Data.FI Semi-Annual Performance Report 2024

October 2023–March 2024

Data.FI Semi-Annual Performance Report
2024

USAID Agreement Number	7200AA19CA00004
Location	Washington, DC
Title	Translating Data for Implementation (Data.FI)
Name of Agreement Officer	Shayn Tierney
Name of USAID Agreement Officer's Representative	Madeline Schneider
Date of Award	April 15, 2019
Activity End Date	December 14, 2025
Ceiling Price	$110,000,000

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:

Various state officials and other partners participate in the development of the Kano State Multi-hazard Emergency and Preparedness Response Plan (KMHEPRP). Kaduna State, Nigeria; November 14, 2023. Photo by Data.FI/Nigeria.

Table of Contents

Abbreviations

ACE	Accelerating Control of the HIV Epidemic in Nigeria
AGYW	adolescent girls and young women
AI	artificial intelligence
ANC	antenatal care
APPR	Automated Partner Performance Reporting platform (Nigeria)
ART	antiretroviral treatment
ARV	antiretroviral
BA	business analysis
CALHIV	children and adolescents living with HIV
CCCRN	Center for Clinical Care and Clinical Research (Nigeria)
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CHMT	Council Health Management Team (Tanzania)
CLM	community-led monitoring
CMIS	client management information system
CoP	community of practice
COP	country operational plan
CQI	continuous quality improvement
CSO	civil society organization
Data.FI	Data for Implementation project
DATIM	Data for Accountability, Transparency and Impact Monitoring system
DAVT	Data Analytics and Visualization Tool (Nigeria)
DDRISS	Dirección Departamental de Redes Integradas de Servicios de Salud (Departmental Directorate of Integrated Health Service Networks, Honduras)
DERCAS	document with specifications, requirements, and acceptance criteria
DHIS2	District Health Information Software, Version 2
DHU	Digital Health Unit (South Africa)
DoD	US Department of Defense
DQA	data quality assessment
DREAMS	Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe
DSD	differentiated service delivery
DS-TB	drug-sensitive tuberculosis
EIR	Electronic Immunization Registry (Jamaica)
EMID	Electronic Management of Immunization Data platform (Nigeria)
EMR	electronic medical records
EOC	emergency operations center
FHIS	Fondo Hondureño de Inversion social (Honduras)
FMOH&SD	Federal Ministry of Health and Social Development in Nigeria
FMWA	Federal Ministry of Women Affairs (Nigeria)
FSW	female sex worker
FY	fiscal year

GBV	gender-based violence
GHS	global health security
Global Fund	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GON	Government of Nigeria
HAT-CARD	HIV/AIDS and TB Comprehensive Access Review Dashboard (Nigeria)
HI	health informatics
HIS	health information system(s)
HIS-CoP	Health Information Systems Community of Practice (Nigeria)
HMIS	health management information system
IBBS	Integrated HIV Bio-behavioral Surveillance
IIT	interruption in treatment
IP	implementing partner
KP	key population
LAMISPlus	Lafiya Management Information System (Nigeria)
LGA	Local Government Area (Nigeria)
LIP	local implementing partner
LLM	large language models
LMIS	logistics management information system
LODIIS	Lesotho OVC-DREAMS Integrated Information System
MAGA	Ministerio de Agricultura, Ganadería y Alimentación (Ministry of Agriculture, Livestock and Food, Guatemala)
M&E	monitoring and evaluation
MEL	monitoring, evaluation, and learning
MER	monitoring, evaluation, and reporting
MGEPESW	Ministry of Gender, Poverty Eradication, and Social Welfare (Namibia)
MHSS	Ministry of Health and Social Services (Namibia)
MIMS	Multisectoral Information Management System (Namibia)
ML	machine learning
MOH	Ministry of Health
MOHW	Ministry of Health and Welfare (Jamaica)
M-RITE	MOMENTUM Routine Immunization, Transformation, and Equity project
MSM	men who have sex with men
NASCP	National AIDS and STD Control Programme (Nigeria)
NCDC	Nigeria Centre for Disease Control
NDOH	National Department of Health (South Africa)
NDR	National Data Repository (Nigeria)
NECC	National Episcopal Conference of Cameroon
NEPWHAN	Network of People Living with HIV in Nigeria
NGO	non-governmental organization
NOMIS	National OVC Management Information System (Nigeria)
NPHCDA	National Primary Health Care Development Agency (Nigeria)

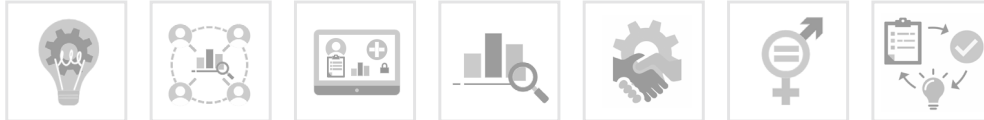|	
OVC	orphans and vulnerable children
PAHO	Pan-American Health Organization
PASMO	Pan-American Social Marketing Organization
PEPFAR	United States President's Emergency Plan for AIDS Relief
PHC	primary healthcare
PHIS3	Public Health Information System, Solution and Surveillance project (Nigeria)
PLHIV	people living with HIV
PrEP	pre-exposure prophylaxis
PROGISSA	Programme de Gestion Informatique du Secteur de la Santé (IT Management Program for the Health Sector, Burundi)
PROSAN	Programa de Seguridad Alimentaria y Nutricional (Food and Nutrition Security Program, Guatemala)
QI	quality improvement
RADET	Retention and Audit Determination Tool
RAG	retrieval-augmented generation
RCM	regional coordination mechanism
READY	Refining Evidence and Assumptions to Drive Yearly targets
ReCAP+	Cameroonian Association for People Living with HIV/AIDS
RISE	Reaching Impact, Saturation, and Epidemic Control
RSMDC	Región Sanitaria Metropolitana del Distrito Central (Honduras)
SESAL	Secretaría de Salud (MOH, Honduras)
SETIC	Secrétariat Exécutif des Technologies de l'Information et de la Communication (Executive Secretariat for Information and Communication Technologies, Burundi)
SFH	Society for Family Health (Nigeria)
SMOH	State Ministry of Health (Nigeria)
SOP	standard operating procedure
SORMAS	Surveillance Outbreak Response Management & Analysis System (Nigeria)
SID	Strategic Information Department
SPHCDA	State PHC Development Agency
STI	sexually transmitted infection
TACA	Taraba State AIDS Control Agency
TB	tuberculosis
TOT	training of trainers
TWG	technical working group
UID	unique identification
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
VL	viral load
VLS	viral load suppression
WHO	World Health Organization

Executive Summary

The Data for Implementation (Data.FI) project helps countries strengthen and sustain access to key, high-quality data to strengthen primary healthcare systems and 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 multi-year (2019–2025) global, field-supported mechanism with a $110 million ceiling. The project, 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 (JSI), the Johns Hopkins University Department of Epidemiology, Right to Care, Cooper/Smith, DT Global, Jembi Health Systems, and Pendulum.

On October 13, our country lead, Liziem Valladares (farthest right), was introduced by Dr. Sandra Nuñez (farthest left), HIV coordinator at the MOH, to the Honduran Minister of Health Dr. Jose Manuel Matheu (second from left). Photo by Data.FI/Honduras.

During this reporting period (October 1, 2023–March 30, 2024), Data.FI implemented work in 17 countries and provided support to USAID at the central level. This report summarizes our work during the first half of the fifth year of implementation across the following impact areas:

Catalyzing Innovation to Find Breakthrough Solutions

To catalyze positive and equitable health outcomes, 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.

During this reporting period, Data.FI's data science team created a **chat interface using generative artificial intelligence (AI) to create insights from community-led monitoring (CLM) reports for USAID headquarters.** We use retrieval-augmented generation (RAG), a key method for getting large language models (LLMs) to answer human queries. Users can ask questions about HIV programs and the backend model generates responses based on the CLM documents we have integrated in the RAG. The model tracks key metrics for HIV programs—including what is effective and areas needing enhancement—and offers specific recommendations that would lead to better outcomes.

The **Data.FI/Guatemala** team is working with the Ministry of Agriculture, Livestock and Food (MAGA), the Ministry of Health (MSPAS), the Wildlife Conservation Society (WCS) organization, USAID, and the United Nations Organization for Food Agriculture (FAO) to develop **solutions that facilitate the exchange of information under the "One Health" approach,** a collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving results that recognize the interconnection between people, animals, plants, and their shared environment. Data.FI proposed a route to strengthen the information ecosystem for One Health to the National One Health Technical Working Group (TWG), which is coordinated by WCS. **By establishing common objectives for a One Health Information System, the country will be able to prevent, detect, and respond quickly to risks related to human, animal, and environmental health.**

In this reporting period, **Data.FI/Nigeria enhanced the HIV/AIDS and TB Comprehensive Access and Review Dashboard (HAT-CARD)** platform to support dashboard rendering on mobile devices. The aim was to increase accessibility for users exploring HAT-CARD with mobile devices such as smartphones and tablets. Other features, such as enabling HTML dashboard embedding, were implemented to accommodate dashboards designed using HTML tags, and features to generate dashboards in PPT, PDF, and PNG formats were created to enable users to generate dashboards as reports. Currently, the HAT-CARD platform houses visuals of approximately 15 datasets, incorporating a comprehensive 95-95-95 clinical cascade.

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," (also called epidemic control 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. During this performance period, Data.FI implemented situation room meetings in El Salvador, Guatemala, Honduras, Nigeria, and Panama.

On March 1, Data.FI/Nigeria Country Director, Otse Ogorry (second from left with notebook in his lap), takes part in the weekly HIV situation room meeting at the Akwa Ibom State Ministry of Health HIV Situation Room in Uyo. Also in attendance are, in clockwise order around the table from Otse, Uduak Umo-Udofia (the Akwa Ibom State AIDS/STI Control Program M&E Officer), Dr. Ime Usanga (the Akwa Ibom State AIDS Program Coordinator), Emem Xavier (State Ministry of Health), Aniebietabasi Etokakpan (Data.FI Strategic Information Associate), and, next to Otse, Ayator Ngusha (Data.FI Senior Data Use Advisor). Photo by Data.FI/Nigeria.

In November 2023, Data.FI worked with the **Epidemiology Unit and the National HIV Program of Panama** to analyze the main results and challenges implementing the HIV data use strategy across the seven health regions supported by the project. The strategy's objective is to support the planning of health regions' work towards the achievement of the 95-95-95 goals. Data.FI continued to support local technical teams under the HIV program to prepare data, follow up on previously agreed-upon actions, and monitor selected indicators as a part of its implementation of situation rooms. Between December 2023 and January 2024, Data.FI **supported situation rooms in the Bocas del Toro, Chiriquí, Comarca Guna Yala, and Comarca Ngäbe Buglé health regions.**

Data.FI made significant contributions at the Central America and Dominican Republic HIV Forum, "Joining Efforts to End Inequalities and Reach the End of HIV as a Public Health Threat," held December 5-7 in El Salvador. Data.FI facilitated a forum session that addressed the use of data and analytical solutions to achieve the UNAIDS 95-95-95 goals. During the session, three epidemiologists from El Salvador, Guatemala, and Honduras, including the Director of the sexually transmitted infection (STI)/HIV Program of Panama, shared their experiences implementing their countries' data use strategies, which were established with technical assistance from Data.FI. Moreover, the Data.FI/Central America team **exchanged experiences on the implementation of data use** to foster progress towards a more sustainable response and **promoted new thinking on how to achieve sustainability** in information systems.

In this reporting period, Data.FI redesigned our country overview one-pagers! Here are the newly updated overviews for Honduras, Eswatini, and South Africa.

In **South Africa,** we worked with the National Department of Health (NDOH) Digital Health Unit (DHU) to develop HIV/TB visuals that allow users at all levels of the health system to better understand performance, identify high- and low-performing facilities in a district, compare viral load (VL) testing completion and VL suppression (VLS), and to compare TB outcomes against the TB continuum of care. Data.FI is developing automation processes for HIV and TB data within NDOH and creating additional dashboards focused on drug-sensitive TB diagnosis (DS-TB) and laboratory testing and DS-TB case notification.

Data.FI/Nigeria implemented the **standardized situation room methodology in February 2024 to strengthen the public health response in Edo State.** The integration of HIV/TB into the public health emergency operation center (EOC) aims to enhance coordination and collaboration among various stakeholders, improve data sharing and analysis for informed decision making, and promote community engagement across public health programs in the state.

In **Data.FI/Eswatini,** under the stewardship of the Chief Strategic Information Department (SID) Office, **the client management information system (CMIS) dashboards were officially endorsed by multiple MOH stakeholders,** including SID monitoring and evaluation (M&E), health management information system (HMIS) and epidemiology and disease control units, program representatives, IPs, and regional health management teams and facility representatives. During the endorsement event, the SID Chief Officer mandated that all facilities use the CMIS as their primary data collection system to support the transition towards complete client historical records.

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 **collaborate with partners** to gather requirements, improve business processes, and support data sharing and interoperability across existing and emerging platforms.

In February, **Data.FI/Botswana** facilitated a three-day workshop to complete a review of the orphans and vulnerable children (OVC) M&E framework. The workshop included IT officers, social workers, government officials, civil society organizations (CSOs), and other stakeholders working with OVC. Participant feedback informed the draft OVC indicator reference sheets that are currently being validated.

In **Lesotho** Data.FI is collaborating with in-country IPs to **enhance Lesotho OVC-DREAMS Integrated Information System (LODIIS) functionality and facilitate its seamless transition to the Government's oversight.** In February 2024, in partnership with Health Information Systems Programme (HISP) Tanzania and Baylor Karabo ea Bophelo, Data.FI successfully migrated LODIIS from HISP servers to Data.FI infrastructure—marking a pivotal step in transitioning application management and development responsibilities from HISP to Data.FI.

Data.FI/Guatemala completed the development of an inventory module within the **Kawok system.** Kawok facilitates data collection in remote and difficult-to-access communities using mobile phones. This mobile solution enables health workers—especially community health workers in remote and hard-to-reach communities—to monitor inventory stock for maternal and child health products. To develop the inventory module, we first completed a document with specifications, requirements, and acceptance criteria (DERCAS) with field staff from TulaSalud, an NGO with a presence in Guatemala, and MSPAS end-users. MSPAS has identified districts in the department of Sololá where the Kawok module will be deployed.

Data.FI conducted a workshop in Kingston, Jamaica to develop a logic model to prioritize indicators for the country's electronic immunization registry (EIR). The logic model will serve as the basis to develop a M&E framework that will oversee EIR implementation and track progress of the MOHW immunization program. The workshop convened officials from Jamaica's Ministry of Health and Wellness, representatives from Pan-American Health Organization (PAHO) and UNICEF, and USAID officers. Workshop participants validated a set of priority indicators, mapped sources for data collection, and agreed on indicator calculation methods, components of the logical framework that will be used to develop Jamaica's EIR M&E plan.

Convening to revolutionize community services with digital tools. In November 2023, delegates from Angola, Botswana, Eswatini, Lesotho, and Namibia convened in Cape Town, South Africa, to align stakeholders and implementation mechanisms toward revolutionizing community services through digital tools. The question posed to the participants was, "What might community service provision look like if it was facilitated by a digital tool designed to center people and support integrated services?" This five-day technical workshop, facilitated by Data.FI and Digital Square, with support from USAID, sought to redefine the landscape of community service delivery through digital transformation.

Applying Strategic Information and Learning

Data.FI supports USAID and partner governments to rapidly collect and use routine and non-routine data to support local health programming. We also support USAID to answer key learning questions, adapt and create methods and approaches to document activities, and catalog learning with USAID and the broader digital and public health community.

In March 2024, Data.FI/Nigeria supported USAID/Nigeria to review their **supported differentiated service delivery (DSD) implementation,** assess the status and quality of implementation, and provide technical assistance to IPs to ensure coordinated, high-quality programming. Our staff quickly mobilized to review and finalize the DSD data collection tool, programmed the tool in Kobo Collect, and implemented the assessment in Lagos and Akwa Ibom states. We presented on preliminary assessment findings and discussed with the Mission and USAID/Washington teams.

Data.FI, in collaboration with **Johns Hopkins University, is supporting the Ministry of Health and Social Services and PEPFAR to conduct the third key population (KP) Integrated HIV Bio-behavioral Surveillance (IBBS) survey in Namibia.** The survey will improve the availability of critical epidemiological data to inform prevention and treatment interventions for gay men and other men who have sex with men (MSM),

Data.FI/Eswatini Country Lead, Mzwandile Vilakati, speaks with Sikhumbuzo Dlamini, a security engineer within the Ministry of Health, during the 2023 Christmas celebrations. Photo by Data.FI/Eswatini.

female sex workers (FSW) and transgender people, providing updated estimates of the prevalence of HIV, syphilis and hepatitis B, the utilization of HIV-STI prevention services, the progress towards the 95-95-95 care and treatment targets, the progress towards 10-10-10 indicators on stigma, discrimination and violence, and population size estimates among KPs.

A **collaborative group of organizations using digital solutions for health studied USAID global COVID-19 vaccine delivery investments made in 11 countries** during the emergency phase of the pandemic. The findings point to the importance of the digital health enabling environment—that is, the presence or absence of conditions that allow digital health investments to thrive. During this reporting period, the special issue containing these findings was finalized and scheduled for publication in the Oxford Open Digital Health journal. Data.FI oversaw final edits and corresponded directly with the journal's editors to ensure a smooth production process. Compiling research insights from Data.FI, the Country Health Information Systems and Data Use (CHISU) project, M-RITE, Digital Square, and USAID, the special issue also offers recommendations on how to translate these insights into actions that can improve future health emergency responses and strengthen health systems.

Data.FI/Nigeria launched the **COVID-19 data use learning network with a webinar series titled, "Using Data Quality Improvement Methods for Accelerated COVID-19 Response."** Seven USAID-supported states (Adamawa, Akwa Ibom, Bauchi, Cross River, Edo, Kano, and Niger) engaged in the COVID-19 response across Nigeria actively participated in the webinar. The webinars featured participants from various COVID-19 IPs and governmental stakeholders. Our goal was to provide a platform for these states to present their experiences and share the best practices they have adopted to enhance COVID-19 vaccination efforts, improve case detection, and ensure the quality of data across reporting platforms.

Strengthening Local Partners and Ecosystem Governance

Data.FI aims to strengthen host country **enabling environments** to support and sustain PHC delivery, and the national HIV and COVID-19 responses through the implementation of robust and resilient information systems and digital solutions. We collaborate with local stakeholders to strengthen partnerships and to build on 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.**

After two years of providing technical assistance to accelerate the response to COVID-19, Data.FI **held a successful close-out event in November in Tegucigalpa, Honduras.** This in-person event brought together more than 60 attendees, including USAID stakeholders, Honduran MOH officials, and colleagues from the Gobernabilidad Local Honduras project, The Global Health Supply Chain – Procurement and Supply Management project, and Fondo Hondureño de Inversion social, to celebrate achievements and reflect on lessons learned during the last two years. Since 2021, Data.FI/Honduras has supported the MOH to institutionalize a national COVID-19 strategy, to improve health outcomes, and foster an enabling environment for real-time, data-driven decision making and epidemiological surveillance.

In **Cameroon,** Data.FI is supporting four local implementing partners (LIPs)—the Cameroonian Association for People Living with HIV/AIDS (RECAP+), Littoral Regional Funds for Health Promotion (Littoral RFHP), Care and Health Program (CHP), and the National Episcopal Conference of Cameroon (NECC)—to improve data analytics and visualizations for HIV data. In October, ReCAP+ finalized an interactive dashboard for the HIV CLM project and Littoral finalized their dashboard and created a supervision tool using the open-source solution Kobo Tools. In November, the ReCAP+ MEL team was trained to automate data management and develop automated, interactive dashboards for other projects including Malaria CLM. Data.FI also initiated a monthly participatory training series to equip local IPs with essential skills and knowledge needed to create impactful data visualizations that convey data insights and introduce Power.BI as a business intelligence tool.

In February 2024, **Data.FI/Nigeria hosted a five-day HIS community of practice (CoP) bootcamp to consolidate gains made through the existing platform for collaboration and knowledge sharing among HIS enthusiasts in Nigeria.** The boot camp brought together 71 CoP members, including Federal Ministry of Health and Social Development (FMOH&SD) representatives, USAID, IPs, and Data.FI/Nigeria. There were also participants from BAO systems, Layer3, and the Clinton Health Access Initiative (CHAI). Partners such as Layer3 and BAO Systems led sessions to build partners' capacity in information security controls, and this collaborative effort provided an informative platform for learning and enhanced collaboration among partners.

Data.FI utilizes technology and data to improve health outcomes. Original design by Denise Todloski.

Introduction

Data for Implementation (Data.FI) is a global project that helps countries use, strengthen, and sustain access to high-quality data to achieve their primary healthcare (PHC) goals and accelerate and maintain HIV and COVID-19 epidemic control. We do this by leveraging 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, identify innovative solutions to unsolved problems, and pivot programming to better meet evolving patient and population health needs.

Through our experienced partnership, Data.FI provides end-to-end solutions in the data ecosystem that serve public health goals and protect clients' rights. We build sustainable and scalable government-owned systems that support robust data analysis and continuity of client care. We work across all technology platforms and support 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.

USAID and local MOH participants exchange ideas as part of the "Improved Data Quality" discussion group during the Southern Africa Regional Health Office Workshop in Cape Town, November 2023. Photo by Data.FI.

Data.FI provides rapid insight for decision making, using advanced analytics supported by fit-to-purpose technologies. We help USAID and partners diagnose performance and public health challenges to best focus resources. We combine both traditional and non-traditional data sources, such as satellite imagery and commercial data, to fill data gaps and inform healthcare interventions. We apply advanced modeling techniques to illuminate unseen patterns, enabling users to plan with timely, accurate, and actionable information.

We develop and employ evidence-based approaches to ensure 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.

Data.FI strengthens government capacity for HIS governance and builds local partner capabilities in line with USAID's local partner transition goals. We leverage our existing network of in-country relationships to build government trust, coordinate stakeholders, and expand the pool of local partners able to respond to PHC, HIV, and COVID-19 priorities, and strengthen pandemic preparedness for global health security (GHS). We create scalable solutions.

PROJECT SCALE

Data.FI is a global project (2019–2025) funded by PEPFAR and USAID; it is comprised of a consortium of organizations with expertise in digital health and analytics. Led by Palladium, we partner with the JSI Research & Training Institute, the Johns Hopkins University Department of Epidemiology, Right to Care, Cooper/Smith, DT Global, Jembi Health Systems, and Pendulum. The project is a USAID field-supported mechanism, with a $110 million ceiling.

During this reporting period (October 1, 2023–March 31, 2024), Data.FI implemented work plans in Botswana, Burkina Faso, Burundi, Cameroon, Cote d'Ivoire, the Central America Region (El Salvador, Guatemala, Honduras, Panama), Eswatini, Jamaica, Lesotho, Mozambique, Namibia, Nigeria, South Africa,

2680 individuals trained by Data.FI
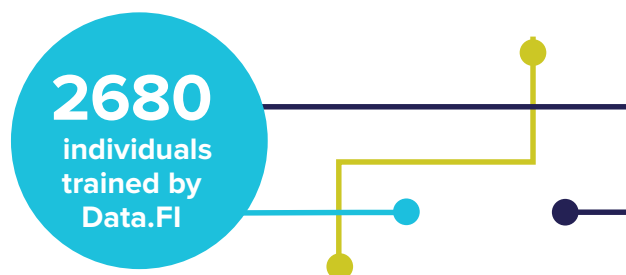
and Tanzania. This year, the project made important progress enhancing digital HIS, strengthening data management and data availability through digitization of information systems, supporting data analytics that pinpoint inefficiencies in prevention, care, and treatment cascades, developing data standards 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 during the first half of the fiscal year by highlighting our work across the following impact areas:
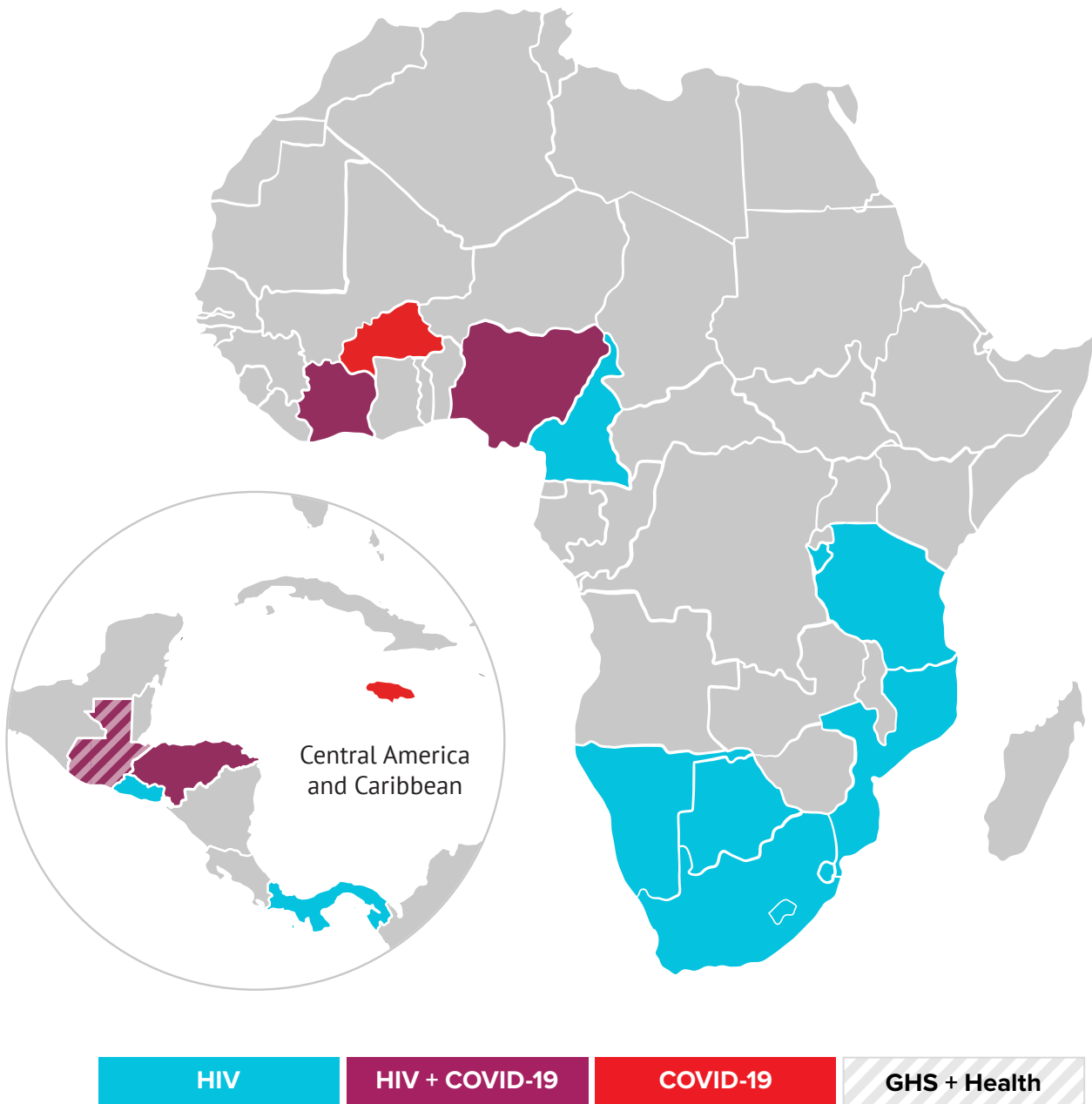
- **Catalyzing Innovation to Find Breakthrough Solutions**
- **Accelerating Data Analysis and Use**
- **Optimizing and Scaling Health Information Systems and Digital Solutions**
- **Applying Strategic Information and Learning**
- **Strengthening Local Partners and Ecosystem Governance**

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, and Environmental Compliance are provided in the appendices.

Data.FI's Reach

Data.FI is scaling digital, analytical, and data use solutions. We worked in 17 countries in this reporting period to improve HIV, COVID-19, and broader health outcomes.

Central America and Caribbean

HIV	HIV + COVID-19	COVID-19	GHS + Health
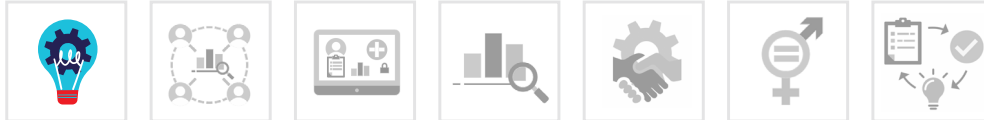
Catalyzing Innovation to Find Breakthrough Solutions

Many countries are demonstrating that the HIV pandemic can be overcome. Botswana, Eswatini, Tanzania, and Zimbabwe, all have already achieved the 95–95–95 targets, and globally at least **16** other countries are close to doing so. While there is progress, not everyone is benefiting equally, and the COVID-19 pandemic has brought new challenges to the fore, requiring novel ways of working toward achieving primary healthcare and global health security goals. To catalyze positive and equitable health outcomes, Data.FI leverages thought leadership and cutting-edge technologies across our extraordinary consortium of partners. Together, we have created and sourced novel solutions and forged new strategic partnerships to address the challenges that impede countries from meeting their health goals. Some highlights from this reporting period are provided here.

Chukwuemeka Ilozue, Senior Back End Developer with Data.FI, demonstrating updates made to the biometric recapture module of LAMISPlus during the HIS-CoP Hackathon in February 2024. Photo by Data.FI/Nigeria.

Figure 1. RAG architecture model
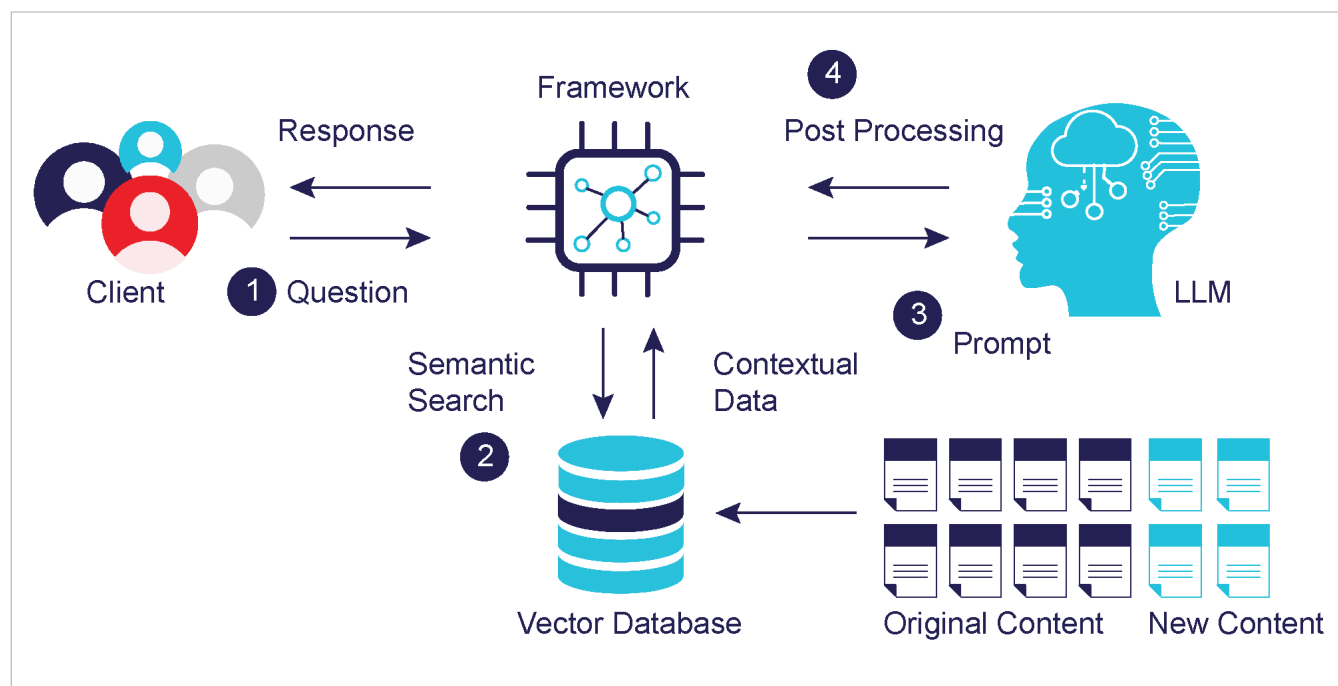
During this reporting period, Data.FI's data science team created a **chat interface using generative artificial intelligence (AI) to create insights from community-led monitoring reports for USAID headquarters.** We use retrieval-augmented generation (RAG), a key method for getting large language modes (LLMs) to answer questions over a user's own data. User queries trigger information retrieval by searching a user-provided collection of documents for passages or documents that may contain useful information. Text responses are generated using open-source LLM, augmented with the information retrieved in the previous step. For this, we set up a pipeline using the LlamaIndex Python framework to embed, store, retrieve, and submit data to an LLM, which performed tasks like segmenting complex questions into sub-questions for sequential response generation and producing comparisons between activities or analyzing a given activity over time.

A web-based application that Data.FI created allows users to interact with the backend retrieval-augmented generation model and ask questions about HIV programs. The model tracks key metrics for HIV programs—including what is effective and areas needing enhancement—and offers specific recommendations that would lead to better outcomes.

In 2023 in Mozambique, Data.FI developed and deployed a **machine learning (ML) model that predicts which clients are at greatest risk of interruption in HIV treatment (IIT).** This activity used advanced AI and ML to predict client behavior ahead of upcoming appointments and empower healthcare workers without the need for advanced computer literacy or internet connectivity. We worked with a Centers for Disease Control and Prevention (CDC) IP, Friends in Global Health, to access de-identified historical records of patient encounters for model training, where the model performed successfully and met performance benchmarks set in previous deployments.

Data.FI gained access to the database containing training data to prepare for deployment. We selected the first facility to deploy the model in the Zambezia province and completed data analysis, revealing that all data points are ready and available for deployment during quarter three of FY24. It was demonstrated that **AI/ML can be deployed at health facilities for real-time decision making** without the need for additional hardware or infrastructure normally associated with advanced analytics.
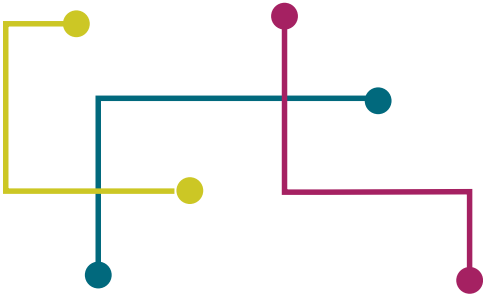
SUPPORTING A 'ONE HEALTH' APPROACH

The Data.FI/Guatemala team is working with the Ministry of Agriculture, Livestock and Food (MAGA), the Ministry of Health (MSPAS), the organization Wildlife Conservation Society (WCS), USAID, and the United Nations Organization for Food Agriculture (FAO) to develop **solutions that facilitate the exchange of information under the "One Health" approach.** Data.FI proposed a route to strengthen the information ecosystem for One Health to the National One Health Technical Working Group, which is coordinated by WCS. The objective is to identify all relevant existing information systems and map them for the development of a logical framework, which will serve as a basis for the future design and development of an information dashboard. By establishing common objectives for a One Health Information System, **the country can prevent, detect, and respond quickly to risks related to human, animal, and environmental health.**

Figure 2. One Health visualized. Graphic adapted from CDC at: https://lnkd.in/dZMGT_V.
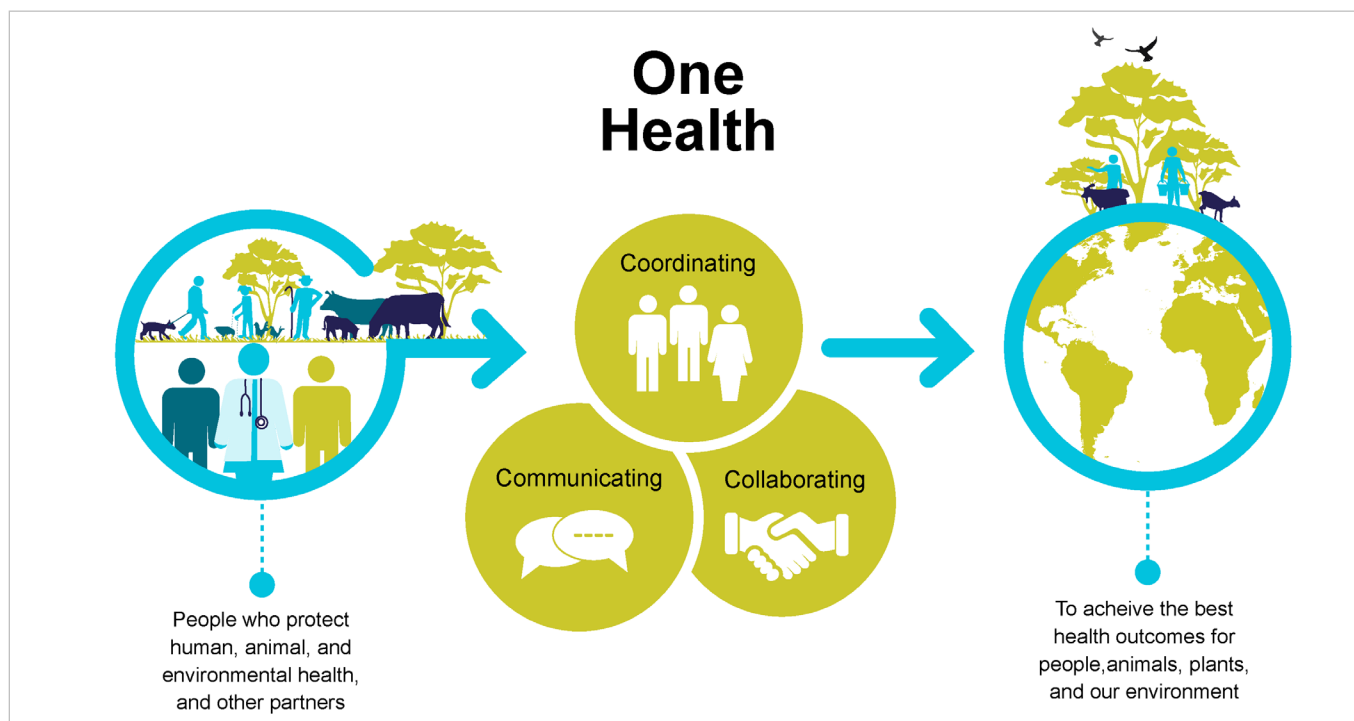
Dr. Brice Bicaba, Burkina Faso's Director General of Health and Public Hygiene, speaks to the press during a training workshop for members of the rumor management unit. Also in shot are Data.FI's COVID-19 Data Analyst Assetou Zongo (in orange, far right), and Data Use Advisor Charles Zoubire (standing behind Dr. Bicaba). Ouagadougou, March 2023. Photo by Data.FI/Burkina Faso.

HANDOVER OF SOCIAL LISTENING DASHBOARD IN BURKINA FASO

Data.FI installed and configured a server that enables the Ministry of Health and Public Hygiene to deploy a Social Listening Dashboard that is being used by the directorate of communications and press relations to monitor rumors and myths pertaining to COVID-19 coverage within the press and other media. The next workshop of the rumor monitoring unit, financed by PROPEL Health, will take place in the first week of April 2024 to analyze rumors about the launch of the malaria vaccine using the dashboard.

INNOVATIVE ANALYTICS IN NIGERIA

Data.FI/Nigeria **enhanced the HIV/AIDS and TB Comprehensive Access and Review Dashboard (HAT-CARD) platform to support dashboard rendering on mobile devices.** The aim was to increase user access and exploration of HAT-CARD with mobile devices like smartphones and tablets. Other features, such as enabling HTML dashboard embedding, were implemented to accommodate dashboards designed using HTML tags, and features to generate dashboards in PPT, PDF, and PNG formats were created on the platform to enable users to generate dashboards as reports. Furthermore, the database was expanded to accommodate multiple users, along with improved overall performance.
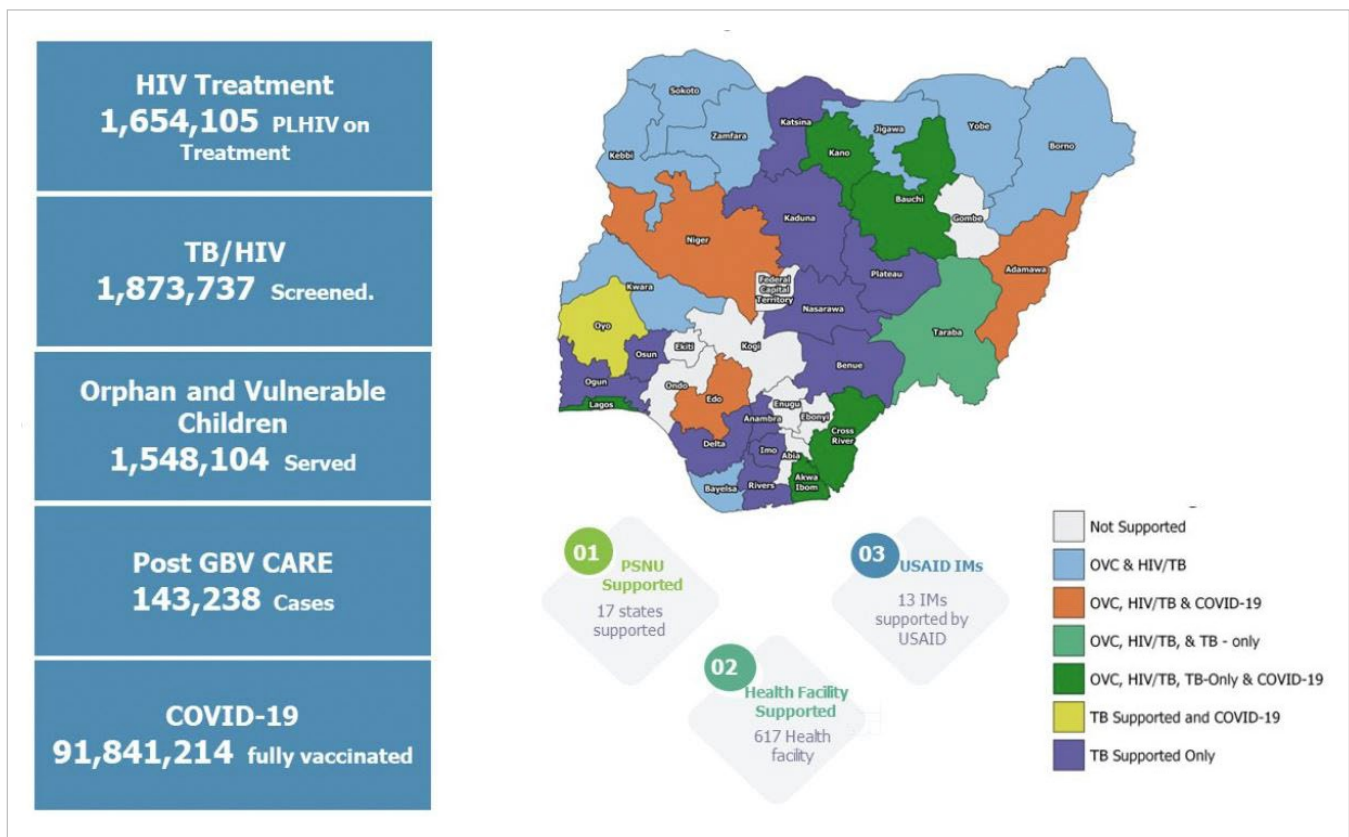
In addition, HAT-CARD analytics were expanded to integrate a biometrics dashboard for monitoring IPs' biometric recapture status for people living with HIV (PLHIV) on antiretroviral treatment (ART). Currently, the HAT-CARD platform houses visuals of approximately 15 datasets, incorporating a comprehensive 95-95-95 clinical cascade. Moreover, it includes user-interactive visuals, such as embedded custom tooltips for trend analysis, detailed geospatial analysis with facility-level interactivity, and tabular representation of clinical data analysis.

In addition to HAT-CARD, Data.FI collaborated with the USAID strategic information team in February 2024 to review the target-setting methodology on the Refining Evidence and Assumption to Drive Yearly Targets (READY) app. The aim was to align with the recent critical assumptions and changes to the PEPFAR Monitoring Evaluation, and Reporting (MER) 2.7 indicators datasets. The updates made on the READY tool focused on determining monthly average increases across 18 performance indicators, integrating the SPECTRUM adjustment factor, and adding 95-95-95 target calculations for October 2023, allowing for state-level target generation for each implementing mechanism.

32
analytical solutions developed/ supported

Figure 3. Screenshot of FY24 Quarter 1 performance overview data for DATIM activity in Nigeria

HIV Treatment
1,654,105 PLHIV on Treatment

TB/HIV
1,873,737 Screened.

Orphan and Vulnerable Children
1,548,104 Served

Post GBV CARE
143,238 Cases

COVID-19
91,841,214 fully vaccinated

01 PSNU Supported
17 states supported

02 Health Facility Supported
617 Health facility

03 USAID IMs
13 IMs supported by USAID

Not Supported
OVC & HIV/TB
OVC, HIV/TB & COVID-19
OVC, HIV/TB, & TB - only
OVC, HIV/TB, TB-Only & COVID-19
TB Supported and COVID-19
TB Supported Only

In **Nigeria's** Taraba State, one of Data.FI's key implementation states, the State AIDS Control Agency (TACA) presented an **"Award of Appreciation" to the Data.FI team in recognition of the project's contribution towards epidemic control of HIV/AIDS in the state.** The award was presented by Her Excellency, Wife of the Executive Governor of Taraba State, Mrs. Agyin Agbu Kefas during the World AIDS Day 2023 Commemoration program organized in Jalingo, on December 1, 2023.

Additionally, Data.FI's technical support for the Eswatini client management information system (CMIS) was recognized in a piece authored by USAID, one of "**four innovations increasing access to HIV services around the world."** The segment highlighted features such as SMS text functionality, phone number verification, and biometric fingerprint scanners, explaining that these help CMIS facilitate "greater HIV treatment compliance and connects health workers with people."

Data.FI's Ishaq Gidado accepts the award of appreciation from Her Excellency, Wife of the Executive Governor of Taraba State, Mrs. Agyin Agbu Kefas. Jalingo, December 1, 2023. Photo by Data.FI/Nigeria.

Best Practices

- **Country teams and partners should strive to build technology-agnostic and interoperable solutions** so that they can be deployed nationally across program areas with minimal changes.

- **Build solutions that respond to specific problems,** with an eye to providing tangible and sustainable utility. The problem must precede the solution, and the need for new technology should be clear from the outset. Innovating for the sake of innovation can lead to contrived interventions that fail to address specific, on-the-ground needs.

- **Consider how technologies can be honed** as enabling environments continue to change. As new infrastructures and user systems enter the implementation landscape, partners must consider what new opportunities open up, as well as what new challenges or shortcomings emerge. This is increasingly important given the pace of AI/ML innovation, and increasing internet uptake in many communities where USAID works.
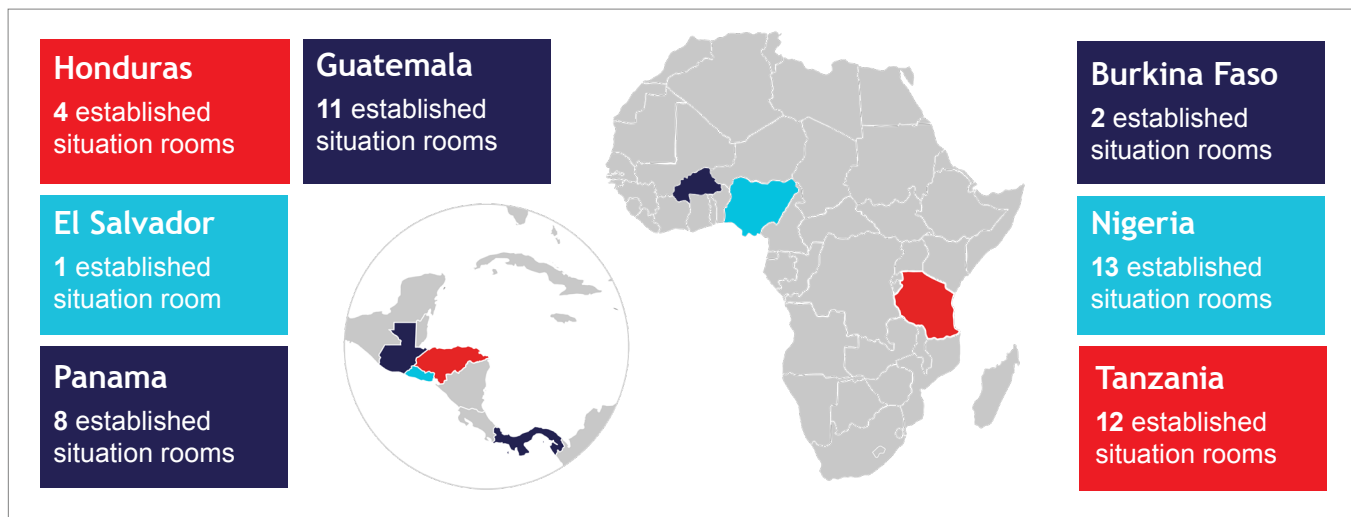
Accelerating Data Analysis and Use

Governments and health program managers require data to measure progress against targets, allocate resources to most-in-need populations, rapidly course-correct underperforming programs, and to define overall success. 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.

Data.FI improves systems, analytic platforms, and data sources, employing change management processes that institutionalize data use strategies to support local governments, USAID, and IPs to derive insights from data. We synthesize data across multiple sources and develop user-centered decision-support tools and dashboard-enabled data visualizations to inform action. We also support the institutionalization of processes and systems for continuous data review, and train staff to proactively address challenges and make programmatic changes that achieve meaningful impact.

Francy Mejia Reyes, Data.FI Data Use Advisor, speaks at the close-out event for USAID-funded COVID-19 activities in Honduras, highlighting major program successes over two years of implementation. November 2, 2023, Teucigalpa. Photo by Data.FI/Honduras.

Global distribution of Data.FI-supported situation rooms.

Honduras
4 established situation rooms

Guatemala
11 established situation rooms

El Salvador
1 established situation room

Panama
8 established situation rooms

Burkina Faso
2 established situation rooms

Nigeria
13 established situation rooms

Tanzania
12 established situation rooms

PERFORMANCE IMPROVEMENT THROUGH DATA REVIEW

Data.FI promotes data use for improvement through a technology-enabled strategy that supports decision makers to analyze data in real time and implement change management practices through situation rooms. We also collaborate with USAID Missions and host-country governments to co-create national strategies that embrace data use for performance improvement.

Since project kickoff and through this reporting period, Data.FI has engaged more than 30 stakeholder groups across Burkina Faso, El Salvador, Guatemala, Honduras, Nigeria, Panama, and Tanzania, and supported more than 2,200 situation room meetings. As a result, governments have documented 80 instances of data use, describing progress tackling persistent public health challenges and finding tangible solutions to address performance issues across the HIV cascade, with the COVID-19 pandemic, and across other health areas like maternal health and TB. Government collaborators
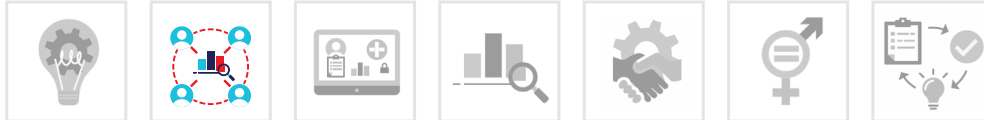
Held 263 data review meetings

have celebrated progress in national events and committed to scaling, diversifying, and sustaining this data use solution with domestic resources.

'Data Use for Improvement': Putting the solution into action

The scale and scope of **Data.FI's "Data Use for Improvement" solution** can be customized to a specific country's priorities and digital maturity. Situation rooms can be implemented at subnational and national levels and can focus on any health area. Currently, Data.FI supports situation rooms that target performance improvement of HIV, COVID-19, maternal, newborn and child health, and, beginning later this year, in global health security (GHS) programming as well. The nature of the analytics and visualization and the frequency of data review depends on data availability in each country. For this solution to be most effective, stakeholder buy-in and participation are vital.

10 data use cases developed

In Central America, Government partners are advancing data use strategies at the national

and subnational levels. Technical working groups (TWGs) in prioritized health regions analyzed information on key HIV indicators, identified program performance gaps, developed monitoring plans, and established baselines. Government-led situation rooms conducted routine data reviews and continuous improvement of data quality, achieving HIV screening goals in key populations (KPs), linking HIV-positive people to health services and treatment, and maintaining viral suppression for PLHIV. TWGs will document successful data use cases when finalized.

As part of the expansion of the HIV data use strategy in **Guatemala, Data.FI launched an HIV situation room at the Izabal health region.** The health technical group in Izabal uses data from the National HIV Dashboard (version 1.0) developed by the project. To ensure the successful adoption of the methodology, Data.FI trained Izabal's health officials on how to facilitate data reviews in situation rooms, identify roles and responsibilities of participants, use planning tools, and monitor actions intended to close program performance gaps that were identified through priority indicators. The Izabal health region joins nine other regions in Guatemala that are actively implementing the HIV data use strategy.

Data.FI also supported the **situation room in the Guatemala Central health area to analyze HIV testing in KPs.** The objective is to achieve HIV testing annual goals in the health area. The Comprehensive Care Unit (CCU) of Roosevelt Hospital participated in this situation room, which provides services to approximately 30% of the cohort of people with HIV nationwide. The CCU's participation was important because it serves a high number of PLHIV at the national level and because the situation room analyses will also help the project to share specific experiences of KPs in Guatemala—a critical group for controlling the HIV epidemic. CCU participation in situation rooms at the regional level is helping to achieve sustainability in the response to the HIV epidemic.

On March 5, 2024, the western health region of El Salvador officially launched its first HIV situation room, using and adapting the data use methodology proposed by Data.FI. Dr. Jazmin López (standing) leads the meeting. Photo by Data.FI/El Salvador.

Retalhuleu National Hospital during a COVID-19 site visit by Data.FI staff in January 2024. Photo by Data.FI/Guatemala.

The Santa Rosa health area in Guatemala receives technical assistance from Data.FI to implement its HIV data use strategy. Through Data.FI's situation room approach, a recent data review meeting highlighted a **regulatory barrier for female sex workers (FSWs) accessing health services there.** A government agreement prohibiting the need for FSWs to present membership cards to receive health services was not being upheld. FSWs were asked to present membership cards that reveal personal health information (i.e., disease diagnosis) routinely to brothel owners and national police officers. The situation room meeting involved civil society organizations (CSOs) like the Asociación Lambda and the Organization for the Advancement of Women, which notified stakeholders of this agreement. As a result, CSOs trained FSWs and police staff to understand the ministerial agreement and put it to practice, thus allowing **FSWs to access health services freely while maintaining their privacy.**

Data.FI/Panama works with the National HIV Program to implement the HIV data use strategy in seven health regions and provides technical assistance to develop situation rooms and strategic analyses for achieving HIV goals. The HIV Program requested that all IPs adopt Data.FI's data use methodology in their situation rooms. In a recent PEPFAR partners meeting with the Ministerio de Salud de la República de Panamá (MINSA), the government of Panama also recognized the effectiveness of the Data.FI data use strategy there and encouraged other partners to adopt a similar strategy in their work.

In November 2023, Data.FI worked with the Epidemiology Unit and the National HIV Program of Panama to analyze the main results and challenges of implementing the HIV data use strategy across the seven project-supported health regions. The strategy's objective is to support the planning of
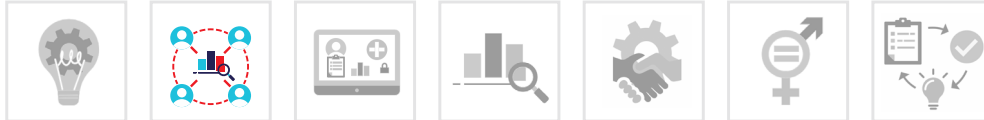
health regions' work toward the achievement of the 95-95-95 goals. Data.FI continued to support local technical teams under the HIV program to prepare data, follow up on agreed-upon actions, and monitor selected indicators within the situation rooms. Between December 2023 and January 2024, Data.FI supported situation rooms in the Bocas del Toro, Chiriquí, Comarca Guna Yala, and Comarca Ngäbe Buglé health regions. Currently, these rooms are using the data they analyzed to implement actions for program improvement and are documenting their use of data.

Cleaning data registers boosts HIV patient care and treatment

The Chiriquí Health Region is in the western region of the Republic of Panama; it offers two ART clinics where clients can access treatment—the David Clinic, managed by the Ministry of Health, and the Dr. Rafael Hernandez L. Regional Hospital, managed by the Social Security Fund.

During an August 2023 situation room meeting, data showed that 1,936 HIV-positive people were aware of their HIV status, of which 64% (1,274) were on ART, and 80% (1,025) of those on ART had achieved viral load suppression (VLS). Stakeholders set a goal to reduce the gap of patients with unknown ART status from 36% to 5% by December 2023. Data.FI conducted a root cause analysis to

understand why the status of PLHIV not currently on ART is unknown. The analysis revealed several challenges. While some PLHIV have a known HIV status, their whereabouts are unknown. This issue is compounded by the fact that 1) some PLHIV are diagnosed in the region but are linked or transferred to care in other regions, with no way to verify information; 2) private laboratories in the region do not use standard procedures to notify clients of positive HIV results, making follow-up difficult; and 3) there is no functional client monitoring system that allows for cross-regional transfers of clients to be compared. Finally, the region's epidemiology database has not been reviewed for client mortality or to reconcile ART clinic data with the new surveillance system (SISVIG-HIV).

To address these issues, Data.FI initiated several data-cleaning and ART-monitoring activities with situation room stakeholders, including a review of data in the historical database of the Regional Epidemiologist to cross-check data on ART-active patients, preparing a list of PLHIV with known status not currently on ART, and comparing that list with ART clinics with informal transfers. The team also reviewed lists of PLHIV diagnosed by private laboratories and compared this data across systems. Data.FI established a data review team to conduct the data-cleaning activities and to contact patients with unknown HIV status.

Figure 4. Data cleaning exercise for PLHIV with known status enrolled in ART in Chiriquí Health Region
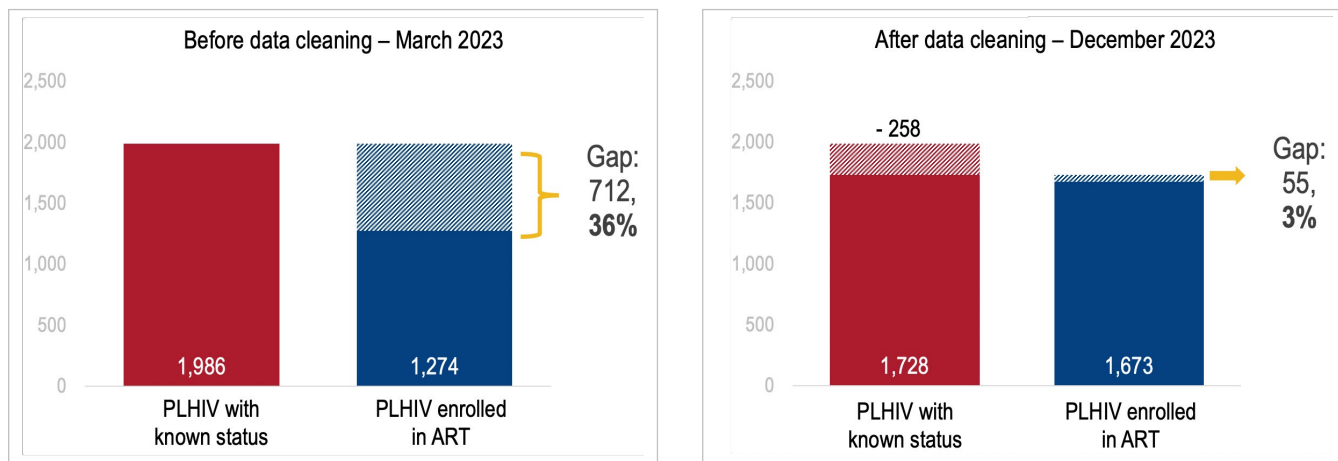
These data-cleaning activities reduced the gap in the number of PLHIV on ART from 36% to 3% between September and December 2023 and made it possible to establish the number and percentage of people not on treatment, and to initiate procedures to link these people to ART. It also revealed a more accurate number of deaths and transfers to other regions."

In **El Salvador, Data.FI collaborated with the sexually transmitted infection (STI)/HIV Program to implement a limited version of the project's HIV data use strategy.** The country was already conducting epidemiological analyses, and Data.FI introduced a tool to monitor action items resulting from routine analyses. Data.FI supported the STI/HIV Program to prioritize key indicators to achieve the country's 95-95-95 goals. The Western Health Region piloted the Data.FI action monitoring tool and used the Data.FI situation room methodology to analyze data, identify performance gaps to achieve goals, establish accountability mechanisms, and promote transparency through participatory processes. The Western Health Region implemented its first HIV situation room in March 2024, and will continue to conduct monthly situation room sessions. After it supports an initial gap analysis in the other health regions, Data.FI plans to extend the methodology to four additional regions in El Salvador after an initial gap analysis is conducted.

Data.FI made significant contributions at a Central America and Dominican Republic HIV Forum. The forum, "Joining Efforts to End Inequalities and Reach the End of HIV as a Public Health Threat," was held December 5-7 in El Salvador, and Data.FI facilitated one of the forum sessions, which addressed the use of data and analytical solutions to achieve the UNAIDS 95-95-95 goals.

During the session, three epidemiologists from El Salvador, Guatemala, and Honduras, and the Director of the STI/HIV Program of Panama, shared their experiences implementing their countries' data use strategies, which were established with technical assistance from Data.FI. Moreover, the Data.FI/Central America team made major contributions during the forum, including:
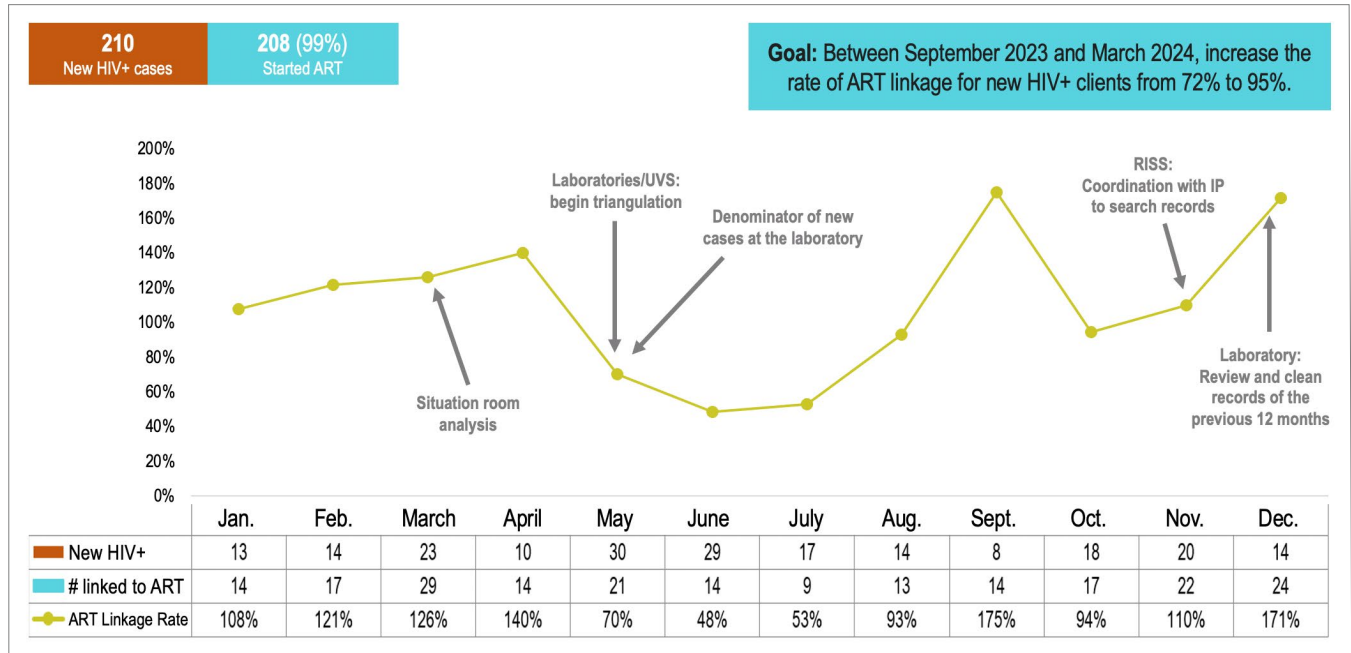

Dr. Lorenzo Pavón, Manager of the Surveillance Unit at the Honduras Ministry of Health (SESAL), speaks at the Central America and Dominican Republic HIV Forum, in San Salvador, December 2023. Photo by Data.FI/El Salvador.

a) **Increasing awareness** of the HIV epidemic in Central America through wider data use, digital visualizations, and promoting analytical solutions

b) **Exchanging experiences on the implementation of data use** to foster progress towards a more sustainable technical, financial, and political response

c) **Promoting innovative thinking on how to achieve sustainability** in information systems based on joint analysis and shared commitments by all engaged stakeholders

We are encouraged by the commitment and passion shown during the forum and are excited to continue working to end the HIV epidemic in Central America through the power of data.

Figure 5. Linkage of newly HIV-positive clients to ART, Central Regional Health District, 2023

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
New HIV+	13	14	23	10	30	29	17	14	8	18	20	14
# linked to ART	14	17	29	14	21	14	9	13	14	17	22	24
ART Linkage Rate	108%	121%	126%	140%	70%	48%	53%	93%	175%	94%	110%	171%

In **Honduras,** Data.FI is working in collaboration with CHAI to scale up the data use strategy in hard-to-reach health regions. The situation room enables collaboration between the Association of People Living with AIDS, the Pan-American Social Marketing Organization (PASMO), and other local IPs to actively engage and enroll new cases and to strengthen service provision at the Integral Attention Service. Notably, Data.FI has coordinated with CHAI to expand the implementation of the data use strategy in neglected health regions. In October, Data.FI began training CHAI technicians and will be involved in the implementation process in these health regions.

Data.FI/Honduras held the first national HIV situation room meeting with the participation of the HIV Program team of the General Directorate of Population Risks and the Metropolitan Health Regions of San Pedro Sula (RSMSPS), Central District (RSMDC) and Cortés. The health regions analyzed gaps and strategies to improve the recruitment of people for HIV testing and linkage to comprehensive care services. They highlighted the strategies of the RSMDC to coordinate with the authorities of the Central District to **open a clinic for the care of sex workers,** and to collaborate with La Asociación Nacional de Personas Viviendo con VIH/SIDA en Honduras (ASONAPSIDAH), PASMO, and the CDC Regional HIV Program for Central America to search for and monitor new cases of HIV.

At the regional level, Data.FI worked with technical staff from the Central District, Cortés, and San Pedro Sula regions, to identify priority actions to accelerate the response to HIV. During various situation room meetings, the MOH identified gaps in the effectiveness of the cascade for detection, linkage, and retention of PLHIV. Each health region is addressing these gaps by conducting data quality control exercises using notifications of new cases across MOH units; increasing HIV testing for KPs in the STI Sentinel Surveillance Clinics (VICITS) to identify new cases and provide early treatment; improving linkage of new HIV cases to comprehensive care services to initiate ART; and maintaining indirect retention of the active cohort on ART to continue treatment and achieve VLS. By working together with the health regions, the MOH aims to ensure that all PLHIV have access to the testing, treatment, and comprehensive care they need.

Data.FI and the HIV program of the Secretaría de Salud (SESAL) provided a training of trainers (TOT) in the use of HIV data to technicians from the health regions. The training took place in San Pedro Sula and Tegucigalpa with participation from technicians, epidemiologists, and HIV focal points from several regions. The methodology combined theory and practice, emphasizing the data use strategy in the HIV situation room, quality improvement tools and measurement of diagnostic, linkage, treatment, and VLS indicators. Data.FI co-facilitated the training alongside the key focal point of the General Directorate of Population Risks at SESAL. Data.FI's data use strategy originated in Honduras to respond to the COVID-19 epidemic and is now expanding to HIV and other health data, **demonstrating the institutionalization of the approach in the country.**

Data.FI/Nigeria supports the Government of Nigeria (GON) at the national and state levels to hold regular data review meetings with stakeholders from government ministries, agencies, IPs, and other donor and multilateral agencies.

During this reporting period, Data.FI held 168 routine data review meetings at the national level and across Adamawa, Akwa Ibom, Bauchi, Cross-River, Edo, Kano, Oyo, Niger, and Taraba States.

In Taraba State, Data.FI collaborated with TACA to discuss findings from a baseline analysis on improving HIV recency testing among PLHIV who are ART-naïve, improving both the proportion of client index testing offered and the acceptance rates. The reviewed data showed a median rate of index testing offered and accepted among PLHIV who are eligible for index testing (including newly identified HIV-positive clients and clients on ART who are virally unsuppressed) at 42%. The recency testing coverage among newly diagnosed HIV-positive clients was reported at 1% as of March 2023. We conducted a root cause analysis to identify problems and propose strategies. After nine months of implementing the proposed strategies, Data.FI conducted an outcome analysis revealing an 11% increase from the baseline result for improving the offered and acceptance rate, and a 24% increase in recency coverage among ART-naïve PLHIV.
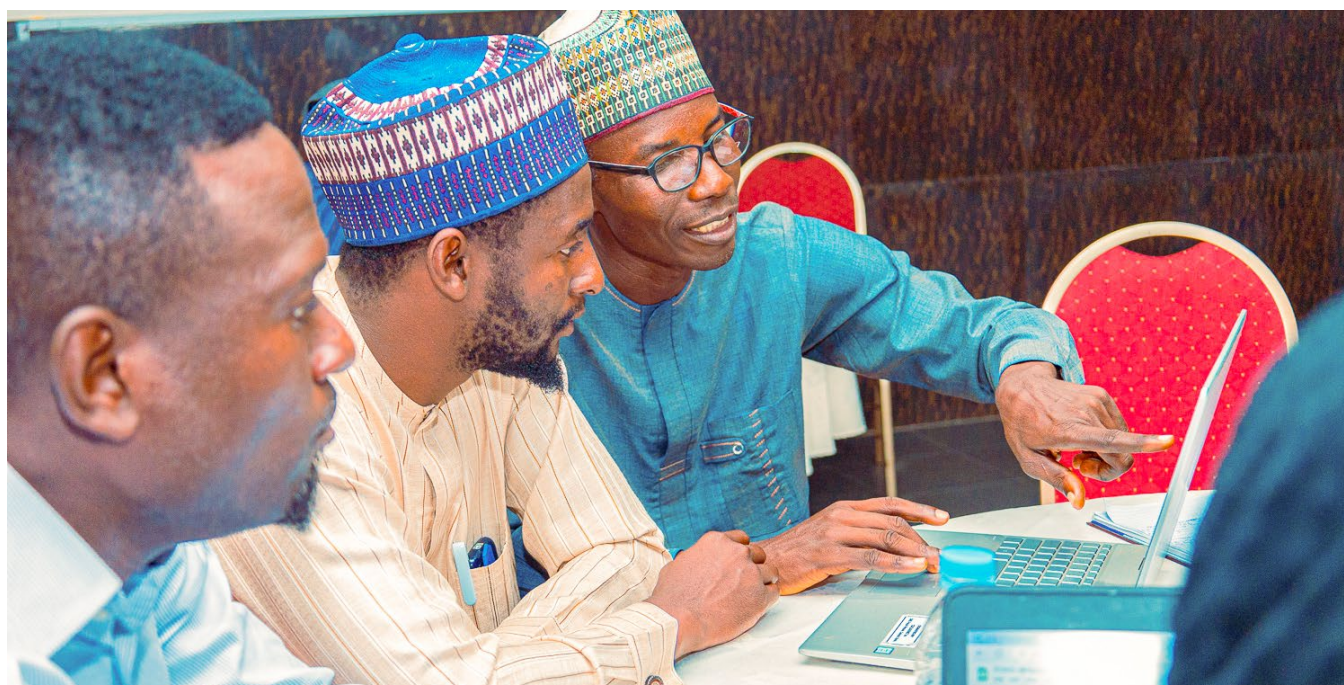
State participants engaged in a group activity during the data analytics, visualization, and use training organized by eHealth Africa in collaboration with Data.FI, in October 2023. Photo by Data.FI/Nigeria.

In November 2023, Data.FI/Nigeria conducted an **advocacy visit to the Taraba State Commissioner of Health, and the Director-General of TACA** to foster stronger partnerships and continue to align Data.FI activities with the state's health initiatives. Stakeholders discussed enhancing healthcare approaches through the utilization of data-driven methodologies and continued support of the data use strategy currently supported by Data.FI through the situation room methodology, as well as reinforcing the State Health Research Committee, which was set up and institutionalized with Data.FI support. On October 24, Data.FI conducted an **advocacy visit to the Director General of the Nigeria Centre for Disease Control (NCDC) to discuss project achievements and to foster continued support.**

Improving coordination and knowledge exchange among stakeholders in Nigeria

Data.FI assessed the Public Health Emergency Operations Centres (PHEOCs) in Zamfara and Lagos States, an initiative that aligns with the MOH's vision to establish Integrated Health Emergency Operation Centres (IHEOCs) at the national and state levels to eliminate siloed operations and improve coordination across initiatives and stakeholders. The assessments were conducted in collaboration with representatives of the Federal Ministry of Health and Social Welfare using the EOC assessment checklist adapted and modified from the WHO's framework for implementing PHEOCs.

Data.FI/Nigeria implemented the **standardized situation room methodology in February 2024 to**

Data.FI Strategic Information Advisor Seyi Abolarin, seated, and Data.FI Health Informatics Associate Rukayat Abdullahi, furthest to the right, carry out NOMIS 3.0 deployment at the Hope for Family Development Initiative office in Akwa Ibom State. January 19, 2024. Photo by Data.FI/Nigeria.

strengthen the public health response in Edo State. The integration of HIV/TB into the public health EOC is aimed at enhancing coordination and collaboration among various stakeholders, improving data sharing and analysis for informed decision making, and promoting community engagement across public health programs in the state. Data.FI trained 24 staff from the SMOH, SASCP, SACA, HAN, and the WHO on data analysis, visualization, and use to foster effective HIV situation room implementation and evidence-based decision making across the HIV-95-95-95 indicators. Participants deployed acquired skills using quality improvement methods to develop two baseline data use cases around HIV linkage and VL testing coverage tracked from March to September 2023.

Figure 6. Screenshot of performance overview dashboards for Edo State, Nigeria. Part of the Automated Partner Performance Reporting platform dashboard developed for HIV analytics across Nigerian states.
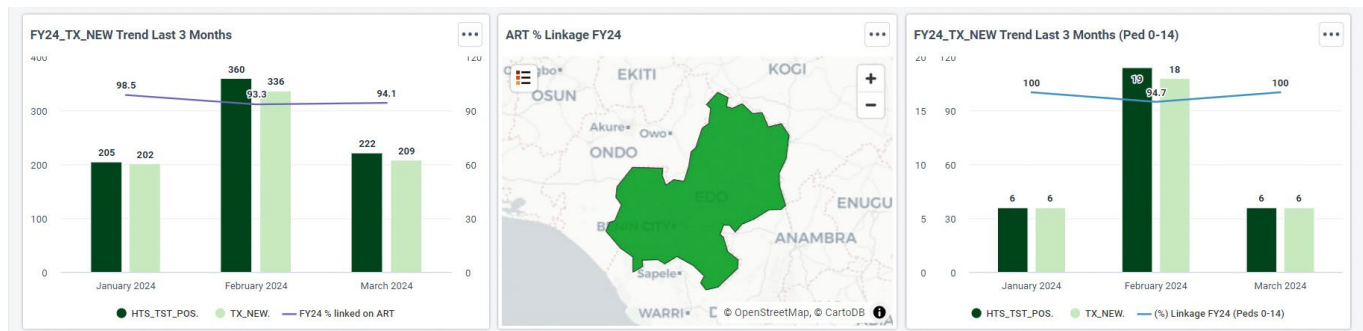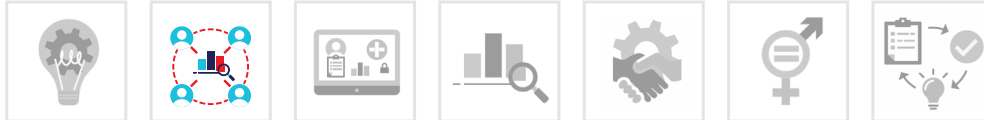
Data.FI/Nigeria Country Director, Otse Ogorry, with Samuel Etuk, Akwa Ibom SMOH Disease Surveillance and Notification Officer and other implementing partners during the weekly data review meeting on January 3, held at the EOC in Uyo. Photo by Data.FI/Nigeria.

In November 2023, Data.FI/Nigeria participated in a four-day technical meeting on the National HIV Quality Improvement Program (NigeriaQual) in Abuja. The event was organized to align the NigeriaQual program with current programmatic shifts, review existing performance metrics, and onboard them to the National Data Repository (NDR) through the EMR systems. As a culmination of the meeting, **the Quality Improvement (QI) Technical Committee was re-inaugurated,** comprising members from GON, funders, Data.FI, the Public Health Information System, Solution and Surveillance project (PHIS3), and IPs. This strategic move aims to enhance the efficiency and efficacy of the continuous quality improvement (CQI) process by incorporating varied perspectives and expertise.

In addition, Data.FI coordinated the **inauguration of the USAID Partners CQI Forum** in January 2024 to promote knowledge exchange and best practices among the USAID IPs. This virtual forum convened 46 participants on collaborative discussions and to establish a framework for CQI activities. The forum highlighted a success story from the Heartland Alliance Eket One Stop Shop (OSS)'s CQI project titled, "Improving Viral Suppression Rates Among Key Populations Living with HIV," which showed improved VLS within this target group, notably increasing from 92% to 98%.

In February 2024, Data.FI/Nigeria, in collaboration with the GON, conducted two **data-use learning network inaugural sessions** to promote knowledge sharing between stakeholders involved in the HIV

situation rooms. Held monthly, these sessions convened stakeholders from various government bodies, USAID, multilateral agencies, and IPs to present QI projects implemented within their situation rooms to promote cross-learning and collaboration. The **HIV data use learning network served as a cross-learning experience between the Akwa Ibom and Taraba state HIV situation rooms** to share their experiences applying QI methods to improve VLS among children ages 0-14 years. While the Akwa Ibom situation room shared previous achievements in pediatric VLS, Taraba presented ongoing efforts to enhance VLS. The network emphasizes applying data effectively to improve program outcomes and enhancing data quality through data use.

HIGH-IMPACT ANALYSES AND ANALYTICAL TOOLS

Decision makers often lack the visibility needed to make high-impact, equitable, and efficient resource allocation decisions. Data.FI brings to bear advanced analytics to answer priority questions. We:

- Work with stakeholders to assess critical information needs tied to key decisions. For routine analytics this may include developing logic models for performance improvement.
- Triangulate available health services, surveillance, laboratory, commodity, finance, human resources for health, infrastructure, and population data.
- Develop, test, and deploy data visualizations, including maps.
- Automate reports and predictive analytics.
- Strengthen capacity in data use, data visualization, analytics, and geographic information systems.

Data.FI/Nigeria developed a digital micro-planning tool to support the national- and state-level stakeholders in planning for vaccination activities, increasing vaccination coverage, and managing vaccination teams. The tool was developed for the COVID-19 intervention in Nigeria across the eight USAID states supported by Data.FI–Adamawa, Akwa Ibom, Bauchi, Cross River, Edo, Kano, Oyo, and Niger. The tool allows stakeholders to monitor full vaccination coverage, partial vaccination coverage, priority local government areas (LGAs) for COVID-19 vaccination, numbers of vaccination teams to be deployed to

Data.FI National COVID-19 Advisor, Chukwuemeka Nebe (standing, far-right), leads a simulation exercise in Akwa Ibom with state stakeholders to explore ways through which the state can improve immunization coverage across all 31 LGAs. Photo by Data.FI/Nigeria.

priority locations, and the number of days expected for vaccination teams to reach 70% full vaccination in assigned locations. These indicators are cascaded down to the LGAs and ward levels in each state.

## Data.FI is providing targeted support to visualize HIV cascade data

Eswatini's MOH indicated challenges to accessing routine service delivery data from the integrated PHC EMR (CMIS) to inform clinical decisions at the facility level, programmatic decisions at facility and regional levels, and informing targeted health interventions and program pivots. Responding to this need, Data.FI supported the MOH's Strategic Information Department to develop the CMIS reporting and analysis platform, which includes District Health Information Software, Version 2 (DHIS2)-based disease-specific dashboards for HIV, ART and HTS, antenatal care (ANC), tuberculosis (TB), voluntary medical male circumcision, cervical cancer, pre-exposure prophylaxis (PrEP), and non-communicable diseases. These dashboards were developed with a user-centered design involving healthcare workers, facility managers, and program representatives to ensure that the products were responsive to data needs at the service delivery level (i.e., to facilitate the production of line-lists to achieve active patient follow-up).

Under the stewardship of the Chief Strategic Information Department (SID) Office, the CMIS dashboards were officially endorsed by multiple MOH stakeholders, including SID M&E, HMIS, and epidemiology and disease control units, program representatives, IPs, and regional and facility representatives. During the endorsement event, the SID Chief Officer mandated that all facilities should use the CMIS as their primary data collection system to support the transition toward complete client historical records. Going forward, participants requested routine engagement with all stakeholders to inform enhancements of the dashboards that would meet programmatic changes and shifting data and reporting needs.

The CMIS dashboards are critical to improving the quality and use of CMIS data, especially at the point of service. To date, the **dashboards have been rolled out to 236 sites, representing 97% of total sites on CMIS.** During this reporting period, Data.FI supported 45 facility-level and two regional data review meetings. Below is an example of a dashboard use case at King Sobhuza II Public Health Unit, a CMIS site in Eswatini. The use case shows how the CMIS ANC dashboards were used to improve CMIS data through proper documentation.

Figure 7. Tracking restarted treatment indicator before and after IIT client follow-up: Eswatini | FY22Q2 – FY23Q4
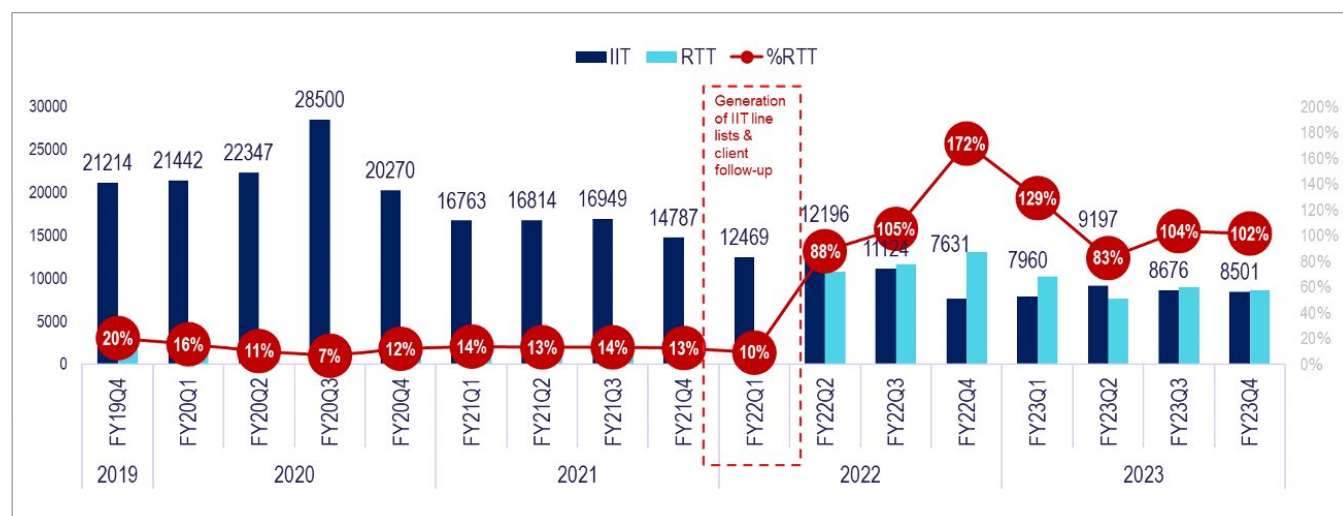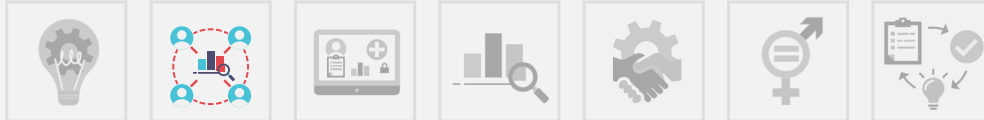
DASHBOARDS IN PROGRESS:
SUPPORTING ANALYTICS FOR NEW HEALTH AREAS

To broaden the utility of our digital solutions, Data.FI is working to develop and test dashboards that visualize health data outside of HIV and COVID-19. In Latin America, we have developed mock dashboards in Guatemala and El Salvador to support in-country stakeholders to visualize health data for nutrition, TB, and malaria indicators across available disaggregates like age, sex, and geographic location.

In **Guatemala,** Data.FI supported the MOH Food and Nutrition Security Program (PROSAN) and the Dirección de Tecnología de la Información of MSPAS to strengthen PROSAN's information systems, improve data quality, and develop a logical framework to prioritize nutrition indicators. We developed, validated, and finalized prototypes of a dashboard in R-Shiny and Tableau. In addition, Data.FI continues to improve on the HIV dashboard developed in FY23, working with national stakeholders (including CDC, Servicio de Sanidad Militar (Military Health Service Authority), and the Social Security Institute) to develop and update data collection tools, design a data repository, and create a mock-up of a dashboard that incorporates additional priority health indicators.

In **El Salvador,** Data.FI supported the Regional Coordination Mechanism (RCM) of the Council of Ministries of Health of Central America and the Dominican Republic to better visualize and utilize routine data to monitor grants performance and compliance across the region. During this period, the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) dashboard was successfully finalized and delivered. Additionally, the mock-up of the Inter-American Development Bank dashboard, including the C19RM and IREM grants, was validated, and the prototype is currently undergoing functional testing. Moving forward, Data.FI will continue working closely with the RCM to develop three additional dashboards: an HIV dashboard for GFATM grants, one for the Positive Leadership Alliance and Key Populations, and one for the RCM commissions.

On January 25, the Data.FI/Guatemala team made the final adjustments together with USAID partners for the dashboard that integrates information from programmatic and HIV continuum of care indicators. Photo by Data.FI/Guatemala.

Figure 8. Screenshot of the integrated TB dashboard developed for MCR and COMISCA
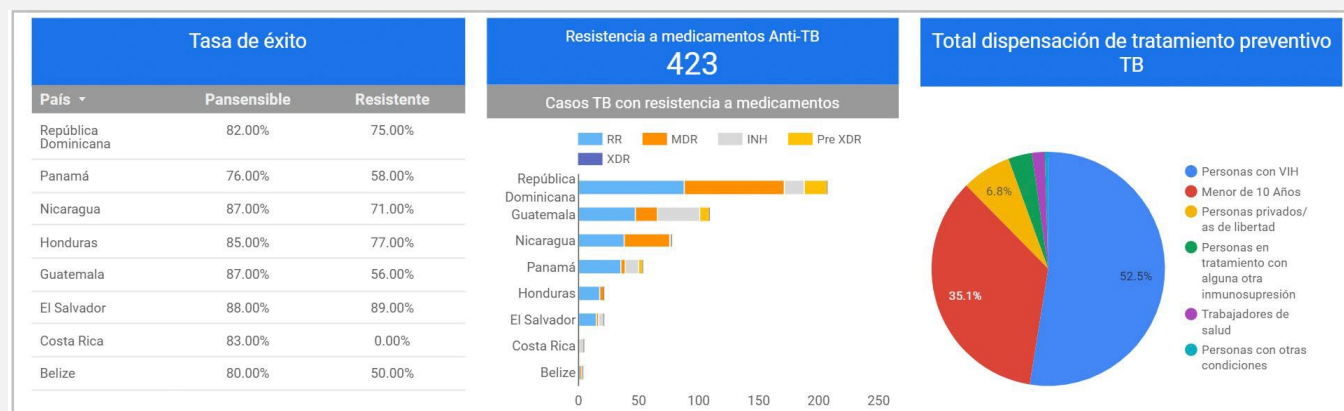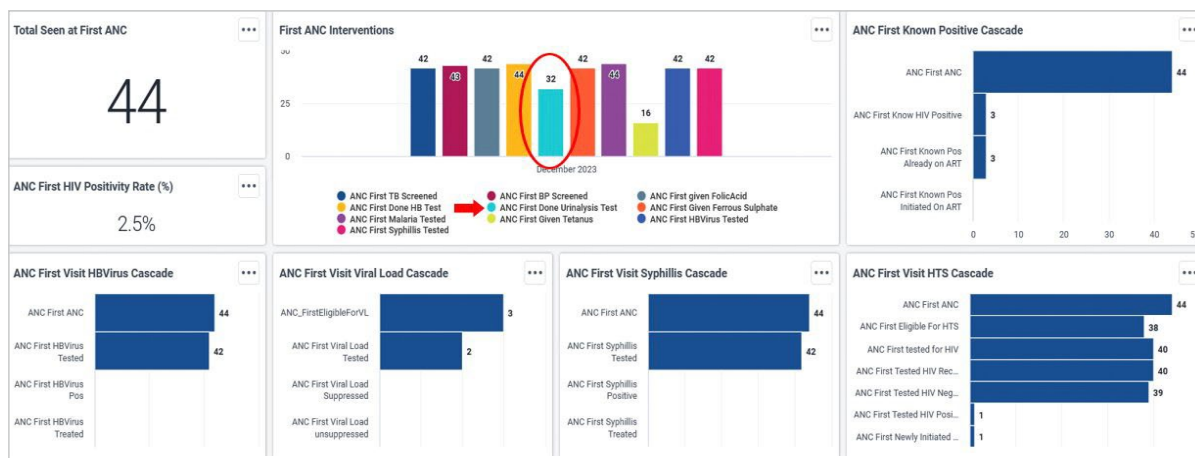
Figure 9. Before and after intervention, CMIS dashboard use case at King Sobhuza II PHU

In **Guatemala,** Data.FI has been supporting a process (or "middleware") to collect and integrate reporting data from USAID-supported IPs. We worked with IPs to align data using a single data collection template, created a data repository, and finalized version 2.0 of the middleware dashboard. The enhanced dashboard is now comprised of 12 visualizations for monthly PEPFAR reporting indicators from five IPs (IntraHealth, PASMO, APROFAM, Asociación de Salud Integral [ASI], and the Fundación para la Alimentación y Nutrición de Centroamérica y Panamá [FANCAP]) across four countries in the Central American region. This dashboard will allow USAID and its partners to track progress for 49 indicators related to the HIV care continuum, disaggregated by country, IP, type of population, service center, type of strategy, and reporting period.

In **Nigeria,** Data.FI supported the automation of manual OVC TB reporting tools and developed

a new children and adolescents living with HIV (CALHIV) dashboard on the Automated Partner Performance Reporting (APPR) platform to monitor the performance of TB indicators across OVC IPs working in the 17 USAID-supported states. The OVC/CALHIV TB dashboard has proven to be a quick and effective platform for USAID and OVC IPs to easily visualize and review their data.

In **South Africa,** Data.FI worked closely with the NDOH Digital Health Unit (DHU) to develop HIV/TB visuals to allow users at all levels of the health system to better understand performance, identify high- and low- performing facilities in a district, compare VL testing completion and VLS, and to compare TB outcomes against the TB continuum of care. We are developing the automation processes for TB and HIV data within NDOH and creating additional dashboards focused on drug-sensitive TB diagnosis (DS-TB) and laboratory testing and DS-TB case notification.

Best Practices

- **Increase data use to open new opportunities for cross-governmental buy-in.** By focusing on providing tangible data use improvements for a given health area or within a specific health agency, the value of data use strategies can become more appealing across government or non-governmental stakeholders. This cultivates partner buy-in and can expand the scope of the initial activity.

- **Institutionalize progress by working together with government partners** to establish national or regional strategies, codifying best practices, and standardized methods. Maintaining this as a long-term objective can help ensure sustainable improvements that outlast the end of external funding.

- **Create data use communities of practice that bring together local implementing partners and other stakeholders.** Helping to set-up these groups can build enthusiasm and ideation, leading to long-term project learning and embedding a culture of data use.

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 amplified the importance of sustainable systems—systems aligned with the local context, governed by a coordinated stakeholder team in-country, and supported by a community of 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

CMIS training for clinical and non-clinical HCWs at the Raleigh Fitkin Memorial Hospital, in Manzini region, Eswatini. March 26, 2024. Photo by Data.FI/Eswatini.

Participants exchange ideas during the Kingston workshop held from March 11-15, 2024, to develop an M&E framework. Photo by Data.FI/Jamaica.

health service delivery strategies, and to allow for immediate agility in measurement and future resilience to emerging pandemic threats. This is the challenge and opportunity we are working to build upon across sub-Saharan Africa, Central America, and the Caribbean.

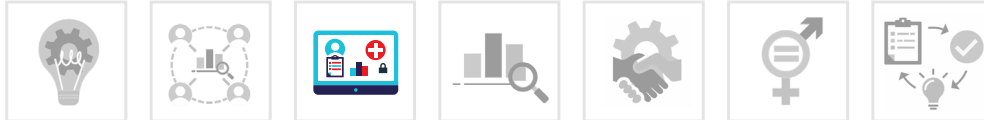## DEVELOPING AND ENHANCING EMR & LAB SYSTEMS

In Nigeria, Data.FI continues to enhance the Lafiya Management Information System (LAMISPlus) EMR system, with four new releases and 33 module updates this reporting period.

To facilitate these releases, the team leveraged the collaborative efforts of the HIS Community of Practice (HIS-CoP) through meetings, bootcamps, and HI hackathons, successfully enhancing and deploying various modules across web and mobile platforms. The team also employed agile scrum

techniques to manage the software development life cycle, analyzing and developing requirements, testing features, and deployment schedules. The updates were posted on the official LAMISPlus public GitHub repository, with release notes, user manuals, and installation guides for ease of deployment and use.

Upon request by USAID, **Data.FI/Nigeria re-engineered and deployed the LAMISPlus Sync 2.2, a centralized patient-level repository** that serves as a data warehouse for monitoring HIV-positive patients from 617 USAID-supported facilities across 17 states in Nigeria. The LAMISPlus Sync 2.2 architecture and design enable the synchronization of patient-level data from the facility level into the server database to support longitudinal tracking of patients, program performance monitoring, and stakeholder decision making. This centralized patient-level repository functions as a robust data warehouse that stores de-duplicated patient-level records from all USAID-supported facilities, enabling seamless program reporting on the Data for Accountability, Transparency, and

Implementing partner representatives conduct a group activity during the HIS-CoP bootcamp in February 2024. Photo by Data.FI/Nigeria.

Impact Monitoring (DATIM) platform where partners can generate and download **Retention and Audit Determination Tool (RADET)** and DATIM flat files. It also provides custom data marks for analytics for various reports and data pipelines for systems like the HAT-CARD, APPR, and DATIM. The system supported the successful reporting of 594,129 and 560,030 patients across 17 key MER indicators in the first two quarters.

In this reporting period, Data.FI/Nigeria also supported the onboarding of three Global Fund-supported sites transitioning to USAID support under LAMISPlus in Edo, Kano, and Taraba states. Specifically, the USAID-funded Heartland Alliance KP-CARE 1 sites in Edo and Kano, and the SFH-KPCARE 2 site in Taraba – the data of all three was migrated from the **LAMIS 3.0 version** to LAMISPlus 2.0.5. For this task, Data.FI developed a custom extract, transform, and load tool tailored for data migration, and the process included a comprehensive system assessment and mapping, as well as validating facility data from the legacy EMR to LAMISPlus.

To strengthen capacity and continue supporting USAID IPs to effectively use LAMISPlus, Data.FI Nigeria continues to provide technical support to IPs using the help desk and in-person technical support.

The **help desk support significantly contributes to additional capacity building** and offers technical insights on various LAMISPlus features where partners require further guidance. The focus this year is to increase the use of the help desk to improve the current resolution rate of 68% to 85% by the end of the fiscal year with an effectively controlled burndown rate.

To further improve IP capacity, Data.FI is also instituting **periodic webinars and facility monitoring visits to track usage and improve the system's user experience.** During the reporting period, Data.FI conducted a series of system release webinars to highlight new features and module updates with over 150 participants from the IPs, USAID representatives, and facility staff. The webinars focused on the implementation of new system features ranging from the Operation Triple Zero module (which facilitates the delivery of essential services for young individuals aged between 10 and 24 years living with HIV) to client verification, backup and recovery, verbal autopsy cause of death features, and a biometric recapture module.

Evans Ondura, Data.FI Deputy Country Lead (in foreground), and Ayator (Nelson) Ngusha, Senior Data Use Advisor, during the HIS-CoP bootcamp. Photo by Data.FI/Nigeria.
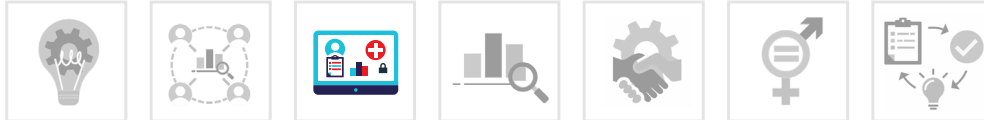
Training of key stakeholders in Edo State on the integration of HIV situation room into Public Health Emergency Operation Centre (PHEOC) held at the John Odigie Oyegun Public Service Academy (JOOPSA), Benin, Edo State. Data.FI's Bridget Okosa (standing, left) guides key stakeholders in Edo State. March 6, 2024. Photo by Data.FI/Nigeria.

Data.FI/Nigeria supported the **PEPFAR interagency client verification form implementation assessment visit** alongside other United States Government-supported IPs in alignment with PEPFAR Nigeria's **"Getting the Data Right"** initiative. Assessment visits were conducted at US-CDC-supported Center for Integrated Health Programs (CIHP) and USAID-supported Heartland Alliance/Accelerating Control of the HIV Epidemic in Nigeria Cluster 6 (ACE-6) sites in Lagos with the aim of evaluating client verification standard operating procedures (SOPs), assessing the effectiveness of verification forms on EMR systems, and verifying and aligning reported data on HIV-positive clients receiving treatment (TX_CURR) and the estimated number PLHIV across various HIV-response programs.

In December 2023, Data.FI/Nigeria participated in the NDR re-architecture stakeholders' engagement meeting. The meeting brought together diverse stakeholders from PEPFAR, USAID, CDC, PHIS3, and GON-National AIDS and STD Control Programme (NASCP) to review the FY24 NDR data architecture, and working within interagency sub-working groups support its redesign and optimization and the development of a national data dictionary aligned with the minimum data set which conforms to global standards terminology services. Following this meeting, all EMRs used in the country to adopt the minimum data set approved by the FMOH&SD adopted by LAMISPlus, with a comprehensive roadmap delineating timelines to guide the implementation of the terminology service and the NDR's re-architecture pending approval by the FMOH&SD.

In Eswatini, Data.FI is supporting the system development for the MOH-led CMIS to manage HIV and emerging epidemics data. This centralized EMR system is in use at 75% (247 of 327) of healthcare facilities and securely stores data on over 85% of all people on HIV treatment. **CMIS facilitates greater HIV treatment compliance and connects health workers with people, even in some of the most remote areas of the country.** The system has SMS text message functionality in Siswati and English to send appointment reminders, announcements, and other important care information. A phone number verification feature helps to send reminders only to valid cell phone numbers, and biometric fingerprint scanners ensure access to health records can only occur when the person is present. CMIS has an outreach component which is used to support service provision at the community level.

From January 15-19, the Data.FI Agreement Officer Representative, Madeline Schneider, visited the Eswatini team, accompanied by USAID HIS Advisor, Anabel Anandhapriya, and USAID Digital Health Advisor, Sriyanjit Perera, to learn more about the CMIS and to examine Data.FI's impact on its evolution. The local team was able to demonstrate the CMIS outreach component, which helps to link clients to care and tailor prevention activities to affected communities.

Data.FI/Eswatini developed a minimum viable product for the CMIS inpatient module and deployed it on a testing instance for MOH alongside the latest version of the CMIS. To support data integration, the team validated and imported FY24/Q1 MER data across partners in DATIM and Phase 1 of developed in-patient modules with health facility clinicians/champions, and MOH partners. In addition

Data.FI's Agreement Officer Representative, Madeline Schneider (second from left), USAID HIS Advisor Anabel Anandhapriya (at far right), and USAID Digital Health Advisor, Sriyanjit Perera (first from left) during a visit to a CMIS-connected local health facility. Photo by Data.FI/Eswatini.
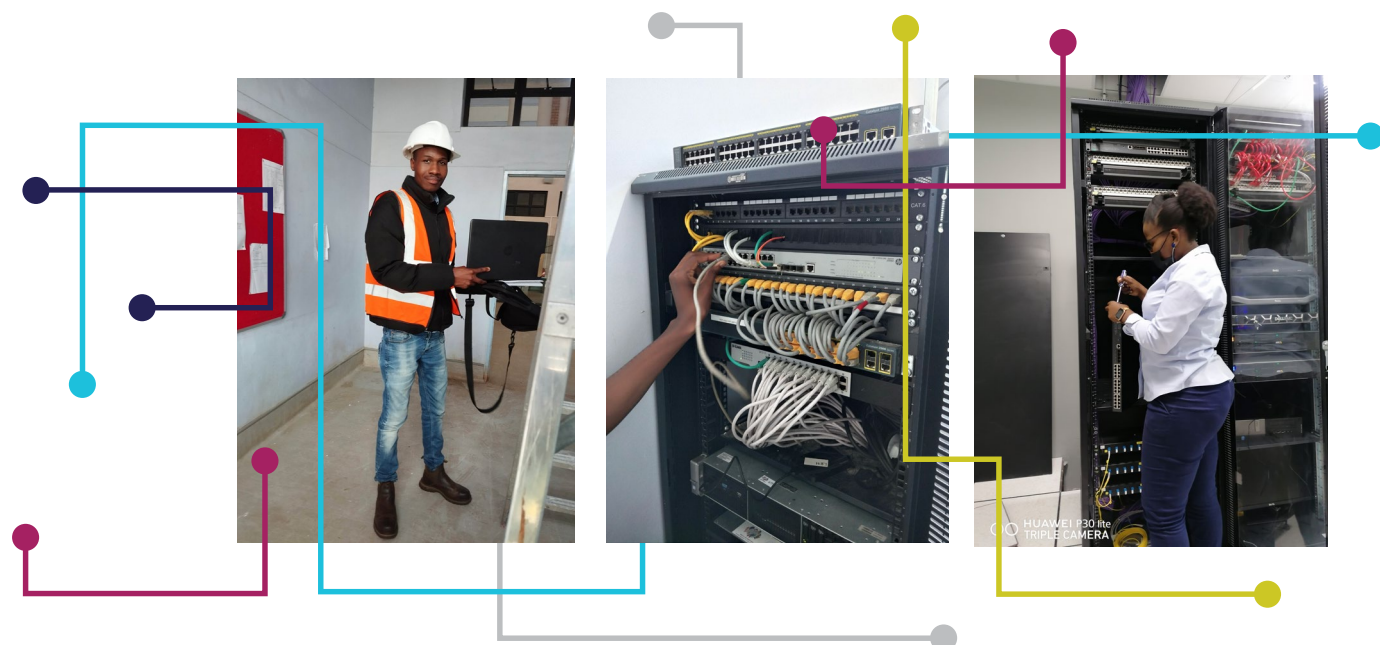
Left: Network Engineer Celmusa Gina conducts a hardware inspection at the Lubombo Referral Hospital in November 2023. Right: Network Engineer Team Lead Bandzile Dlamini conducts repairs at Mbabane Government Hospital in August 2023. Photos by Data.FI/Eswatini.

to validated MER data, we conducted a successful security assessment of the CMIS to ensure that the application is compliant with the CIA (Confidentiality, Integrity and Availability) triad, as defined by the National Institute of Standards and Technology (NIST), and that patient data is secure. The team also conducted a cyber security training and developed a SOP for the Eswatini MOH. In addition, Data.FI facilitated DATIM reporting for five key MER indicators for both PEPFAR and non-PEPFAR supported health facilities.

The team successfully completed six of 12 development sprints, including work items for CMIS+ and an enhanced version of the current system with offline capabilities. The offline functionality will allow for service provision using the digital tool at community level, where the network is scantily available. The application allows users to download targeted client information and record electronically for outreach activities. This data is then synchronized with the main application server once the internet connection is re-established. The rollout pilot for CMIS+ is targeted for quarter three. The team also developed a Master Patient Index and successfully tested it on government servers. Testing showed that the platform will be able to handle multiple requests from different digital systems and that the requests will be processed in a timely manner. In January

2024, Data.FI deployed a National Data Repository on government servers, which included over 25 datasets for 17 program areas.

SCALING DIGITAL SOLUTIONS FOR OVC INFORMATION SYSTEMS

In February, **Data.FI/Botswana** facilitated a three-day workshop to complete a review of the OVC M&E framework. The workshop included IT officers, social workers, government officials and CSOs working with OVC. Participant feedback informed the development of the draft OVC indicator reference sheets that are currently being validated.

National OVC Management Information System (NOMIS 3.0)

During this reporting period, Data.FI/Nigeria continued to enhance the NOMIS system with the release of versions 3.0.3 and 3.0.4. These updated versions include significant enhancements, like improvements to service registers for nutrition, OVC, caregivers, and an improved reporting module. The service registers **will help stakeholders easily pull records of all beneficiaries and ascertain whether they received services within the reporting quarter.**

Thulisile Vilakati, Data Use Analyst, during a CMIS training for clinical and non-clinical HCWs at the Raleigh Fitkin Memorial Hospital in Manzini Region. March 26, 2024. Photo by Data.FI/Eswatini

Through the NOMIS 3.0 data export, HIV-positive clients receiving services at the community level, but without a client ART number, can now be assigned a unique ART number to facilitate quick enrollment into treatment within the system. Data.FI also supported the **data exchange between LAMISPlus 2.1 and NOMIS 3.0.** This interoperability feature allows HIV-positive clients without a unique OVC ID to be assigned a unique ID, directly addressing concerns regarding the **harmonization of clinical data for OVC CALHIV.**

In collaboration with the Federal Ministry of Women Affairs (FMWA), Data.FI completed a nationwide deployment of the **NOMIS 3.0 Case Management System deployment** across 15 states. To ensure full-scale utilization, a multi-stakeholder team trained participants from State Ministries of Women Affairs, M&E/SI personnel, and community-based organizations (CBOs) in three clusters covering the 15 states on NOMIS 3.0 functionalities, data migration procedures, and transitioning OVC data to NOMIS 3.0. Data.FI supported the partners in data cleaning activities and utilizing project-developed data quality scripts. This comprehensive approach resulted in the **successful migration of legacy data, laying the groundwork for improved data management, optimized service delivery within the targeted states, and integrating CALHIV data from the NOMIS into LAMISPlus.**

The successful deployment of the NOMIS 3.0 to Lady Helen Child Health Foundation, a non-PEPFAR OVC IP, has significantly impacted the scale up of NOMIS across Nigeria. This deployment allowed **non-PEPFAR CBOs to adopt NOMIS and to report through the OVC program, extending its reach beyond PEPFAR-supported IPs.** This multi-sectoral approach across government ministries, departments, and agencies fosters ownership and will ensure the sustainability of the NOMIS system.

In March 2024, Data.FI/Nigeria hosted a **NOMIS Child Monitor webinar session** with a broad representation of stakeholders to present system features, including the bi-directional synchronization process of data from the NOMIS Child Monitor to the NOMIS web, enrollment of household and household members, and beneficiary documentation. The FMWA and IPs expressed satisfaction with the functionalities integrated into the NOMIS Child Monitor and requested that Data.FI extend capacity-building support to IPs regarding the application's utilization. The FMWA commended the mobile application's effectiveness and emphasized its potential to address gaps at the community level.

24
systems with updated project management documentation
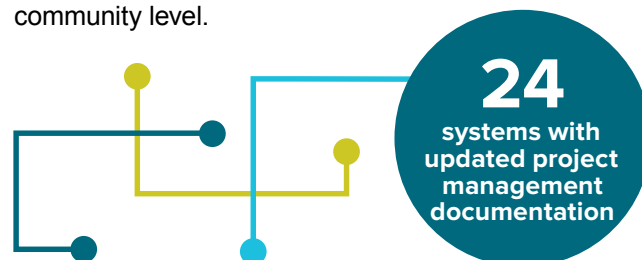
Dr. Brian Munro, Senior Medical Officer, demonstrates how CMIS is used at the facility level to track and dispense prescriptions.
Photo by Data.FI/Eswatini.

Lesotho OVC and DREAMS Integrated Information System (LODIIS)

Lesotho's LODIIS plays a critical role in improving **the coordination, monitoring, and evaluation of OVC and DREAMS initiatives.** LODIIS supports the case management process for OVC and DREAMS beneficiaries, ensuring that they receive the appropriate services and support.
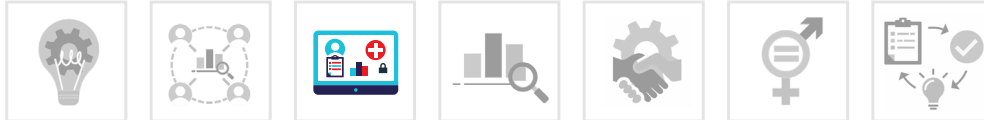
This includes tracking their progress and ensuring continuity of care. It also supports program managers to track the progress of OVC and DREAMS initiatives, generate reports for program monitoring and donor reporting, and inform evidence-based decision making. The system integrates data from multiple sources, including health facilities and CBOs, to provide a comprehensive view of OVC and DREAMS programs.

Collaborating closely with in-country IPs, Data.FI aims to enhance LODIIS functionality and facilitate its seamless transition to the Government of Lesotho. In February, in partnership with HISP Tanzania and Baylor Karabo ea Bophelo, Data.FI successfully migrated LODIIS from HISP servers to Data.FI infrastructure—**marking a key step in transitioning application management and development.**

LODIIS contributes to a strong national digital health architecture by promoting interoperability, standardization, capacity building, policy support, and data use and analysis. These efforts contribute to the development of a cohesive digital health ecosystem that supports improved health outcomes.

By aligning Data.FI activities with national and regional digital health strategies, we can route system investments toward priority areas and contribute to robust and sustainable development.
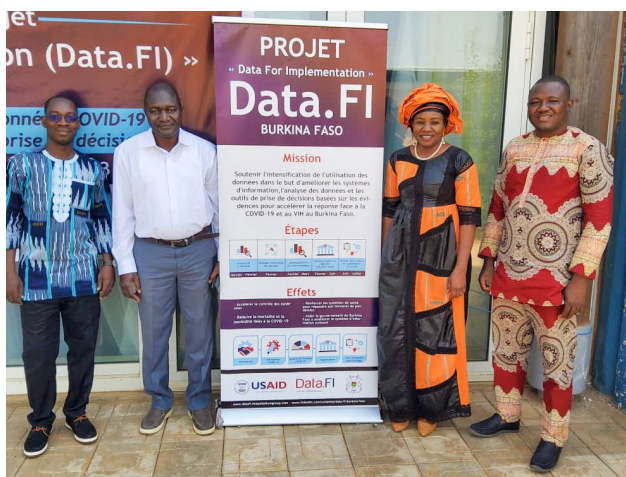
Data.FI/Burkina Faso team pose for a photo during the launch event of the activity to implement COVID-19 data management tools, held from January 23–26, 2023. From left: Photo by Data.FI/Burkina Faso.

HIS STRENGTHENING LOGISTICS, COMMODITY AND SURVEILLANCE SYSTEMS

Data.FI/Burkina Faso conducted a pre-test meeting for the Electronic Logistics Management Information System (known as NetSIGL2 in Burkina Faso) in Baskuy district. The training focused on participating health facilities in the district vaccination program, including Expanded Programme on Immunization managers, immunization promotions officers across 11 health facilities, and district health management teams. The following month, Data.FI conducted two workshops—one to present a "social listening" dashboard to track vaccine hesitancy trends and another for central, regional, and district stakeholders to present the integration of site management and NetSIGL2 tools.

In November, **Data.FI/Nigeria** held an annual review meeting of the HIV surveillance protocol to assess the protocols employed in executing case-based, recency, and mortality surveillance in Nigeria. Data.FI also provided an overview of HIV surveillance implementation within USAID-supported implementing mechanisms on behalf of the donor.

Data.FI/Lesotho is working with Chemonics, the National University of Lesotho, and the MOH to enhance the Electronic Logistics Management Information system (LMIS) with three additional modules to track health commodities from warehouse to health facility, and ultimately to improve transparency and accountability of commodities.

Emergency preparedness and disease surveillance in Nigeria

In October 2023, Data.FI/Nigeria, collaborated with several key partners, including the NCDC, Task Force for Global Health, Public Health Informatics Institute, Georgetown University, and the Institute of Human Virology to conduct a workshop on the **optimization of NCDC's Surveillance Outbreak Response Management and Analysis System (SORMAS)** to identify and document requirements for optimizing Phase 2 of the SORMAS.

In November 2023, in collaboration with the NCDC, Data.FI/Nigeria piloted the optimized SORMAS system with the newly integrated disease-specific Case Investigation Forms, which aim to improve data quality and strengthen outbreak response by end users. As part of the SORMAS optimization plan, we conducted alpha testing in three LGAs across three states (Akwa Ibom, Kano, and Oyo). The team used the feedback collected on the 11 completed case investigation forms to further update the beta version.

Lesotho, 2012. Photo by Nicolai Bangsgaard.

In November 2023, Data.FI also:

- Supported the National Primary Healthcare Development Agency (NPHCDA), to conduct an Electronic Management of Immunization Data platform (EMID) training in Adamawa State. The in-person training brought together participants from across 21 LGAs to build the capacity of NPHCDA staff, immunization officers, EMID focal persons, and state M&E officers with the goal of cascading the training on the native EMID to five Data.FI-supported states in Nigeria.

- Collaborated with the State Primary Healthcare Development Agency (SPHCDA) to provide supportive supervision to staff in the Edo Central senatorial zone to **integrate COVID-19 with the Outbreak Response campaign.** Staff were trained to administer the novel oral polio vaccine (nOPV) and to monitor and supervise the activities of the vaccination teams at the LGA levels. The team trained vaccinators and recorders on-site for vaccine dose registration on the EMID platform.

- Conducted a **routine supply chain analysis using data from the National Health Logistics Management Information System (NHLMIS)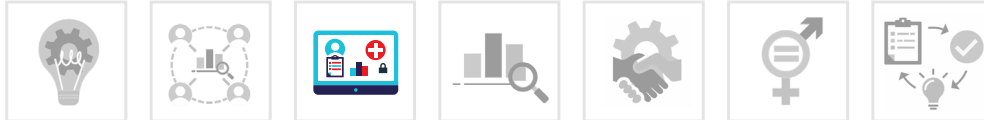 platform.** This analysis focused on the consumption of antiretrovirals (ARVs) by 1,712 PEPFAR-supported health facilities providing ART in Nigeria. The objective was to triangulate and validate the TX_CURR (clients currently on treatment) reports shared by these facilities, aligning with the "Getting the Data Right" agenda for the fiscal year. Twelve commodities were selected as tracers, representing various ARV combinations dispensed between March 2023 and August 2023. In February 2024, the team repeated this analysis on July-December 2023 data, resulting in an estimated TX_CURR of 1,421,045.

In February, Data.FI participated in a meeting with the HIV Surveillance Subcommittee on Mortality Surveillance to investigate methods for automating the update of cause of death outcomes obtained from verbal autopsies conducted in activated health facilities. During the meeting, the PHIS3 team demonstrated the developed system and its API integration. Data.FI and PHIS3 continue to work on identifying the best approach to integrate the API into the EMR.

Data.FI's Data Use Training held at Oyo State situation room in June 2023. From left: Dr. Iyabo Kareem, (Oyo State Epidemiologist), Alege Mojirade (Surveillance Officer), Azeez Adekunmi (Risk Communication and Community Engagement Officer), Balogun Silifat (Volunteer), and Afolabi Tomisin, (National Youth Service Corps member). Photo by Data.FI/Nigeria.

School-led total sanitation in Botswana. Photo by USAID/Southern Africa.

DEVELOPING AND ENHANCING COMMUNITY HEALTH SYSTEMS

In our collaboration with the **Botswana MOH, we are leveraging innovative methods and solutions to enhance community health systems.** This includes developing advanced tools, maps, and dashboards that enable real-time monitoring of HIV-related data, patient outcomes, and healthcare service delivery.

Data.FI is developing a digital community health system **(DCS) to support healthcare delivery,** which contributes to our long-term goal to utilize mobile health (mHealth) for data collection, patient monitoring, and health worker communication. The use of mobile applications for data analytics in the DCS facilitates real-time data collection and visibility at all levels. Data.FI produced a DCS landscape analysis report alongside the MOH, FHI 360, and USAID to guide the implementation of the DCS. In December 2023, Data.FI conducted a Primary Health Care (PHC) DCS's requirement gathering workshop, which was validated at a follow-on workshop in February 2024 where we presented the first version of a DHIS2 tracker solution to be used by the PHC Support Division for data collection at the community level. In January, Data.FI convened the **Botswana Health Data Collaborative Digital Health TWG** meeting where Data.FI presented on completed PHC DCS activities.

Data.FI/Botswana is also supporting the Ministry of Local Government to develop an **OVC database that integrates cutting-edge technologies for data management, quality assurance,**

and reporting. The OVC database will provide comprehensive data management for vulnerable children and families, including the tracking of health indicators, social services utilization, and program impact. Innovative tools within the OVC database, such as customized dashboards and reporting modules, facilitate data-driven decision making and program optimization. This contributes to more targeted interventions, improved service delivery, and better health outcomes for OVC populations.

In February 2024, Data.FI collaborated with local government to host a **three-day OVC M&E Framework review workshop,** bringing together more than 40 key stakeholders. The framework is meant to clearly define indicators and the revision of data collection tools. In addition to OVC, Data.FI supports the maintenance of the DREAMS database for the National AIDS and Health Promotion Agency (NAHPA) in Botswana to ensure data integrity, system reliability, and user support. In November 2023, Data.FI reached a significant milestone by **transitioning documentation and electronic systems for the OVC/DREAMS databases from the previous IP to Data.FI**.

This reporting period, we conducted a desk review and security assessment for the DREAMS system to ensure security and identify potential risks and remediation measures. Developers also delivered the DREAMS assessment tool to the client for testing.Data.FI holds monthly M&E meetings for IPs to generate data, which is used by NAHPA DREAMS to track IP performance. Data.FI's ongoing support for the DREAMS database includes the integration of advanced analytics tools to empower decision makers to make informed choices, optimize resource allocation, and drive continuous improvement in HIV prevention and support programs for adolescent girls and young women (AGYW). We are also leading integration efforts across the DCS, OVC database, and DREAMS database to enhance data interoperability, allowing for a more complete view of client data and program outcomes.

This reporting period, Data FI/Eswatini **collaborated with a local partner, "Young Heroes," to set up a**

Mother and child after an immunization appointment in January 2024 at the Siteki Nazarene Clinic, in Lubombo region, Eswatini. Photo by Data.FI/Eswatini.

robust system for collecting and analyzing data for AGYW_PREV—or how many active DREAMS beneficiaries have completed the DREAMS primary package of services/interventions. We identified data quality issues from the DREAMS AGYW_PREV line listed datasets and developed a web validation application to ensure the data quality of the data received from IPs. **The application allows IPs to identify which line lists need improvement each month and will reduce the timelines in the finalization and consolidation of line listed datasets.** We are finalizing the development of the national DREAMS database where client-level information can be tracked for reporting. The team consolidated data across the four community IPs to remove duplicate scripts and developed an interactive dashboard on the staging platform. This platform allows IPs to analyze their data prior to uploading final datasets to DHIS2.
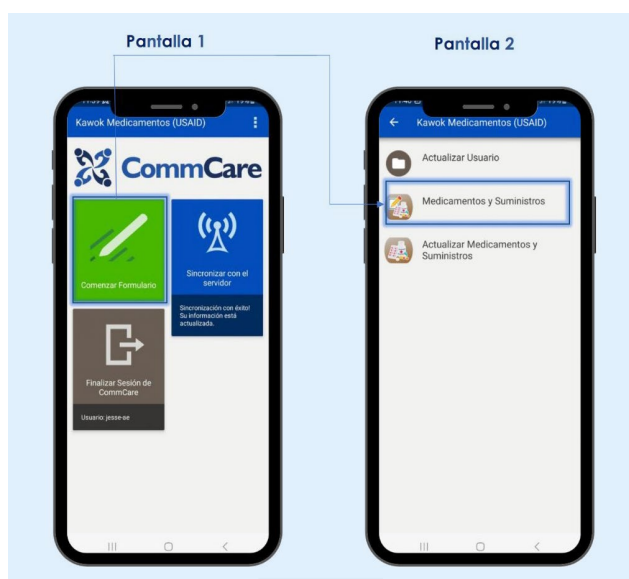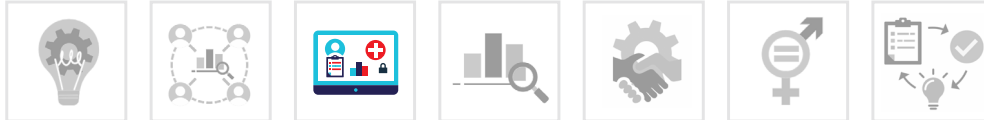
Demonstration of how to complete a form through the Kawok mobile app – taken from a user manual prepared by the Data.FI/Guatemala team in August 2023.

Ingrid Miranda, Data.FI Technical Advisor for M&E and Analytics, goes over ideas proposed at the Kingston workshop held from March 11-15 to develop an M&E framework. Photo by Data.FI/Jamaica.

Data.FI/Guatemala completed the development of an inventory module within the Kawok system. **Kawok facilitates data collection in remote communities using mobile phones, enabling health workers— especially community health works in difficult-to-access communities—to monitor inventory stock for maternal and child health products.** To develop the inventory module, we first completed a document with specifications, requirements, and acceptance criteria (DERCAS) with field staff from TulaSalud, a non-governmental organization with a presence in Guatemala, and MSPAS end-users. The DERCAS describes how the system should process information, data workflows and repositories, interoperability with other systems, scalability, user management, and mock-up. Following the module development, Data.FI facilitated a workshop to validate the module with officials from the San Juan Chamelco and Alta Verapaz health regions. MSPAS has identified districts in the department of Sololá where the Kawok module will be deployed.

INTEGRATING INFORMATION SYSTEMS FOR ADVANCED ANALYTICS

Data.FI is a member of **Jamaica's Ministry of Health and Wellness (MOHW) Technical Oversight Committee, which is mandated to guide the development and implementation of the country's Electronic Immunization Registry (EIR).** The Committee was agreed on after a multi-donor and stakeholder convergence workshop held by the MOHW last summer. In March, Data.FI conducted a workshop in Kingston, Jamaica, to develop a logic model to prioritize indicators for the country's EIR. The logic model will serve as the basis to develop a monitoring and evaluation (M&E) framework that will oversee EIR implementation and track progress of the MOHW immunization program. The workshop convened officials from Jamaica's MOHW, representatives from Pan-American Health Organization and UNICEF, and USAID officers. During the workshop Data.FI emphasized the importance of using open-source solutions to

Windhoek, Namibia, at sunset. Photo by Natalie Shaetenhodi, Data.FI/Namibia, M&E Specialist.
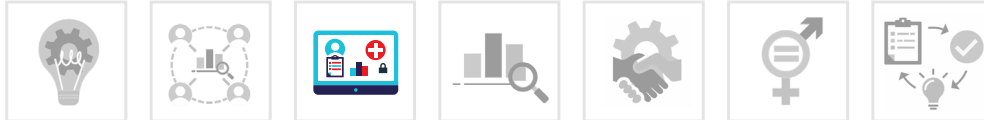
promote EIR sustainability. Workshop participants validated a set of priority indicators, mapped sources for data collection, and agreed on indicator calculation methods, components of the logical framework that will be used to develop Jamaica's EIR M&E plan.

Data.FI/Namibia received key documentation from the Ministries of Health and Gender, including the new Namibia National Strategic Framework for HIV/AIDS (2023-2028) to support the **mapping of indicators between the new National Strategic Framework for HIV/AIDS and the Multi-sectoral Information Management System (MIMS) for harmonization** and prioritization of indicators. The team has reviewed and analyzed the indicators in the updated National Strategic Framework and the 2019 MIMS Guidelines, and shared a list of indicators that require further description with the Ministry of Health and Social Services (MHSS) for input. Data.FI will work to ensure consistency across indicator descriptions and frameworks to enable consistent interpretation, measurement, and data quality. Results from the crosswalk exercise along with a preliminary list of new indicators and indicator descriptions were shared with the MHSS. A finalized list of indicators and new data elements for MIMS

guidelines are expected at the end of quarter three, with DHIS2 system updates and dissemination to stakeholders to follow by the end of the fiscal year.

Data.FI is working with the Ministry of Gender, Poverty Eradication, and Social Welfare (MGEPESW) across several activities to map the Ministry's child protection data collection processes and tools. Data.FI developed a detailed report for MGEPESW with recommendations of tools to be developed and/or revised, and recommendations for enhancements to the DHIS2 system in line with recommended tools/indicators. Data.FI is collaborating with the MGEPESW's IT team to implement DHIS2 system enhancement activities. This collaboration will strengthen the capacity of the Ministry's team to update and manage its database. With MGEPESW, Data.FI jointly developed an expanded IT plan to facilitate knowledge transfer and capacity building of MGEPESW IT staff. Data.FI procured and set up the Azure cloud services to host DHIS2 staging and training instance for MGEPESW, which was then used for the MGEPESW/Ministry of Education training of about 41 life skills teachers from various schools. **Teachers were trained to use the DHIS2 Instance to report Gender-Based Violence data into the Ministry of Gender's DHIS2 system.**

Burundi team post-validation workshop on February 23 in Gitega. Photo by Data.FI/Burundi.

In addition, Data.FI supported USAID consultants, (which work with the Ministry of Youth, Sport and National Services, to revise and/or develop indicators for HIV prevention activities. Prevention activities include life skills training and training for Youth Officers on revised data collection tools, indicators, and an introduction to the new DHIS2 system. Data.FI will take over M&E and DHIS2 support following the end of the USAID consultants' contract. Data.FI also participated in the HIS TWG meeting and the PEPFAR's country operational plan for 2023 (COP23) Stakeholders Midterm Review validation meeting, where we discussed the digitalization of community systems and the development of a Master Patient Index.

Wrap up of Data.FI support in Burundi

As part of longstanding support for interoperability between SIDAInfo and DHIS2, Data.FI launched the direct reporting process for aggregated data from SIDAInfo to DHIS2—a long-awaited result for the MOH and its partners. In addition, Data.FI supported the Procurement and Supply Management project, the MOH, and i-Plus Solution to develop and validate the **e-LMIS software (Medexis)** and ensure its

interoperability with DHIS2. Data.FI also supported a three days' validation workshop in Gitega from February 21 to 23, 2024, where we finalized a data security SOP manual to strengthen the MOH capacity to continue to implement the DHIS2 post-Data.FI support.

As the country is currently using a **new version of DHIS2,** Data.FI provided technical support to the MOH for DHIS2 system updates to ensure the alignment of metadata and the training of users on the changes. Data.FI also procured a back-up server and secured the access to the installation of the national data center hosted at SETIC, where all the national data (including health data) are hosted. This helped to capacitate the Programme de Gestion Informatique du Secteur de la Santé (IT Management Program for the Health Sector, Burundi, or PROGISSA) and SETIC as national structures, in their efforts to advance national capacity for digital health, leadership and governance.

In line with recent updates to standardize request forms and sample tracking for national HIV VL testing, Data.FI completed several improvements on the laboratory information management system

IBIPIMO. These upgrades allow health facilities and pre-treatment labs to securely access and manage their data within the system alongside laboratories. The team also organized a five-day workshop for TOTs on the use of the IBIPIMO application.

In December 2023, Data.FI supported **Spectrum estimations and data analysis for the annual HIV report.** At the end of January, Data.FI supported the Government of Burundi to organize a workshop for 2024 HIV Spectrum projections of HIV targets. Following a January workshop, PEPFAR IPs conducted field visits to address data quality issues across 49 districts. Post field visits, the team observed significant changes with an increase in projected PLHIV to more than 3,000. In addition, Data.FI supported the MOH to develop and disseminate the 2022 edition of the statistical yearbook.

Data.FI/South Africa creates an innovative testing hub

Data.FI is developing an innovative testing hub within the NDOH Data Center to develop and test non-routine analytical products like TB and HIV patient-level datasets. This activity is part of the broader effort to migrate data from the Consolidated Health Informatics South Africa system to the NDOH

Health Information Center. By designing a sandbox environment (or the server infrastructure) to host the innovation testing hub, we can **use patient-level data to enable the linkage of enhanced analytical products.** The sandbox environment also offers a safe platform to test ideas before they are finalized in the production environment.

In addition, the NDOH approached Data.FI/South Africa for assistance in developing a metadata Catalog, encompassing all linked systems in the Department of Health Data Lake—where the HIC pulls all NDOH data from. The metadata catalog, when fully established, will **allow for commonly structured metadata to be organized in a reference library, making it searchable for relevant users,** and it will contain technologies to update the data dictionaries automatically as datasets are updated.
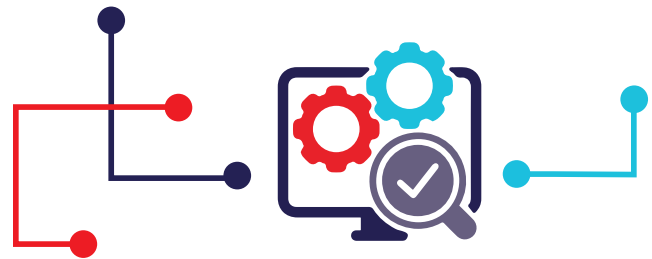
Best Practices

- **Interoperability and integration.** Information systems should be developed around international data standards to facilitate interoperability and integration. The level of effort increases, and the sustainability of interoperability solutions is compromised, when health systems are implemented using different data structures and standards. The need to integrate data across systems for M&E health outcomes will only continue to grow as more services are digitized.

- **Follow the guidance.** To promote the utility of digital tools and maximize their impact, solution design should include a collaborative review of existing national and international health guidance to identify desired outputs and reporting requirements.

- **Person-centered design.** Solutions should provide the necessary tools to offer comprehensive care to patients. To understand these needs and those of healthcare workers, a participatory and person-centered approach is needed. Creating a solution that fits every health program is a challenge, so local health authorities should lead and articulate a clear vision for health priorities and information management needs.

PROMOTING COMMUNITY DIGITAL HEALTH SYSTEMS:
A CLOSER LOOK AT THE SA REGIONAL HEALTH OFFICE WORKSHOP

Unlocking the Transformative Power of Digital Community Systems:
Advancing Integration and Person-centered Design Approaches in the Southern Africa Region

### CONVENING TO REVOLUTIONIZE COMMUNITY SERVICES WITH DIGITAL TOOLS:

In November 2023, delegates from Angola, Botswana, Eswatini, Lesotho, and Namibia convened in Cape Town, South Africa, to align stakeholders and implementation mechanisms towards revolutionizing community services through digital tools. The question posed in front of the participants was, "What might community service provision look like if it was facilitated by a digital tool designed to center people and support integrated services?" This five-day technical workshop, facilitated by Data.FI and Digital Square, with support from USAID, sought to redefine the landscape of community service delivery through digital transformation.

BRINGING TOGETHER IMPLEMENTATION MECHANISMS:

The workshop sought to challenge conventional paradigms by emphasizing two core principles. First, participants were urged to view digital community systems (DCS) not solely as data collection tools but as platforms empowering service providers and clients at the grassroots level. Second, the workshop underscored the importance of integrating services across sectors, acknowledging that community-level services extend beyond healthcare to encompass social services for diverse populations, including support for young people.
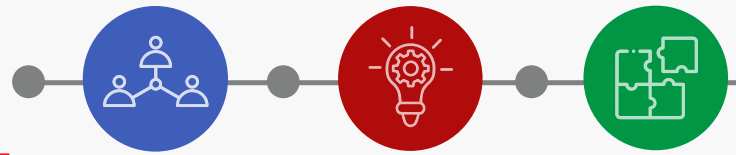
OUTCOMES OF THE WORKSHOP:

1. **Recognition of challenges posed by the current design and service delivery approaches:**

   Documenting and sharing crucial data with other service providers at both community and facility levels poses a significant hurdle, often leading to delays in essential service provision. The task of updating client progress on digital platforms presents further complexities, disrupting the smooth flow of community services. Additionally, heavy reliance on paper-based eligibility forms and referral slips compounds inefficiencies within the system, hindering seamless referrals, while a lack of essential feedback on referrals impairs service delivery and monitoring efforts. The digital platform also struggles to integrate data from various interventions, resulting in overlooked warning signs and inaccessible information. These challenges underscore the limitations of siloed systems and emphasize the urgent need to surmount barriers in establishing a truly integrated and effective community system underpinned by an interoperable digital platform.

2. **Embracing person-centered and integrated design:**

   A person-centered design approach prioritizes individual needs and preferences, leading to tailored interventions and heightened user engagement. The workshop allowed stakeholders to identify user personas and define their context, responsibilities, workflows, and pain points, leading to the prioritization of use cases based on user needs and preferences. These prioritized use cases were then translated into functional requirements for the digital community system. Stakeholders appreciated that this approach of deriving requirements from user personas can result in a system that is responsive and sustainable.

3. **Aligning bottom-up practicality with top-down strategy:**

   Government officials, development partners, and IPs converged to chart a path towards integrated DCSs. Through deep-dive sessions and thematic discussions, participants explored stakeholder needs, effective technology utilization, governance structures, and success metrics, aiming to catalyze a paradigm shift in planning, development, and utilization of digital systems in the Southern Africa region. There was a recognition that effective governance and collaborative engagement—particularly by convening key stakeholders—are essential to mitigate silos and fragmentation in community services.

4. **Strengthening governance for person-centered design:**

   Following the workshop, country stakeholders highlighted the importance of strengthening governance for person-centered design approaches for DCSs. Governance plays a pivotal role in aligning DCS design and implementation with overarching goals, fostering accountability, and promoting collaboration among stakeholders. Through robust governance mechanisms, we can facilitate stakeholder collaboration, interoperability, data standards, user training, and data protection. These measures ensure the effectiveness, efficiency, and sustainability of the DCS in delivering comprehensive and seamless community services.

Making the case for a person-centered and integrated design approach:

Using an integrated digital community system, community service providers efficiently address various healthcare needs within the community. Through secure documentation and direct referrals, they ensure seamless coordination between service providers, facilitating timely access to both social and medical services. Automated reminders for appointments and real-time updates on the client's status empower the community service providers to deliver personalized care tailored to individual needs. This person-centered and unified design approach streamlines communication and collaboration among service providers, enabling them to work cohesively towards enhancing the overall quality of care and promoting community well-being.
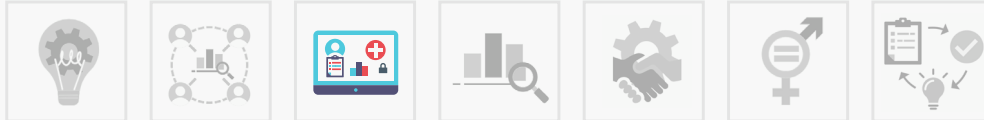
5. Setting a clear vision for DCS:

Crafting a compelling vision for the DCS entails aligning the country's community services vision with its digital vision. This alignment process serves as a guide for the development and evolution of the DCS, ensuring that the vision remains rooted in the current reality of community services delivery.

6. Creating metrics for monitoring and learning:

The workshop examined various aspects of defining success, monitoring progress, and utilizing data for adaptive management across different stakeholders. Participants had to adapt their approaches to defining and measuring success when employing digital tools. For instance, traditional methods of measuring data quality through the comparison of paper records become obsolete when transitioning to digital platforms. This transition prompts questions about how to measure changes in data quality effectively in the absence of paper records. Participants engaged in exploring indicator mapping and constructing M&E frameworks tailored to DCSs, aiming for measurability and relevance. The discourse emphasized the importance of ensuring that monitoring frameworks are user-friendly, yield actionable feedback, and avoid becoming overly complex.

Figure 10. The importance of governance, collaboration, and coordination to realize the future state (figure taken from slides developed during the November workshop)
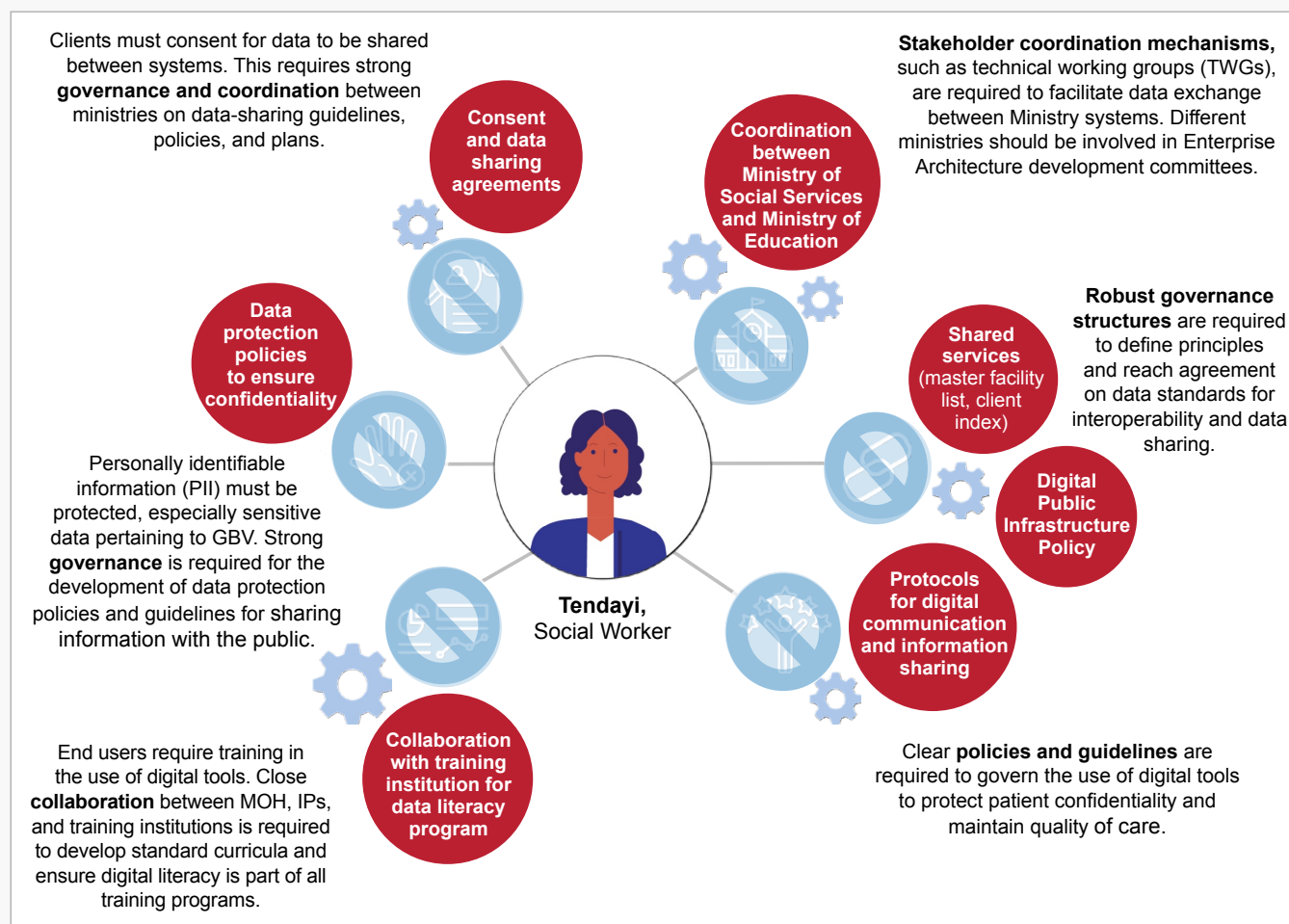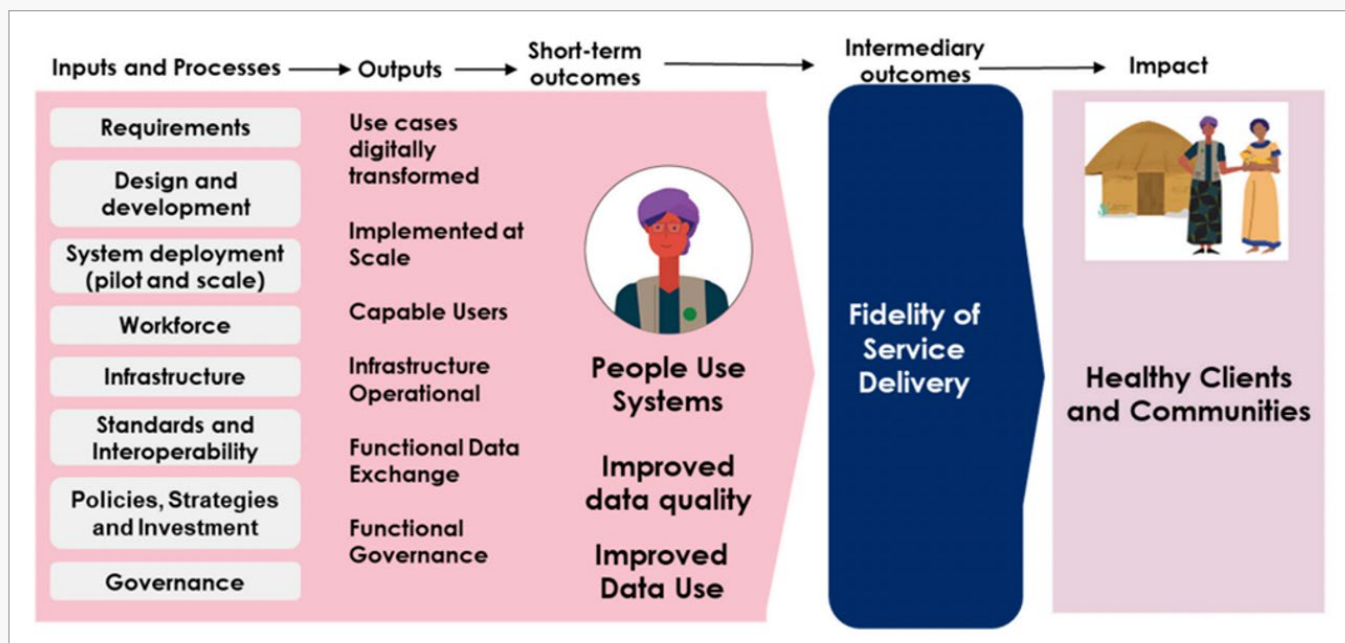
Figure 11. DCS Theory of Change (figure taken from slides developed during the November workshop)


CONCLUSIONS AND THE WAY FORWARD:

Substantial progress has been made across participating countries in the wake of the workshop. For example, in Eswatini it served as a catalyst for bringing together key stakeholders from diverse sectors within the country, and the Eswatini team has embarked on a proactive engagement strategy by establishing robust coordination governance structures. Data.FI/Namibia has since placed a priority on gathering meticulous DCS requirements, reinforcing governance structures, and finalizing a roadmap for the development and implementation phases.

On a regional level, the workshop marked a pivotal moment in advancing integration and person-centered design approaches for DCSs in Southern Africa. Through collaborative efforts, stakeholders identified challenges, defined success metrics, and established governance structures crucial for transformative change. The documentation of experiences into a DCS design toolkit serves as a roadmap for future development and implementation. The toolkit is currently in the final stages of development.

Continued commitment to person-centered design and integrated approaches is essential for the success of DCSs. Moving forward, stakeholders must prioritize ongoing collaboration, data-driven decision making, and capacity building. Emphasizing user engagement, interoperability, and sustainability will be key in realizing the vision of seamless and comprehensive community services delivery. Through concerted efforts, we can harness the full potential of digital innovations to improve healthcare delivery and empower communities across the region.
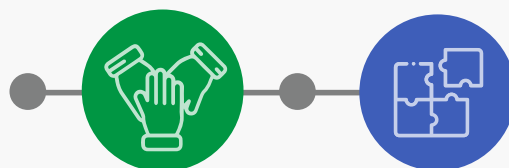
Applying Strategic Information and Learning

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 catalog learning with USAID and the broader digital and public health community. This is particularly critical as the COVID-19 pandemic necessitated the need for rapid learning and bespoke data collection to adapt to the unprecedented pandemic and learn from it to better prepare for what comes next.

In this reporting period, Data.FI has conducted several assessments in Nigeria to support USAID and governments to understand the current status of programs and identify gaps to improve upon.

Data.FI/Nigeria implemented **Blended Performance Assessment Approach (BPAA)** in 10 sites across four states (3 in Adamawa, 4 in Akwa Ibom, 1 in Bauchi, and 2 in Yobe) to identify factors hindering service delivery and to develop improvement plans to mitigate these gaps. Key findings from the assessments included: inconsistencies in ARV refill dates and pill counts, poor VL sample collection rates among clients on ART for at least three months, low cervical cancer screening rates among women of childbearing age, a lack of evidence of tracking attempts for clients who have missed a clinic encounter, and low enhanced counselling intervention rates among clients with unsuppressed VL results.


Partners take a step back and reflect on ideas during the COVID CLA theory of change development workshop held at the Palladium offices in Washington D.C. in November 2022. Photo by Data.FI.

Data.FI Quality Improvement Specialists, Longjo Augustine Yusuf (first from left) and Laurina Nyang (middle) conducting a BPAA activity at Lagos Mainland Hospital in June 2023. Photo by Data.FI/Nigeria.

In January 2024, Data.FI conducted a baseline assessment focused on the **implementation of the Data Analytics and Visualization Tool (DAVT) of the NCDC's SORMAS in 10 states.** The assessment identified gaps in the knowledge of integrated disease surveillance and response (IDSR) reporting, management and decision making among surveillance officers in the assessed LGAs. It also identified equipment gaps for DAVT implementation at the EOCs providing baseline information that will guide the deployment in the DAVT application and institutionalization of SDQM in the selected states.

Figure 12. Key Components of Care and Treatment Programming identified at the assessed sites
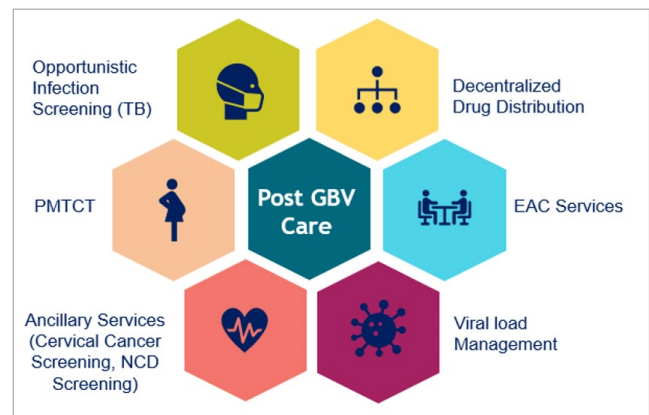
"I am super proud of you all for the output of your work in the initial phase of the DSD assessment!

Despite the pressure and short turnaround time, you delivered! This is what we were looking for and envisaging, that you would leverage on your capacities and expertise to get this done. Please keep the flag flying on being innovative and thorough!"

— Chika Obiora-Okafo, Project Management Specialist, USAID/Nigeria

In March 2024, Data.FI/Nigeria **supported USAID Nigeria to review their supported differentiated service delivery (DSD) implementation,** assess the status and quality of implementation, and provide technical assistance to IPs to ensure coordinated, high-quality programming. Based on a request for support in February 2024, we quickly mobilized to review and finalize the DSD data collection tool, programmed the tool in Kobo Collect, and implemented the assessment in Lagos and Akwa Ibom states. Preliminary findings from the initial phase of the DSD assessments, conducted at facility and IP levels, were presented and discussed with the Mission and USAID/Washington teams.

During early 2024 Data.FI leveraged its experience and knowledge gained from the Digital Community Health System workshop held in Cape Town to develop a DCS Toolkit (anticipated April 2024). A collaborative effort involving several USAID experts and workshop attendees, the objective of the toolkit is to serve as a robust and comprehensive resource for the adoption of person-centered and integrated design approaches in the development of community systems. A person-centered approach prioritizes the needs, preferences, and experiences of individuals in the community and the various service providers, including health and other social services; it requires the development of a deep understanding

of community perspectives, behaviors, and goals to ensure that the resulting digital tool meets stakeholder needs.

NIGERIA DATA USE WEBINAR SERIES LAUNCHED

Data.FI/Nigeria launched the **COVID-19 data use learning network with a webinar series titled "Using Data Quality Improvement Methods for Accelerated COVID-19 Response."** Seven USAID-supported states (Adamawa, Akwa Ibom, Bauchi, Cross River, Edo, Kano, and Niger) engaged in the COVID-19 response across Nigeria participated in the webinars. The webinars featured participants from various COVID-19 IPs and governmental stakeholders. The purpose of the series was to provide a platform for these states to present their experiences and share the best practices they have adopted to enhance COVID-19 vaccination efforts, improve case detection, and ensure the quality of data across reporting platforms.

Figure 13. DCS Toolkit diagram
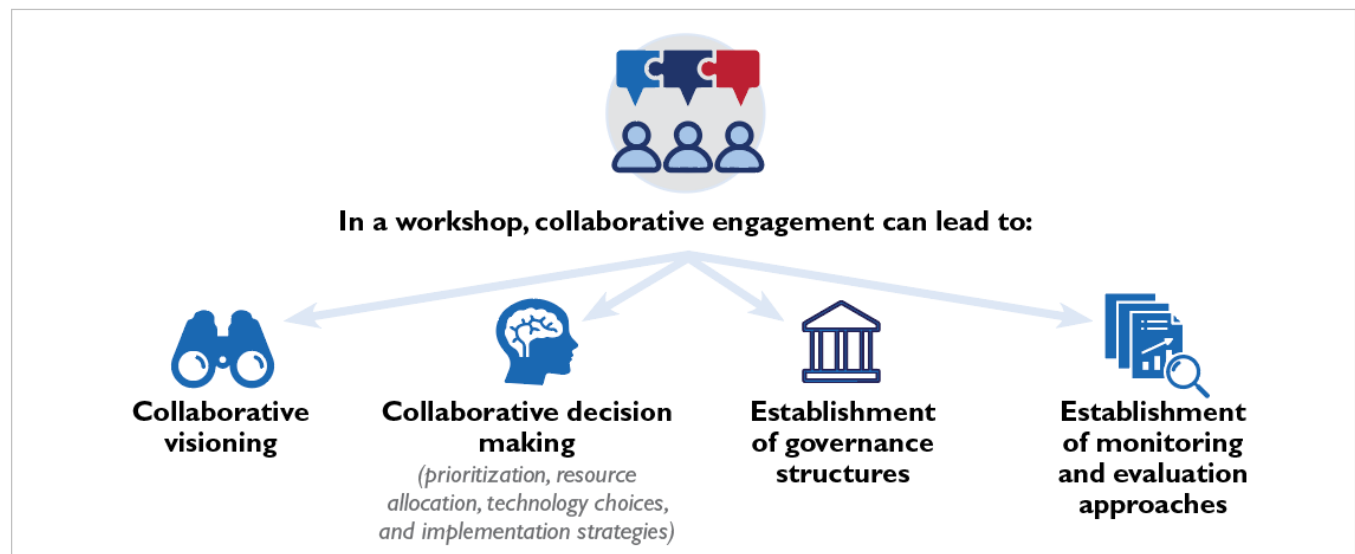
Marienfluss Conservancy Meeting in Namibia. Photo by Steve Felton, WWF.

COLLABORATION, RESEARCH, AND LEARNING

Data.FI conducts assessments, surveys, and studies to expand the evidence base for HIV, COVID-19, PHC, and health security programming.

Integrated HIV Bio-behavioral Surveillance Survey in Namibia

Data.FI, in collaboration with Johns Hopkins University, is supporting the Ministry of Health and Social Services (MHSS) and PEPFAR to conduct the third KP Integrated HIV Bio-behavioral Surveillance (IBBS) survey in Namibia. The survey will improve the availability of critical epidemiological data to inform prevention and treatment interventions for gay men and other men who have sex with men (MSM), FSWs and transgender people, providing updated estimates of the prevalence of HIV, syphilis and hepatitis B, the utilization of HIV-STI prevention services, the

progress towards the 95-95-95 care and treatment targets, the progress towards 10-10-10 indicators on stigma, discrimination and violence, and population size estimates among KPs. Results from this study will be used to ensure KP program efficiency and responsiveness to the context and needs, and to inform adaptations needed to strengthen KP-competent and KP-sensitive service delivery.

The IBBS team has conducted several stakeholder and technical meetings in collaboration with the MHSS and USAID to jointly develop the IBBS protocol, sampling, survey instruments, and procedures. Data.FI held a stakeholder meeting on January 23-25, 2024, to review the IBBS protocol and survey questionnaires with key stakeholders from the MHSS and KP community in Namibia. As part of these discussions, Data.FI established a community-nominated representative board comprised of five representatives nominated from their peers to act as co-principal investigators on the

Participants during the the COVID CLA theory of change development workshop held at the Palladium offices in Washington D.C. in November 2022. Photo by Data.FI.

study. The community-nominated representative board will meet regularly to inform the study protocol and questionnaire refinement, assist with community mobilization, and voice their community's priorities, perspectives, and needs throughout study implementation. In the next reporting period, Data.FI will submit the protocol for ethical review and initiate data collection in five sites throughout the country.

How investments in digital health and data systems made during an emergency can strengthen health systems and support GHS

COVID-19 is a wakeup call that we must learn from. A collaborative group of organizations using digital solutions for health studied USAID global COVID-19 vaccine delivery investments made in 11 countries during the emergency phase of the pandemic. Taken together, the findings point to the importance of the digital health enabling environment—that is, the presence or absence of conditions that allow digital health investments

to thrive. During this reporting period, the special issue containing these findings was finalized and scheduled for publication in the Oxford Open Digital Health journal. Data.FI oversaw final edits and corresponded directly with the journal's editors to ensure a smooth production process. Compiling research insights from Data.FI, the Country Health Information Systems and Data Use (CHISU) project, M-RITE, Digital Square, and USAID, the special issue also offers recommendations on how to translate these insights into actions that can improve future health emergency responses and strengthen health systems.

USAID's commentary in the journal, as well as the full issue, is online at https://academic.oup.com/oodh/issue/2/Supplement_1.

89
indicator reference sheets developed
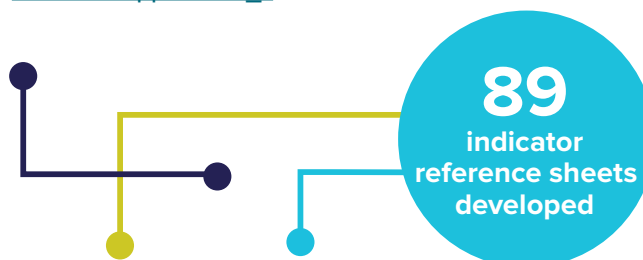
DATA QUALITY STRENGTHENING

In October 2023, **Data.FI/Nigeria developed a data validation protocol and conducted data quality assessments (DQAs)** across 73 sites in Akwa-Ibom and Cross River States. The objective was to validate the accuracy of the TX_CURR numbers to be reported by Reaching Impact, Saturation and Epidemic Control (RISE) for Q4 FY23, which is transitioning to the ACE-5 project. Data.FI also participated in the DQA activity, led by the GON under the theme "Getting the Data Right," aimed primarily at validating the accuracy of the nation's reported data. This comprehensive DQA process entailed a 100% review of active folders at each designated site over a week. The DQA was conducted in collaboration with USAID, CDC, the US Department of Defense (DoD), PHIS3, and the Network of People Living with HIV and AIDS in Nigeria (NEPWHAN). Additionally, representatives from the GON conducted DQAs in four general population and four KP sites across six states and the Federal Capital Territory (FCT).

In 2022, **Data.FI/Burundi** and the MOH conducted a DQA across three disease areas—HIV, TB, and malaria. Upon a preliminary analysis of the results, we identified outliers in 18 sites. To address this, we worked with the Programme National de Lutte contre le Sida et infections sexuellement transmissibles (National AIDS and STI Control Program, Burundi) and PEPFAR IPs to cross-check data during site visits. In November 2023, alongside UNDP and PEPFAR clinical IPs, Data.FI held a working meeting to analyze the findings from the DQA. This led to additional follow-up visits to address remaining outliers at the site level.

Data.FI Quality Improvement Specialist, Longjo Augustine Yusuf (seated right) conducting a BPAA at Badagry General Hospital, Lagos, in June 2023. Photo by Data.FI/Nigeria.

Best Practices

- **Continue to collaborate** after an initial gathering or workshop, through established follow-ups and shared outputs, in order to sustain the momentum and enthusiasm at the beginning of a collaborative effort.

- **Allocate resources to a mix of short-term and long-term initiatives.** Some research collaborations take a while to produce meaningful findings and can only be successful if pursued consistently over an extended period of time, and some that are short-term, responding to an immediate gap, can provide rapid utility. A diversity of approaches produces the best results.

- **Engage consistently** with partners and stakeholders in order to build a learning community that is both productive and self-sustaining. Having a regularly scheduled meeting or webinar helps to generate ideation and mutual information exchanges

Engaging Stakeholders through Communications Outreach

Data.FI regularly engages with key audiences to communicate about our work, and we believe that this is best accomplished by using multiple communications channels to help tell the project's story. During this reporting period, our technical experts presented their work at a variety of global and digital health conferences, published dozens of thought pieces in peer-reviewed journals and blogs, and led webinars and other knowledge-sharing events. Below are a few of our engagement and communications highlights from the first half of FY24.

The **Global Digital Health Forum (GDHF) 2023** was a great success! Held from December 4-6 in Washington, DC, the GDHF offered a great opportunity for our Data.FI technical experts to present on a variety of topics, including machine learning and AI, data use cases, health information systems strengthening, and much more. Combined, Palladium and Data.FI delivered 29 lightning talks, individual and panel presentations, and interactive workshops, including more than half (17) from the Data.FI project.

39 conference abstracts submitted

We believe this was our largest conference delegation ever. Between presenting, listening, networking, and great conversations, there were so many unique insights, and we are excited to implement what we learned during the event.

86,000+ LinkedIn impressions

1,060 new followers

LinkedIn subscriber growth continues to climb

Our audience of more than 3,800 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, UNICEF, Save the Children, FHI 360, and the Desmond Tutu HIV Centre. In the last six months, Data.FI has gained **1,060 new followers,** a growth rate 77% higher than that seen over the previous six-month period.

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

Webinar: The journey of the Data.FI project in Tanzania

[Watch the full video on Youtube](#)

SR. HAPPINESS NDUMIZI
Data officer Mpwapwa DC

We review the baseline data from the system.
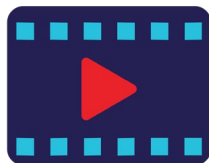
Increasing our commitment to webinars and knowledge exchange

Thought leadership and knowledge exchange are critical elements to a project's communications goals and its broader success, and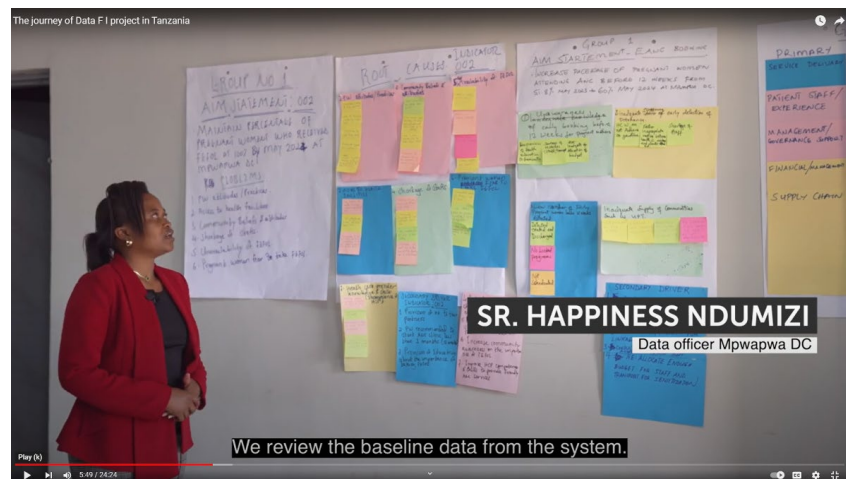 our Knowledge Management team works with staff to develop **engaging, provocative, and practical webinars and other video content to share with our target audiences.** During this period Data.FI held three webinars that included topics like health information system strengthening in Central America, empowering local solutions in Zimbabwe, and capturing COVID-19 vaccine attitudes through smartphone surveys and social listening.

11 blogs published! See [Annex 3](#) for full list.

OVC DREAMS Overlap

The Region at a Glance

Population ~53,000,000

New HIV Infections ~53,000

People living with HIV ~141,000

Estimate deaths from HIV-related causes 3,000

Sources: UNAIDS World AIDS day 2023 fact sheet; WHO: The Global Health Observatory; and OECD Health at a Glance: Latin America and the Caribbean 2023
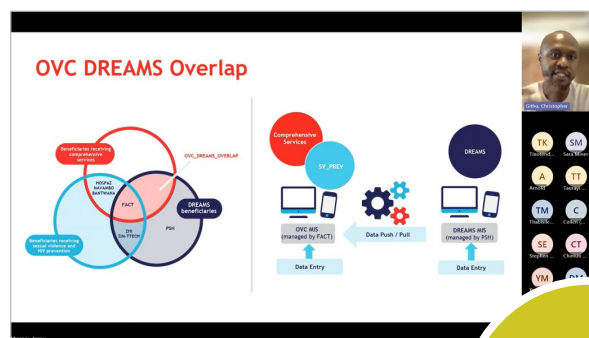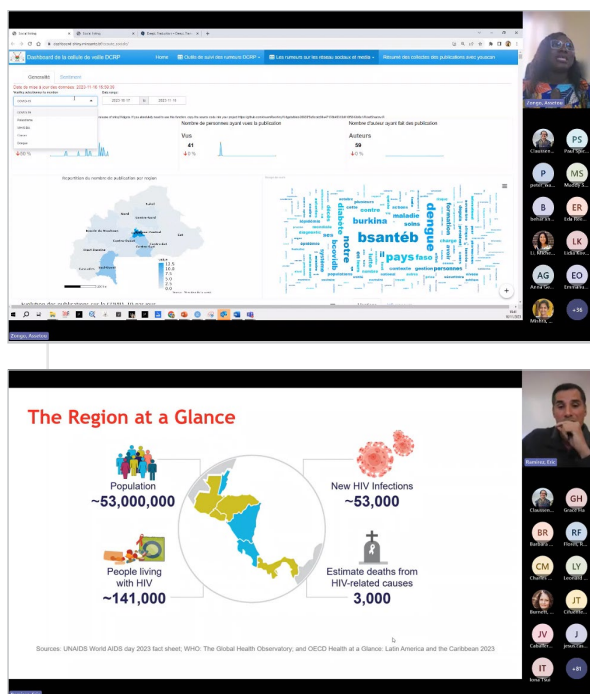
Click on a screenshot to watch on Youtube

458 attendees across three webinars

DATA.FI IMPACT AREA

Strengthening Local Partners and Digital Health Capacity

Data.FI aims to strengthen host-country capacity to support and sustain the national PHC agenda, and the HIV and COVID-19 responses through the implementation of robust, integrated, and resilient 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


Data.FI Senior Regional Manager for Latin America and the Caribbean David Merchant takes a selfie with participants at the close of the M&E framework development workshop held in Kingston from March 11-15 and co-organized with the Government of Jamaica's Ministry of Health & Wellness, the Pan American Health Organization, UNICEF, and USAID. Photo by Data.FI/Jamaica.

CLOSER LOOK

Responding to COVID-19 and Preparing for the Future:
Honduras COVID-19
Close-out Event
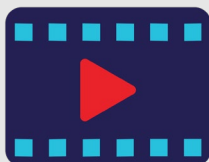
Watch the full video on Youtube

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. Data.FI 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.FI's activities are government-led and fully integrated with government-chaired health committees and TWGs.

## CATALYZING PARTNERSHIP

Honduras COVID close-out

After two years of providing technical assistance to accelerate the response to COVID-19, Data.FI held a successful close-out event on November 2 in Tegucigalpa, Honduras. This in-person event brought together more than 60 attendees—including USAID stakeholders, Honduran MOH officials, and colleagues from the Gobernabilidad Local Honduras project, The Global Health Supply Chain Procurement and Supply Management project, and Fondo Hondureño de Inversion social— to celebrate

the achievements and reflect on the lessons learned during the last two years.

Since 2021, Data.FI/Honduras has supported the MOH to institutionalize a national COVID-19 strategy, to improve health outcomes and foster an enabling environment for real-time, data-driven decision making and epidemiological surveillance. The team also improved the quality of reporting data in Honduras's two main health regions; developed a national COVID-19 dashboard tool to facilitate data visualizations that promote evidence-based decisions for actions; and reviewed the country's HISs, producing recommendations to strengthen resilience, interoperability, and GHS.

As part of Data.FI's COVID-19 closeout activities, we produced a video on the project's in-country COVID-19 work during the last two years, explaining how strengthened data use and analysis, targeted technology, and capacity-development activities have led to a more resilient and effective epidemic response system.

The video encapsulates all the hard work our Honduran colleagues have done to counter the COVID-19 epidemic, as well as the tireless work of their MOH counterparts and other IPs to improve health outcomes and build sustainable health systems that can respond to the country's priorities.
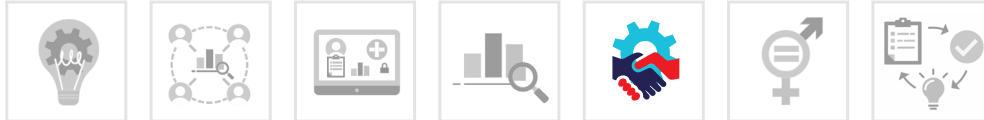
Handover of LODIIS from HISP Tanzania to Data.FI on March 27. Ian Membe (Deputy Country Director with USAID/Lesotho) shaking hands with Refiloe Mpholo (Data.FI/Lesotho Country Director), while Baylor Foundation Lesotho leadership look on. Photo by Data.FI/Lesotho.

Data.FI/Lesotho participated in the inauguration of the Digital Health TWG, with over 45 attendees, including both the Permanent Secretary and the Deputy Permanent Secretary of the Ministry of Health Lesotho. During the meeting, Data.FI showcased our regional initiatives, which were well received by both the MOH and IPs, promising strong collaboration on improving the digital health landscape in Lesotho.

ENHANCING GOVERNMENT CAPACITY TO LEAD

South Africa's National Department of Health HIV/TB data analytics TWG

Data.FI/South Africa's NDOH HIV/TB Data Analytics TWG supports the development, coordination, and management of digital health initiatives as per the NDOH Digital Health Strategy. The overall purpose of the TWG is to create and foster a more inclusive and systematic way for promoting the use and further refinements to the HIV and TB analytics across the health sector, to enhance patient care and improve health outcomes. The TWG is comprised of nominated representatives from CDC, USAID, PEPFAR, Council for Scientific and Industrial Research, National Health Laboratory Service, National Institute for Communicable Diseases, National TB and HIV programs (including Operation Phuthuma), and all the nine provinces of South Africa. During this reporting period, Data.FI developed a roadmap alongside the NDOH DHU, informed by decisions made by the HIV and TB Data Analytics TWG. We also attended the TB and HIV Data Analytics TWG workshop in January 2024 to consolidate all TWG sub-activities assigned by the NDOH DHU.

TB and HIV Data Analytics Technical Working Group meets in January 2024. Photo by Data.FI/South Africa.

Yaoundé suburbs. Photo by Alvise Forcellini.

At the request of the NDOH DHU, Data.FI completed a **landscape assessment to inform the next iteration of the NDOH Digital Health Strategy 2024-2029.** The assessment included a desk-top review of international and national digital health strategies or guidelines and the development of a concept note, shared with the NDOH DHU Chief Director. This revised strategy will inform the South African NDOH on the vision for implementing a single digital health system across the country.

STRENGTHENING LOCAL PARTNERS

Data.FI/Eswatini supported a capacity-building workshop on DCS, including staff focal points from the MOH, Home Affairs, Tinkhundla, the Deputy Prime Minister's Office, and local partner Young Heroes. The workshop aimed to help stakeholders **develop systems that are client- and community worker-focused** by integrating services across various health focus areas. Additionally, stakeholders were trained to conduct a maturity assessment of existing digital health tools

in Eswatini, with the goal of creating a community digital health roadmap.

In **Cameroon,** Data.FI is supporting four local implementing partners (LIPs)—1) the Cameroonian Association for People Living with HIV/AIDS (RECAP+), 2) Littoral Regional Funds for Health Promotion (Littoral RFHP), 3) Care and Health Program (CHP), and 4) the National Episcopal Conference of Cameroon (NECC)—to improve data analytics and visualizations for HIV data. In October, ReCAP+ finalized an interactive dashboard for the HIV CLM project and Littoral finalized their dashboard and created a supervision tool using the open-source solution Kobo Tools. In November, the ReCAP+ MEL team was trained to automate data management and develop automated, interactive dashboards for other projects including Malaria CLM. Also in November, Data.FI initiated a monthly participatory training series to equip LIPs with essential skills and knowledge needed to create impactful data visualizations that effectively convey data insights and introducing Power.BI as a business intelligence tool. These trainings will be held through May 2024, with five sessions held to date.

Data.FI/Nigeria Country Director Otse Ogorry presenting a souvenir to the Edo State Coordinator of the World Health Organization (WHO), Dr. Eyo Nora, during a courtesy visit to the WHO office in Benin, Edo State. March 6, 2024. Photo by Data.FI/Nigeria.

In response to data quality concerns raised by USAID, Data.FI has worked to upgrade an LIP-created tool used for HIV pre-exposure prophylaxis (PrEP) monitoring and to report on the PrEP counseling and testing (PrEP_CT) indicator. The updated tool will be used by CBOs to monitor the implementation of PrEP at the patient level. In addition, the more granular data collected in the updated tool should allow the LIPs to better identify issues with the quality of the data reported by CBOs. The tool, which is still in development, will also be able to generate a report on key performance indicators. Deployment of the tool is expected later this fiscal year.

In October, Data.FI/Nigeria collaborated with eHealth Africa to hold a three-day training aimed at building the capacity of state healthcare workers on COVID-19 data analytics, visualization, and use. The training brought together participants from **18** states cutting across all six geopolitical zones in Nigeria. The aim was to build the capacities of the state participants to analyze, visualize, and effectively use data for decision making, conduct in-depth investigations, perform root cause analysis, and propose and track changes. The training was necessitated by the cross-cutting need identified in the information and data domain during the performance assessment of the 18 SPHCDAs. Participants included eHealth Africa's Zonal Coordinators, SPHCDA M&E officers, and EMID focal persons. This collaboration aligns with USAID's mandate for Data.FI/Nigeria to support to states in implementing a robust data use methodology centered on the effective use of data to improve program outcomes.

Improved data quality of **13** partners

NIGERIA HIS COMMUNITY OF PRACTICE BOOTCAMP AND HACKATHON

In February 2024, Data.FI/Nigeria hosted **a five-day HIS-CoP bootcamp** to consolidate gains made through the existing platform for collaboration and knowledge sharing among HIS enthusiasts in Nigeria. **The bootcamp brought together 71 CoP members,** including Federal Ministry of Health and Social Development (FMOH&SD) representatives, USAID, IPs, and Data.FI/Nigeria. There were also participants from BAO Systems, Layer3, and CHAI. Partners such as Layer3 and BAO Systems were crucial in facilitating sessions to build partners' capacity in information security controls during the bootcamp. The collaborative effort provided an informative platform for learning and enhanced collaboration among partners.

Data.FI's coordination of the HIS-CoP effectively leverages the expertise of government and local partners. Meetings were held sub-working groups, including the Business Analysis (BA) and Health Informatics units from the USAID implementing mechanisms. The BA working groups reviewed the use of LAMISPlus and developed requirements outlining the essential features for implementing the LAMISPlus. From the meetings, four releases of LAMISPlus have been successfully reviewed by the BA/QA sub-working groups.

These requirements were foundational guidelines for the Health Informatics (HI) working groups which effectively utilized the requirements to enhance and optimize the modules within LAMISPlus. Through collaborative efforts, the HI working groups successfully developed new features, incorporating bug fixes identified while utilizing LAMISPlus. These sessions contributed significantly to developing requirements for enhancing LAMISPlus within the quarter.

As a follow-on to the HIS-CoP bootcamp, Data.FI Nigeria hosted a **five-day HIS-CoP hackathon** to facilitate the implementation of requirements

gathered to enhance LAMISPlus. The hackathon held from February 26 to March 1 brought together HIS representatives from the Achieving Health Nigeria Initiative (AHNi), Georgetown Global Health Nigeria (GGHN), Health Systems Consult Limited (HSCL), Center for Clinical Care and Clinical Research (CCCRN), the Excellence Community Education Welfare Scheme (ECEWS), Heartland Alliance, and Society for Family Health. **The objective of the hackathon was to review and implement requirements derived during the bootcamp and allocate tasks for resolution and implementation on the LAMISPlus EMR.** Participants were organized into groups tasked with developing and implementing features essential for optimizing LAMISPlus. This process followed the software development life cycle, encompassing the analysis and development of requirements gathered, rigorous testing of developed features on LAMISPlus, and subsequent deployment of implemented updates.

Labake Ekundayo (left) and Lami Mayaki (right), both representing the Federal MOH, during the bootcamp in Lagos. Photo by Data.FI/Nigeria.

Nigeria partners support the OVC program

This reporting period, Data.FI/Nigeria also accelerated its efforts to build multilateral links for IPs in the OVC space.

■ In October 2023, Data.FI successfully supported the FY24 target setting for the four **USAID OVC Integrated Child Health and Social Services Award (ICHSSA) IPs**—CCCRN, the Association for Reproductive and Family Health, Society for Family Health (SFH), and Pro-Health International (PHI) — operating across 17 Nigerian states. The targets were computed at the state level, further analyzed at the LGA level, and uploaded into **USAID's APPR** platform for centralized performance tracking. This established a strategic roadmap for the OVC IPs to **set precise, achievable objectives and monitor progress and outcomes for informed decision making and resource allocation at local levels.** In addition, Data.FI successfully failitated a virtual **PEPFAR interagency OVC indicator review meeting** involving all IPs across the operating unit. The focus of the meeting was to review the OVC_OFFER and OVC_VL_Eligible indicators and to establish a unified understanding of how to compute and report the indicators on version 3 of the **NOMIS 3.0.**

■ In October 2023, Data.FI supported USAID to conduct a **10-year cohort analysis on HIV/AIDS clients across all USAID-supported states,** aiming to identify and address data anomalies in health facilities in line with the **"Getting the Data Right" agenda.** The analysis results indicate a net (n=222,668) increase in clients' treatment initiation during the surge period (i.e., 2019 – 2022) (396,509 positive clients initiated on ART) compared to pre-surge implementation (2013 – 2018) (173,841 positive clients initiated on ART). Furthermore, they demonstrate that for most health facilities, the rate of clients picking up drugs is higher on facility visit days compared to other days. The analysis also revealed anomalies in some health facilities, where different clients were observed coming for drug pick-up on the same day across different years studied.

Figure 14. Distribution of ART cohort, 2013 to 2023 (n=612,373)
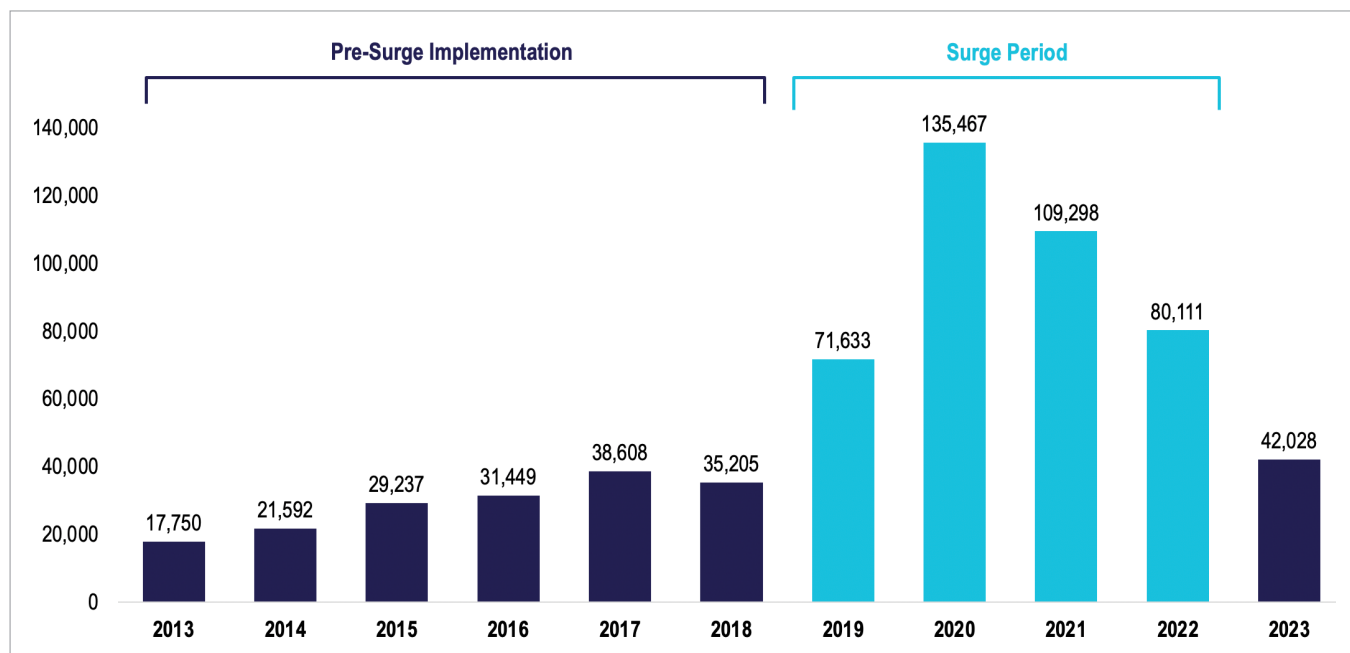
National OVC Situation Room monthly meeting for OVC PEPFAR and non-PEPFAR stakeholders to discuss and deliberate on OVC performance data at the end of the quarter. November 30, 2023. Photo by Data.FI/Nigeria.

- In November 2023, Data.FI/Nigeria conducted training for the DoD-supported OVC Case Managers on OVC data quality improvement and documentation. The session was held in Abuja during the DoD's bi-annual OVC Case Managers' review meeting to build case managers' capacity for documentation and data quality improvement practices.

- Data.FI **coordinated the 9th and 10th editions of the National OVC Situation Room Meeting**

in December 2023, and Data.FI/Nigeria developed a **custom OVC TB indicator data entry form on the** APPR. The form enables the USAID OVC IPs to report OVC TB data across the 17 states on the APPR platform. This will improve the monitoring and reporting of TB data for USAID OVC IPs across the 17 USAID-supported states.

Best Practices

- **Broad, cross-cutting coalitions work.** To tackle stubborn problems and drive health outcome improvements, it is vital to bring together all relevant stakeholders from the beginning, allowing enough time for mutual dialogue and shared commitment to develop organically.

- **Hold multi-day, in-person events.** Remote meetings have their place, but whenever possible it is important to give stakeholders the opportunity to sit around the same table and engage with the issues directly. This fosters buy-in and usually leads to more successful capacity-building exercises.

- **Create strong multilateral links between LIPs.** This is just as important as creating a strong bilateral link between external and internal partners. Doing so in the context of a training or workshop is a great opportunity to foster cooperative relationships and a sense of mutualism that can help sustain progress long after external funding ends.

Advancing Gender Equality and Social Inclusion

Data.FI is working to accelerate and sustain access to high-quality gender data to improve the health system and expedite HIV and COVID-19 epidemic control for all genders and age groups, AGYW, and among KPs like transgender people, MSM, FSWs, and people in prison. Our work is grounded in evidence that gender data are critical to attaining program targets and to reducing disparities in health outcomes and advancing gender equality.

Data.FI conducted an annual refresh on our gender equality strategy to include new areas of work and for broader shifts in thinking about gender equality and social inclusion. In May 2023, we updated the Data.FI Gender Equality and Social Inclusion Strategy to reflect the 2023 USAID Gender Equality and Women's Empowerment Policy and how our work contributes to the priorities in the new USAID strategy. During this reporting period, we advanced the use of gender data in our country activities by

Facility healthcare workers reviewing the PMTCT cohort register at Mbori health facility in Mpwapwa district, identifying pregnant and breastfeeding women lost to follow-up during a supportive supervision and mentorship visit. 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.

ensuring we represent gender minorities and priority populations in the way we collect and use data to improve health programs.

In June 2023, Data.FI **launched a gender champions model** to support the integration of gender equality, social inclusion, and gender-sensitive approaches across the project within the framework of the Data.FI gender strategy. This model emphasizes a multi-dimensional, cross-country technical leadership group working together to share ideas, solution gaps and issues, and develop materials to support gender and social inclusion work. **Data.FI gender champions aim to facilitate collaboration and learning about gender across Data.FI country activities, to inform gender-specific activity development, and to enable access to more gender-specific data to address disparities in global and digital health data.** At the inaugural workshop, the champions discussed current program successes and areas for improvement related to gender.

In 2024, we brought on additional champions during the February meeting, where we also discussed the champions' engagement with gender-sensitive data collection and analysis.

Data.FI is in the final stages of developing an **asynchronous training curriculum, "Integrating Gender into Digital Health Programs,"** using the Articulate 360 platform.

Integrating Gender into Digital Health Programs: Training Curriculum

📖 Course · 30 Lessons

The self-paced training course aims to provide Data.FI staff with a foundational understanding of:

- Gender-inclusive terminology and frameworks;
- Donor and country-specific policies that impact gender-related programming;
- The application of gender principles and sensitivities within the digital health landscape and across Data.FI's work; and
- Techniques and practices for responsible data collection and use, including concerning gender-diverse individuals.

This training will be available for all Data.FI staff and integrated into the onboarding process for all new Data.FI staff this year. Data.FI gender champions are supporting the development of this curriculum to ensure contextualization of language and examples to apply to the broad range of diverse identities and countries in which we work.

TANZANIA TACKLES WOMEN'S ACCESS TO ANTENATAL CARE THROUGH SITUATION ROOMS

Across the global health space, maternal and neonatal morbidity and mortality is still disturbingly prevalent. ANC, also known as prenatal care, is an effective method of improving pregnancy outcomes and reducing neonatal mortality rates. Studies have indicated lower adverse maternal, fetal, and neonatal outcomes among women with proper ANC. Not only do these visits provide medical screening for preventive healthcare, but they also educate women on nutrition during pregnancy and advocate for deliveries with skilled birth attendants. Despite being considered a 'hallmark of preventive medicine', for many women in developing countries, access to ANC, especially consistent access, can be difficult due to a variety of sociocultural, economic, and geographic barriers.[1]
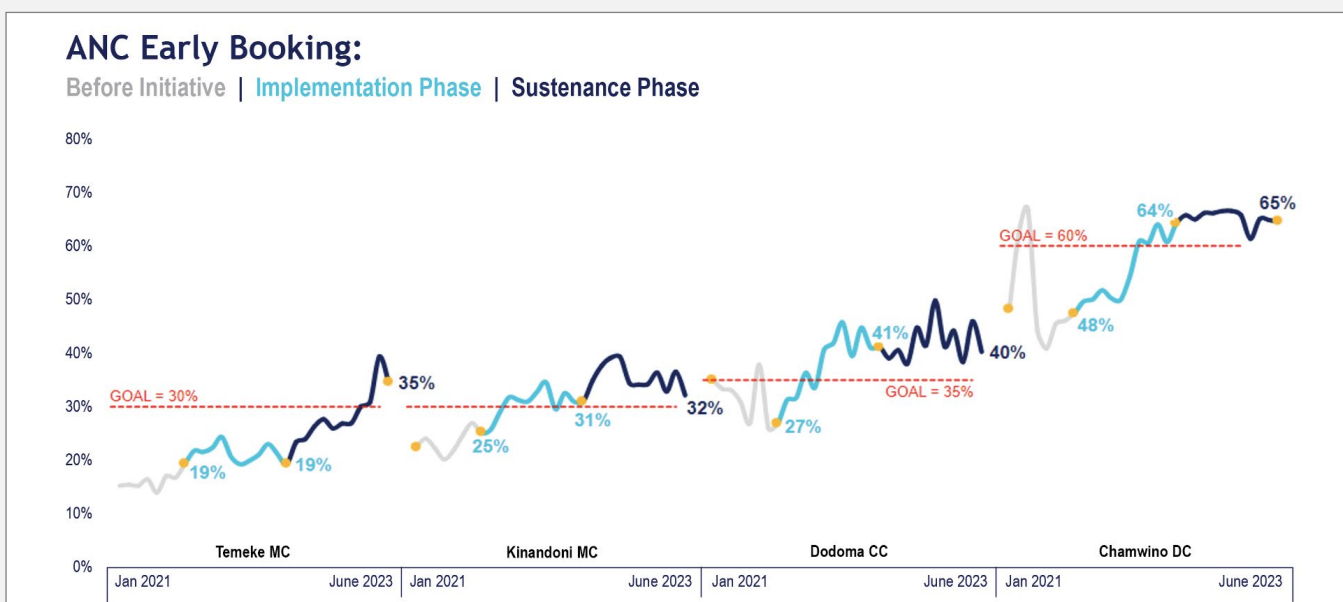
In Tanzania, just 62% of pregnant women complete four ANC visits, and the infant mortality rate is 238 per 100,000 live births (compared with 21 in the United States and around 6 in the European Union).

This situation led the government, as part of the Tanzanian Health Sector Strategic Plan V 2021-2026 (HSSP), to introduce a goal to improve the proportion of pregnant women attending their first ANC visit before 12 gestational weeks from 27% to 60% by 2026.

In March 2024, a blog authored by the Data.FI/ Tanzania team was published on the PLOS website. It outlined the implementation story of Data.FI's situation room methodology in Tanzania, part of a wider government-led initiative to improve maternal health outcomes at the local council level.

To achieve this goal, the government of Tanzania sought to improve how maternal health services were monitored and evaluated at the local level, as well as how programs were adjusted to improve delivery to marginalized or vulnerable communities. However, at the time, decision makers at the local level—Council Health Management Teams (CHMTs)—faced two

Figure 15. Impact results during the pre-initiative, implementation, and substance phases of the ANC early book activity in Tanzania: January 2021 – June 2023

[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9555636/#:~:text=Early%20ANC%20initiation%20and%20regular,in%20developed%20countries%20%5B2%5D

significant impediments: limited access to maternal health data and stubborn obstacles challenges with improving ANC coverage prior to 2021.

This is when Data.FI was brought in to strengthen the CHMTs' ability to analyse and use data to improve health outcomes. Data.FI supported the CHMTs to implement a "Data Use for Improvement" strategy in Dar Es Salaam and Dodoma regions. Using situation rooms, stakeholders prioritized addressing early booking of ANC visits (before 12 weeks' gestation). They believed that women who could be linked to antenatal care quickly would be more likely to complete the recommended eight ANC visits and deliver in a health facility, thereby decreasing infant mortality.

A greater availability and use of equitable, gender-specific data also arose as a result of this collaborative effort. With the launch of the situation rooms, Data.FI supported the integration of unlinked and unavailable data into one system—the Integrated Monitoring and Evaluation System, a centralized, online platform in DHIS2 used by the President's Office – Regional Administration and Local Government and government authorities to view key maternal health data, as well as other health and management indicators. By leveraging deployment plans to maximize human resources in the most marginalized health facilities and training staff in quality improvement methods, we saw increased agency and use of maternal health resources to meet programmatic targets.

All this has led to substantial improvements in maternal health outcomes and has helped build the infrastructure and technical expertise required to sustain and accelerate this progress. While there is potential for future enhancements and adaptations, the work expended in Tanzania thus far illustrates the power of evidence-based decisions and locally responsive technical support to provide robust service delivery unique to women's needs.

Mother/Newborn Health and Nutrition. Photo by John Rae/The Global Fianancing Facility.

"When we first began thinking about how to improve ANC services for women, the practice was that the Reproductive, Maternal, Newborn, Child and Adolescent Health coordinator conducted all the supervisory visits for maternal health independently. As we engaged the CHMT to work on the multiple drivers affecting access to care, all members increasingly saw the role they could play...

The shift in team culture was palpable; we began working together because we were accountable for delivering the progress against our council-level target for ANC booking before 12 weeks."

—Dr. Emmanuel Biya, District AIDS Control Coordinator (DACC), Kinondoni MC

Improved HIV testing for key populations (KPs) in Guatemala and Honduras

To improve HIV testing and monitor progress towards the 95-95-95 goals, countries must address critical gaps in data availability and outreach efforts for KPs. These populations—defined as people who inject drugs, MSMs, transgender people, FSWs, and people in prison and other closed settings—are affected by HIV at disproportionate rates due to a lack of access to HIV services, compounded by stigma, discrimination, and other equity issues.

Accordingly, in 2020, PEPFAR's MER Indicator Reference Guide required project reporting on KP disaggregate data, allowing for more comprehensive data collection and accurate analysis related to PLHIV. Per recommendations from the WHO and the United Nations Global AIDS Strategy, Data.FI is urgently working with and collecting data on KPs as part of wider local, national, and global efforts to address the aforementioned gaps in data availability and outreach.

1. In **Honduras,** Data.FI established an agreement with the authorities of the Mayor's Office of the Central District (one of the country's most populous municipalities) to open a clinic specialized in the comprehensive care to strengthen HIV testing for KPs. The clinic will be in an area of the city with a high number of sex workers and will apply the STI Sentinel Surveillance strategy (VICITS). Also, the RSMDC has tried to expand ART access by collaborating with The National Association of People Living with HIV/AIDS, PASMO, and the CDC Regional HIV Program for Central America. This cross-cutting collaboration will help to identify and monitor new cases, broaden access to ART, and improve the quality of life of PLHIV. The aim is that less individuals get left behind.

2. Meanwhile, in Guatemala's **department of Santa Rosa,** Data.FI, with the leadership of the Technical Committee of the Directorate of Health Services of Sacatepéquez (DDRISS) of Cuilapa, began monitoring an indicator to "**increase the proportion of KPs, such as MSM, FSW, transgender people, and prisoners, accessing HIV testing.**" Between January and September 2023, the DDRISS had only reached 25% of the median screening targeted for KPs. This was likely due to a similar constellation of issues as those in San Marcos, including a lack of non-governmental organization (NGO) intervention and trained personnel, the need for better communication materials to promote KP screening. An additional root cause analysis indicated that some male clients or patients do not seek health services or, when they do, they do not identify themselves as MSM.

With the goal to increase the proportion of KPs receiving HIV screening by March 2024, Data.FI worked with the DDRISS to improve targeted efforts to engage and test KPs by training district personnel and providing spaces for screening of MSM. In addition, the DDRISS improved the supply of HIV tests by procuring batches of 25 tests instead of 100 to increase efficient distribution

and developed tailored informational materials to promote screening for KPs. They also promoted screening across various media, social networks, radio, and community outlets, and developed promotion campaigns for increased testing.

As a result, the median KP screening rate increased from 25 (from January to October 2023) to a median of 70 in January 2024. The progress is still fragile, but the rapid increase in total screenings indicates that the interventions pursued, such as collaborating with the penitentiary system to provide voluntary HIV testing for prisoners, can lead to major progress.

3. In the **Guatemalan department of San Marcos,** KPs have the highest HIV positivity rate and low HIV screening rates. Reasons for low screening include: health service providers cannot easily reach KPs; clients do not readily identify themselves; health service facilities are not KP-friendly; some NGOs do not report testing conducted for KPs; and a lack of NGO referrals

Mothers learn about family planning services provided by Nasarawa State Government Health Care Centre in Wamba, Nigeria. Photo by Dominic Chavez.

for KPs to get services. In response, at a situation room meeting on October 2023, stakeholders in San Marcos set a goal to increase the proportion of KPs (including MSM, FSW, and transgender peoples) receiving HIV screening to 50% by

Figure 16. Progress in HIV screening rate for KPs against established goal, San Marcos, January–December 2023
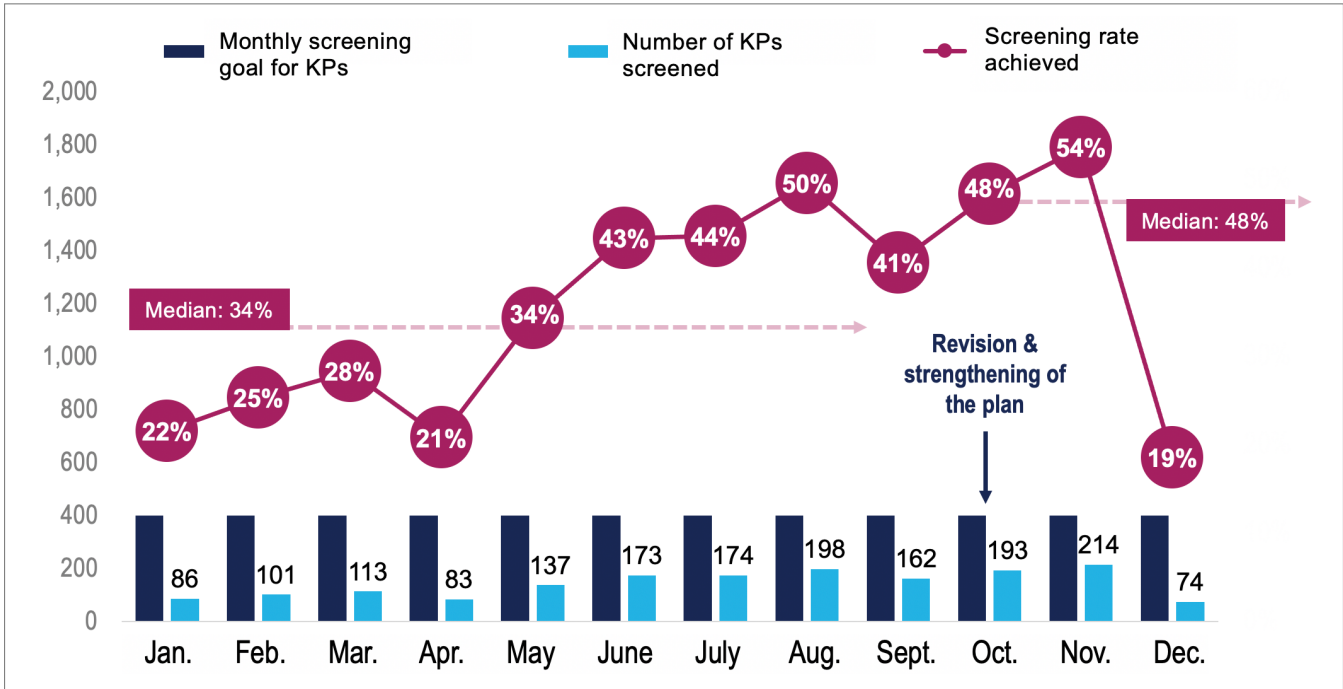
December 2023 (from the baseline established for January to September 2023).

After setting this goal, stakeholders held meetings with NGOs to present the HIV situation among KPs in San Marcos, coordinate the provision of health services to KPs, and report on KP screenings. Data.FI worked with health providers to adapt services to be specific for KPs, promote awareness for KP health service needs, review goal and action setting for each health service, promote integral testing campaigns, and foster PrEP for the MSM population.

As a result of the situation meeting and the subsequent analyses and discussions, we saw a promising initial uptick in the HIV screening rate from 41% in September to 54% in November. This dropped in December, when most testing services close for Christmas holidays, but efforts are ongoing and the team is optimistic that such progress can be increased and sustained.

All of these results are tentative, but collectively they show that targeted interventions are vital to improve indicators for KPs. For the rest of the fiscal year, the Honduras and Guatemala teams will work to build on and sustain the progress observed thus far.

Nigeria's efforts to support women and end gender-based violence (GBV)

The achievement of women's empowerment and prevention of GBV takes a whole-of-community approach, including governmental and political leaders. For this reason, Data.FI continues to prioritize women's rights and gender equality through coordination with gender-sensitive leaders in Nigeria. With many gender efforts led by the FMWA, Data.FI has ensured to cultivate an ongoing collaborative relationship with the Ministry to ensure a localized approach to gender activities in Nigeria. This reporting period, the Data.FI/Nigeria team supported the following initiatives:

■ In November 2023, Data.FI/Nigeria participated in the National Gender Coordination Meeting; an integral one-day meeting organized by the

Participants at the 'No-Means-No' national training of OVC POCs, held from February 5-9, 2024. Photo by Data.FI/Nigeria.

FMWA. The attendees represented organizations such as the National Aids Control Agency (NACA), USAID, CDC, UNDP, and several IPs. The FMWA presented the National Accountability Framework for Addressing GBV in Nigeria. This comprehensive framework offers practical directives to GBV stakeholders, coordinated approaches for planning, implementing, monitoring, and evaluating pivotal actions aimed at the prevention and mitigation of sexual and GBV.

- In December 2023, Data.FI Nigeria participated in the fourth quarter National GBV Strategic Knowledge Management TWG held in Lagos State, convened by the FMWA with various stakeholders in attendance, from USAID, CDC, State Ministries of Women Affairs, PEPFAR IPs, and CBOs. The primary objectives of the meeting were to develop a plan to harmonize GBV data collection tools and to better understand the data flow at the national level; provide updates on the national GBV prevalence survey; and to delineate data quality challenges on GBV in Nigeria. A pivotal outcome of the meeting was the development of a roadmap aimed at harmonizing the tools for GBV data collection.

- In February 2024, Data.FI participated in the Joint FMWA and USAID-organized OVC_Served Preventive "No Means No" Training held in Nasarawa State. The training aimed to increase participant knowledge of GBV mitigation strategies for vulnerable children, **emphasizing self defense and disseminating and empowering young girls, boys, men, and women with the rightful knowledge of preventing any form of GBV.**

These steps taken to enhance policies, data collection and evidence, and social and behavior change for gender equity should advance actions to prevent violence and contribute to long-term healthy communities in Nigeria.

48%
of Data.FI trainees identify as female
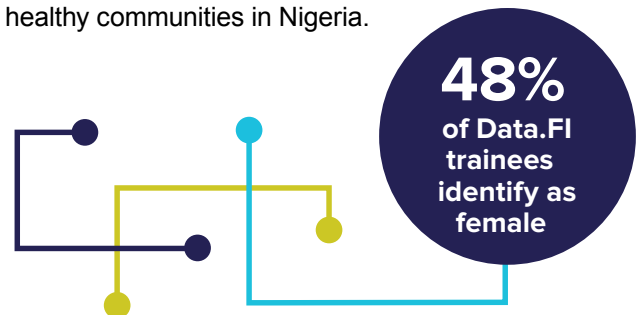
Best Practices

- **Close the knowledge gap.** Gender and social inclusion are broad terms with a wide spectrum of meaning dependent on cultural contexts. Ensuring project staff have the same baseline of knowledge and can contribute to knowledge generation and sharing is essential for a cohesive approach to inclusive development programming.

- **Collect inclusive data.** An ethical and responsive approach to collecting the right data for the right reasons will ensure access to high-quality, gender-sensitive information. Data systems, applications, and collection and reporting tools must collect age- and gender-disaggregated data, as well as other nuanced data that may benefit the specific needs of the populations we serve.

- **Analyze and use inclusive data.** For more targeted decision making and intentional programming, staff must have the knowledge, skills, and tools to analyze and visualize gender-inclusive data. By providing compelling data for healthcare workers, CSOs, IPs, government officials, and donors to react to, we can utilize data to improve the health of those most in need—like girls, women, KPs, and other marginalized populations.

- **Encourage diverse dialogue.** Ensure that every stakeholder's voice is heard. Fostering an inclusive environment in which we use inclusive language to engage and action change with our stakeholders will positively affect the shared programmatic decisions we make and health outcomes we desire.

CELEBRATING INTERNATIONAL WOMEN'S DAY

On March 8, 2024, Data.FI commemorated International Women's Day (IWD) by asking colleagues what "Inspiring Inclusion," one of the IWD themes for 2024, meant to them. We were pleased by the variety of responses we received, both from female and male colleagues, and we chose six to highlight via our social media platforms. The six women behind these responses reflect the cultural, linguistic, and national diversity of the project, and their thoughts on inclusion serve as a reminder of the goals we all strive towards.

The Data.FI/Guatemala team went above and beyond in commemorating IWD. Colleagues gathered to have an open discussion about the progress women have experienced in the country and the opportunities that remain for women's equality. Data.FI Regional Director, Eduardo Samayoa shared his sentiments on the day, *"IWD gives us the opportunity to reflect on achievements, but also to realize the challenges we still face in the pursuit of gender equality. By empowering women, we empower entire communities, transform societies and build a more just and equitable future for everybody."*

Data.FI team members shared personal experiences and the experiences of loved ones who have faced barriers to entering the workforce because they are women, especially in male dominated fields of practices. To close, colleagues reiterated their commitment to promoting gender equity—because when we live in a more equitable society, we all win.

Graphic highlighting six amazing Data.FI women, produced to commemorate International Women's Day 2024. Original design by Denise Todloski.

> "To me, as a woman working in the health field, it is gratifying to hear words from my colleagues who recognize the reason for commemorating International Women's Day. Going through public health in Guatemala has had many challenges and satisfactions... more than 40 years ago, 10% of women entered medical school and now women exceed 50%."
>
> —Amelia Flores, HIV/Health Data User Advisor

Data.FI/Guatemala team during their gathering on IWD 2024. Photo by Data.FI/Guatemala.

In Guatemala, women have achieved the right to vote, the right to education, the freedom to own property and land, the freedom to seek health services, and the freedom to participate in political processes. Despite these monumental steps in women's empowerment, gaps remain in achieving priority indicators for women.

Indigenous women and those who live in rural areas have higher percentages of illiteracy (62.7%), less access to formal education (33.1% do not have any educational level), have the highest fertility rates (105 sons and daughters per 1,000 women), begin motherhood at the earliest ages (at 19.3 years), have the highest number of children (41.8% of Mayan women have more than three children) and have less access to contraceptive methods (52.3%).[2] Currently, in the Congress of the Republic only 20% of the deputies are women.[3] Also, there have been public cases where congressmen publicly criticize congresswomen for how they dress—representing a strong patriarchal bias.

Data.FI provides many opportunities to transform the lives of women through their participation in data driven activities to improve health outcomes. Generally, there are a greater number of women participating in situation room meetings in

The Palladium team in Honduras also had a gathering in the Tegucigalpa office to commemorate IWD.
Photo by Data.FI/Honduras.

Guatemala and these women are empowered to conduct analyses and articulate the gaps across gender minority and diverse groups to meet health goals. Likewise, staff discussed the power of using data on social network platforms to advocate for women's issues.

---

[2] https://mail.icefi.org/sites/default/files/we_effect_-_mujeres_de_guatemala_-_un_analisis_de_sus_condiciones_economicas_y_sociales.pdf
[3] https://www.agenciaocote.com/blog/2023/06/26/solo-un-20-de-diputadas-en-el-congreso-electo/
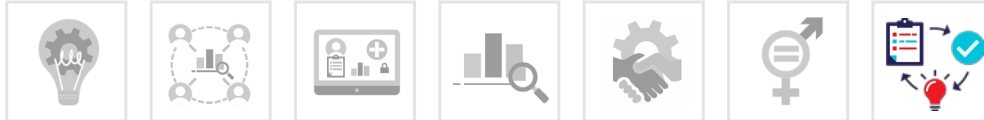
Project Learning

Baseline Security as the Foundation of Digital Health Transitions

As the digital health landscape rapidly evolves, transitioning digital systems to new IPs or to full government ownership poses challenges, particularly regarding information security. Globally, public health practice is embracing digital innovations for managing health data, making its security and integrity paramount. With the digitalization of client health records and services, an exciting frontier in clinical, community health and public health efficiency, effectiveness, and accessibility has emerged. However, there are also risks of data breaches or loss. With significant risks associated with data breaches, particularly those that may adversely affect digital health systems, information security resilience cannot be understated.

To achieve this resilience, a variety of strategies are being implemented to safeguard client data and strengthen digital health systems. Collaboration across stakeholders, such as government agencies, technology service providers, and IPs in strengthening the HIS ecosystem is vital to develop (and continually enhance) information security processes, practices, and tools.

To facilitate a collaborative approach, health system leaders at all levels must cultivate a comprehensive awareness of information security. Developing

USAID team led by Dr. Eziekel James (center, holding notebook), inspecting a runs chart at the Federal Medical Center Jalingo in Taraba State during a supportive supervision visit along with implementing partners including RISE, ICHSSA 4, and Data.FI. September 22, 2022. Photo by Data.FI/Nigeria.

In-country context

Host country inherited an information system that was designed with limited security protections

Challenge

Host country is not aware of security gaps and requests us to add functionality.

How we build capacity

Assess, document and address existing risk before adding new functionality, train local team for continued use of best practices.

In-country context

Due to the lack of infrastructure health staff use their personal devices and accounts to share patient data.

Challenge

Data is shared outside the control of MoH, copies of patient data create additional risks.

How we build capacity

In coordination with MoH we develop confidentiality agreements, SOPs and trainings for data collection and management at the site level.

In-country context

We developed from scratch and handed over a system that is secured

Challenge

Local partners do not have the resources to implement security practices

How we build capacity

We develop guidelines and train implementing partners

Information security scenarios, displaying how Data.FI builds capacity in response to in-country context and a specific challenge. Original design by Gwendolyn Stinger.

key tools and capabilities that can effectively cope with current and future threats to information security is also part of the effort to secure digital health initiatives and mobilize action to secure them. The Data.FI team continues to invest in improving the team's tooling and capabilities to respond to increasingly challenging implementation environments. Recognizing that the threats to digital health infrastructure are becoming increasingly sophisticated, Data.FI recently developed a succinct Information Security Baseline Assessment tool, which is used whenever a new digital health system is transitioned to the project.

In the technology world, information security assessments are essential for identifying vulnerabilities in digital systems. The assessments involve vulnerability scanning, which detects weaknesses in systems, including:

- **Penetration testing:** a simulated attack to test system defenses; and
- **Risk assessment:** evaluating potential threats and their impacts on the organization.

Vulnerability assessments, implemented as part of a comprehensive information security strategy, are essential to strengthen digital systems in the face of potential breaches and intrusions. This safeguards both organizational and client data against cyber threats.

A holistic approach not only helps to identify and mitigate vulnerabilities pre-emptively; it also fosters client trust by demonstrating a commitment to stringent security measures, mirroring the trust clients place in health facilities with high hygiene standards. Furthermore, just as health facilities adhere to regulations for client safety, digital systems must comply with security standards that not only enhance client safety but also meet local legal and regulatory requirements, ensuring the protection of sensitive data and maintaining operational integrity.
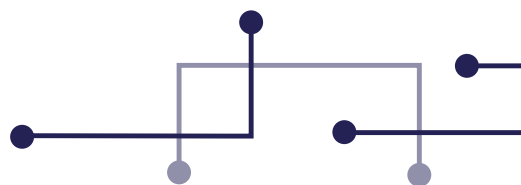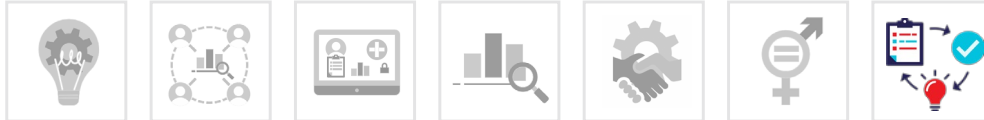
THREE PILLARS OF BASELINE SECURITY ASSESSMENT: POLICIES AND PROCEDURES, PEOPLE, AND TECHNOLOGY

With advancements towards PHC, there is increased emphasis on supporting the interconnected world of person-centered clinical care, community health, and public health. As a result, the digitalization of health systems is as revolutionary as antibiotics, making safeguarding these systems imperative. Based on our learning in our work to support countries in establishing and implementing enterprise architectures, we first conduct a baseline assessment of the information security resilience of a digital health system. This is not just a precaution; it is an essential practice, mirroring the thoroughness of clinical trials in the field of biomedical and clinical research. The Data.FI holistic approach to information security baseline assessment consists of three fundamental components: Policy and Procedure Assessment, People, and Technology. Together, they form the robust triad that defines the Data.FI defense against information security threats endemic to the digital age.


On February 8, Data.FI/Botswana country lead Thomas Lere and Data.FI information security lead Eric Ramirez (seated far left), met with the Head of Informatics of the Ministry of Health of Botswana (out of shot), to discuss our collaborative efforts to continue to improve the security of health data. Photo by Data.FI/Botswana.

1 **Policy and Procedure: The Bedrock of Digital Health Security**

The cornerstone of a resilient digital health system lies in its policies and procedures. This assessment ensures that the relevant organization's guidelines exist, are comprehensive, and are information security protocols that are effectively implemented. The assessment also checks that the protocols align with best practices, adhere to international standards, local legal and regulatory frameworks. It examines the mechanisms of data handling, the rigors of access management, and the readiness of incident response systems. This section seeks to identify documentation or implementation gaps and provides opportunity to improve risk management, ensuring that embedded within policies are guidelines to identify and mitigate threats before they manifest into crises.

2 **People: The Vanguard of Information Security**

This component of the assessment recognizes the critical role of individuals in maintaining the integrity of information. Analogous to public health workers educating communities on preventing disease spread, this section evaluates whether all relevant parties are informed and empowered to apply security policies in their daily activities. Continuous security awareness campaigns and training programs are the preventive measures of the cyber world, aimed at minimizing human error and bolstering the human element of the security infrastructure. The proactive education of digital health end users is instrumental in creating an environment where security practices are second nature.
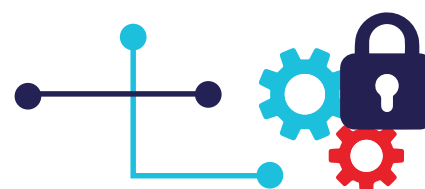
3   Technology: The Digital Enablers of Information Security

This component examines the tangible defenses of the technology systems, effectively providing the arsenal for information security response and defense. This includes a thorough examination of the system architecture and the security of servers, workstations, and mobile devices. Intrusion detection systems and data protection strategies are appraised to ensure they are not only in place but also tailored to the unique risk profiles of the local context, the participating organizations, and the country's digital landscape in general, and the health sector, in particular. These technical controls should be regularly reviewed and updated, institutionalizing a continuous improvement posture to keep pace with rapid advancements in technology.

CONCLUSION

As donor-supported systems are handed over to new IPs, either as part of transition to new LIPs, or as part of the process of transitioning to full government ownership, we must ensure that the transition of digital systems is conducted in a responsible manner—one where digital health stakeholders prioritize information security baseline assessments and ensure that there are tools, processes, and practices for conducting regular assessments. This will not only provide an opportunity to understand risks in managing sensitive information effectively, but also provide an opportunity to educate digital health end users on the importance of information system security. These actions are essential for safeguarding client trust, the cornerstone of a robust health system. Integrating security assessments into locally led digital health system governance ensures their resilience against threats, reinforcing their role as protectors of valuable health information.

Ericka López, Health Data Use Advisor, leads a session with personnel from integrated networks and quality of the DDRISS to analyze vaccine coverage and HB vaccine coverage on February 9 in Huehuetenango, Guatemala. Photo by Data.FI/Guatemala.

Incorporating these three critical components into the baseline assessment of digital health systems underpins a comprehensive strategy to safeguard sensitive health data. It's a systems-thinking effort that addresses policy creation and implementation, personnel training, and the continuous deployment of advanced technological defenses.

As public health practice increasingly embraces digital innovation in capturing and managing granular individual-level data, the parallels between public health practices and information security become ever more apparent. By adopting a multi-faceted and vigilant approach to information security, just as is done with public health, we ensure ongoing protection and trust in digital health systems, thereby upholding the highest standards of client care and data integrity in the digital age.

Looking Forward

As we venture into the final years of the Data.FI project, we are intensifying our focus to identify opportunities and methods that reinforce local leadership, strengthen governance, and facilitate the process of transitioning our work. Our commitment to USAID's principles of strengthening local systems and promoting local leadership is unwavering, as we believe they are crucial to enhance and sustain the impact of digital health investments.

Data.FI continues to make significant strides toward achieving our project goals through collaboration with MOHs, IPs, and other local stakeholders.

We believe that these long-term collaborations help facilitate the transfer of leadership and responsibilities to local institutions, ensuring the longevity and self-sufficiency of digital health infrastructures in our supported countries.

Effective implementation requires responsiveness to the perspectives and needs of multiple stakeholders and an understanding of the political, regulatory, and sociocultural contexts of health systems in each country in which we work. Our approach attempts to balance top-down and bottom-up implementation, acknowledging that governments and providers have different starting points, goals, and resources. This balanced

The dunes of Namibia. Photo by Data.FI Senior Regional Manager Dineo Pereko.

Data.FI and Palladium staff gather for a group picture during the 2023 GDHF conference in Washington D.C. Photo by Data.FI.

approach also facilitates valuable opportunities for healthcare professionals to become involved in system development—a key to addressing usability issues—including being responsive to concerns regarding data privacy and security.

Data.FI country stakeholders are prioritizing the usability and interoperability of digital health solutions. We are committed to collaborative engagement with stakeholders, software developers, and end-users to understand and respond to healthcare professional and client needs, and we are working with USAID and in-country ministries to prioritize uniform digital standards as an important step to producing comparable health data.

Looking forward, we place emphasis on several key, overarching objectives:

1. Accelerating data analysis and use

2. Enhancing governments' capacities to lead

3. Addressing information security and privacy concerns

For the remainder of this fiscal year, we will work toward these objectives through continued partnership with local, national, and regional stakeholders and a strong focus on human-centered, user-responsive digital solutions. In parallel, we will continue to advance USAID's localization goals, thereby ensuring that USAID's investments contribute to long-lasting impact.

—**Shreshth Mawandia,**
Data.FI Project Director

Indicator	Achieved – LOP April 2019 – March 2024	Achieved SAPR 2024 October 2023 – March 2024	Botswana	Burkina Faso	Burundi	Cameroon	Central American Region	Eswatini	Guatemala GHS	Guatemala Health	Jamaica	Lesotho	Namibia	Nigeria	South Africa	Southern Africa Regional Health Office
Outcome 1: Accelerated data use																
1.1 SI_USE Number of data use cases that document use of data for performance improvement	149	10					9	1								
1.1 SI_USE GENDER DISAGGREGATION** Number of data use cases that use gender data	22															
Outcome 2: Advanced Analytics																
2.1 DATA_ANALYSIS Number of analytical solutions	469	38			3		8	6						21		
2.1 DATA_ANALYSIS GENDER DISAGGREGATION** Number of analytical solutions led by Data.FI that include gender data	145	18					4							14		
Outcome 3. Optimized and scaled health information sub-systems																
3.1 HIS_INTEROP* Number of instances of health information systems supported by the project that demonstrate interoperability or compliance with interoperability standards	31	1			1											
3.2 HIS_PM* Number of information systems, applications, or modules supported by the project with updated key project management documentation for software development	140	24	3		2		1	2		7		2	1		1	5
3.3 HIS_SCALE* Number and percentage of program sites with new or upgraded project-supported information systems operational as intended within the reporting period	81%	0%														
	1660															
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	32	5	1													4
Outcome 4. Strengthened HIV data sources																
4.1 DATA_CHECKS Number of digital data quality checks for key PEPFAR indicators developed and introduced	418	270												270		
4.1 DATA_CHECKS GENDER DISAGGREGATION** Number of digital data quality checks for key PEPFAR indicators developed that include checks for gender data	59															

Project Indicator Results continued

Indicator	Achieved – LOP April 2019 – March 2024	Achieved SAPR 2024 October 2023 – March 2024	Botswana	Burkina Faso	Burundi	Cameroon	Central American Region	Eswatini	Guatemala GHS	Guatemala Health	Jamaica	Lesotho	Namibia	Nigeria	South Africa	Southern Africa Regional Health Office
4.2 SI_QUAL Number of partners/subnational units supported with Data.FI data quality interventions that demonstrate improved data quality*	77	13												13		
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	N/A														
5.2 CAP_MER Percentage of supported local organizations meeting 80 percent of assigned PEPFAR MER target contributions in the reporting period	N/A	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	N/A														
Outcome 6. Innovative Partners and Methods Promoted																
6.1 INNOV_ANALYSIS Number of analytical solutions that apply artificial intelligence/machine learning techniques	12															
6.1 INNOV_ANALYSIS GENDER DISAGGREGATION** Number of analytical solutions that apply artificial intelligence/machine learning techniques that include gender data																
6.2 INNOV_PARTNER* Number of private sector and other non-traditional partners engaged by the project	4															
6.2 INNOV_PARTNER GENDER DISAGGREGATION** Number of private sector and other non-traditional partners engaged by the project that are women-led businesses																
6.3 INNOV_PM** Number of analytical solutions that apply artificial intelligence/machine learning techniques with updated key technical documentation	4	1												1		
6.4 INNOV_DEPLOY**. Number of instances of ML models deployed and/or tools developed for ongoing use	2															

* 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 April 2019 – March 2024	N/A	28	72	24	2554
Achieved SAPR 2024 October 2023 – March 2024	N/A	8	11	4	263
Botswana			1	2	
Burkina Faso					
Burundi			3		3
Cameroon					
Central American Region					70
Eswatini				1	
Guatemala GHS			1		2
Guatemala Health			5	1	20
Jamaica					
Lesotho					
Namibia					
Nigeria		8	1		168
South Africa					
Southern Africa Regional Health Office					

N/A - indicator reported annually

Process Indicator Results continued

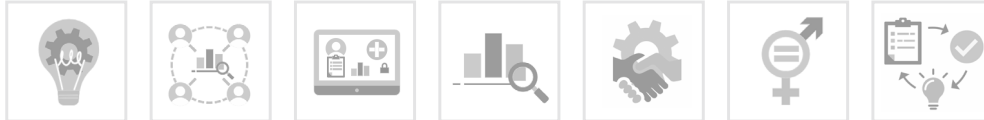|	Number of indicator reference sheets developed or improved upon	Number of curricula developed by Data.FI	Number of individuals completing a training conducted by Data.FI (by sex of participant)	Number of individuals completing a training conducted by Data.FI (Female disaggregate)	Number of individuals completing a training conducted by Data.FI (Male disaggregate)	Number of applications of Data.FI project-branded tools, analytical approaches
Achieved – LOP April 2019 – March 2024	206	66	12168	4794	5677	19
Achieved SAPR 2024 October 2023 – March 2024	89	9	2680	1351	1272	
Botswana	23		24	11	13	
Burkina Faso			31	23	8	
Burundi		2	122	92	30	
Cameroon		5	55			
Central American Region		1	82	41	41	
Eswatini			40	19	21	
Guatemala GHS						
Guatemala Health			41	23	18	
Jamaica		1	27	3	22	
Lesotho						
Namibia	66					
Nigeria			2258	1139	1119	
South Africa						
Southern Africa Regional Health Office						

N/A - indicator reported annually

Annex 3. Data.FI Products

The products listed in this table are Data.FI deliverables completed during this reporting period only (October 2023 – March 2024).

Primary Source of Funding	Publication ID Number	Title
Burundi		
HIV	TR-24-11 FR	*Transition du système SIDAInfo/UID : Plan de renforcement des capacités du PNLS/IST/HV* Transition of the SIDAInfo/UID System: Capacity-development plan for the PNLS/IST/HV
HIV & COVID	TR-24-23	Data.FI/Burundi Final Report
HIV & COVID	TR-24-27 FR	*Bulletin trimestriel du Système National d'Information Sanitaire – Janvier à Mars 2024* Quarterly Bulletin of the National Health Information System – January to March 2024
HIV & COVID	TR-24-28 FR	Bulletin trimestriel du Système National d'Information Sanitaire – Octobre à Décembre 2023 Quarterly Bulletin of the National Health Information System – October to December 2023
Eswatini		
HIV	DUC-24-86	Using HIV Data to Track Interruption in Treatment among Antiretroviral Therapy clients to Improve Retention and Health Outcomes
HIV & COVID	TR-23-152	Eswatini DREAMS Database System Assessment Report
HIV & COVID	TR-23-162	Recommendations to improve management and security of the network used by facilities to access the Client Management Information System of the Ministry of Health of the Kingdom of Eswatini
HIV & COVID	TR-23-165	CMIS Dashboards Development Operational Plan Update
HIV & COVID	TR-24-01	Integrating Facial Recognition into CMIS: Feasibility Assessment Report
HIV & COVID	TR-24-03	Integrating AI-enabled Medical Scribing in CMIS: Feasibility Assessment Report
HIV & COVID	TR-24-08	CMIS In-patient Module: Phase One Development Report
HIV & COVID	TR-24-10	Eswatini Health Information Exchange (HIE) Roadmap
HIV	TR-24-25	DREAMS AGYW_PREV FY24 Quarter Two Report: A compilation of January – March 2024 DREAMS activities
HIV & COVID	TR-24-28	CMIS v2.12.0 Release Notes - Priority Pop
HIV & COVID	TR-24-30	Eswatini Health Information Exchange (HIE) Technical Reference
HIV & COVID	TR-24-31	CMIS v2.12.0 Release Notes - KP
HIV & COVID	TR-24-32	CMIS v2.18.0 Release Notes - NCD
HIV & COVID	TR-24-33	Eswatini Digital Community Health System: Baseline Analysis & Roadmap Report
HIV & COVID	TR-24-34	Terms of Reference for the Strategic Information Technical Working Group (TWG)
HIV & COVID	TR-24-35	Information Security Standard Operating Procedures: Guidance for System Administrators, Implementing Partners and Health Facilities Using the Client Management Information System

Data.FI Products continued

Primary Source of Funding	Publication ID Number	Title
HIV & COVID	TR-24-36	SFTPgo Beginner User Guide
HIV & COVID	TR-24-37	Security Training Report
Guatemala		
HIV	DUC-24-52	*Aumentar la proporción de PC sometidas a pruebas de todas las pruebas de VIH realizadas – Santa Rosa* Increase the proportion of KPs tested as a proportion of all HIV testing – Santa Rosa
HIV	DUC-24-53	*Mejorar la vinculación proxy de los pacientes con VIH recién diagnosticados con una ficha de tratamiento en el UAI – Santa Rosa* Improve proxy linkage to UAI treatment cards of newly diagnosed HIV patients – Santa Rosa
HIV	DUC-24-54	*Aumentar la proporción de personas que viven con el VIH con supresión de la carga viral (menos de 1000) – Santa Rosa* Increase the proportion of people living with HIV experiencing viral load suppression (less than 1000) – Santa Rosa
HIV	DUC-24-56	*Mejorar la vinculación proxy de los pacientes con VIH recién diagnosticados con una ficha de tratamiento en el UAI – Guatemala Central* Improve proxy linkage to UAI treatment cards of newly diagnosed HIV patients – Guatemala Central
HIV	DUC-24-61	*Aumentar la proporción de poblaciones clave sometidas a pruebas de todas las pruebas de VIH realizadas – San Marcos* Increase the proportion of KPs tested as a proportion of all HIV testing – San Marcos
Honduras		
HIV	DUC-24-28	*Mejorar la vinculación entre los casos nuevos de VIH a los servicios de atención integral para el inicio de TAR – Región Sanitaria Metropolitana del Distrito Central (RSMDC)* Improve linkage between new HIV cases to comprehensive care services for ART initiation – Metropolitan Health Region of the Central District (RSMDC)
Namibia		
HIV	TR-24-13	KP IBBS 3 Survey: HIV Biobehavioral Surveillance Survey among female sex workers, gay, bisexual and other men who have sex with men, and transgender women in Namibia
Nigeria		
HIV	DUC-24-05	Improve the proportion of index clients who are offered and accept contact elicitation
HIV	PPT-24-14	FY24 Q1 DATIM Analysis: October 2023 – December 2023
HIV	TR-23-164	Reaching Impact, Saturation and Epidemic Control Data Validation Report: Fiscal Year 23 Quarter 4
HIV	TR-24-04	Quarter 1 Akwa Ibom and Taraba State HIV Program Bulletins
HIV	TR-24-06	Quarter 1 Akwa Ibom and Taraba State HIV Program Bulletins

Data.FI Products continued

Primary Source of Funding	Publication ID Number	Title
Panama		
HIV	DUC-24-19	*Reducción del número de personas con estatus de TAR desconocido (limpieza de datos) – Chiriquí* Reduction in the number of people with unknown ART status (data cleaning) – Chiriquí
HIV	DUC-24-20	*Aumento de la proporción de personas que viven con el VIH elegibles con supresión de la carga viral – Chiriquí* Increase in the proportion of eligible people living with HIV with viral load suppression – Chiriquí
HIV	DUC-24-21	*Reducción del número de personas con estatus de TAR desconocido (limpieza de datos) – Bocas del Toro* Reduction in the number of people with unknown ART status (data cleansing) – Bocas del Toro

During this reporting period, the project also published **11 blogs and thought pieces** on both internal and external platforms. While not workplan deliverables, they include major project wins and document our learning activities.

Date Published	Platform	Title
October 11, 2023	Data.FI-x-Change (Substack)	Improving Viral Load Suppression for Pediatric and Young Adolescent Clients
November 1, 2023	Data.FI-x-Change (Substack)	Enhancing HIV Data Coherence and Quality
November 27, 2023	Data.FI-x-Change (Substack)	Leveraging PEPFAR Data Systems to Strengthen National Health Information Systems
November 30, 2023	Data.FI-x-Change (Substack)	Data.FI Director Shreshth Mawandia Reflects on World AIDS Day 2023, PEPFAR at 20, and Future Challenges
December 1, 2023	PLOS – Speaking of Medicine & Health	Accelerating progress towards UNAIDS 95-95-95 goals: Data-use lessons from Akwa Ibom, Nigeria
January 5, 2024	Data.FI-x-Change (Substack)	Unlocking the Potential of Digital Community Systems: Insights from the Southern Africa Regional Workshop
February 8, 2024	Data.FI-x-Change (Substack)	Expanding and Improving Healthcare Capacity in San Pedro Sula, Honduras
February 23, 2024	Data.FI-x-Change (Substack)	Enhancing Second-Dose COVID-19 Vaccination Coverage
March 8, 2024	PLOS – Your Say	Tackling Access to Antenatal Care through Situation Rooms: Tanzania Sustains Maternal Health Gains under Local Council Leadership
March 15, 2024	USAID – LinkedIn	Preventing HIV in Honduras
March 22, 2024	PAHO News	Catalyzing Immunization Efforts in Jamaica: Insights from the Electronic Immunization Registry Logic Model Development Workshop

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.

Data.FI/Eswatini celebrate a year of hard work during the 2023 Christmas celebrations. Photo by Data.FI/Eswatini.

FOR MORE INFORMATION

Contact us:

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

Shreshth Mawandia, Project Director
datafiproject@thepalladiumgroup.com

https://datafi.thepalladiumgroup.com/