

Data.Fl Semi-Annual Performance Report 2023

October 2022–March 2023







Data.FI Semi-Annual Performance Report 2023

USAID Agreement Number	7200AA19CA00004
Location	Washington, DC
Title	Translating Data for Implementation (Data.FI)
Name of Agreement Officer	Rita Habib
Name of USAID Agreement Officer's Representative	Madeline Schneider
Date of Award	April 15, 2019
Activity End Date	April 14, 2024
Ceiling Price	\$179,895,772

This Semi-Annual Performance Report (SAPR) was developed by Data.FI's Monitoring, Evaluation, and Learning (MEL) unit and Data.FI's Communications/Knowledge Management team, in collaboration with Data.FI staff who reported on progress and generously shared their insights, ideas, and photos.

Cover photo: Data.FI Palladium staff and partners from country offices participate in November 2022 leadership retreat at Palladium headquarters in Washington, DC. Photo by Elizabeth T. Robinson, Data.FI, Palladium.

Data for Implementation (Data.FI) is a cooperative agreement funded by the U.S. President's Emergency Plan for AIDS Relief through the U.S. Agency for International Development under Agreement No. 7200AA19CA0004, beginning April 15, 2019. It is implemented by Palladium, in partnership with JSI Research & Training Institute (JSI), Johns Hopkins University (JHU) Department of Epidemiology, Right to Care (RTC), Cooper/Smith, DT Global, Jembi Health Systems, and Macro-Eyes, and supported by expert local resource partners.

This publication was produced for review by the U.S. President's Emergency Plan for AIDS Relief through the United States Agency for International Development. It was prepared by Data for Implementation. The information provided is not official U.S. Government information and does not necessarily reflect the views or positions of the U.S. President's Emergency Plan for AIDS Relief, U.S. Agency for International Development, or the United States Government.







Table of Contents

Abbreviations	4	
Executive Summary	7	
Introduction	15	
Catalyzing Innovation to Find Breakthrough Solutions		
Accelerating Data Analysis and Use		
Optimizing and Scaling Health Information Systems and Digital Solutions		
Applying Strategic Information and Learning	42	
Strengthening Local Partners and Ecosystem Governance		
Engaging Stakeholders with Communications Outreach		
Advancing Gender Equality and Social Inclusion		
Looking Forward	59	
Annex 1. Financial Summary	62	
Annex 2. Project Indicator Results	64	
Annex 3. Data.FI Products	68	
Annex 4. Environmental Compliance	79	
Annex 5. FY23 Planned Activities	80	

Abbreviations

ACE 3	Accelerating Control of the HIV Epidemic in Nigeria
AEFI	adverse events following immunization
AGYW	adolescent girls and young women
ANC	antenatal care
APPR	Automated Partner Performance Reporting system (Nigeria)
ART	antiretroviral treatment
ARV	antiretroviral
BI	business intelligence
CDC	Centers for Disease Control and Prevention
CHISA	Consolidated Health Informatics South Africa
CHISU	Country Health Information Systems and Data Use
СНМТ	Council Health Management Team (Tanzania)
CMIS	client management information system
СоР	community of practice
СОР	Country Operational Plan
СОТ	continuity of treatment
DAS	Dirección de Área de Salud (Health Area Directorate, Guatemala)
Data.FI	Data for Implementation Project
DHD	Digital Health Division
DHIS2	District Health Information Software, Version 2
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe
DQA	data quality assessment
DSNIS	Directorate of the National Health Information System (Direction du Système National d'Information Sanitaire, Burundi)
EID	early infant diagnosis
EMR	electronic medical records
EOC	emergency operations center
EPI	Expanded Programme on Immunization
ETL	extraction, transformation, and loading
FCT	Federal Capital Territory (Nigeria)
FMWA	Federal Ministry of Women Affairs (Nigeria)
GBV	gender-based violence
GHARL	Global Human Access Resources Ltd.
GIS	geographic information system
GoN	Government of Nigeria
НСЈ	Health Connect Jamaica

НСЖ	health care worker
HI-CoP	Health Informatics Community of Practice (Nigeria)
HIS	health information system(s)
HMIS	health management information system
HRD	Human Resources Directorate (South Africa)
ICT	information and communications technology
ΙΙΤ	interruption in treatment
iMES	Integrated Monitoring and Evaluation System (Tanzania)
IP	implementing partner
ITT	Information Task Team (Nigeria)
KP	key population
LGA	Local Government Area (Nigeria)
LMIS	logistics management information system
МСН	maternal and child health
M&E	monitoring and evaluation
MER	monitoring, evaluation, and reporting
MIS	management information system
МОН	Ministry of Health
MOHW	Ministry of Health and Wellness (Botswana)
MOHW	Ministry of Health and Welfare (Jamaica)
MRSDC	Metropolitan Health Region of the Central District (Honduras)
M-RITE	MOMENTUM Routine Immunization Transformation and Equity project
MSM	men who have sex with men
MSPAS	Ministerio de Salud Pública y Asistencia Social (Ministry of Public Health, Guatemala)
NCD	non-communicable disease
NCDC	Nigeria Centre for Disease Control
NDOH	National Department of Health (South Africa)
NEPWHAN	Network of PLHIV Nigeria
NERCHA	National Emergency Response Council on HIV
NIMC	National Identity Management Commission (Nigeria)
NISRN	National Integrated Sample Referral Network (Nigeria)
NOMIS	National OVC Management Information System (Nigeria)
OHA	Office of HIV/AIDS
OHSP	One Health Surveillance Platform
OpenLMIS	open-source Logistics Management Information System
OVC	orphans and vulnerable children

PBWF	pregnant and breastfeeding women
PEPFAR	United States President's Emergency Plan for AIDS Relief
PII	personal identifiable information
PIMS	Patient Identity Management System (Nigeria)
PLHIV	people living with HIV
РМТСТ	prevention of mother-to-child transmission
PNC ITS-HIV/SIDA	National HIV/AIDS Program (Programa Nacional de Controlo de ITS HIV/SIDA or PNC ITS-HIV/SIDA, Mozambique
PNLS	Programme National de Lutte contre le SIDA (National AIDS Control Program, Burundi)
PNOEV	Programme nationale de prise en charges des Orphelins et autres Enfants rendues Vulnérables du fait du VIH/Sida (National OVC Program, Côte d'Ivoire)
POC	point of care
PORALG	President's Office – Regional Administration and Local Government (Tanzania)
QI	quality improvement
RAFG	Reaching an AIDS-Free Generation in Burundi
READY	Refining Evidence and Assumptions to Drive Yearly targets
RISE	Reaching Impact, Saturation, and Epidemic Control
RISS	Recent HIV Infections Surveillance System
SEOC	Standing Emergency Operations Center
SIGSA	Sistema de Información Gerencial de Salud (Health Management Information System, Guatemala)
SISMA	Sistema de Informação para Saúde de Monitoria e Avaliação (Health Information System for Monitoring and Evaluation, Mozambique)
SMOH	State Ministry of Health (Nigeria)
SNU	subnational unit
SOP	standard operating procedure
TCV/MR	typhoid conjugate vaccine/measles rubella
ТВ	tuberculosis
TWG	technical working group
UGI	Unidad de Gestion de la Información
UID	unique identification
UNAIDS	Joint United Nations Programme on HIV/AIDS
UPE	Unidad de Planificación Estratégica (Strategic Planning Unit, Guatemala)
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

Data.FI is a global project that helps countries strengthen and sustain access to key, high-quality data to accelerate and maintain HIV and COVID-19 epidemic control. We provide end-to-end solutions in the data ecosystem that serve public health goals and protect clients' rights—from streamlining information needs to building sustainable and scalable data systems that support robust analysis and continuity of client care. We provide rapid insight for decision making and employ evidence-based approaches to ensure that data are used to inform meaningful change and save lives. We strengthen government capacity for health information system (HIS) governance and build local partner capabilities in line with the United States Agency for International Development's (USAID's) sustainability goals. We create solutions that can be scaled to achieve large-scale impact.

Data.FI is a global, field-supported mechanism with a \$180 million ceiling. Data.FI, funded by the United States President's Emergency Plan for AIDS Relief (PEPFAR) through USAID, and COVID-19 relief authorization through USAID's Global Health Bureau, is implemented by a consortium of digital health and analytics organizations. It is led by Palladium, in partnership with the JSI Research & Training Institute, the Johns Hopkins University Department of Epidemiology, Right to Care, Cooper/Smith, DT Global (formerly IMC Worldwide), Jembi Health Systems, and Macro-Eyes.



Data.FI staff at Martha Bamaiyi General Hospital in Kebbi State, Nigeria reviewing PMTCT documents. Photo by Data.FI/Nigeria.

During this reporting period (October 1, 2022–March 31, 2023), Data.FI implemented work in 24 countries and provided support to USAID at the central level. This report summarizes our work during the first half of the fiscal year across the following impact areas:



Catalyzing Innovation to Find Breakthrough Solutions

To catalyze positive and equitable health outcomes in HIV and COVID-19, Data.FI leverages thought leadership and cutting-edge technologies across our extraordinary consortium of partners. Together, we are working to create and source novel solutions and forge new strategic partnerships to address the challenges that impede countries from meeting their health goals.

We leveraged the private sector in Jamaica and Nigeria. In Jamaica we are working with Health Connect Jamaica, a PEPFAR local partner providing HIV care and treatment in the private sector, to distribute COVID-19 vaccines to all private sector facilities on the island, including pharmacies. In Nigeria, we engaged a Nigerian management consultancy firm that specializes in information technology, human resources, and financial services—in the Health Informatics Community of Practice to strengthen the role of local actors in the Nigeria health information system landscape.

We developed and are deploying the Refining Evidence and Assumptions to Drive Yearly (READY) targets tool in Nigeria to support the Mission in setting annual performance targets. It is an R-Shiny application that takes users' program-specific inputs and historical monitoring, evaluation, and reporting data to project targets for the next fiscal year. The app generates results in minutes.

Since 2020, Data.FI has supported eight USAID Missions to generate size estimates of key and priority populations in support of annual target setting. This year we have generated size estimates for adolescent girls and young women in South Africa and Côte d'Ivoire, exploring a new methodology to inform decisions on resource allocation for Determined, Resilient, Empowered, AIDS-Free, Mentored, and Safe (DREAMS) programming.



Accelerating Data Analysis and Use

Data.FI takes a systems approach to strengthening data use. We build inclusive systems that configure and integrate community, facility, laboratory, and pharmacy information systems. Through performance monitoring platforms and "situation rooms," Data.FI promotes robust and country-led analytical solutions and data review mechanisms, enabling greater access to reliable data for decision makers and implementers. Data.FI is currently implementing situation room meetings in Guatemala, Honduras, Nigeria, and Tanzania, and has just initiated a national and a regional COVID-19 situation room in Burkina Faso.

Data.FI first established an HIV epidemic control room in Akwa Ibom State, Nigeria in June, working with the State Ministry of Health (SMOH) and FHI 360. In 2022 the Honorable Minister of Health requested support from the project to expand the situation room methodology to state Emergency Operations Centers (EOCs) in all 36 states plus the Federal Capital Territory. **The Minister also requested that the project expand the mandate of the existing EOCs beyond COVID-19, to create a unified approach for detecting and responding to future events.** This initiative has transformed EOCs into Standing Emergency Operations Centers.

Regional COVID-19 situation rooms were launched by Data.FI and the Ministry of Health (MOH) in Honduras in March 2022. Over the last year, regional stakeholders organized 76 highly participatory meetings in which they prioritized indicators and validated standard analyses. In March 2023, the National Coordinator of Surveillance of Infectious Diseases decided to officially incorporate the Data.FI Strategy for Data Use into the national situation room guidelines that are in the process of being updated by the government.

In Guatemala, **Data.FI strengthens MOH capacity for HIS governance and builds local partner capabilities in line with USAID's sustainability goals.** In August 2022, Data.FI and the MOH launched a COVID-19 situation room in Huehuetenango, the largest Health Area Directorate in Guatemala, which covers 34 municipal health districts.

Also in Guatemala, in response to a direct request from the Vice Minister of Primary Health Care, Data.FI is supporting the development of a Shiny dashboard that integrates health programming data from the MOH and **financial data from the Ministry of Finance on the prevention of maternal, childhood, and neonatal mortality and chronic malnutrition.**

In 2022, Data.FI engaged with USAID and the Ministry of Health and Wellness (MOHW) in Botswana to strengthen the analysis, visualization, and use of COVID-19 data. This has involved helping the MOHW define priority COVID-19 data use cases for analysis, selecting and deploying a sustainable business intelligence (BI) platform for data visualization, and strengthening Botswana's capacity to maintain and sustain the BI tool for COVID-19 and other priority health needs. This effort aligns with Botswana's national eHealth strategic goals to increase access to timely, accurate, and complete reporting on the health system and to enhance institutional capacity to implement eHealth solutions.



Optimizing and Scaling Health Information Systems and Digital Solutions

Data.FI works closely with local stakeholders to build and maintain systems that interface with existing digital ecosystems. We do this by collaborating closely with partners to gather requirements, improve business processes, and support data sharing and interoperability across existing and emerging platforms.

In March 2022 Data.FI began supporting the Eswatini MOH's Health Management Information System (HMIS) Unit in their stewardship of the Client Management Information System (CMIS)—a centralized, online, patient-line, point of care electronic medical records (EMR) system in use at 231 of 327 health care facilities in the country. In the past six months, Data.FI has finalized Version One of the CMIS-to-CMIS Reporting and Analytics Platform Data Replication, a District Health Information Software, Version 2 (DHIS2) cleared mirror repository that displays data generated from the CMIS on dashboards that can be used at the facility level to understand progress on key indicators.

Since 2020, Data.FI has supported PEPFAR and the Government of Burundi's goals of enhancing the primary HIV EMR in the country—SIDAInfo. This year, Data.FI finalized the integration of IBIPIMO and the Recent HIV Infections Surveillance System (RISS) into SIDAInfo. Integrating this data into one system has given clinicians critical information on their clients that can lead to meaningful gains in the country's journey towards 95-95-95. LAMISPlus 2.0 is an HIV EMR that is free and open-source, meaning that Data.FI, and the implementing partners (IPs) contributing to its development through the Health Informatics Community of Practice, are creating a home-grown, information system for its free, sustainable, and unconstrained use in service of the people of Nigeria. During the performance period Data.FI Nigeria, in collaboration with the FMOH, supported the deployment of LAMISPlus 2.0, across 25 facilities in five states, with successful report generation and data upload to the National Data Repository. New features included the successful integration of LAMISPlus 2.0 with the national Laboratory Information Management System (LIMS), which enables automatic tracking of viral load samples from the facilities and central laboratories.

During this performance period Data.FI successfully deployed Nigeria's National Orphans and Vulnerable Children Management Information System (NOMIS) to 28 community-based organizations across four USAID orphans and vulnerable children (OVC) IPs in eight states. Implementation and use of NOMIS is intended to improve tracking and monitoring of OVC at the community level.



Eric Ramirez, Data.FI's senior technical advisor for health information systems in Latin America, presenting at a workshop in Panama City, Panama, that brought together key actors from the Panama Ministry of Health to initiate efforts for the design of an integrated HIV information system in the country. Photo by Data.FI.

In Côte d'Ivoire, Data.FI continues our partnership with and support to the National OVC Program on the **integration of OVC and DREAMS data into one database in Côte d'Ivoire** with two interfaces. During this reporting period we further configured the system to generate periodic reports and listings to support decisions that inform the care of OVC and at-risk adolescent girls and young women. We also co-created a transition plan with the the National OVC Program on ownership and maintenance of the OVC/ DREAMS database, including a responsibility matrix.

Data.FI/Malawi is working closely with the country's Digital Health Division at the MOH to promote the use of **the country's eVaccine Registry**, a DHIS2 tracker module in the country's One Health Surveillance Platform (OHSP) developed by the MOH to digitally record uptake of COVID-19 vaccines. To date, there have been challenges with timely data entry of paper-based records, resulting in a backlog of data in the eVaccine Registry. To address these challenges, in October 2022 Data.FI developed and began implementing a capacity-building plan based on findings from Data.FI's Malawi COVID-19 eVaccine Registry Desk Review Report.

During the last performance year in Guatemala and Honduras, **Data.Fl developed** and presented technical recommendations to the MOHs to improve the national information system on COVID-19 in each country, which will contribute to better clinical case management, better organization of laboratory services, and optimal management of vaccine logistics. This year, the Data.Fl team has been busy working with officials from the MOH in Guatemala to implement these recommendations.

In 2020, Mozambique's National HIV/AIDS Program acquired BI software to use as its future analytics platform and requested that Data.FI provide targeted technical assistance to maximize the benefit of the planned transition. During this performance period Data.FI supported the MOH to **further update the system features**, including **creating a new user interface** for the portal, and **expanding the data acquisition module**. The module also now includes additional data sources—enabling the extraction, transformation, and load (ETL) tool to ingest data from key population and prevention of mother-to-child transmission (PMTCT) programs and support their efforts to trace clients who experience interruption of treatment.

In South Africa, Data.FI has worked with the National Department of Health (NDOH) since 2020 to build the Consolidated Health Information South Africa (CHISA) platform. **CHISA is an analytical platform integrating powerful features for data analyses and visualizations.** In this performance period, Data.FI has adapted a model for cyclical cohort analysis to be incorporated in CHISA's analytics platform through engagement with NDOH and the PEPFAR country coordinating office. Unlike regular cohort analysis that is already part of the measurement suite, **the cyclical cohort approach indicates disengagement and re-engagement on antiretroviral therapy (ART) at multiple facilities.** This allows program managers to understand the characteristics of patients who interrupt and restart treatment, and the frequency of these interruptions and the impact of interruptions on viral load suppression.



Applying Strategic Information and Learning

Data.FI supports USAID and partner governments to rapidly collect and use nonroutine data for strategic needs in their health responses. We also support USAID to answer key learning questions, adapt and create methods and approaches to document activities, and catalogue learning with USAID and the broader digital and public health community.

To enable the USAID COVID-19 Response Team to understand the extent to which USAID'S COVID-19 vaccine data, and digital health investments have strengthened countries' digital health enabling environments, supported government-led coordination, leveraged global goods, and strengthened country digital health architecture, Data.FI is coordinating a **digital health-focused collaborative learning agenda that brings together four partners with CN18 and CN184 COVID-19 vaccine funding.**

As part of this activity, Data.FI brought together USAID and Country Health Information Systems and Data Use (CHISU), MOMENTUM-Routine Immunization Transformation and Equity (M-RITE), and Digital Square, for an all-day in-person workshop in November 2022 to develop a joint **theory of change for the COVID-19 vaccine digital investments**, which we will be featured in a joint journal supplement that Data.FI is coordinating.

In 2022, Data.FI was asked by the Honduras MOH and USAID to support steps underway to digitize vaccine records in the country. As part of these efforts, Data.FI is in the process of implementing a multi-stage information and communications technology assessment to better understand the factors that would facilitate or hinder the use of digital tools for capturing COVID-19 vaccination data in real time.

Tracking vaccination data is imperative for decision makers to be able to assess and manage the vaccine distribution efforts ongoing globally. Data.FI is currently implementing its second data quality assessment (DQA) on COVID-19 data, and the first that focuses on COVID-19 vaccine data specifically, in five countries: Bangladesh, Ecuador, Kenya, Tanzania, and Uganda. The DQA in Ecuador was completed and a report was shared with in-country stakeholders. Data collection is underway in the remaining four countries, with results expected in the next quarter.



Strengthening Local Partners and Digital Health Capacity

Data.FI aims to strengthen host country **enabling environments** to support and sustain the national HIV and COVID-19 responses through the implementation of robust and resilient HIV and COVID-19 information systems and digital solutions. Data.FI works through local stakeholders to build partnerships and to tap into local knowledge, networks, and assets. We support the establishment of **country-led governance structures** that provide **leadership and governance** to design and execute **digital health strategies** that are supported by enabling **policies and legislation.** We also provide **capacity-building** support to local partners and governments.



Christopher Seebregts, founder and CEO of Data.FI partner Jembi Health Systems, speaks at the November 2022 Data.FI leadership meeting in Washington, DC. Photo by Katie West-Slevin, Palladium.

Since 2021, Data.FI has worked with authorities from the governments of Honduras and Guatemala to identify information needs for COVID-19 and HIV programs, and to assess and document existing business processes, business units, and software solutions supporting data flows. We also provided recommendations to address gaps in data management and human capacity. Data.FI has also supported the coordination and strengthening of technical working groups (TWGs) with the participation of business owners for laboratory, vaccine logistics, vaccination registry, and surveillance of COVID-19 cases.

In Honduras, Data.FI is supporting the MOH's development of a COVID-19 vaccination certificate and the implementation of the newly developed misvacunas.hn single vaccination registry. We completed an assessment of the Information Management Unit's capacities, presented recommendations, and started the implementation of priority actions in coordination with the MOH.

Data.FI continued to **support the Honduras' Expanded Program on Immunizations to steward the COVID-19 vaccine response** through meeting facilitation, data analysis, and visualization of vaccination scenarios. In addition, Data.FI supports the government to manage the Cooperation Integrated Plan for the Strategic Advisory, which is a multistakeholder body that supports government coordination of the COVID-19 vaccine response through alignment of resources and development of regional action plans and activities to improve vaccination access, coverage, and information management.

In Guatemala, **Data.FI is working with the Ministries of Health and Finance to integrate data on budget allocation, expenditure, and goal achievement for priority health programs.** We documented system requirements and reviewed processes for data extraction and criteria definition. Data.FI will continue to harmonize the data integration processes and develop visualization tools to improve data analytics for decision making at the MOH.

The Knowledge Hub is an e-learning platform that offers online courses and webinars for public and private-sector health providers in South Africa. During this performance period, the Data.FI team continued to implement plans to transition the Knowledge Hub system, which serves 133,000 registered users, to the Human Resources Department (HRD) at the NDOH. Data.FI worked with HRD to prepare budgets and articulate the rationale for proposed revisions. Subsequently HRD was successful in securing internal funding for FY23–24 for the Knowledge Hub. This is a huge step in establishing the long-term sustainability of the system which will help institutionalize the system formally within the NDOH.

Globally, Data.FI has developed SOPs and template documents to streamline the implementation of **best practices in information security,** including guidelines for managing and training users and ensuring data collection at health facilities happens in a secured environment. We are working with country teams to identify key tasks to improve the security of information systems, plan for implementation, and track progress.

Introduction

Data for Implementation (Data.FI) is a global project that helps countries strengthen and sustain access to, and use, high-quality data to accelerate and maintain HIV and COVID-19 epidemic control. To do this, we leverage expertise in program implementation, measurement, digital health, data science, and data use to help the United States Agency for International Development (USAID) and partners ask better questions, look at unsolved problems in new ways, and pivot programming to reach epidemic control faster.

Through our experienced partnership, we provide end-to-end solutions in the data ecosystem that serve public health goals and protect clients' rights. We build sustainable and scalable governmentowned systems that support robust data analysis and continuity of client care. Data.FI works across all technology platforms and supports countries whose health information systems (HIS) are at different levels of maturity, aligning our interventions to each country's unique data and information system landscape. We create tools, policies, and procedures for partners who collect and manage data, offering an overarching vision of how data should and can be used responsibly. We transform routine data into visualizations that highlight a health system's performance.

We provide rapid insight for decision making, using advanced analytics supported by fit-to-purpose



Road in Tanzania. Photo by Julie Laurent.

technologies. We help USAID and partners diagnose performance and public health challenges to best focus resources. We combine traditional data sources with non-traditional data sources, such as satellite imagery and commercial data, to fill data gaps and inform HIV and COVID-19 interventions. We apply advanced modeling techniques to illuminate unseen patterns, enabling users to plan with timely and actionable information.

We develop and employ evidence-based approaches to ensuring that data are used to inform meaningful change and save lives. This begins with defining an analytical framework for decision making and includes aligning data needs and employing measurement tools and frameworks. We work with USAID and partners to improve data sources, hone analytical skills, and catalyze program pivots.

We strengthen government capacity for HIS governance and build local partner capabilities in line with USAID's local partner transition goals. Data.FI leverages our existing network of in-country relationships to build government trust, coordinate stakeholders, and expand the pool of local partners able to respond to HIV and COVID-19 and strengthen pandemic preparedness for global health security. We create solutions that can be scaled.

PROJECT SCALE

Data.FI is a global project funded by PEPFAR and USAID. Data.FI is a consortium of organizations with expertise in digital health and analytics. It is led by Palladium, in partnership with the JSI Research & Training Institute, the Johns Hopkins University Department of Epidemiology, Right to Care, Cooper/ Smith, DT Global, Jembi Health Systems, and Macro-Eyes. The project is a USAID field-supported mechanism, with a \$180 million ceiling.

During this reporting period (October 1, 2022–March 31, 2023), Data.FI implemented work in Botswana, Burundi, Cameroon, the Central America Region (El Salvador, Guatemala, Honduras, Panama), Côte d'Ivoire, Jamaica, Eswatini, Malawi, Mozambique, Nigeria, South Africa, Tanzania, the West Africa Region (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Liberia, Mali, Senegal, Sierra Leone, and Togo), and Zimbabwe.

The project made important progress enhancing digital HIS, strengthening data management and data availability through digitization of information systems for COVID-19 vaccination and surveillance, supporting data analytics that pinpoint inefficiencies in HIV care and treatment cascades, developing data standards and structures to ensure quality in electronic medical records (EMRs), and supporting local partners to use data for decision making. This report summarizes our work during this reporting period.

REPORT STRUCTURE

We present our achievements over the past year by highlighting our work across the following impact areas:

- Catalyzing Innovation to Find Breakthrough Solutions
- Accelerating Data Analysis and Use
- Optimizing and Scaling Health Information Systems and Digital Solutions
- Applying Strategic Information and Learning
- Strengthening Local Partners and Digital Health Capacity

We will also update on our efforts to support gender equality and social inclusion and our global communications footprint. A Financial Summary, Project Indicator Results, a list of Data.FI Products, Environmental Compliance and FY23 Planned Activities are provided in the appendices.

Data.FI's Reach

Data.Fl is scaling digital, analytical, and data use solutions. We worked in 24 countries in this reporting period to improve HIV, COVID-19, and broader health outcomes.



Catalyzing Innovation to Find Breakthrough Solutions



Despite significant advancements, the HIV community has made uneven progress in meeting the 95-95-95 targets and the COVID-19 pandemic has brought new challenges to the fore, requiring new ways of working toward meeting global health goals. Further, the U.S. government's ambitious global COVID-19 vaccination agenda demands innovations that facilitate efficiency, achieve precision, and allow access to real-time data. To catalyze positive and equitable health outcomes in HIV and COVID-19, Data.FI leverages thought leadership and cuttingedge technologies across our extraordinary consortium of partners. Together, we are working to create and source novel solutions and forge new strategic partnerships to address the challenges that impede countries from meeting their health goals. Some highlights from this reporting period are provided here.



Richard Ngethe, Technical Director, Data, Informatics and Analytical Solutions; David Merchant, Senior Regional Manager, Latin America and the Caribbean; Dauda Sulaiman Dauda, Senior Regional Manager, West Africa; and Shreshth Mawandia, Senior Regional Manager, Southern & East Africa, all of Data.FI, Palladium. Photo by Elizabeth T. Robinson, Data.FI, Palladium.

Data.FI brokers partnerships with private sector and local organizations to produce novel, high-impact analytical solutions.

Working in coordination with Jamaica's Ministry of Health and Welfare (MOHW) and Health Connect Jamaica (HCJ), a PEPFAR local partner supporting HIV care and treatment in the private sector, Data.FI supported COVID-19 vaccine distribution for all private sector facilities on the island, including pharmacies and clinicians. Since 2022 Data.FI has been working closely with HCJ to support tracking COVID-19 vaccines by adapting the open-source Logistics Management Information System (OpenLMIS) platform to the Jamaican private sector context. This has included:

- Standardizing processes so that health workers apply guidelines for distributing and tracking COVID-19 vaccines across the country.
- Selecting the digital tool to underpin the supply chain system for the private sector.
- Designing and customizing the OpenLMIS digital solution.
- Training HCJ on how to use the OpenLMIS instance to manage vaccine distribution.
- Building consensus on system use for vaccination data collection, transmission, and reporting.

The MOHW and HCJ are now using this customized OpenLMIS instance to manage vaccine requests, distribution, and inventory.

In **Nigeria**, with a view to institutionalizing and ensuring the future sustainability of the open-source HIV EMR system (LAMISPlus) and the country's National OVC Management Information System (NOMIS) and other national systems, the project has included Global Human Access Resources Ltd (GHARL)—**an indigenous management consultancy firm that specializes in Information technology, human resources, and financial services**—in the Health Informatics Community of Practice (HI-CoP). The HI-CoP is an informatics community of practice in Nigeria that is co-led by



LEVERAGING DATA SCIENCE FOR DEDUPLICATION

In El Salvador, Data.Fl developed manuals and completed a training session with the Ministry of Health on a Python deduplication

library to link duplicates and improve the quality of data available in their HIV system.



Photo by Data.FI/EI Salvador.

USAID and Data.FI, with a membership composed of relevant governmental ministries, departments and agencies, and USAID implementing partners (IPs). Adding GHARL will ensure that a Nigerian organization with informatics technical expertise will have a long-term role in making decisions around the country's information systems.

Supporting USAID Missions for Better Target-Setting to Achieve Meaningful Impact

Target setting during PEPFAR's Country Operational Plan (COP) planning is a tedious process and requires many inputs. It also requires a significant level of effort to manage multiple iterations of the plan—to generate targets at different organizational levels and disaggregations. The Refining Evidence and Assumptions to Drive Yearly (READY) targets tool is an easy-to-use tool to enable Missions to set targets in a few minutes. It is an R-Shiny application that takes users' program-specific inputs and historical monitoring, evaluation, and reporting (MER) data to project targets for the next fiscal year. With the tool, users can set parameters and generate targets for age/sex disaggregates of indicators at site, national, state, local government area (LGA), and partner levels. The tool is making target setting for USAID and its partners faster and more efficient.

"For me the READY app has been a game changer. It has made people start paying attention to using historical data to anticipate future performance. It has also had significant effects on how the PEPFAR Nigeria team sets targets, as now one person is able to drive the target setting process for multiple TWGs."

> —David Onime MD, MSc HI, Senior Strategic Information Advisor and Team Lead, USAID/Nigeria Office of HIV/AIDS & TB



Data.FI Senior Technical Advisor for Analytics Michelle Li leads the project's work on size estimation and related analyses. Photo by Katie West-Slevin, Palladium.

Deploying bespoke size estimation techniques for USAID Mission target setting

Since 2020, Data.FI has supported eight USAID Missions to generate size estimates of key and priority populations in support of annual target setting.

- In 2020, Data.FI applied a simple methodology to generate size estimates of adolescent girls and young women (AGYW) in Uganda. We analysed microdata from the national Population HIV-Impact Assessment survey to estimate the number of AGYW at risk of acquiring HIV in each region of Uganda and utilized a simple weighting approach to generate district-level estimates for Determined, Resilient, Empowered, AIDSfree, Mentored, and Safe (DREAMS) program monitoring and planning. Data.Fl worked closely with the Uganda interagency team to repeat this analysis in 2021, handing over code and documentation such that the team was able to independently generate these analyses for Country Operational Plan 2022 (COP22) planning.
- In 2020, Data.FI resource partner Fraym used its novel artificial intelligence/machine learning (AI/ML) software to integrate risk data from population-based surveys with satellite imagery to create localized population information at a 1km² resolution in four countries (Eswatini, Haiti, Mozambique, and Tanzania). This approach allowed us to estimate the size and distribution of the AGYW population at risk of HIV acquisition, resulting in more robust size estimates at granular geographic units.
- In 2021 and 2022 we supported USAID and the government of Namibia to estimate the size of key populations (KPs) in the country using small area estimation methods, combining census and programmatic data to estimate the number of men who have sex with men, female sex workers, and transgender people at regional levels. The Mission used these size estimates during COP22 planning to help direct resources to geographic locations where they were most needed.



Data.FI analyzed microdata to estimate the number of AGYW at risk for HIV in each region of Uganda to help the DREAMS program in monitoring and planning. Photo of a young girl in Uganda by Gunnar Salvarsson.

This year we have generated size estimates for AGYW in South Africa and Côte d'Ivoire, exploring a new methodology to inform decisions on resource allocation for DREAMS programming, aimed at AGYW ages 10–14, 15–19, and 20–24 years. We used a 'middle ground' approach, focusing on a simplified model that could be replicated annually by USAID Mission staff. We applied small area estimation techniques to data from population-based HIV indicator surveys, complemented with auxiliary data from the health management information systems (HMIS) and HIV models, to generate AGYW size estimates at the subnational unit (SNU) level.

Best Practices

- In-country private sector actors can be integrated into governance structures to promote sustainable information systems development and enhancement.
- Target-setting for COP planning processes can be simplified and streamlined through scenario-planning tools based on historical trends and user-adjustable forward-looking assumptions such as the READY targets tool.
- Mission staff have a range of options available for determining population size estimates by age and SNU. A decision on methodologies should be informed by the type and granularity of data available, technical skillset, ease of replication with updated data, and ease of comprehension among technical and non-technical audiences.

Accelerating Data Analysis and Use



Governments and health program managers require data to measure progress against targets, allocate limited resources to reach the populations most in need, rapidly coursecorrect if programs are underperforming, and determine whether they are addressing the most urgent needs of people affected by or at risk of HIV and COVID-19. USAID missions need frequent and high-quality data to monitor global health investments on a continuous basis for accountability and oversight, and to plan and manage the programs they support.

We improve systems, analytic platforms, and data sources, employing change management processes that institutionalize data use to support local governments, USAID, and IPs, to derive insights from data on HIV and COVID-19 prevention and control services. Data.FI synthesizes data across multiple sources and develops user-centered decision-support tools and dashboard-enabled data visualizations to



Data.FI conducted training with the Federal Ministry of Women Affairs in a capacity-building activity on NOMIS and on the national OVC indicator in the OVC Situation Room at the FWMA in Abuja, Nigeria. Photo by Data.FI/Nigeria.

inform action. We support the institutionalization of processes and systems for continuous data review, and train staff so that they can proactively address challenges and make programmatic changes to achieve meaningful impact.

PERFORMANCE IMPROVEMENT THROUGH DATA REVIEW

Data.FI takes a systems approach to strengthening data use. We build inclusive systems that configure and integrate community, facility, laboratory, and pharmacy information systems. We create systems to support the digitization of data for use at point of service for program decision making, which enables healthcare workers to better reach underserved communities and improve COVID-19 and HIV outcomes. At a centralized level, Data.FI interlinks and synthesizes data through interoperability layers and shared data repositories, capturing data from the site level for real-time, userdifferentiated access and use at the national level.

Through performance monitoring platforms and "situation rooms," Data.FI promotes robust and country-led analytical solutions and data review mechanisms, enabling greater access to reliable data for decision makers and implementers. Participants from epidemiology, primary health care, laboratory, and human resources units gather regularly in structured, routine data review meetings that promote continuous program improvement. The aim of situation rooms is a coordinated response: to harmonize reporting across program areas, help decision makers collectively identify and respond to issues, channel resources where they

are needed, and ensure clients, their families, and communities get the services they need.



Held



Global distribution of Data.FI-supported situation rooms.

Data.FI is currently implementing situation room meetings in Guatemala, Honduras, Nigeria, and Tanzania, and has just initiated a national and a regional COVID-19 situation room in Burkina Faso. In these situation rooms:

- Technology-based data analytics and visualization platforms integrate or triangulate data from multiple sources.
- Participants use a standardized methodology for actionable data review processes, including root cause analysis and monitoring of actions.
- Regular data review of key indicators allows stakeholders to closely monitor data in real time, compare performance across sites and regions, and implement rapid course correction.

Data.Fl is tapped to support an integrated approach to managing Public Health Emergency Operations Centers

Data.FI first established an HIV epidemic control room in Akwa Ibom State, Nigeria in June 2019 at the start of the project, working with the State Ministry of Health (SMOH) and FHI 360. In 2020, with the advent of COVID-19, the Government of Nigeria (GoN) requested support for state-level Emergency Operations Centers (EOCs). Data.FI brought our "situation room" methodology to these EOCs to improve access to surveillance and vaccination data.

In 2022 the Honorable Minister of Health requested support to expand the situation room methodology to state EOCs in all 36 states plus the Federal Capital Territory (FCT). **The Minister also requested that the project expand the mandate of the existing** EOCs beyond COVID-19, to create a unified approach for detecting and responding to future events. This initiative has transformed EOCs into Standing Emergency Operations Centers (SEOCs).

In support of these centers, Data.FI collaborated with the FMOH and the Nigeria Center for Disease Control (NCDC) to develop an assessment checklist building on the World Health Organization (WHO) framework for the management of SEOCs, and conducted an assessment to ascertain the current status of SEOC implementation. In February, findings were presented to the Honorable Minister of Health, who subsequently formed a steering committee to promote the adoption of the integrated approach as a policy both at the national and state levels. Data.FI developed a capacity-building plan, culminating in a curriculum for the GoN to ensure sustainability.



Data.FI Quality Improvement Specialist Laurina Nyang (shown at the center) conducts a SIMS assessment at the Sir Mohamed Sanusi Specialist Hospital in Kano State to determine if the PMTCT services conform to PEPFAR quality of care standards. Photo by Data.FI/Nigeria.

Supporting continuity of HIV treatment in Borno and Taraba States, Nigeria

Continuity of treatment (COT) is essential for enabling people living with HIV (PLHIV) to maintain low viral levels and lead a healthy life. Interruptions in the provision of antiretroviral treatment (ART) can result in virus rebound and immune system strain. Ensuring COT is a responsibility of both the healthcare system and the individual patient and is a major measure of program success.

In Nigeria, Data.FI hosted two situation rooms which focused on COT: one at the national level, which revealed issues in Borno State, and a second in Taraba State. Borno State was not meeting the 98 percent benchmark for COT because an unstable security situation meant that staff and patients could not reach the clinic at four health facilities. In Taraba State, 12 facilities were not meeting the benchmark for COT due to patient migration and poor tracking of PLHIV who had missed an appointment. To address these issues, several major follow-up actions were initiated. In Borno State, the team worked to improve collaboration with government and community leaders to ensure safe travel, provide antiretroviral (ARV) refills, and offer continuous mentorship to health facility staff.

"We appreciate [Data.FI's] contributions to standardizing and revamping the State Emergency Operation Centre and capacity building for staff from Edo SMOH and Primary Healthcare Development agency.

The Edo SMOH is also grateful for Data.FI's technical support in all COVID-19 activities, including testing, vaccination data management, and health systems strengthening."

- Professor Obehi Akoria, Honorable Commissioner for Health, Edo State, Nigeria



Data.FI/Nigeria has conducted 39 site improvement monitoring systems assessments in the last six months.

Figure 1. Continuity of treatment in four health facilites in Borno State. These health facilities were underperforming but saw great improvements in the last five months due to attention to COT in a Data.FI-supported situation room.



In Taraba State, the team helped set up a new initiative, dubbed **Operation Know-Your-Client**, which set up an incident command center at the state office to coordinate and call case managers each day to check their progress on tracking the clients who had interrupted treatment to return them to care. In both states, the team worked to address documentation gaps by ensuring that biometric capture and verification was being used appropriately and worked with the Network of PLHIV Nigeria to assist in peer tracking.

These efforts led to an **improvement in the 12 under-performing facilities in Taraba and the four underperforming facilities in Borno State** (see Figure 1). Following initial identification of the issue, all of the facilities in Borno and over half of the lowperforming facilities in Taraba were able to increase COT to meet the 98 percent benchmark.

Integration of Data.FI methodology into Honduran national guidelines

COVID-19-oriented situation rooms were launched by Data.FI and the MOH in Honduras in March 2022. To date, meetings have been held primarily at the regional level in the Metropolitan Health Region of the Central District and in San Pedro Sula. Over the last year, regional stakeholders organized 76 highly participatory meetings in which they prioritized indicators and validated standard analyses. The health regions have designed action plans which include improving COVID-19 vaccination coverage in schools, communication campaigns, and transitioning triage centers into primary health care facilities. In September 2022, the Surveillance Unit at the Ministry of Health initiated a national-level COVID-19 monthly situation room to address the country's COVID-19 pillars: epidemiology, laboratory, case management, and infection prevention and control, with a main focus on vaccination coverage.

In March 2023, the National Coordinator of Surveillance of Infectious Diseases decided to officially incorporate the Data.FI Strategy for Data Use into the national situation room guidelines that are in the process of being updated by the government. Moving forward, Honduras' National Situation Room Guidelines for leading and managing situation rooms will reflect Data.FI's data review and data use methodology around participatory problem solving, engagement of diverse stakeholders, and frequent comparison of performance against targets to inform course corrections. The process is underway to submit the National Situation Room Guidelines to the Normalization Directorate for review to receive a regulatory code, making its implementation obligatory throughout the country. This represents significant progress towards sustainability, with Data.FI's highly participatory process becoming a requirement for situation room meetings at all levels in the country.



From left: During a training with the Honduran MOH, Dr. Olga Colindres and Dr. Francia Martinez use a fishbone diagram to identify problems and their root causes. Photo by Data.FI/Honduras.



The team in a situation room meeting in Honduras: From left to right: Dr. Alma Barahona, Dr. Valeska Matamoros, Ing. Freddy Hidalgo, Lic. Marlene Pacheco (standing). Seated: Lic, Elizabeth Benitez, Dr. Jennifer Enamorado, and Dr. Ricardo Cano. Photo by Data.FI/Honduras.

Accelerating COVID-19 vaccination coverage through granular data

In Guatemala, Data.Fl strengthens Ministry of Health (Ministerio de Salud Pública y Asistencia Social, or MSPAS) capacity for HIS governance and builds local partner capabilities in line with USAID's sustainability goals. In August 2022, Data.FI and the MSPAS launched a COVID-19 situation room in Huehuetenango, the largest Health Area Directorate (Dirección de Área de Salud, or DAS) in Guatemala, which covers 34 municipal health districts. Participants included the DAS director, health technical staff, staff from the immunization, laboratory, service provision, and epidemiology units. During the meetings, participants identified a significant gap between coverage rates for the first and second doses of the vaccine: in some municipalities, 44.5 percent of the DAS population received the first dose, but only 34 percent received the second dose-a 10.5 percent coverage gap. Overall in the Huehuetenango DAS, there was an average coverage gap of 35 percent.

To address this, Data.FI trained health workers to **conduct a telephone survey to better understand reasons for non-completion of the recommended course of COVID-19 vaccination.** Upon investigation, situation room stakeholders determined that individuals who sought their first dose of the COVID-19 vaccine failed to receive the second dose for three principal reasons: (1) inconvenience of vaccination times and locations, (2) incorrect understanding that the second dose manufacturer must be the same as the manufacturer of the first dose, (3) concerns about repetition of side effects experienced during the first round of vaccination.

Subsequently, health workers relied on line-listings with addresses and contact information to reach individuals through house-to-house vaccination campaigns. As a result, the median number of vaccination doses administered in the region increased by more than 84,000 doses per week and the gap between the first and second dose declined by 5 percent between July 2022 and January 2023.



analytical solutions

Woman in Guatemala receives COVID-19 vaccine during vaccination campaign. Photo by Paulina Garbero, HEP+ Project.

HIGH-IMPACT ANALYSES AND ANALYTICAL TOOLS

Guatemala's MCH/Nutrition Dashboard

In Guatemala, where almost half of all children suffer from chronic malnutrition, it is critical for the MOH to monitor the outcome of service delivery strategies and interventions in relation to the resources allocated to assess performance and make improvements or take corrective actions. In response to a direct request from the Vice Minister of Primary Health Care, Data.Fl is supporting the development of a Shiny dashboard that integrates health programming data from the MOH and financial data on services from the Ministry of Finance on the prevention of maternal, childhood, and neonatal mortality and chronic malnutrition.

Data.FI worked in close collaboration with the MSPAS Health Management Information System (Sistema de Información Gerencial de Salud, or SIGSA) and the Strategic Planning Unit (Unidad de Planificación Estratégica) to identify and prioritize indicators and execute the extraction, transformation, and loading (ETL) of data for the dashboard. Working hand in hand with key stakeholders to ensure data availability and that key analytical questions are answered has been a critical factor for success. Data.FI and the MOH work together on regular basis, both for coordination and user acceptance testing (UAT), as well as for gathering observations and recommendations, and validating the required changes.

In February 2023 the prototype of the Maternal and Child Health (MCH)/Nutrition Dashboard was presented in a validation workshop with the participation of the Vice Minister for Primary Health Care, the Technical Vice Minister, and the Administrative Vice Minister, among other government officials and technical staff from the MOH. The participants noted that the dashboard responded to their requirements, enabling collective data review and access to data in a timely manner. "We have greatly appreciated the usercentered development process for the dashboard....the very organized and effective progress feedback meetings have allowed us to know and guide the product."

> — Dr. Edwin Montúfar, Vice Minister for Primary Health Care, Guatemala

As of March, Data.FI is making final adjustments to the dashboard and making arrangements to hand over and transfer the tool to SIGSA's servers. **As a result of this support, the Ministry communicated their interest in receiving ongoing technical support for developing data visualizations for other priority program areas such as HIV, malaria, and tuberculosis, aiming to continue promoting and enhancing the use of data across the health system.**



Figure 2. Guatemala's MCH/Nutrition Dashboard Prototype, demonstrating service delivery and financial data on neonatal and maternal mortality

Strengthening the analysis, visualization, and use of COVID-19 data in Botswana

In 2022, Data.FI engaged with USAID and Ministry of Health and Wellness (MOHW) in Botswana to strengthen the analysis, visualization, and use of COVID-19 data. **This has involved helping the MOHW define priority COVID-19 data use cases for analysis, selecting and deploying a sustainable business intelligence (BI) platform for data visualization, and strengthening Botswana's capacity to maintain and sustain the BI tool for COVID-19 and other priority health needs.** This effort aligns with Botswana's national eHealth strategic goals to increase access to timely, accurate, and complete reporting on the health system and to enhance institutional capacity to implement eHealth solutions.

In November 2022, Data.FI held a 2.5-day cocreation workshop bringing together a team of MOHW stakeholders and IPs to define COVID-19 visualization needs, develop logic models, and identify priority indicators. As an action from the workshop, **Data.FI helped to establish a task team of stakeholders to define visualization priorities, map data sources, and develop prototypes.** Together with the task team, Data.FI facilitated an informed process to select a BI platform for current and future visualization needs. After evaluating multiple platforms against performance, cost, and sustainability criteria, the MOHW selected Apache Superset.

Subsequently, Data.FI led the ETL data consolidation process, and developed dashboard outlines and visualization mock-

ups—all validated with the task team support. In the final stages of this work, Data.FI will continue to collaborate

16 instances of use of data for performance improvement



Workshop with MOHW staff on the newly developed COVID-19 dashboards in Botswana. Photo by Mr. Amos Mmopi, Media and Communications Unit, Botswana MOHW.

with the task team and MOHW to validate the Apache Superset prototypes and develop materials for continued use and maintenance of the platform. Additionally, Data.FI will support MOHW staff through multiple capacity-building training sessions and meetings aimed at providing training on both visualization development best practices and BI platform specific technical support.

Figure 3. Mock-up visualizations for the Botswana COVID-19 dashboard analyzing vaccine uptake and coverage across districts



Best Practices

- The epidemic control room/situation room intervention methodology continues to promote robust and country-led data triangulation and review, enabling greater access to reliable data for decision makers and implementers.
- The recommendation from the Honduras MOH to integrate Data.FI's situation room methodology into their national guidelines on data review is an important example of how this methodology and approach can be transitioned and sustained in the long term.
- Our user-centered dashboard development processes with significant stakeholder engagement are yielding impressive results and requests for ongoing support in new MOH priority areas.

Optimizing and Scaling Health Information Systems and Digital Solutions

Data.FI optimizes information systems to improve client care, inform resource allocation at the planning level, and promote accountability. This requires a reorientation of source systems to meet client care management objectives, and harmonization of reporting systems designed to capture the data needed and used to plan and improve programs and track investments. Data.FI works closely with local stakeholders to build and maintain systems that interface well within existing ecosystems. We do this by gathering requirements and collaborating closely with partners to improve business processes, and to support data sharing and interoperability across existing and emerging platforms.

COVID-19 has further brought to the fore the need for sustainable systems—systems aligned with the local context, governed by a coordinated stakeholder team in-country, and supported by a community of



Data.FI's LongJo Augustine Yusuf (wearing a Data.FI cap) conducts a folder audit assessing the linkage of HIV-positive OVC from the community with the facility in Akwa Ibom State. Photo by Data.FI/Nigeria.



practice using open-source solutions and leveraging existing global goods. There is also a need to design systems more flexibly, with clear change management processes, to accommodate changing health service delivery strategies, and to allow for agility in measurement—now—and resilience to emerging pandemic threats—in the future. This is the challenge and opportunity we are working to build upon across sub-Saharan Africa, Central America, and the Caribbean.

DEVELOPING AND ENHANCING ELECTRONIC MEDICAL RECORD SYSTEMS

In Eswatini we are enhancing and scaling an integrated primary health care EMR

Eswatini is a small country of just over one million people, but with one of the highest rates of HIV prevalence in the world. It is also one of only two countries that have reached the challenging 95-95-95 targets set by the United Nations Joint Programme on HIV AIDS (UNAIDS), based on modelled estimates. To maintain and build on this impressive accomplishment, the leaders in the country's HIV response need accurate, granular, and real-time information so they can identify areas of unmet need and address any backsliding on their 95-95-95 achievements.

To address this, in March 2022 Data.FI began supporting the MOH's health information management system unit in their stewardship of the Client Management Information System (CMIS)—a centralized, online, patient-line, point-of-care (POC) EMR in use at 231 of 327 health care facilities in the country. CMIS is a POC system that supports comprehensive patient care and houses data on 77 percent of all clients on ART. It also integrates the full package of HIV services, including prevention (including PMTCT), testing (including early infant diagnosis), treatment, tuberculosis (TB)/HIV co-morbidities for the general population, and specific services for KPs.

In the past six months, Data.FI has finalized Version 1 of the CMIS-to-CMIS Reporting and Analytics Platform Data Replication, a District Health



Staff in Mbabane walk through the CMIS. From left: Data.FI M&E Data Use Officer Susan Mkhabela, Country Director Dineo Pereko, and Finance and Administration Manager Ntombikayise Nxumalo. Photo by Data.FI/Eswatini.

Information Software, Version 2 (DHIS2) cleared mirror repository that displays data generated from the CMIS on dashboards that can be used at the facility level to understand progress on key indicators. The team developed eight dashboards on ART, antenatal care (ANC), TB treatment, TB prevention, HIV testing services (HTS), voluntary medical male circumcision (VMMC), enrollments, and visits. Nine facilities across four regions are currently piloting this tool. This is a significant achievement that will strengthen decision making at the facility level across the country.

During this reporting period, the Data.FI and MOH CMIS development team completed a number of important system enhancements. The **team built the SMS verification functionality into the CMIS to remind clinicians to verify client phone numbers with their clients.** This will ensure that clients receive timely reminders for appointments to support retention in care. This verification means that SMS reminders are sent only to valid and verified cell phone numbers. We further scaled the biometric unique identification solution to 155 of the 210 targeted facilities to ensure EMR records are deduplicated, and merged 20,224 records within CMIS to a corresponding biometric master record (these will never duplicate again, as they are now tied to a biometric).

CLOSER LOOK

Strategies for Further Strengthening EMR System Use in Eswatini

While CMIS is used in health facilities throughout Eswatini, there is room for strengthening system functionality, coverage, and use. To build on CMIS implementation successes thus far, Data.FI has been working closely with the MOH HMIS Unit to sustain and strengthen implementation gains, and to employ strong multi-pronged strategies for realizing the system's full potential. These strategies include reinforcing training on the system and ensuring system uptime and speed.

During this reporting period, we reinforced training of system users; since October 2022, we have trained 536 facility-level staff to use the CMIS, including about 160 who were also trained on the new CMIS reporting and analytics platform. Additionally, we developed a training portal embedded on the CMIS to ensure availability of training materials at health facility level. This online training platform enables quick reference for users in the form of videos and standard operating procedures (SOPs) and other documents. We are also working with the MOH to ensure that there are **facility champions providing supportive supervision and posttraining support on an ongoing basis** for the system. This has been one of the greatest innovations in improving HIV clinical outcomes, as it has solidified system acceptance and use by the MOH staff at the facility level.

The results of these efforts are bearing fruit: during the first two quarters of this year, 95 percent of all health facilities logged into CMIS and documented at least one service daily.

In addition, we have already seen successes in system acceptance by the broader primary care program. Eswatini's TB program was initially slow to fully adopt the CMIS as their primary routine data collection system. After Data.FI held a training for TB clinical mentors in December 2022, we have seen increased TB data entry in CMIS at the health facility level. We also have started working closely with national-level TB representatives to improve the TB treatment and TB preventive therapy (TPT) modules.



Participants in the CMIS Plus launch in 2021 at a health facility in Eswatini. From left: United States Ambassador to Eswatini Jeanne Marie Maloney; Mvilawemphi Dlamini, Chief Executive of ESCCOM; Mr. Chris Detwiler, USAID Country Director; the Honorary Minister of Health of Eswatini, Lizzie Nkosi; Mr. Mzwandile Vilakati, Strategic Information Advisor Data.Fl, Palladium; and Ms. Zanela Simelane, MOH-HMIS Manager.

Supporting Burundi's HIV Response

Since 2020, Data.FI has supported PEPFAR and the Government of Burundi's goals of enhancing the primary HIV EMR in the country-SIDAInfo. In 2020 and 2021, Data.FI worked collaboratively with the National AIDS and STI Control Program (Programme National de Lutte contre le Sida et infections sexuellement transmissibles, or PNLS) and the Directorate of the National Health Information System (Direction du Système National d'Information Sanitaire, or DSNIS) and two USAID-funded mechanisms (Reaching an AIDS-Free Generation in Burundi, or RAFG, and Reaching Impact, Saturation, and Epidemic Control, or RISE) to develop and roll out a web-based version of the original Microsoft Accessbased system. This enhanced web based EMR, together with a biometric unique ID (UID) solution, now enables individual clients to have a unified record across all HIV service provision sites. improving quality of data and services delivered.

In 2021 and 2022 Data.FI and the SIDAInfo/UID Technical Working Group (TWG) continued to support and further scale the web-based SIDAInfo EMR and the accompanying UID system, and enhanced IBIPIMO, the laboratory information system in the country, developing a laboratory module within SIDAInfo for the first time. The team also started the process of integrating recency testing data into SIDAInfo through a separate surveillance system. This year, Data.FI finalized the IBIPIMO and the Recent HIV Infections Surveillance System (RISS) integration into SIDAInfo. Integrating this data into one system has given clinicians critical information on their clients that can lead to meaningful gains in the country's journey towards 95-95-95.

This year, Data.FI Burundi also geographically expanded the enhanced SIDAInfo system and UID solution to low- and medium-volume sites increasing the number of health facilities in the country with SIDAInfo to 362. To ensure ongoing use of the system, Data.FI provided technical support to allow new site-level users to manage SIDAInfo. Field visits for system maintenance were conducted and remote support was provided by the IT team through a webbased helpdesk platform and *WhatsApp*. Data.FI



Deployment of LAMISPlus in Adamawa State, Nigeria. Photo by Data.FI/Nigeria.

also provided technical support to the MOH in the implementation of data security and cybersecurity through capacity building and dissemination of a security charter.

Strengthening Nigeria's HIV EMR

LAMISPlus 2.0 is an HIV EMR that is free and opensource, meaning that Palladium, through Data.FI, and the IPs contributing to its development through the Health Informatics Community of Practice (HI-CoP), are creating a home-grown, information system for its free, sustainable, and unconstrained use in service of the people of Nigeria.

During the performance period Data.Fl Nigeria, in collaboration with the FMOH, supported the deployment of LAMISPlus 2.0, across 25 facilities in five states, with successful report generation and data upload to the National Data Repository. Data.Fl

supported the physical deployment in eight facilities across three states (Adamawa, Lagos, and Niger), while providing virtual support to the Accelerating Control of the HIV Epidemic in Nigeria (ACE-3) mechanism to deploy in two states (Zamfara

Scaled systems to 1,269 sites and Kebbi). ACE-3 demonstrated ownership in the deployment process and provided step-down training to increase the capacity of system users at various levels.

All 25 facilities are currently using LAMISPlus 2.0 and have decommissioned the use of the previous legacy system. As part of the deployment process, Data.FI also trained IP facility staff on the use of the system, the data migration process, and the biometric configuration process to ensure they have the necessary skills to operationalize the system entirely.

As part of the updates, the team integrated new features, such as the successful integration of LAMISPlus 2.0 with the national Laboratory Information Management System, which enables automatic tracking of viral load (VL) samples from the facilities and central laboratories in collaboration with the Clinton Health Access Initiative. The team also launched the National Data Repository application program interface, the quick sync module to support database syncing from the community; the Central LAMISPlus sync module to support data push to the central server; activated the PMTCT module; and updated the patient dashboard to effectively track patient vital signs.



NOMIS is now operational in eight states in Nigeria.

SCALING DIGITAL SOLUTIONS FOR OVC INFORMATION SYSTEMS

Deploying Nigeria's National OVC Management Information System

In February 2022, Data.FI Nigeria successfully collaborated with the Federal Ministry of Women Affairs (FMWA) and PEPFAR IPs to set up the NOMIS Information Task Team (ITT), responsible for the NOMIS governance structure, sustainability, and strengthening plans in the country. The FMWA is heavily involved—they pushed for the formation of the NOMIS ITT and provided three technical staff to learn everything there is to know about NOMIS to guarantee a seamless transition to FMWA and longterm sustainability.

During this performance period Data.Fl successfully deployed the NOMIS to 28 community-based organizations across four USAID orphans and vulnerable children (OVC) IPs in eight states. This implementation and use of NOMIS is intended to improve tracking and monitoring of OVC at the community level across states in Nigeria.

As part of the deployment process, Data.FI/Nigeria conducted a series of NOMIS data migration and deployment trainings for all PEPFAR IPs, and for OVC staff with the U.S. Department of Defense (DOD). The aim of the trainings was to equip the IPs with the resources required to configure, manage, and use the system for effective and efficient tracking of clients receiving OVC services at the community level across states in Nigeria and to enable DOD staff to effectively manage and use the new NOMIS for tracking and monitoring of OVC clients within the programs of implementation.

Data.FI/Nigeria also organized a one-week training for the FMWA OVC Department on all OVC Indicators and NOMIS. The training was intended to **reinforce understanding of the indicators for effective performance monitoring of the national OVC program.** As part of the sustainability of the NOMIS application, the training also served to build the **capacity of the FMWA staff to provide governance support to the system.**
CLOSER LOOK

Working Towards 95-95-95 with More Integrated Systems in Burundi

Building on more than two years of our partnership with PNLS and USAID/Burundi, Data.FI collaborated with the SIDAInfo/UID TWG and other key stakeholders to redesign and upgrade the SIDAInfo software with three new modules (IBIPIMO, RISS, and UID). This helped to:

- Improve the case finding and linkage to treatment (1st 95): Recording index testing opportunities and results for sexual partners and for children of HIV-positive mothers; recording HIV-positive patient status and whether they are linked to ART.
- Improve continuity of treatment (2nd 95): Reducing patient default by identifying opportunities to contact patients experiencing interruption in treatment (IIT).
- Improve VL suppression (3rd 95): The availability of VL results in a relatively short period of time makes it possible to monitor people living with HIV and to detect problems of adherence to treatment and/or possible treatment failure.



Data.FI organized a data analysis meeting, bringing together the M&E officers of the various clinical partners implementing the PEPFAR program in Burundi. Photo by Data.FI/Burundi.

On March 6 in Johannesburg, South Africa, the U.S. Global AIDS Coordinator, Ambassador John Nkengasong, acknowledged Burundi as the only francophone African country so close to meeting the UNAIDS goals and awarded its government with an honorary plaque. Ambassador Nkengasong had also recognized Burundi's public health progress: "Burundi's progress towards 95/95/95 is remarkable."



In March 2023 at a PEPFAR meeting in Johannesburg, U.S. Global AIDS Coordinator Ambassador John Nkengasong acknowledged the Government of Burundi and its partners, including Data.FI, for Burundi's success in nearing the UNAIDS 95-95-95 goals.

Harmonizing data management across IPs in Zimbabwe

In 2020 and 2021 Data.FI developed the OVC Management Information System (MIS) in Zimbabwe —a harmonized case management system now in use by all four PEPFAR OVC partners in the country. Last year, IPs fully transitioned from using their previous existing MIS and embraced the harmonized system developed by Data.FI. **OVC partners in Zimbabwe, the majority of which are local IPs, have gained** greater insight into their own performance challenges through the display of data by community-based sub-grantees.

During this performance period Data.FI completed the configuration, testing, and implementation of the PLHIV module in the OVC MIS. The change was important for consistent indicator calculation and for avoiding errors during data capture of static information. We are also in the process of reviewing and optimizing MIS integration scripts to shorten runtime and improve overall system performance.

Consolidating OVC solutions in Côte d'Ivoire

In Côte d'Ivoire, Data.FI continues our partnership with and support to the National OVC Program (Programme Nationale de prise en charges des Orphelins et autres Enfants rendues Vulnérables du fait du VIH/Sida, or PNOEV) on putting in place the new integrated OVC/DREAMS database. **The integration of OVC and DREAMS data into one database in Côte d'Ivoire** with two interfaces **reduces the risk for duplication of data** on beneficiaries across the two programs and **strengthens information for national-level decision making**. During this reporting period we further configured the system so that it can generate periodic reports and listings to support decisions that inform the care of OVC and at-risk AGYW.

The Data.FI team also co-created a transition plan with the PNOEV on ownership and maintenance of the OVC/DREAMS

database, including a responsibility matrix. The implementation of the plan is ongoing and will allow the transition of the OVC/DREAMS database to the PNOEV while ensuring that the managers have the capacity to maintain the system.



Data.FI Quality Improvement Specialist Laurina Nyang assessing provider-initiated testing and counselling processes at Song Cottage Hospital in Adamawa State, Nigeria. Photo by Data.FI/Nigeria.

STRENGTHENING COVID-19 INFORMATION SYSTEMS

Addressing COVID-19 vaccine data backlogs in Malawi

Data.FI/Malawi is one among several partners working closely with the country's Digital Health Division (DHD) at the MOH to promote the use of the country's eVaccine Registry, a DHIS2 tracker module in the country's One Health Surveillance Platform developed by the MOH to digitally record uptake of COVID-19 vaccines. To date, there have been challenges with timely data entry of paperbased records, resulting in a backlog of data in the eVaccine Registry.

To address issues related to advancing digital data capture of vaccination records and the persistent backlog of COVID-19 vaccine data, in October 2022 Data.FI developed a capacity-building plan based on findings from Data.FI's Malawi COVID-19 eVaccine Registry Desk Review Report. The capacity-building plan is now being implemented to support the transition from paper to digital data collection systems by developing a set of contextualized capacity-strengthening tools for COVID-19 vaccine reporting processes.

To date, Data.FI has supported two quarterly district supervision and mentorship visits in priority districts, finalized updated training materials on the eVaccine module, and conducted trainings on eVax data entry. The project has also worked with the DHD to successfully advocate for the re-invigoration of the Expanded Programme on Immunization (EPI) Data Management subcommittee to foster coordination between EPI, DHD, and other partners in monitoring and evaluation (M&E) for COVID-19 vaccination. This has accelerated coordination and collaboration between DHD, EPI, and the Central M&E Division (CMED) to discuss and align on digital tools to support the EPI Data Management Team on COVID-19 and other priority immunization activities (such as typhoid conjugate vaccine/measles rubella [TCV/MR] campaign).



In Malawi Data.FI is supporting the MOH's Digital Health Division to strengthen the capture, management, quality, and use of COVID-19 vaccine data at central and district levels to enable more real-time monitoring of vaccine deployment. Photo by Data.FI/Malawi.

Aligning COVID-19 systems and processes in Guatemala and Honduras

During the last performance year in Guatemala and Honduras, Data.Fl developed and presented technical recommendations to the ministries of health to improve the national information system on COVID-19, which will contribute to better clinical case management, better organization of laboratory services, and optimal management of vaccine logistics. This year, the Data.FI team has been busy working with officials from the Health Management Information System (SIGSA) of the MOH in Guatemala to implement these recommendations. As part of the improvements for the use of COVID-19 systems, Data.FI designed a training strategy for the use of information systems. This training strategy will be implemented through workshops that will be held in 2023. In Honduras, we are supporting the implementation a new vaccination registry that will support all immunization programs.



Figure 4. Screenshot of Eswatini's Client Management Information System dashboard on ART

INTEGRATING INFORMATION SYSTEMS FOR ADVANCED ANALYTICS

Data.Fl is integrating data sources and building analytics platforms that enable precision programming. To achieve better and more equitable health outcomes in the context of a global pandemic and diminishing donor resources requires programming informed by accurate, high-impact analytics.

Building a robust data analytics visualization platform in Mozambique

Until recently, Mozambique's National HIV/AIDS Program (Programa Nacional de Control de ITS HIV/SIDA, or PNC ITS-HIV/SIDA) conducted routine program performance analysis using aggregate data reported through the national HMIS—the Sistema de Informação para Saúde de Monitoria e Avaliação (Health Information System for Monitoring and Evaluation), or SISMA—and through analyses conducted in *Microsoft Excel*. While SISMA (a DHIS2-based platform) adequately serves the MOH's data warehousing needs, it was not the ideal technology for data exploration and visualization. Likewise, Microsoft Excel is limited in its capacity to process disparate, large, and complex datasets. Recognizing the limitations of its current analytic approach, in 2020 PNC ITS-HIV/SIDA acquired BI software to use as its future analytics platform and requested that Data.FI provide targeted technical assistance to maximize the benefit of the planned transition.

As part of this technical assistance, Data.FI developed an ETL tool to simplify the process of developing analytics using data available outside SISMA. The additional data sources included program targets, *Spectrum* data for population estimates, master health facility lists, and laboratory reporting system data. These multiple data sources were combined into meaningful outputs to enhance existing analyses and develop new analytic models and dashboards to support HIV programming.

During this performance period, Data.FI supported the MOH to further update the system features, including creating a new user interface for the portal, and adding data acquisition modules and an ETL for the KPs and PMTCT programmatic areas.

Pulling disparate HIS data together in South Africa for powerful analyses

In South Africa, Data.FI has worked with the National Department of Health (NDOH) to build the Consolidated Health Information South Africa (CHISA) platform. **CHISA is an analytical platform integrating powerful features for data analyses and visualizations.** It has been designed to provide a wide range of users with insights into client well-being across the TB/HIV cascade. The visual analytics presented in the CHISA platform include bespoke disaggregations that are optimized for program managers implementing targeted quality improvement (QI) interventions.

The analytics platform pulls data from a national data warehouse through which disparate HIS source system data in South Africa are linked. It provides unique reporting capabilities compared to other platforms that are used to monitor the HIV response in South Africa, given its ability to ingest and link numerous data sources, to access a wide range of users countrywide, to utilize powerful BI and visualization capabilities, and to use the analytical power of patient-line data, allowing longitudinal data analysis for outcomes measurement and predictive analytics.

In this performance period, Data.FI has adapted a model for cyclical cohort analysis to be incorporated in CHISA's analytics platform through engagement with NDOH and the PEPFAR country coordinating office. Unlike regular cohort analysis that is already part of the measurement suite, the cyclical cohort approach looks at measuring disengagement and re-engagement on ART at multiple facilities. This will allow program managers to understand the characteristics of patients who interrupt and restart treatment, and the frequency of these interruptions and the impact of interruptions on VL suppression. This novel analysis is based on the longitudinal patient record and needed the creation of new measures developed in consultation with strategic information staff from USAID, the U.S. Centers for Disease Control and Prevention (CDC) and the South African PEPFAR Coordinating Office, as well as representatives from both the Health Informatics Department and Digital Health Units at the NDOH.



Best Practices

- In countries where we have been working for several years (such as Nigeria and Burundi) we are seeing impressive gains in the robustness and interoperability of the information systems we support, and stronger governance and sustainability of these systems. The ability to work closely with MOHs over several years can lead to particularly meaningful progress in local capacity and program outcomes.
- Targeted training and outreach to those working in different primary health care areas within MOHs can lead to greater acceptability and use of digital record-keeping systems at all levels, such as we have seen with the ECMIS in Eswatini.
- We continue to see the power of pulling together disparate HIS for powerful analyses; for example, in South Africa we just completed a cyclical cohort model using the CHISA platform that measures disengagement and re-engagement on ART at multiple facilities. This would not have been possible without the integrated CHISA platform and will allow program managers to understand the characteristics of patients who interrupt and restart treatment, the frequency of these interruptions, and the impact of interruptions on VL suppression.

Applying Strategic Information and Learning



Data.FI supports USAID and partner governments to rapidly collect and use non-routine data for strategic needs in their health response. We also support USAID to answer key learning questions, adapt and create methods and approaches to document activities, and catalogue learning with USAID and the broader digital and public health community. This is particularly critical as the COVID-19 pandemic necessitated rapid learning and bespoke data collection to adapt to the unprecedented pandemic and learn from it to better prepare for what comes next.



Members of the COVID-19 Vaccine Digital Collaborative Learning Agenda met at Palladium in Washington, DC to develop a theory of change to guide studies exploring how USAID's COVID-19 health system, data, and digital health investments strengthened the digital health enabling environment, digital health architecture, and use and development of global goods. Photo by Elizabeth T. Robinson, Data.Fl.

COLLABORATION AND LEARNING

Supporting coordination of USAID's COVID-19 Vaccine Digital Collaborative Learning Agenda

To enable the USAID COVID-19 Response Team to understand the extent to which USAID's COVID-19 vaccine health system, data, and digital health investments have strengthened the digital health enabling environment, supported government-led coordination, leveraged global goods, and strengthened country digital health architecture, Data.FI is coordinating a **digital health-focused collaborative learning agenda that brings together four partners with CN18 and CN184 COVID-19 vaccine funding.**

This work will enable USAID and its partners to capture and compare learnings in 13 countries (Burkina Faso, the Democratic Republic of the Congo, Ghana, Guatemala, Haiti, Honduras, Kenya, Mali, Niger, Senegal, Surinam, Tanzania, and Vietnam) on COVID-19 vaccine digital health investments with an eye toward future investments in sustainable health systems that promote resilience in the face of future threats, as well as institutionalizing COVID-19 vaccine information systems for routine immunization programming.

As part of this activity, Data FI brought together USAID and three other partners—Country Health Information Systems and Data Use (CHISU), MOMENTUM-Routine Immunization Transformation and Equity (M-RITE), and Digital Square, for an all-day in-person workshop in November 2022 to develop a joint theory of change for the COVID-19 vaccine digital investments, which we will be featured in a joint journal supplement that Data.FI is coordinating. The special issue of **Oxford Open Digital** Health, managed by Data.FI, will synthesize these learnings from the COVID-19 vaccine response for the broader development community and provide recommendations for future programming for donors, MOHs, and implementers.



LEARNING FROM IMPLEMENTATION

Learning Questions for USAID's COVID-19 Vaccine Digital Collaborative Learning Agenda

To what extent and how did USAID's COVID-19 health system, data, and digital health investments:

- Contribute to a strengthened digital health enabling environment as defined by the seven WHO/International Telecommunication Union (ITU) eHealth building blocks?
- Support a government-led, coordinated approach to addressing needs identified by the country's digital health strategy and costed implementation plans (or via an alternative organizing policy, coordination structure and/or budgeting framework)?
- Advance the country's digital health architecture by lowering the financial and management burden of competing digital systems and improving interoperability between national digital health systems?
- Leverage existing or develop new global goods, resulting in standard operational, functional, and system requirements that advance country replication and/or increase global digital and data system investment repositories?

Co-leading USAID's COVID-19 Vaccine Technical Assistance Implementing Partner Forum

This year, Data.FI also continued to serve a convening role for USAID's COVID-19 partners as co-lead for USAID's COVID-19 Vaccine **Technical Assistance Implementing Partner** Forum, with USAID and the USAID-funded M-RITE project. This forum is an interactive platform supporting the sharing of updates, experiences, and ideas across USAID and partners to increase the effectiveness of USAID's COVID-19 vaccine investments. Data.FI has supported forum planning and provided valuable insights on strategies that countries are using to address challenges in the COVID-19 vaccination response and emerging issues to consider for COVID-19 vaccination programs, based on bimonthly participant polling.

Strategic Information to Support Digitization of Vaccine Records in Honduras

In 2022, Data.FI was asked by the Honduras MOH and USAID to support steps underway to digitize vaccine records in the country. As part of these efforts, Data.FI is in the process of implementing a multi-stage ICT assessment to better understand the factors that would facilitate or hinder the use of digital tools for capturing COVID-19 vaccination data in real time.



INCREASING VACCINATION COVERAGE

Using data from USAID-funded projects, Data.FI and the health regions in Honduras developed action plans to improve COVID-19 vaccination coverage by creating optimal vaccination scenarios for the school-age population in urban and rural areas, to support implementation of vaccination activities at the national level.

A nursing student in Honduras records client data on a COVID-19 vaccination certificate and a monitoring form. Photo by Diana Gonzalez, Data.Fl.



Data.FI staff visited the room where patients' paper-based medical records are stored in the El Manchén Integrated Health Center in Tegucigalpa, Honduras. Photo taken by Diana Gonzalez, Data.FI.

In the assessment Data.FI used a standardized tool to capture essential elements for digitizing data collection systems, including the current status of infrastructure (computers, electricity, connectivity, etc.) and human resource capacity (number and type of staff and their digital literacy) of 16 health facilities in the San Pedro Sula Metropolitan Health Region, the largest region in the country.

Following data collection, Data.FI presented the analysis, mapping, and recommendations to the regional headquarters and later to the central level. Preliminary findings include structural constraints beyond the scope of the MOH; addressing these constraints will require multisectoral coordination, such as to improve connectivity and ensure continuous electrical flow. The assessment results also identified a need for additional human resources to respond to the registration of patient information, as well as additional equipment and training processes.

The ICT assessment will be complemented by a qualitative analysis to characterize other factors that facilitate or hinder the use of digital tools for COVID-19. The final report will be presented to national authorities and the Strategic Advisory Group facilitated by USAID to identify opportunities for implementing study recommendations.

DATA QUALITY STRENGTHENING

Assessing COVID-19 vaccine data quality in Sub-Saharan Africa and South America

Tracking vaccination data is imperative for decision makers to be able to assess and manage the vaccine distribution efforts ongoing globally. Data on COVID-19 vaccination uptake and related indicators are being collected by health care workers (HCWs) daily and reported regularly to USAID. These data are used to guide the ongoing response, to ensure that vaccines are being used effectively, and to inform USAID on the success of the vaccination distribution program.

Data.FI is currently implementing its second data quality assessment (DQA) on COVID-19



Florence Hillary, the District AIDS coordinator for Kondoa Town Council, listens closely during a design workshop to improve PMTCT care in Kondoa, Tanzania. Photo by Data.Fl/Tanzania.

data, and the first that focuses on COVID-19 vaccine data specifically, in five countries: Bangladesh, Ecuador, Kenya, Tanzania, and Uganda. The DQA in Ecuador was completed and a report was shared with in-country stakeholders. Data collection is underway in the remaining four countries, with results expected in the quarter.

The DQA results in Ecuador showed high verification factors for the COVID-19 indicators overall. The data were largely complete and there were comprehensive SOPs in place to guide data collection. Ecuador was unique in that COVID-19 reporting had been fully integrated within existing government data collection systems, avoiding parallel data collection systems. However, this was an online-only system, which presented challenges in areas with inconsistent internet and resulted in some adhoc paper-based reporting. The storage and security of source documentation, access to source data, and timeliness of data submission were also identified as areas for improvement.



Designing a driver diagram on HIV health outcomes in Bahi, Tanzania. Photo by Data.FI/Tanzania.

Addressing data quality in Tanzania as a critical step in attaining VL suppression

In April 2022, as a result of the data review meetings, the President's Office-Regional Administration and Local Government (PORALG), together the Council Health Management Teams (CHMTs) of nine councils and HIV IPs, with support from Data.FI/Tanzania, gathered to gain a better understanding of factors contributing to the lower rates of VL suppression among HIV-positive pregnant and breastfeeding women (PBFW) in these councils.

Their inquiry uncovered several challenges related to collecting and transmitting cohort monitoring data; inaccurate data had distorted program performance issues. The CHMTs applied QI strategies to disentangle issues related to the information systems and those related to strengthening the quality of services provided to PBFW. To address the quality and completeness of the data, they visited non-reporting facilities and clarified the reporting requirements for VL suppression for PBFW. Data.FI established validation rules within the Integrated Monitoring and Evaluation System (iMES) to flag VL data inconsistencies and assisted the CHMTs to



Figure 5. VL suppression rates in nine councils in Tanzania among HIV-positive PBFW (2021 vs 2022)

follow up and correct identified errors.

Following coaching, the CHMTs further engaged HCWs in orientations to improve their understanding of cohort monitoring, indicator definitions, and how to complete data collection forms. Their performance indicators for data quality improved, with some registering a comparative drop of performance as an artifact, with the cleaned data showing they had suppression rates lower than they thought they had with the uncleaned data—see Kondoa Town Council (TC) and Kongwa District Council (DC) in Figure 5.

Strengthening reporting systems allowed CHMTs to turn their attention to service delivery challenges. The teams developed strategies to promote more timely access to VL testing through:

- Strengthening community outreach to PBFW who miss follow-up appointments.
- Reviewing workflows and testing schedules to make sure that PBFW due for VL testing are tested on time.
- Streamlining referrals for VL sample testing and additional follow-up on subsequent test results.

 Improving documentation of these results in client records and data registers.

As a result, VL suppression increased from an average of 74 percent to 89 percent across the nine councils. The CHMTs in these councils continue to follow up on action items, share challenges they encounter, and develop strategies that work to attain the national goal of 95 percent.



Data.FI District Quality Advisor Rehema Kassim, PORALG HIV AIDS Coordinator Dr. Neema Mlole, and PORALG M&E Coordinator Ally Kananika collaborate at a design workshop in Morogoro, Tanzania. Photo by Data.FI/Tanzania.

Best Practices

- In harnessing lessons learned from the COVID-19 vaccine digital health response, it has been valuable for USAID and different mechanisms to come together, share experiences, create a theory of change, and discuss implementation.
- The ICT assessment in Honduras highlighted the instability of electricity and internet, as well as limited functioning computers. This type of assessment can serve as important baseline information and a good advocacy tool for MOHs, donors, and implementers interested in deploying new systems and technologies in the low-resource settings where we operate.
- Strengthening reporting systems and improving data quality allows health staff to better understand program performance and identify solutions to addressing service delivery challenges.

DATA.FI IMPACT AREA

Strengthening Local Partners and Digital Health Capacity



Data.FI aims to strengthen host country enabling environments to support and sustain the national HIV and COVID-19 response through the implementation of robust and resilient HIV and COVID-19 information systems and digital solutions. We gather information on countries' digital health enabling environments to determine priority investment areas. We work with MOHs and other donors and partners working in country to coordinate and collaborate on investments leveraging global goods to provide impartial, evidence-based advice on policies and protocols—such as systems interoperability and data security—and work side-by-side with government counterparts to transfer leadership, as well as skills for data stewardship, data analysis and interpretation, and action planning.

Data.FI works through local stakeholders to build partnerships and to tap into local knowledge, networks, and assets. We support the establishment of **country-led governance structures** that provide leadership and governance to design and execute **digital health strategies** that are supported by



PORALG HIV Coordinator Dr. Neema Mlole and Data.FI Senior Technical Advisor Michelle Li deliberate during a Technical Assistance Group meeting in Tanzania. Photo by Data.FI/Tanzania.

enabling **policies and legislation.** We also provide **capacity-building** support to local partners and governments. Data.Fl is set up to manage **transition awards** and act as a "middleware" layer between USAID and local partners, and to support data capture, analysis, and reporting, particularly in cases when previously integrated projects are split across multiple local partners. Data.Fl's activities are government-led and fully integrated with government-chaired health committees and TWG.

ENHANCING GOVERNMENT CAPACITY TO LEAD

Since 2021, Data.FI has worked with authorities from the governments of Honduras and Guatemala to identify information needs for COVID-19 and HIV programs, and to assess and document existing business processes, business units, and software solutions supporting data flows. We also provided recommendations to address gaps, data management, and human capacity. Data.FI has also supported the coordination and strengthening of TWGs with the participation of business owners for laboratory, vaccine logistics, vaccination registry, and surveillance of COVID-19 cases. Digital tools that support the business areas covered by the TWG were also reviewed to strengthen the integration of data for analysis and decision making. Data.FI also developed recommendations for improving the aforementioned digital tools.

In Honduras, Data.FI is also supporting the development by the MOH's Information Management Unit (Unidad de Gestion de la Información, or UGI) of a COVID-19 vaccination certificate and has been supporting the

implementation of the newly developed misvacunas.hn single vaccination registry. We completed an assessment of UGI's capacities, presented recommendations and started the implementation of priority actions in coordination with the Unit.

Supported 14 digital health governance structures



Freddy Hidalgo, Data.FI Data Quality and Capacity Building Advisor, and Dr. Emilio Pineda, Head of the Planning Unit at the Metropolitan Health Region of San Pedro Sula in Honduras, applying an ICT assessment questionnaire to staff at the Brisas del Mar Health Center in Honduras. Photo by Diana Gonzalez, Data.FI.

Data.FI also continued to support stewardship by Honduras' Expanded Program on Immunizations of the COVID-19 vaccine response through meeting facilitation, data analysis, visualization of vaccination scenarios, and management of the Cooperation Integrated Plan for the Strategic Advisory Group (a donor and IP forum supporting COVID-19 activities in-country comprised of the Inter-American Development Bank, the World Bank, the Pan-American Health Organization, UNICEF, Global Communities, and USAID). This body strengthens government coordination of the COVID-19 vaccine response through alignment of resources and development of regional action plans and activities to improve vaccination access, coverage, and information management for COVID-19. Data.FI has also helped identify batches of vaccines close to expiration to prioritize their use in the health regions with the highest concentration of priority populations.

In Guatemala, Data.FI supports the Ministries of Health and Finance (MSPAS and the Ministerio de Finanzas Públicas) to integrate data on budget allocation, expenditure, and goal achievement for priority health programs. We documented system requirements and reviewed processes for data extraction and criteria definition. Data.FI will continue to harmonize the data integration processes and develop visualization tools to improve data analytics for decision making at MSPAS.

Envisioning a future for Nigeria's public health data ecosystem

In collaboration with the National Primary Health Care Development Agency, Data.FI conducted a COVID-19 situational analysis in June 2022 to identify unmet needs across the COVID-19 landscape. The findings were presented at a January 2023 workshop held by the Vaccine Data Co-Lab and the Government of Nigeria in which participants discussed the findings and developed recommendations for **supporting accelerated COVID-19 vaccine delivery and the use of data to inform decisions in the vaccine delivery ecosystem.**

At the end of the workshop, participants developed a roadmap and identified key partners needed to reach various milestones on the roadmap. Items in the roadmap include:

- The introduction of COVID-19 vaccines into routine immunization programs at the grassroots level.
- Development of an SOP for an integrated COVID-19 data system for all stages of the data value chain characterized by integrity and data protection guidelines.
- Development of a standard interoperability framework for systems supporting COVID-19 vaccination data. This framework is expected to guide all stakeholders in the vaccine data value chain on SOPs for data generation, collection, analysis, visualization, and data exchange between systems.

2,785 individuals completed a Data.Fl training

This initiative supports national efforts in strengthening data systems tracking vaccine delivery and uptake in Nigeria. The collaboration between Data.FI and the Vaccine Data Co-Lab maximizes the reach of interventions at the subnational level.

TRANSITIONING SYSTEMS/ GOVERNANCE STRUCTURES FOR SUSTAINABILITY

The Knowledge Hub is an e-learning platform that offers online courses and webinars for public and private-sector health providers in South Africa. During this performance period, the Data.FI team continued to implement plans to transition the Knowledge Hub system, which serves 133,000 registered users, to the Human Resources Department (HRD) at the NDOH. Data.FI worked with HRD to prepare budgets and articulate the rationale for proposed revisions. Subsequently HRD was successful in securing internal funding for FY23-24 for the Knowledge Hub. This is a big change from the last two years and is a huge step in establishing the long-term sustainability of the system and to help institutionalize the system formally within the NDOH.



Franschhoek, South Africa. Photo by Danny.

CLOSER LOOK

Transitioning Situation Room Leadership in Tanzania

Data.FI/Tanzania provides support to nine CHMTs through situation rooms where teams review ANC and PMTCT service delivery data with a view to increasing the proportion of pregnant women early booking into ANC services and improving VL suppression of HIV-positive PBFW.

In January 2023, Data.FI/Tanzania, together with PORALG, conducted a two-day orientation workshop with the aim of **transitioning leadership of situation room activities to government staff.** The process included developing criteria for 'situation room champions' (government officials), selecting 12 participants to become champions, developing orientation materials, and equipping those selected with skills that will enable them to lead situation rooms in their respective councils/regions.

Currently, Data.FI/Tanzania has six staff each supporting at least two situation rooms, but following this workshop, the Data.FI team members are expecting to slowly transition out of their leadership roles, with champions taking over completely in July 2023. This approach will not only build ownership and sustainability for the government officials but will also allow Data.FI to provide support in other regions of the country.



Local and national officials confer during a supervisory meeting in Kondoa, February 2023. Photo by Data.FI/Tanzania.



Data.FI HIS System Advisor and Data Engineer Beatus Kibiti presents during a Technical Assistance Group (TAG) meeting in Tanzania focused on use of quality data to support evidence-based health programming and accountability in selected district councils. TAG members meet on a regular basis to plan activities and to discuss progress, as well as challenges, mitigation strategies, and lessons learned from its implementation of the data use initiative. Photo by Data.FI/Tanzania.

STRENGTHENING MANAGEMENT OF INFORMATION SECURITY

Data.FI has developed SOPs and template documents to streamline the implementation of best practices in information security, including guidelines for managing and training users and ensuring data collection at health facilities happens in a secured environment. We are working with country teams to identify key tasks to improve the security of information systems, plan for implementation, and track progress. Countries where Data.FI handles personal identifiable information (PII), including **Burundi, Eswatini, and Nigeria, now have an action plan for information security that will be completed in the coming months.**

In **Zimbabwe**, in alignment with COP guidance on child safeguarding, Data.FI developed SOPs for information security for the OVC MIS that provide a set of instructions on data access and management. This will strengthen the security of the system, safeguarding routine data and PII by both system administrators and end-users. The new SOPs also guide IPs and users on data access and sharing. In the coming quarter Data.FI will provide information security training to IPs.



SOUTH-TO-SOUTH DIGITAL EXCHANGE

In January 2023, Data.FI/Eswatini's systems architect and M&E lead joined representatives from Eswatini's HMIS and M&E units at the MOH and Eswatini's National Emergency Response Council on HIV for a South-to-South learning exchange in Kigali to learn good practices and lessons from Rwanda's MOH and its supporting partners on implementing digital health systems. Topics included network and infrastructure, data collection and reporting tools, interoperability of health systems, data privacy and security, management, data use, and leadership and governance.

Best Practices

- Managing change to adopt information systems take time. After two years of working with South Africa's NDOH to transition the Knowledge Hub, the government has successfully secured funding to manage the system in the coming financial year.
- We are seeing the results of the Data.FI project having worked closely with authorities from the governments of Honduras and Guatemala to address architecture and governance challenges for the COVID-19 and HIV information systems. This foundational work is now supporting the broader health program in both countries, increasing system sustainability and readiness for future pandemics.
- Data.FI has developed SOPs and template documents to streamline the implementation of best practices for information security, including guidelines for managing and training users and ensuring that data collection at health facilities happens in a secure environment.

Engaging Stakeholders through Communications Outreach

Data.FI engages with stakeholders through a wide range of channels and networks. Our technical experts present at leading global and digital health conferences, such as the International AIDS Conference, Impact First, the Consortium of Universities for Global Health Conference, the Global Digital Development Summit, and the Global Digital Development Forum. At the local level, our country teams work alongside government officials and ministers, USAID-funded local partners, data managers and M&E officers, and specialists in strategic information, health informatics, data analytics, data use, infectious disease surveillance, and digital health systems. Working together, we share information on innovative approaches and best practices, building capacity for digital transformation.



Dr. Savadogo Youssoufou, M&E manager at the Burkina Faso MOH, Department for Prevention through Vaccination, being interviewed by news media at a January 2023 workshop in Loumbila. The meeting marked the official launch of Data.FI activities in Burkina Faso.

> Data.Fl LinkedIn Page

increase in followers over 6 months

had a

We also engage with the global health community through LinkedIn, regularly sharing important digital health developments and lessons learned from the field. Our audience of over 2,200 includes professionals and thought leaders from across the development, health, and tech sectors, such as the Centers for Disease Control and Prevention, USAID, the World Health Organization, the Population Council, the London School of Hygiene and Tropical Medicine, Johns Hopkins University, the Bill & Melinda Gates Foundation, FHI 360, and the Desmond Tutu HIV Centre.



Data.FI Project 2,194 followers 6mo • (\$

The Data.FI/South Africa team met with partners from the Human Resources Directorate (HRD) of South Africa's National Department of Health and technical support partner Neil Butcher and Associates in October 2022. The team ε ...see more



All figures describing dissemination reach are cumulative (October 1, 2022-March 31, 2023).

Advancing Gender Equality and Social Inclusion



Data.Fl is working to accelerate and sustain access to high-quality gender data to expedite HIV and COVID-19 epidemic control and maintenance among all gender and age groups, as well as among specific key and priority populations (AGYW, transgender people, migrating peoples, etc.). Our work is grounded in evidence that gender data are critical to attaining program targets and to achieving equitable health outcomes and gender equality. Data.FI refreshes our gender strategy annually to account for new areas of work and broader shifts in thinking about gender equality and social inclusion like USAID's 2023 Gender Equality and Women's Empowerment Policy. During the reporting period, we advanced the use of gender data in our country activities in data collection, use, and analytics in multiple ways.



Data.FI Quality Advisor Magreth Mlundwa leads a session during a PMTCT design workshop held in Morogoro, Tanzania. Photo by Data.FI/Tanzania.

Gender data refers to information about the dynamics between HIV and COVID-19 and gender equality, gender equity, gender norms, gender-based violence, and sexual diversity and inclusion.

Capturing gender-based violence data to improve HIV programming

Gender-based violence (GBV), including sexual and physical violence, emotional abuse, and childhood sexual abuse, has been clearly linked to HIV infection.¹ Globally, 30 percent of women experience intimate partner violence or non-partner sexual violence in their lifetime.² According to UNAIDS, "in countries with high HIV prevalence, **intimate partner violence can increase the chances of women acquiring HIV by up to 50%" and makes accessing services and adhering to treatment more difficult.**³ GBV is a key driver of the HIV epidemic and has been exacerbated through the COVID-19 pandemic. Data.FI Nigeria developed the Automated Partner Performance Reporting (APPR) GBV Dashboard to provide IPs with data on GBV, proving to be an invaluable tool in tracking the performance of USAID IPs working on GBV interventions. **The dashboard provides accurate and up-to-date information on GBV activities in the country, including a comprehensive overview of GBV activities, the number of cases reported, services provided, and the impact of interventions on survivors.** It allows IPs to track their quarterly progress, identify areas that require improvement, and make datadriven decisions to improve performance. It also enables data sharing and collaboration among IPs.

The dashboard facilitates a coordinated and effective response to GBV, ensuring that information is easily accessible to all stakeholders, including donors, policymakers, and service providers. IPs are routinely using the dashboard for data review at regular USAID GBV meetings. Dashboard use has contributed to the improved performance of IPs and to the fight against GBV in the 17 USAID-supported states.

Number of Individuals Screered for Gender Based Violence 6,926	Number of Individuals identified as having experienced Gender Eased Violance 136		··· Sind Date	ividualis identified d'Violence 2	i tor Gender . %	Number o Violence	of Individuals referred to Services	or clinical Gender Bas	ed 31	laterred for Gender Based Rence Services 27.9%	
GEND_GBV Sexual Violence Target	GEND_GEV Physical/Emotional Target		GEND, GRV Ca	mulative Perform	ance Vs Targets in	1123					
				NearTand Stic	nes RP Care 1, STH, The	C. REE, ACE-1, ACE-	2. ACE-3, ACE 4. ACE-4. ACE	4 - Out 2022 to Rep 2023			
9,208	16,660			VIDENCE, DEV Secuel VIDENCE, FOT	100/00/00# +	Prostantiante :	Prostantinoford_TOT	SDAD, SEY, PARTICAL and/or EMOTIONAL	PT21.0ent.08V Photos/onotional Performance	4	
GEND_GBV Sexual Violence	GEND_GEV Physical/Emotional Achieved	•••	Adamana Date Alexa-bors Date	003	24 402	2.6	1,000	167	,		
2.080	9,633		thanath thate Bayersa thate	504 229	140	20 24	1112	347	3	1.2	
5 (Arrest 68)	0.44800.0		Donic Date Cross River Date	200	206	31.6	410	1,010	7	11	
GEND_GEV Sexual Violence +++ Performance	GEND_GEV Physical/Emotional Performance	•••	Edo State Jigana State	297 108	101	42.6	412	255	5	4	
			Rano State Rest: State	128	342	64.8 28.1	1,001	#05 244	4	1.6	
of The			Kwara Date Legos Date	61	6	9.0	240	12		15	
A CONTRACTOR			Noper State Sciences State	1,554	120	7.6	2,000	1,000	3	7.8 dV	
22.6	57.8		Terate Date	107	12	2.6	501	140		11	
0 100	0 103		Zomitara Diarte	179	4	11.5	200	111		24	

Figure 6. Nigeria's APPR GBV dashboard

1. N. Andersson, A. Cockcroft, & B. Shea. (2008). Gender-based violence and HIV: relevance for HIV prevention in hyperendemic countries of southern Africa. AIDS, 22(4), S73-86. DOI: 10.1097/01.aids.0000341778.73038.86.

2. World Health Organization. (2021). Violence Against Women Key Facts. Retrieved from: https://www.who.int/news-room/fact-sheets/detail/violence-against-women.

3. UNAIDS. (2022). UNAIDS urges world to unite to end gender-based violence against women and girls. Retrieved from: https://www.unaids.org/en/keywords/gender-based-violence.

High-quality GBV data are vital for effective programming

PEPFAR captures the provision of the minimum package of post-violence clinical care services through the GEND_GBV MER indicator. This indicator enables PEPFAR to determine the number of individuals reporting GBV to clinical partners and assesses whether post-GBV clinical services are being utilized. High-quality GBV data are vital to decision making to improve GBV and HIV programs.

While GEND_GBV data must be accurately and consistently recorded and reported across sites and countries, **recent MER data show wide variations and inconsistencies in GEND_GBV reporting.** Without accurate and consistent reporting across sites and countries, trends in access to and provision of services can be obscured or potentially inflated. To better understand the data quality challenges, gaps, and successes of IPs in capturing and reporting GEND_GBV, **USAID** asked Data.FI to update the **GEND_GBV** Rapid Data Quality Review tool by testing, piloting, and revising the tool for the Office of HIV/AIDS (OHA)/Gender and Sexual Diversity branch to be used at the facility, partner, and mission levels.

Thus far, Data.FI has started editing the DQA tool to allow assessments to be administered virtually or inperson, and to incorporate custom gender indicators

and disaggregates for GEND_GBV and post-exposure prophylaxis. We are preparing for the piloting phase later this year in an African country.

of Data.Fl trainees identify as female



Data. FI staff providing technical assistance on the PMTCT cascade to IP/facility staff at Kano State's Aminu Kano Teaching Hospital, Nigeria. Photo by Data.FI/Nigeria.

CLOSER LOOK

Women in Leadership

The digital revolution has been far from equitable, with women representing less than 30 percent of the global tech sector workforce.4 In a largely maledominated field, women's representation in the digital health sector is critical to address the digital gender divide. This divide is at its largest in developed countries where digital literacy and access to internet connectivity have been referred to as "super social determinants of health" due to the current reliance on digital health technologies like health care tools and applications, patient portals, electronic patient monitoring, mobile reminders, and digital data collection and storage.⁵ Globally, women are the largest proportion of frontline HCWs and junior researchers, yet men still represent 70 percent of the leadership positions.6

In Nigeria, Dorcas Essien and Nonye Nwanya are two women on the Data.FI/Nigeria digital health team steering major ongoing digital projects. Working as a software developer and informatics advisor, respectively, they are using their highly technical skills in a male-dominated field to strengthen information systems in the country. Nwanya is leading the information system governance of digital products and Essien is leading the development of the OVC survey mobile application. Nwanya and Essien have worked extensively to continuously improve the functionality of NOMIS to meet growing program demands, through improved architecture and user experience, interoperability with other health systems, and enhanced case management functionalities. Essien's work on the OVC survey mobile application led to a successful pilot by the FMWA as part of a national OVC situational analysis.

Nwanya is also leading the deployment of LAMISPlus across 17 states in Nigeria to support data management services and enable health providers to track clients across the continuum of care. In addition to her technical expertise in crafting digital modules and identifying key performance indicators for quality assurance for LAMISPlus, Nwanya spearheads the governance side of the system deployment and implementation.



"Dorcas Essien and Nonye Nwanya's leadership has been impactful in improving the technology landscape across USAID partners."

> —Chika Obiora-Okafo, Project Management Specialist, Strategic Information, Office of HIV/AIDS & TB, USAID/Nigeria

From left to right: Software Developer Dorcas Essien and Business Analyst and Informatics Advisor Nonye Nwanya, both of Data.FI/Nigeria.

4. V. Rastogi, M. Meyer, M. Tan, & J. Tasiaux. (2020). Boosting Women in Technology in Southeast Asia: Shifting from Awareness to Action on Gender Diversity. Boston Consulting Group. Retrieved from: https://www.bcg.com/publications/2020/boosting-women-in-southeast-asia-tech-sector.

5. B. Aylward. (2022). Digital Health Equity Starts With A Technology-Enabled Foundation. RTI Health Advance. Retrieved from: https://healthcare.rti.org/insights/improving-digital-health-equity-with-technology?gclid=CjwKCAjw5pShBhB_EiwAvmnNV93I-gRj05X0rzLV8Ns6F2h8cecQHmGEQNId68IJN_e2_9NF2MxUIxoCAKcQAvD_BwE.

6. The Lancet Digital Health. (2022). Empowering women in health technology [Editorial]. The Lancet Digital Health, 4(3), E149. DOI: https://doi.org/10.1016/S2589-7500(22)00028-0.

Pinpointing gender disparities

During this performance period, Data.FI finalized a report on the assessment of the COVID-19 data collection and reporting systems for adverse events following immunization (AEFI) in Nigeria. The report showed variation in the number of AEFIs reported by gender, with far more males reporting AEFIs. This likely represents reporting bias, such as women being less likely to be vaccinated or to report to the health facility with an AEFI. **Understanding this gender imbalance in reporting will be important as the country lays out a clear blueprint for improving the AEFI system for all vaccination efforts in the country.**

Improving HIV testing among key populations

Guatemala has an HIV epidemic concentrated in KPs at higher risk from exposure to HIV, such as MSM at 11 percent and female sex workers at five percent. These populations are particularly vulnerable to HIV due to social and biological factors, yet HIV testing rates are quite low. **To better reach these underserved populations, the HIV dashboard** (Figure 7 below) that Data.FI developed with the MOH **shows testing data disaggregated by key population, which is enabling decision makers to better prioritize resources.**



Looking Forward

Data.FI is working in partnership with USAID to strengthen local systems and promote local leadership. This has been the cornerstone of our approach since project inception, and as we enter project Year 5, we are becoming even more systematic in identifying opportunities and testing approaches to bolster local stewardship and transition support. We are energized by the Department of State's Office of the U.S. Global AIDS Coordinator and Health Diplomacy's move, as outlined in this year's COP guidance, to prioritize support to national systems over siloed partner reporting systems, and likewise, of the push within the COVID-19 agenda to focus attention on strengthening national immunization systems.

In the last six months, Data.FI has achieved remarkable results working with governments and partners to achieve the goal of localization, which is key to sustainability:

- We have trained 2,785 government staff and partners (44% of whom were female). In Honduras, we launched a mentorship model to develop government staff capabilities in data use and analysis. In Tanzania we trained and mentored 1,386 county and facility HCWs.
- We have supported governments in Burkina Faso, Eswatini, Guatemala, Honduras, Mozambique, Nigeria, and Tanzania to conduct 384 data review meetings. In January, we initiated the transition of primary health care situation rooms in Tanzania to the government.



Data.FI Project Director Jenifer Chapman with Data.FI/Tanzania Country Director Stella Mujaya. Photo by Data.FI/Palladium.

These structures, once institutionalized, will provide a sustainable platform for local management of HIV and primary health care service delivery.

- We have supported 14 local governance structures consisting of local stakeholders. These structures provide the foundation of collaborative working across agencies, ministries, and partners on a shared digital health and data use strategy and implementation plan. In Guatemala, we are supporting the Ministry of Finance and the Ministry of Health to share data and review investments in health programming. In Nigeria we continue to support the HI-CoP, which includes government counterparts and a local partner.
- We are building partnerships with local and regional organizations. Jembi, a consortium partner, is leading Data.FI work in Mozambique and Zimbabwe. In Jamaica, we are working with HCJ to improve vaccine tracking.
- We have supported governments to strengthen national policy for evidence-based decision making and improved accountability. In March, the Honduran government has determined to incorporate the Data.FI Strategy for Data Use into the national situation room guidelines. In February, the FMOH in Nigeria adopted an integrated approach to data review with the goal of detecting and responding to new events—an approach developed with Data.FI and the NCDC. Data.FI is working with the government of Nigeria to establish standing emergency operations centers, following this approach, across all 36 states and the FCT.
- We are transitioning management of information systems. The South African NDOH has secured funding to continue the Knowledge Hub, an e-learning platform that serves 133,000 registered users, which is current managed by the project. In Côte d'Ivoire we co-created a transition plan with the government on ownership and maintenance of the OVC/DREAMS database.

Over the next six months we will expand on these achievements, working in collaboration with partners at national, regional, and global levels to support USAID's localization objectives and strengthen governments' abilities to realize their digital health strategies and lead with data. In Zimbabwe, we will transition the management of the OVC MIS to a local partner. In Cameroon we will implement a tailored strategic information capacity-strengthening plan for four local partners. We will strengthen the capacity of more local entities and the skills of more local staff, working to ensure that USAID's investments through the project support sustainable change.

As we fine-tune our approaches to sustainably strengthening government stewardship, and successfully transitioning the oversight, management and enhancement of digital systems and analytical tools to government, we commit to unpacking the factors that expedited or challenged uptake and ownership. We further commit to sharing this learning with USAID, other IPs, and the broader global development community, to accelerate our shared localization objectives and achieve the goal of building sustainable digital health ecosystems for data-informed decision making.

ten Chapman

-Jenifer Chapman, Data.FI Project Director

Annexes



AGYW in Malawi are negatively affected by gender inequity, sociocultural norms, and harmful traditional practices, all of which impede their ability to thrive, realize their aspirations, and contribute to the future development of the country. To set the stage for positive long-term development, adequate support structures and protections are needed for these young women, particularly those who are most vulnerable—mothers, orphans, and those living with HIV and/or disabilities.—Health Policy Plus Project (2019). Photo of students in Malawi by Richard Nyoni.

Annex 2. Project Indicator Results

Indicator	Achieved–LOP Apr 2019–Mar 2023	Target-FY23	Achieved SAPR 2023 Oct 2022–Mar 2023	Burundi	Côte d'Ivoire	Malawi	Côte d'Ivoire COVID-19	Eswatini	South Africa	South Africa COVID-19	Nigeria	Nigeria COVID-19	Tanzania	Zimbabwe	Mozambique	COVID-19 Vaccine IP Forum	Guatemala	Guatemala COVID-19	Honduras COVID-19	Central America Region	Jamaica	Botswana	AGYW Size Estimation	COVID AEFI Safety Monitoring	COVID-19 DQA 2	Burkina Faso
Outcome 1: Accelerated data use												<u> </u>	1.						_				-			_
1.1 SI_USE Number of data use cases that document use of data for performance improvement	81	78	16	1							7		6							2						
1.1 SI_USE GENDER DISAGGREGATION** Number of data use cases that use gender data	17	0	6								1		5													
Outcome 2: Advanced Analytics																										
2.1 DATA_ANALYSIS Number of analytical solutions	308	115	72	1		1		1	3		10	13	3		34		1			1			2	1		
2.1 DATA_ANALYSIS GENDER DISAGGREGATION** Number of analytical solutions led by Data.FI that include gender data		2	32	1				4			7	9	1		8					1				1		
Outcome 3. Optimized and scaled health information sub-sys	tems																									
3.1 HIS_INTEROP* Number of instances of health information systems supported by the project that demonstrate interoperability or compliance with interoperability standards	27	8	3					1			2															
3.2 HIS_PM* Number of information systems, applications, or modules supported by the project with updated key project management documentation for software development	86	35	9	1				4	1		1		1								1					
3.3 HIS_SCALE*	80%	88%	76%	228	165			470			801															
Number and percentage of program sites with new or upgraded project-supported information systems operational as intended within the reporting period	2018	1461	1269	7	165			386			664															
3.4 HIS_ALIGN** Number of systems or modules developed or improved by Data.FI that include an assessment of the HIS ecosystem in requirements documentation		21	2	1																		1				
Outcome 4. Strengthened HIV data sources																										
4.1 DATA_CHECKS Number of digital data quality checks for key PEPFAR indicators developed and introduced	106	15	40	1		5		19			7		2				1									
4.1 DATA_CHECKS GENDER DISAGGREGATION** Number of digital data quality checks for key PEPFAR indicators developed that include checks for gender data		0	4	1				2					1													

Project Indicator Results continued

Indicator	Achieved-LOP Apr 2019-Mar 2023	Target-FY23	Achieved SAPR 2023 Oct 2022-Mar 2023	Burundi	Côte d'Ivoire	Malawi	Côte d'Ivoire COVID-19	Eswatini	South Africa	South Africa COVID-19	Nigeria	Nigeria COVID-19	Tanzania	Zimbabwe	Mozambique	COVID-19 Vaccine IP Forum	Guatemala	Guatemala COVID-19	Honduras COVID-19	Central America Region	Jamaica	Botswana	AGYW Size Estimation	COVID AEFI Safety Monitoring	COVID-19 DQA 2	Burkina Faso
4.2 SI_QUAL Number of partners/subnational units supported with Data.FI data quality interventions that demonstrate improved data quality*	72	23	21								13		8													
Outcome 5. Strengthened Local Partners																										
5.1 CAP_DATA Percentage of supported local organizations that have been assessed using the U.S. Agency for International Development (USAID)/Office of HIV/AIDS (OHA) Data Non-U.S. Organization Pre-Award Survey (NUPAS) tool (or a similar one)	N/A 6	0 N/A	N/A 0																							
5.2 CAP_MER Percentage of supported local organizations meeting 80 percent of assigned PEPFAR MER target contributions in the reporting period	N/A	0	N/A																							
5.3 CAP_NUPAS Percentage of supported local organizations that have undergone a Non-U.S. Organization Pre-Award Survey (NUPAS) or NUPAS-like assessment	N/A	0	N/A																							
Outcome 6. Innovative Partners and Methods Promoted																										
6.1 INNOV_ANALYSIS Number of analytical solutions that apply artificial intelligence/machine learning techniques	11	1	0																							
6.1 INNOV_ANALYSIS GENDER DISAGGREGATION** Number of analytical solutions that apply artificial intelligence/machine learning techniques that include gender data	4	0	0																							
6.2 INNOV_PARTNER* Number of private sector and other non-traditional partners engaged by the project	3	1	0																							
6.2 INNOV_PARTNER GENDER DISAGGREGATION** Number of private sector and other non-traditional partners engaged by the project that are women-led businesses	0	0	0																							
6.3 INNOV_PM** Number of analytical solutions that apply artificial intelligence/machine learning techniques with updated key technical documentation	2	1	0																							
6.4 INNOV_DEPLOY**. Number of instances of ML models deployed and/or tools developed for ongoing use	2	1	0																							

* Indicator revised for APR 2021 reporting period ** New indicator for APR 2022 reporting period

Process Indicator Results

	Percentage of annual expiring obligation expended in each financial year* (USD amount expended/ expiring obligation)	Number of activities with a signed data-sharing agreement	Number of digital health coordination structures supported by Data.FI	Number of data systems assessed by project	Number of data review meetings where performance data is reviewed supported by Data.FI activities
Achieved–LOP Apr 2019–Mar 2023	N/A	10	43	12	1651
Target-FY23	99%	15	22	21	913
Achieved SAPR 2023 Oct 2022–Mar 2023	N/A	0	14	3	384
Burundi			2		1
Côte d'Ivoire					
Malawi				1	
Côte d'Ivoire COVID-19					
Eswatini			1		4
South Africa					
South Africa COVID-19					
Nigeria			1		53
Nigeria COVID-19					147
Tanzania					162
Zimbabwe			1		4
Mozambique					1
COVID-19 Vaccine IP Forum+AM1:AV1					
Guatemala					2
Guatemala COVID-19					
Honduras COVID-19					
Central America Region			8		7
Jamaica					
Botswana			1		
AGYW Size Estimation					
COVID AEFI Safety Monitoring				1	
COVID-19 DQA 2					
Burkina Faso					3

N/A - indicator reported annually

Process Indicator Results continued

	Number of indicator reference sheets developed or improved upon	Number of curricula developed by Data.FI	Number of individuals completing a training conducted by Data.Fl (by sex of	Number of individuals completing a training conducted by Data.FI (Female disaggregate)	Number of individuals completing a training conducted by Data.Fl (Male disaggregate)	Number of applications of Data.Fl project- branded tools, analytical approaches
			participant)			
Achieved-LOP Apr 2019-Mar 2023	117	42	6152	1893	2576	18
Target-FY23	0	18	1786	N/A	N/A	4
Achieved SAPR 2023 Oct 2022–Mar 2023		8	2785	1280	1577	0
Burundi			189	115	74	
Côte d'Ivoire						
Malawi		1	250	160	66	
Côte d'Ivoire COVID-19						
Eswatini		3	536	152	384	
South Africa						
South Africa COVID-19						
Nigeria		1	191	127	64	
Nigeria COVID-19			2		2	
Tanzania		2	1386	525	861	
Zimbabwe						
Mozambique						
COVID-19 Vaccine IP Forum+AM1:AV1						
Guatemala						
Guatemala COVID-19						
Honduras COVID-19						
Central America Region			101	41	60	
Jamaica						
Botswana						
AGYW Size Estimation						
COVID AEFI Safety Monitoring						
COVID-19 DQA 2						
Burkina Faso						

N/A - indicator reported annually

Annex 3. Data.FI Products

Primary Source of Funding	Publication ID Number	Title
Burundi (HIV &	COVID-19)	
HIV	IS-23-05	On UNAIDS 95-95-95 goals, Burundi is leading the way
HIV & COVID-19	TR-23-33 FR	Burundi : Bulletin épidémiologique Burundi: Epidemiological Bulletin
Côte d'Ivoire (ні v)	
HIV	TR-22-15 FR	<u>Évaluation de la qualité des données OEV de routine des centres sociaux abritant les plateformes de collaboration : Rapport final</u> Data Quality Assessment of Routine OVC Data from Social Centers Hosting Collaborative Platforms: Final Report
HIV	TR-23-12 FR	<u>Transition de la base de données OEV/DREAMS : Plan de transition</u> Transition of the OVC and DREAMS database: Transition plan.
COVID-19	TR-23-41-FR	Rapport sur la dissémination des outils de collecte de données de vaccination COVID-19 Report on the dissemination of COVID-19 immunization data collection tools
Eswatini (HIV a	& COVID-19)	
HIV & COVID-19	TL-22-44	Eswatini Client Management Information System Dashboard: End-User Guide
HIV & COVID-19	TL-23-13	ECMIS Facility Dashboards Training: February 2023
Guatemala (CC	OVID-19)	
COVID-19	TL-23-36 SP	Navegación en el tablero de salud materno-neonatal y nutrición: Manual del usuario Navigating the Maternal and Infant Health and Nutrition Dashboard: User Manual
COVID-19	TR-23-98 SP	Estrategia de capacitación para sistemas de información relacionados con el COVID-19 en Guatemala Training strategy for COVID-19 information systems in Guatemala
COVID-19	DUC-23-50 SP	<u>Cobertura primeras dosis de vacuna COVID-19: San Marcos</u> First dose coverage of the COVID-19 vaccine: San Marcos
COVID-19	DUC-23-51 SP	<u>Vigilancia epidemiológica y promoción de pruebas de COVID-19: Quetzaltenango</u> Epidemiological surveillance and promotion of COVID-19 testing: Quetzaltenango

Primary Source of Funding	Publication ID Number	Title
COVID-19	DUC-23-52 SP	<u>Aumento de la cobertura en la primera dosis de vacunación: Quiché</u> Increase in first dosage vaccination coverage: Quiché
COVID-19	DUC-23-53 SP	<u>Cierre de brechas en la vacunación entre la primera y segunda dosis: Huehuetenango</u> Closing gaps in vaccination between first and second doses: Huehuetenango
COVID-19	DUC-23-54 SP	Aumento de cobertura de vacunación en 1ra dosis en niños y adolescentes de 12 a 17 años: Quetzaltenango Increase in first dose vaccination coverage for children and adolescents from 12 to 17 years of age: Quetzaltenango
COVID-19	DUC-23-55 SP	Aumento de cobertura de vacunación en 1ra dosis en niños y adolescentes de 12 a 17 años: San Marcos Increase in first dose vaccination coverage for children and adolescents from 12 to 17 years of age: San Marcos
COVID-19	DUC-23-56 SP	Aumento de cobertura de segunda dosis en el municipio de Chichicastenango: Área de salud Quiché Increase of second dose coverage in the municipality of Chichicastenango: Quiché Health Area
COVID-19	DUC-23-57 SP	<u>Aumento de cobertura de segunda dosis en el Municipio de Nebaj</u> Increase of second dose coverage in the municipality of Nebaj
Honduras (HI\	/ & COVID-19)	
COVID-19	TR-22-107 SP	Evaluaciones rutinarias de la calidad de los datos de morbilidad y mortalidad por COVID-19: Región Sanitaria Metropolitana de San Pedro Sula, Honduras Routine Data Quality Assessments of Morbidity and Mortality Data from COVID-19: San Pedro Sula Metropolitan Health Region, Honduras
COVID-19	TR-23-10 TR-23-10 SP	Routine Data Quality Assessments of COVID-19 Morbidity and Mortality Data: Metropolitan Health Region of Central District, Honduras Diagnósticos Rutinarios de Calidad de los Datos de Morbilidad y Mortalidad por COVID-19: Región Sanitaria Metropolitana del Distrito Central, Honduras
COVID-19	TR-23-47 SP	Análisis de Procesos y Sistemas de Gestión de Información del COVID-19 Analysis of COVID-19 information management processes and systems
COVID-19	TR-23-91 SP	Diagnóstico Rápido de Capacidades y Recomendaciones para la Unidad de Gestión de la Información de la Secretaría de Salud de Honduras Rapid Capacity Assessment and Recommendations for the Information Management Unit of the Ministry of Health of Honduras

Primary Source of Funding	Publication ID Number	Title
COVID-19	DUC-23-17 SP	Conciliación de los datos de vacunación en la Región Sanitaria Metropolitana del Distrito Central (<u>RSMDC</u>). Honduras Reconciliation of vaccination data in the Metropolitan Health Region of the Central District (RSMDC), Honduras
COVID-19	DUC-23-18 SP	Implementación de un Plan de Vacunación COVID-19 en población de centros escolares de la Región Sanitaria Metropolitana del Distrito Central (RSMDC), Honduras
		Implementation of a COVID-19 vaccination plan in the school population of the Metropolitan Health Region of the Central District (RSMDC), Honduras.
COVID-19	DUC-23-19 SP	Integración de fuentes de información en el sistema de vigilancia de la salud: Región Sanitaria Metropolitana de San Pedro Sula
		Integration of health surveillance system information sources: San Pedro Sula Metropolitan Health Region
COVID-19	DUC-23-20 SP	Integración de la atención COVID-19 en el centro de salud Miguel Paz Barahona
		Integration of COVID-19 care at the Miguel Paz Barahona Health Center
HIV	DUC-23-21 SP	Mejorando la notificación de casos de VIH en la Región Sanitaria Metropolitana del Distrito Central (RSMDC), Honduras
		Improving HIV case reporting in the Metropolitan Health Region of the Central District (RSMDC), Honduras
COVID-19	DUC-23-22 SP	Vacunación COVID-19 en población de centros escolares: San Pedro Sula, Honduras
		COVID-19 vaccination in the school population: San Pedro Sula, Honduras
HIV	DUC-23-23 SP	Armonizar los casos positivos de VIH entre unidades
		Harmonizing HIV-positive cases between units
Malawi (COVII	D-19)	
COVID-19	TL-23-25	COVID-19 Vaccine Registry Version 2.0: Training Guide
COVID-19	TL-23-35	e-Vaccine Registry Training: Digital Health Division Directorate of Planning and Policy Division Ministry of Health

Primary Source of Funding	Publication ID Number	Title
Mozambique (HIV)	
HIV	TL-22-13	National HIV/AIDS Program (PNC ITS-HIV/SIDA) Extract, Transform, and Load Tool: User Guide
HIV	TL-22-48	PNC ITS-HIV/SIDA Extract, Transform, Load (ETL) Data Model
Nigeria (HIV a	nd COVID-19)	
HIV	IS-23-01	Agege One Stop Shop
HIV	IS-23-02	Taraba State Specialist Hospital, Jalingo
HIV	IS-23-03	Government House Clinic Jalingo
HIV & COVID-19	IS-23-04	International Women's Day — March 8, 2023
HIV	TL-23-19	LAMISPlus 2.0 Trainer's Handbook
HIV	TL-23-20	LAMISPlus 2.0 Facilitator's Guide
HIV	TR-23-08	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Center for Clinical Care and Clinical Research-Nigeria Accelerating Control of the HIV Epidemic 4 Project in Kwara State
HIV	TR-23-18	Site Improvement through Monitoring Systems Assessment: Feedback Report for Heath System Consult Limited's Accelerating Control of the HIV Epidemic 3 Project in Kebbi State
HIV	TR-23-19	Site Improvement through Monitoring Systems Assessment: Feedback Report for Society for Family Health Key Populations Community HIV Services Action and Response 2 (KP CARE 2) Project in Kebbi State
HIV	TR-23-20	Site Improvement through Monitoring Systems Assessment: Feedback Report for Heartland Alliance Nigeria's Accelerating Control of the HIV Epidemic Award 6 Project in Edo State
HIV	TR-23-60	SIMS Assessments: What They Are and What They Contribute to the HIV Response in Nigeria
HIV	TR-23-84	Site Improvement through Monitoring Systems Assessment: FY23 Quarter One Report
HIV	TR-23-85	Site Improvement through Monitoring Systems Assessment: Feedback Report for Georgetown Global Health Nigeria's Accelerating Control of the HIV Epidemic 2 Project in Kano State

Primary Source of Funding	Publication ID Number	Title
HIV	TR-23-86	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Society for Family Health's Integrated Child Health and Social Services Award 3 Project in Nigeria
HIV	TR-23-87	Site Improvement through Monitoring Systems Assessment: Feedback Report for Heartland Alliance Nigeria's Accelerating Control of the HIV Epidemic 6 Project in Lagos State, Nigeria
HIV	TR-23-88	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Association for Reproductive and Family Health's Integrated Child Health and Social Services Award 2 in Lagos State, Nigeria
HIV	TR-23-89	Site Improvement through Monitoring Systems Assessment: Feedback Report for Heartland Alliance Nigeria's Key Population Community HIV Services Action and Response 1 Project in Lagos State, Nigeria
HIV	TR-23-94	Site Improvement through Monitoring Systems Assessment: Feedback Report for Jhpiego's Reaching Impact, Saturation, and Epidemic Control Project in Akwa Ibom State
HIV	TR-23-95	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Heartland Alliance Nigeria's Key Populations Community HIV Services Action and Response 1 Project in Akwa Ibom State
HIV	TR-23-96	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Centre for Clinical Care and Clinical Research Nigeria's Integrated Child Health and Social Services 1 Project in Akwa Ibom State
HIV	TR-23-97	Site Improvement through Monitoring Systems Assessment: Feedback Report for the Excellence Community Education Welfare Scheme's Accelerating Con-trol of the HIV Epidemic 5 Project in Akwa Ibom State
COVID-19	TR-23-21a	Monthly Bulletin – October 2022
COVID-19	TR-23-21b	Monthly Bulletin – November 2022
COVID-19	TR-23-21c	Monthly Bulletin – December 2022
COVID-19	TR-23-21d	Monthly Bulletin – January 2023
HIV	DUC-23-06	Improving Viral Load Suppression among Pediatrics and Young Adolescent Clients: Taraba State
HIV	DUC-23-07	Improving Continuity of Treatment in Low Performing Health Facilities in Taraba: Taraba State
HIV	DUC-23-08	Improving TLD Transition among Children Ages 0-14 Years: Akwa Ibom, Nigeria

Primary Source of Funding	Publication ID Number	Title
N/A	DUC-23-09	Increasing TB Preventive Therapy Uptake among Eligible PLHIV: Data.FI, Nigeria
HIV	DUC-23-77	Improving Linkage of Pregnant People Living with HIV to ART through Data Cleaning
HIV	DUC-23-82	Improving Patient Continuity in Treatment in Borno
HIV	DUC-23-83	Improving ART Uptake among HIV-exposed Infants
Tanzania (HIV))	
HIV	DUC-23-29	Improving data quality through regular flagging of incoherences in PMTCT services data
HIV	DUC-23-30	Increasing number of health facilities reporting viral load data for PMTCT mothers
HIV	DUC-23-31	Improving the Proportion of HIV-positive Pregnant and Breastfeeding Women Receiving Viral Load Testing – Nine Councils
HIV	DUC-23-32	Increasing PMTCT HIV Viral Load (HVL) Suppression Cascade
HIV	DUC-23-35	Improving Percent of HIV Exposed Infants Receiving 18-months Confirmatory Test: Chamwino DC, Dodoma CC, Kinondoni MC, & Temeke MC
HIV	DUC-23-36	Improving PMTCT 12-month Retention Rates: Tanzania
Zimbabwe (HI	v)	
HIV	TL-23-28	Information Security Standard Operating Procedures: Guidance Using the Management Information System for Orphans and Vulnerable Children

Annex 4. Environmental Compliance

Data.FI received a categorical exclusion per 22 CFR 216.2(c)(2) as documented in the IEE. This categorical exclusion references the following program description:

Translating Data for Implementation (Data.FI): Finding innovative ways to apply data rapidly for implementation; Finding innovative ways to utilize secondary and relational data analysis for implementation; Finding ways to align data with national systems; Data presentation; Data validation; Data use for showing where USAID should continue, change, and publish successes; Data use for trends and prediction of maintenance needs; Use and presentation of data and data analyses innovation in current systems, not currently utilized; Data translation and presentation for Ministry of Health and IPs; Data use for rapid scale-up; Support of DQAs; and Use of SIMS data for immediate corrective action and applied innovation.

Pursuant to section A.15 of the Cooperative Agreement, when developing the Annual Work Plan and MEL plan, as well as during implementation, Palladium reviewed all ongoing and planned core and country-level activities under this Cooperative Agreement and confirmed them to be within the scope of the approved Regulation 216 environmental documentation.
Annex 5. FY23 Planned Activities



BOTSWANA

In the coming months, Data.FI will provide intensive capacity-building activities for end-users, system administrators, and data analysts to significantly improve the use of COVID-19 dashboards in Botswana. These trainings will help users navigate the dashboards efficiently, extract meaningful insights, and make data-driven decisions. System administrators will learn how to maintain and update the dashboard. Data analysts will be able to work with the dashboard's data and analytics tools to create visualizations and dashboards that accurately represent key metrics. This will ensure that there is local capacity to maintain and support the application moving forward.



BURKINA FASO

Data.FI/Burkina Faso will support the MOH to implement a logistics management information system (LMIS) tool for COVID-19 vaccine allocation, utilizing the NetSIGL tool—an LMIS that does not currently include vaccine management. This activity will make it possible to test the feasibility of automated management of COVID-19 vaccines for a transition to other routine vaccines.

Data.FI will continue to conduct situation rooms focused on achieving better COVID-19 vaccine coverage. The MOH supports this activity and is working with Data.FI to facilitate and identify priority actions for intervention, per timelines set by the situation room participants. Data.FI will also continue building a social listening dashboard on YouScan to track rumors and misinformation about COVID-19 vaccines on social media platforms.



BURUNDI

Data.FI Burundi will be making SIDAInfo interoperable with DHIS2 and ensure the HIV template report is accurate in DHIS2. Data.FI Burundi will work on information security by developing documents, providing training to SIDAInfo users and stakeholders, and work on securing databases and servers.



CAMEROON

Preparatory activities including a desk review assessment began in Cameroon in the second quarter of this reporting period. In the next six months, we will elaborate and implement a tailored capacity-strengthening plan for each of the four local IPs on data management, data analysis and visualization, data quality, and data use.



COTE D'IVOIRE

The Data.FI team will continue to implement the transition plan with the PNOEV on ownership and maintenance of the OVC/DREAMS database to ensure that the managers have the capacity to maintain the systems. We will work with the National OVC Program and the USAID Mission to identify user support staff for the OVC and DREAMS information systems and train them on help desk management and user technical difficulties (level 1 and level 2). Data.FI will also set up a live support ticketing platform that will allow for management and support of system user requests.



EL SALVADOR

In El Salvador Data.Fl will launch HIV epidemic control rooms in collaboration with the MOH, USAID IPs, and other relevant stakeholders.



ESWATINI

In Eswatini, Data.FI will expand and roll out the facility dashboards to promote use of data and strengthen reporting at the facility level.



GUATEMALA

Data.FI will complete all COVID-19 activities in FY23. Of particular significance, Data.FI will lead a study to assess the impact that the COVID-19 pandemic had on the HIV program. Given national governments' focus to respond to the pandemic, MOHs inadvertently reduced their attention to HIV prevention and treatment services. In Guatemala, the project will analyze the strategies that MSPAS implemented to minimize the impact on its national HIV/AIDS program. The team will hand over the methodologies, approaches, tools, and strategies to continue implementing COVID-19 situation rooms to government-prioritized Health Area Directorates. The situation rooms enable the implementation of the COVID-19 Data Use Strategy to accelerate pandemic control. This strategy includes the completion of the COVID-19 dashboard at the DAS level.

Data.FI will continue to support the expansion of the HIV data use strategy and strengthening capacities of MSPAS officials to conduct situation rooms for HIV in five Health Area Directorates.



HONDURAS

In Honduras, Data.FI will update guidelines for COVID-19 epidemiological analysis, and normalizing testing and case management at the primary care level.

JAMAICA

In Jamaica, Data.FI will continue to build the capacity of HCJ in managing the OpenLMIS, provide technical assistance for successful roll-out of the OpenLMIS to additional pharmacies and private providers, and link HCJ to the global OpenLMIS community of practice. This will help build local capacity and achieve sustainability.



MALAWI

In Malawi, Data.FI will continue to strengthen the capacity of health workers in priority districts to use the eVax module to manage and use quality data on COVID-19 vaccines, through district data review meetings and mentorship and supervision visits. We plan to work closely with DHD and EPI to further strengthen coordination and collaboration between Ministry departments, donors, and IPs on digital tools and data management processes for COVID-19 and other immunization priorities.



NIGERIA

To fully optimize the LAMISPlus system, the Data.FI/Nigeria Health Informatics Unit will enhance the LAMISPlus Lite mobile application to support community PMTCT, biometrics, and pharmacy for community models of care, case management, and linkage to care. On the LAMISPlus web, we will expand the Outpatient Module to cover routine immunization and radiology; we will enhance clinical decision support; we will integrate LAMISPlus with Patient Identity Management System (PIMS), National Identity Management Commission (NIMC), National Integrated Sample Referral Network (NISRN), and a commodity management system.

Data.FI/Nigeria, in collaboration with the FMOH and NCDC, will engage other stakeholders to develop an integrated approach to the management of the Standing Emergency Operations Centers (SEOCs) and institutionalize a curriculum to build the capacity of the SMOHs across the 36 plus one states in the implementation of the SEOC.



PANAMA

In Panama, Data.FI will launch HIV epidemic control rooms in collaboration with the MOH, USAID IPs, and other relevant stakeholders.



TANZANIA

Data.FI/Tanzania plans to pivot to another technical area—non-communicable diseases (NCDs)—to expand the use of situation rooms and monitor additional indicators (reproductive, maternal, neonatal, child, and adolescent health [RMNCAH], HIV, and NCD indicators). We also plan to add more family planning and MCH indicators. Data.FI plans to transition all situation rooms to the councils and regional health management teams by the end of the fiscal year. The first four council situation rooms will be transitioned in July 2023 and the remaining five will be transitioned in September after orientation of council situation room champions. In collaboration with IPs, Data.FI and leaders from PORALG will host a project dissemination meeting to share project achievements, challenges, and the councils' sustainability plans.



WEST AFRICA REGION

In the next six months, we will collaborate with IPs to provide virtual trainings to MOHs in the region to build understanding of MER indicators and capacity for visualizing this data. We will also work with the MOH in one country to harmonize government priority HIV indicators, building on the capacity-strengthening training to inform future harmonization efforts.



ZIMBABWE

Over the next six months, Data.FI will work in Zimbabwe to transition ownership and management of the OVC MIS from Data.FI to the selected local IP by (1) training local IPs on data interpretation and information security SOPs, (2) building capacity of local administrators to manage the OVC MIS, and (3) supporting the migration of the OVC MIS from BlueSquare to local IP servers.



VACCINE HESITANCY ACTIVITY

In the next six months, Data.FI will run up to two rounds of surveys in the Democratic Republic of the Congo (DRC), Ghana, and South Africa to understand social, infrastructural, and attitudinal barriers to increasing COVID-19 vaccine uptake. In each country we will be focusing on specific populations of interests with surveys designed for country context. Post survey data collection, we will conduct a data validation analysis against other publicly available surveys on this topic.



A situation room meeting in Akwa Ibom, Nigeria. Photo by Data.Fl/Nigeria.



The Data.FI/Eswatini team and staff with the MOH's Health Management Information System Unit celebrate their joint work developing, deploying, and conducting training on the CMIS in January at the Sibebe Resort near Mbabane. Photo by Data.FI/Eswatini.

Data for Implementation (Data.FI) is a five-year cooperative agreement funded by the U.S. President's Emergency Plan for AIDS Relief through the U.S. Agency for International Development under Agreement No. 7200AA19CA0004, beginning April 15, 2019. It is implemented by Palladium, in partnership with JSI Research & Training Institute (JSI), Johns Hopkins University (JHU) Department of Epidemiology, Right to Care (RTC), Cooper/Smith, DT Global, Jembi Health Systems, and Macro-Eyes, and supported by expert local resource partners.

This publication was produced for review by the U.S. President's Emergency Plan for AIDS Relief through the United States Agency for International Development. It was prepared by Data for Implementation. The information provided is not official U.S. Government information and does not necessarily reflect the views or positions of the U.S. President's Emergency Plan for AIDS Relief, U.S. Agency for International Development, or the United States Government.

FOR MORE INFORMATION

Contact us:

Madeline Schneider, Data.FI AOR mschneider@usaid.gov

Jenifer Chapman, Project Director datafiproject@thepalladiumgroup.com

https://datafi.thepalladiumgroup.com/

April 2023