USAID
FROM THE AMERICAN PEOPLE

INFECTIOUS DISEASE DETECTION AND SURVEILLANCE (IDDS) PROJECT

Surveillance Technical Approach

U.S. AMBASSADOR TO UGANDA, NATALIE E. BROWN, VISITING AN IDDS-SUPPORTED SITE IN UGANDA. PHOTO BY IDDS

Overview

To prevent the spread and minimize the consequences of infectious diseases, including antimicrobial resistance (AMR) and priority diseases, national governments must establish robust surveillance systems that are integrated from local to national levels and across the human, animal, and environmental health sectors. Effective surveillance systems must have a supportive policy environment, well-integrated health information systems across sectors and governance levels, a knowledgeable public health workforce, and the ability to collect and analyze data to produce actionable outputs to protect public health. An improved surveillance system empowers public and animal health organizations to prevent or respond appropriately to events of significance for public health and health security.

Technical Approach

The USAID Infectious Disease Detection and Surveillance (IDDS) project's technical approach for strengthening surveillance systems builds on existing efforts in countries and uses internationally recognized best practices. Using a One Health approach, IDDS focuses on two surveillance areas: priority and emerging diseases and AMR. Within these areas, IDDS supports strengthening policy and governance, prioritizing and expanding the geographic scope of surveillance activities, increasing the number of pathogens included for indicator-based surveillance (IBS), and strengthening event-based surveillance (EBS) systems. In addition, IDDS supports activities to improve data quality, integrate health information systems, and build capacity for data analysis and interpretation in the human and animal health workforces. To avoid duplication and maximize impact, the project emphasizes the strong link between diagnostic networks and surveillance systems. IDDS supports

countries in the rollout of the third edition of the Integrated Disease Surveillance and Response guidelines developed by the World Health Organization (WHO) Regional Office for Africa. The technical guidelines specify what needs to be established at each level of a health system in the region to detect and respond to diseases, conditions, and public health events that are responsible for preventable illnesses, deaths, and disabilities in local communities. Gaps remain in policy and governance, data analysis and interpretation, human resources, risk communications, and health informatics across priority disease and AMR surveillance systems. IDDS continues to support countries in addressing these gaps.

Priority and Emerging Diseases

Strengthening national surveillance systems for priority and emerging diseases focuses on bolstering IBS and EBS, improving and expanding community-based surveillance (CBS), and increasing capacity for real-time analysis and notifications of disease events.

Indicator-based surveillance: IDDS supports improvements to IBS systems by reviewing findings and outcomes from current and previous surveillance initiatives or assessments, including the WHO Joint External Evaluation (JEE) process, the Food and Agriculture Organization of the United Nations' Surveillance Evaluation Tool (SET), the FAO Assessment Tool for Laboratories and AMR Surveillance Systems (ATLASS), the World Organization for Animal Health's Performance of Veterinary Services (PVS) pathway, Global Health Security Agenda roadmaps, and the U.S. Centers for Disease Control and Prevention's One Health Zoonotic Disease Prioritization (OHZDP) process. IDDS supports technical improvements to DHIS2 with an emphasis on linking diagnostic laboratory data with surveillance systems; supporting interoperability between human and animal health sectors; and improving data analysis, reporting, and bi-directional communication between sub-national and national levels. Where relevant, the project considers the impact of decentralizing public and animal health surveillance systems. IDDS supports countries to identify and implement active surveillance at sentinel sites for priority diseases where needed and integrate data collection and analysis across human and animal health systems. In addition, the project supports national multisectoral working groups and provides technical assistance for analyzing multisectoral surveillance data.

Event-based surveillance: IDDS supports EBS strengthening activities that respond to country-identified priority gaps by working with national government partners to review national policies guiding EBS implementation and by supporting the development of training, tools, and policies where needed. In addition, IDDS supports strengthening EBS at the community level and improving interpretation of surveillance data for public health action at sub-national levels, including community levels. These activities are described in the CBS section below.

Community-based surveillance: Though local non-governmental organizations have made progress in building CBS systems in IDDS-supported countries, their targeted projects are, in some cases, very fragmented. CBS implementation must be better coordinated by national governments to facilitate appropriate use of the data obtained and promote sustainability of these programs beyond the life of capacity building projects. IDDS continues to build on existing activities and streamline CBS methodology, implementation, and analysis at national and sub-national levels, while using tools that can be applied across countries where feasible. IDDS surveillance activities prioritize strengthening CBS for priority diseases and expand coverage in collaboration with ongoing CBS activities. To maximize the understanding of community health challenges, IDDS prioritizes the selection of pilot sites where similar surveillance activities are ongoing in the animal health sector. Results from

human-focused CBS activities are integrated with findings from animal health community surveillance efforts and linked to point-of-care diagnostics where feasible, to facilitate rapid disease identification and reporting.

Preparedness for and responses to outbreaks: IDDS continues to provide support to countries in developing contingency plans and response activities to emerging and re-emerging infectious diseases outbreaks such as COVID-19, Ebola virus disease, mpox, and plague. The plans specifically define the required resources, response levels, and corresponding command structures to be set up at each response level. To strengthen sustainability, the plans aim to be easily adapted as appropriate to address specific novel infectious diseases.

Real-time notifications: IDDS supports improvements to real-time notification systems within DHIS2 and other existing electronic reporting tools. IIDDS works with national government agencies and partners (especially those more involved in outbreak response activities) to review current policies for immediate notification systems. IDDS also works with national partners to address identified policy gaps by updating or expanding existing policy documents. Real-time notification systems are developed to identify and notify sub-national and national government officials of potential disease outbreaks through data collected from both IBS and EBS activities. IDDS supports improvements in, or clarification of, thresholds for notification and automates notifications to the correct authorities using electronic tools (see the IDDS Health Informatics Technical Approach). Updated notification systems are piloted through IDDS work on IBS and CBS systems and through IDDS-supported diagnostic networks. Pilot activities are developed and reviewed in collaboration with national governments and other partners, focusing on public health outbreak and response activities to identify gaps and areas for improvement. Once improvements are made, updated notification systems can be expanded and adapted for new surveillance systems, diagnostic networks, and geographic areas.

Antimicrobial Resistance (AMR)

IDDS supports countries to better identify, analyze, and respond to AMR by connecting WHONET with DHIS2, linking human and animal AMR surveillance data, and strengthening the capacity of AMR sentinel surveillance sites. WHONET is free software developed by the WHO Collaborating Center for Surveillance of Antimicrobial Resistance that supports laboratory-based surveillance of AMR. By using WHONET, laboratory systems can directly report surveillance data. IDDS supports AMR activities prioritized in consultation with key national stakeholders and tailors intervention activities to countries' needs as well as previous and current investments in the sector.

IDDS supports the development or updating of national policies around AMR surveillance and provides technical assistance to establish sentinel surveillance systems for AMR for both human and animal populations. In the long term, these systems aim to report to the WHO Global Antimicrobial Resistance Surveillance System (GLASS) and integrate animal and human AMR surveillance data. Staff at sentinel sites are trained and equipped to gather appropriate specimens and data and send specimens to the appropriate diagnostic facility (see the IDDS Diagnostic Network Technical Approach). Laboratories in the AMR surveillance system generate antimicrobial susceptibility test results utilizing appropriate national reporting systems. IDDS supports increasing linkages between WHONET and DHIS2 to facilitate surveillance data analysis at all levels of the surveillance system. All AMR surveillance activities are implemented in close collaboration with, and considering other work implemented by, national and international partners, including Fleming Fund recipients and

other Global Health Security Agenda partners such as FAO, the U.S. Centers for Disease Control and Prevention, and the USAID Medicines, Technologies, and Pharmaceutical Services Program.

AMR is highly influenced by antimicrobial use in the environment and across human and animal populations. To improve national coordination in the fight against AMR, IDDS supports the development of an AMR surveillance protocol using a One Health approach. The protocol standardizes methods for monitoring pathogens carrying resistance genes across human, animal, and environmental health sectors. IDDS also supports AMR data reporting through GLASS. IDDS engages national governments, academic institutions, and other key stakeholders to train and build country capacity to improve AMR surveillance.

Adaptability and Lessons Learned

The IDDS Surveillance Technical Approach is highly collaborative with opportunities for iterative learning over the course of the project built into a continuous improvement process. IDDS reviews project activities annually to ensure alignment with each country's priorities and propagate lessons learned across all IDDS partner countries. As many priority diseases are zoonotic in nature and animal populations play a key role in the emergence and spread of AMR, IDDS' surveillance approach is inherently a One Health approach. IDDS will thus continue to support countries in implementing and strengthening integrated surveillance of zoonoses.

ON-SITE MENTORSHIP IN UGANDA. PHOTO BY IDDS

IDDS Contacts

Lisa Nichols
Project Director
lisa.nichols@icf.com

Ochiawunma Akwiwu-Ibe
Deputy Project Director
ochi.ibe@icf.com

Amy Piatek
USAID Contracting Officer's Representative
apiatek@usaid.gov

Cheryl Kamin
USAID Alternate Contracting Officer's Representative
ckamin@usaid.gov

Dorothy Peprah
USAID Technical Advisor
dpeprah@usaid.gov

iddsproject.org
@IDDS_Project
www.linkedin.com/company/usaid-idds

Infectious Disease Detection and Surveillance
530 Gaither Road, Rockville, MD 20850