRS for the evaluation report. The project also prepared a presentation for meetings with human health sector stakeholders after necessary government approvals have been granted, which are expected in FY 2023 Q3.
VNM-GHS-NTW-1.15: Optimize the specimen data management software to better support the SRS		In progress	IDDS will continue to collect feedback and identify the essential needs and improvements of the specimen data management software from stakeholders.  IDDS continues to provide remote technical support for troubleshooting the system.
VNM-GHS-NTW-1.16: Support refining the specialized specimen transport operation of Nhat Tin logistics (NTL) company for the SRS expansion		In progress	IDDS organized a virtual meeting on December 21, 2022, with the Executive Board of Nhat Tin Logistics (NTL) company to share evaluation results and discuss issues and potential solutions to refine the transportation route and timeliness of delivery for human health facilities in the pilot provinces (Binh Dinh, Thai Nguyen, and Dong Thap). Participants included the chief executive officer and key personnel of NTL and IDDS staff. In this meeting, IDDS and NTL agreed to further customize the services for transporting different types of specimens. NTL also agreed to improve its online information system to streamline the



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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
			process of placing pick-up orders and managing packages containing specimens during transit.
VNM-GHS-NTW-1.17: Continue implementing the pilot SRS in preventive sector, expand it to the curative sector of 3 provinces (Binh Dinh, Dong Thap, Thai Nguyen), monitor and provide technical assistance to sites		In progress	IDDS provided remote technical support for SRS activities in the human health facilities in three provinces (Binh Dinh, Dong Thap, and Thai Nguyen). The support included providing information relevant to specimen transport, advising on the transport time and route to ensure timely transport, and solving problems that occurred during transport.  IDDS continued to collect specimen transportation-related data in the three pilot provinces from October to December 2022.
VNM-GHS-NTW-1.18: Develop the advocacy roadmap with key stakeholders of the Government of Vietnam (GVN) on Social Health Insurance (SHI) coverage of specimen referral costs in the human health curative sector		Not started	IDDS will revise sub-activity NTW-1.18 and submit the revised work plan to the United States Agency for International Development. IDDS will start the implementation of this sub-activity when the revised work plan is approved by the United States Agency for International Development and necessary approvals from the Ministry of Health have been obtained.

<b>Vietnam GHS</b> <b>Work plan period of performance: October 1, 2022–July 31, 2023</b> <b>Work plan approval date: November 16, 2022</b>			
<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
VNM-GHS-NTW-2: Strengthen the Animal SRS	Benchmark 7.2	In progress	
VNM-GHS-NTW-2.12: Refine the SRS procedure and management at the project sites based on pilot evaluation results		In progress	IDDS summarized evaluation data on timeliness, biosafety and biosecurity issues, operation cost, and effectiveness of the SRS for evaluation report, and prepared a presentation for meetings with animal health stakeholders after necessary government approvals have been granted, which are expected in FY 2023 Q3.
VNM-GHS-NTW-2.13: Optimize the specimen data management software to improve the operation of SRS		In progress	IDDS continued to collect feedback and identify the essential needs and improvements for the specimen data management software from stakeholders.  IDDS continued providing remote technical support for the system.
VNM-GHS-NTW-2.14: Support refining the specialized specimen transport operation of Nhat Tin Logistics (NTL) company for the SRS expansion		In progress	IDDS organized a virtual meeting on December 21, 2022, with the Executive Board of NTL to share evaluation results and discuss issues and potential solutions to refine the transportation route and timeliness of delivery for human health facilities in the pilot provinces (Binh Dinh, Thai Nguyen, and Dong Thap). Participants included the chief executive officer and key personnel of NTL and IDDS staff.

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Activity	IHR benchmark	Status	Activity implementation updates
VNM-GHS-NTW-2.15: Continue implementing the pilot SRS for animal health in 3 provinces (Binh Dinh, Dong Thap, Thai Nguyen), monitor and provide technical assistance to sites		In progress	<p>IDDS provided remote technical support to SRS activities, including providing relevant information on specimen transport, advising on the transport time and route to ensure timely transport, and solving problems that occurred during transport.</p> <p>In collaboration with stakeholders at Regional Animal Health Offices (RAHOs), IDDS piloted specimen transport by air. The piloted routes are between the north and south, the north and central, and the central and south regions. Initial results showed that out of 10 packages transported, 6 packages met the lead time of within 24 hours.</p> <p>IDDS continued collecting specimen transportation-related data in Binh Dinh, Dong Thap, and Thai Nguyen from October to December 2022.</p>
VNM-GHS-SURV-1: Increase use of Vietnam Animal Health Information System (VAHIS)	Benchmark 9.3	In progress	
VNM-GHS-SURV-1.7 (continuation from FY22): Operationalize the pilot VAHIS use enhancement plan developed in FY21 in the five provinces (Binh Dinh, Can Tho, Dong Thap, Khanh		In progress	<p>IDDS collaborated with RAHO staff to organize five virtual bimonthly meetings to review use of the Vietnam Animal Health Information System (VAHIS), mentor provincial and district staff in the pilot provinces (Binh Dinh, Can Tho, Dong Thap, Khanh Hoa, and Thai Nguyen), and discuss VAHIS-use related issues. The meeting in Khanh Hoa province took place on November 24, 2022, with 18 (9 female) provincial and district staff mentored. The meeting in Binh Dinh province was organized on November 25, 2022, with 16 (8 female) provincial and district staff mentored. The meeting in Can Tho was held on November 28, 2022, with 8 (2 female) provincial staff mentored. The meeting in Thai Nguyen</p>

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
Hoa, and Thai Nguyen)			<p>province took place on November 29, 2022, with 5 (2 female) provincial staff mentored. The meeting in Dong Thap province took place on November 30, 2022, with 6 (2 female) provincial staff mentored. In the meetings in Khanh Hoa and Binh Dinh provinces, IDDS involved district staff for the first time and provided technical support to them to practice entering animal disease data into the VAHIS demo version. Through the meetings, the local staff realized their errors on VAHIS data entry and learned how to correct them.</p> <p>IDDS provided technical and financial support to the development of the first version of the VAHIS mobile application. IDDS technical support included collecting and summarizing the needs of VAHIS users to develop technical specifications for the VAHIS mobile application based on the site assessments in September 2022. In addition, IDDS organized two virtual technical working group meetings on November 29–30, 2022, to review the functions of the first version of the VAHIS mobile application and provide feedback for its improvement. Participants included 22 people from Thai Nguyen and Dong Thap Sub-Department of Animal Health, RAHOs, IDDS, and an information technology (IT) consultant. Participants provided feedback on the first version of the VAHIS mobile application, and IT experts revised the application based on the collected comments. On December 15, 2022, IDDS organized one more virtual technical working group meeting with seven veterinary epidemiologists from the Department of Animal Health (DAH) and RAHOs, two IDDS staff, and an IT consultant. During this meeting, DAH and RAHO staff provided feedback on the second draft of the VAHIS mobile application.</p>
VNM-GHS-SURV-1.8 (continuation from FY22): Assist RAHOs		In progress	IDDS reviewed animal disease data in the five pilot provinces to prepare for VAHIS quarterly data review meetings. IDDS collaborated with DAH and RAHOs to organize three virtual quarterly meetings on December 27–29, 2022,

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<b>Activity</b>	<b>IHR benchmark</b>	<b>Status</b>	<b>Activity implementation updates</b>
and provincial SDAHs to conduct quarterly data reviews and propose solutions to improve VAHIS reporting timeliness, completeness, and accuracy			to review animal disease data reported in VAHIS in FY 2023 Q1 and the zoonoses situation in IDDS-supported provinces in 2022. Participants from the human health sector from the Centers for Disease Control of Dong Thap, Binh Dinh, and Thai Nguyen provinces also attended these meetings and shared information.
VNM-GHS-SURV-1.9: Extend VAHIS use to district level to enhance animal disease data reporting timeliness, completeness and accuracy in four provinces (Binh Dinh, Can Tho, Khanh Hoa and Thai Nguyen)		In progress	After organizing the first two trainings on VAHIS use to district-level animal health staff in Binh Dinh and Khanh Hoa provinces in September 2022, IDDS and RAHO staff organized bimonthly meetings with district animal health staff in Binh Dinh and Khanh Hoa provinces to practice entering animal disease data into the VAHIS demo system to improve their reporting skills and identify errors for correction before reporting into the official system.
VNM-GHS-SURV-1.10: Advocate for the model for increasing VAHIS use supported by IDDS in 2021-2022 in other provinces in Vietnam		Not started	This activity is planned to start in FY 2023 Q3 and Q4.



Zimbabwe TB Work plan period of performance: July 1, 2021–May 31, 2023		
Activity	Status	Activity implementation updates
ZWE-TB-NTW-1: Strengthen a comprehensive TB diagnostic network with strong underlying health systems	In progress	
NTW-1.1: Increase TB case detection through comprehensive strategies in collaboration with local organizations network in Harare Province	In progress	<p>IDDS conducted mentorship on quality TB testing, equipment maintenance, quality assurance, inventory management, and reporting in the 25 public and private TB laboratories in Harare province. IDDS also started cascading the childhood TB simple one-step (SOS) training through on-site mentorship in Harare and mentored 15 health care workers (HCWs) (7 female) from 6 facilities between November 14 and December 9, 2022.</p> <p>IDDS will train more HCWs in FY 2023 Q2 in all the 25 TB laboratories in Harare province.</p>
NTW-1.2: Strengthen functionality of the GeneXpert network through Driving Xpert Optimization strategy	In progress	<p>IDDS provided technical input at a workshop conducted by the Ministry of Health and Child Care (MoHCC) from December 19 to 23, 2022, in Masvingo through funding from the Global Fund to link the GeneXpert GxAlert/Aspect platform to the District Health Information Software version 2 (DHIS 2) system. The introduction of interfaced GX Aspect, geographic information system, and a DHIS 2 application TB-geographic information system data collection form to the National TB Program will enhance the program performance in eliminating TB disease, through close monitoring of notifications (TB/HIV, multidrug-resistant [MDR]-TB) and tracking of treatment outcomes, as well as contact investigation. GX Aspect is an open-source system that allows push and pull with other platforms. The interfacing of GX Aspect to DHIS 2 results in near real-time monitoring of MDR-TB cases and improves reporting of the MDR-TB cases, which is crucial in the program.</p>

Zimbabwe TB Work plan period of performance: July 1, 2021–May 31, 2023		
Activity	Status	Activity implementation updates
		In FY 2023 Q2, IDDS and the MoHCC will engage SystemOne, which manages the GX Aspect system, on the support required to adopt the recommendations from this workshop.
NTW-1.3: Expand and decentralize TB diagnostic network	In progress	IDDS submitted the Zimbabwe National TB Testing Standard Operating Procedures manual to the Directorate of Laboratory Services for approval in FY 2022 Q4 and submitted it to the Permanent Secretary in the MoHCC for final approval in FY 2023 Q1. The printing and distribution of the manual to the 230 TB laboratories will occur after the document is approved.
NTW-1.4: Reinforce quality in the TB diagnostic network	In progress	No updates in this quarter. In FY 2023 Q2, IDDS intends to conduct laboratory-clinical interface meetings in all 10 provinces of the country. These engagements are expected to provide a platform between the clinicians (doctors and nurses) and laboratorians to discuss steps that need to be conducted to strengthen provision of quality TB diagnosis, specimen collection, transportation to the laboratory, and transmission of patient results within clinically acceptable timelines. These engagements are expected to improve the quality of TB testing services in the country.
NTW-1.5: Strengthen childhood TB Diagnosis	In progress	Through Core TB funds, IDDS provided financial and technical support to conduct a regional training of trainers in the SOS method for the diagnosis of TB in children using stool on GeneXpert. IDDS strengthened childhood TB epidemiology, SOS methods, data analysis, and reporting by training a total of 32 participants (nine female) from Zimbabwe MoHCC, Uganda Supra Reference Laboratory, and Sierra Leone National TB Program from October 30 to November 4, 2022, in Bulawayo, Zimbabwe. Six IDDS Zimbabwe staff also participated in the training.  Cascade training has started in Harare (see NTW 1.1). In FY 2023 Q2, IDDS will support the trained participants in cascading this training in all 10 provinces of the country.
NTW-1.6: Conduct a laboratory network spatial analysis	In progress	IDDS started data collection for the Zimbabwe laboratory network spatial analysis. IDDS will complete the process and begin the data analysis in FY 2023 Q2.



Zimbabwe TB Work plan period of performance: July 1, 2021–May 31, 2023		
Activity	Status	Activity implementation updates
ZWE-TB-NTW-2: Support the NTRL and NTP to develop and operationalize functional national and provincial TB reference laboratory structures	In progress	
NTW-2.1: Strengthen NTRLs to serve as leading laboratories in the TB diagnostic network	In progress	<p>IDDS has been conducting the required steps for the engagement of Laboratory Infrastructure Solutions, which is the manufacturer of the modular laboratory installed at the Bulawayo National TB Reference Laboratory. IDDS will finalize the engagement process in FY 2023 Q2. Laboratory Infrastructure Solutions is expected to conduct the training of Bulawayo National TB Reference Laboratory staff on the maintenance of the modular laboratory in FY 2023 Q2.</p> <p>The laboratory submitted corrective action plans to the Southern African Development Community Accreditation Service (SADCAS) for the findings that were identified during the accreditation assessment in FY 2022 Q3 and received communication that the non-conformances had been cleared by SADCAS. The laboratory awaits the certification handover ceremony by SADCAS in FY 2023 Q2.</p>
NTW-2.2: Support the NTP's activities in the TB diagnostic network and deploy the latest technologies	In progress	<p>IDDS conducted remote support to the 20 Truenat sites while awaiting approval of the United States Agency for International Development Zimbabwe application for an exemption to conduct a refresher training for HCWs working at the 20 Truenat sites. IDDS will conduct the training and Truenat super-user supportive visits in FY 2023 Q2.</p> <p>IDDS published an article on the challenges and lessons learned in Truenat implementation in the 28<sup>th</sup> Edition of the African Society for Laboratory Medicine Lab Culture magazine in November 2022.</p>
ZWE-TB-NTW-3: Conduct operational research to generate	In progress	

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Activity	Status	Activity implementation updates
evidence on TB diagnostic strategies		
NTW-3.1: Conduct OR on clinically diagnosed TB patients	In progress	IDDS and the MoHCC visited the sites that are enrolled in the Clinically Diagnosed TB study to discuss the study logistics before data collection begins. IDDS will begin data collection in FY 2023 Q2.
NTW-3.2: Conduct OR on GeneXpert MTB/RIF Ultra results in Zimbabwe	In progress	IDDS concluded the data collection for the GX MTB/RIF Ultra results study process when the targeted number of study participants was enrolled. In FY 2023 Q2, IDDS will conduct data entry, cleaning, verification, and analysis.
NTW-3.3: Conduct OR on smear microscopy hub strategy	In progress	No update. IDDS expects to begin training the HCWs who will participate in this study in FY 2023 Q2 after IDDS receives a response on the application for the exemption from the United States Agency for International Development Zimbabwe.
NTW-3.4: Conduct OR on bacteriologically confirmed TB case detection in high burden TB countries	In progress	IDDS selected two consultations who will lead Phase I of this study, which focuses on assessing the underlying causes of stagnation of Bacc-TB case detection. This will be achieved by collecting data through a document review and key informant interviews. Data collection could not begin in FY 2023 Q1 because the contractual process was still in progress. IDDS expects to complete the contractual processes in FY 2023 Q2.