



CHISU Semiannual Report

October 2023–March 2024



Country Health Information Systems and Data Use (CHISU) is USAID's flagship data and information system program focused on strengthening host country capacity and leadership to manage and use health information systems to improve evidence-based decision making.

CHISU program
JSI Research & Training Institute, Inc.
2733 Crystal Drive 4th Floor
Arlington, VA 22202

Phone: 703-528-7474
Email: chisu@jsi.com
Web: chisuprogram.org

Cover photos:

Top: Dr. Jean Marie Kone, who is responsible for the Hamdallaye community health center in Mali, with his team during an mRDQA field test phase. Photo credit: Moussa Koumare, JSI

Bottom: CHISU Deputy Director Stephanie Watson-Grant speaks on a panel at the 2023 Africa Health Tech Summit alongside Maimouna Diop Ly, Senior Advisor on Public Health Policy and Sanitation and Financing, Speak Up Africa, and Oumou Kalsoum Diallo, Head of HMIS, Ministry of Health, Senegal. Photo credit: GIZ Photography

Table of contents

| | |
|--|-----------|
| Abbreviations | ii |
| Overview of achievements | 1 |
| Introduction | 2 |
| Summary of results | 3 |
| Strategic objective 1: HIS governance | 3 |
| Strategic objective 2: Systems and software | 5 |
| Strategic objective 3: Data quality and use | 8 |
| Strategic objective 4: Local organization capacity enhancement | 10 |
| Cross-cutting area: Gender | 11 |
| Cross-cutting area: Data security | 12 |
| HIS learning | 13 |
| Health system strengthening | 14 |
| Conclusion | 16 |
| Annexes | 18 |
| Annex 1. Activities and expenditure report | 18 |
| Annex 2. Indicator achievement | 29 |
| Annex 3. Communication products | 38 |

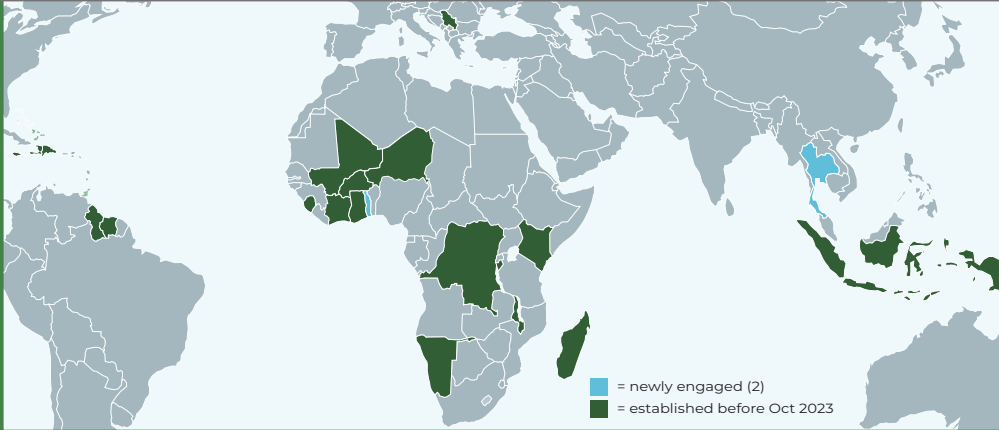
Abbreviations

| | | | |
|-------------------|---|-----------------|---|
| Africa CDC | Africa Centres for Disease Control and Prevention | HIEP | Health Information Exchange Platform |
| AI/ML | artificial intelligence and machine learning | HMIS | health management information system |
| AWiDH | African Women in Digital Health | HIS | health information system |
| CHISU | Country Health Information Systems and Data Use | IRS | indoor residual spraying |
| CMED | Central Monitoring and Evaluation Division of Malawi's Ministry of Health | ISS | integrated supportive supervision |
| DEI | diversity, equity, and inclusion | IT | information technology |
| DEPSI | <i>Direction des Etudes et de la Planification et du Système d'Information</i> (Madagascar Department of Studies and Information System Planning) | LLIN | long-lasting insecticidal net |
| DHIMS2 | District Health Information Management Software 2 (Ghana's health information management system) | MIS | management information system |
| DHIS2 | District Health Information Software, Version 2 | M&E | monitoring and evaluation |
| DMI | Digital Maturity Index | MCAH | maternal, newborn, child, and adolescent health |
| DPGA | Digital Public Goods Alliance | MOH | ministry of health |
| DQA | data quality assessment | MPR | malaria program review |
| DQR | data quality review | mRDQA | malaria routine data quality assessment |
| DRC | Democratic Republic of the Congo | M-RITE | MOMENTUM Routine Immunization Transformation and Equity |
| DTO | Digital Transformation Office | MSPP/UEP | Ministry of Public Health Protection/Unit of Evaluation and Programming |
| eCHIS | electronic community health information system | NMCP | National Malaria Control Program |
| eLMIS | electronic logistics management information system | NMEP | National Malaria Elimination Program |
| EMR | electronic medical record | OHS | Office of Health Systems |
| ENDOS-BF | Burkina Faso's National Health Information Management System | ONN | <i>Office National de Nutrition</i> (National Nutrition Office) |
| ESC | Eastern and Southern Caribbean | P&R | pause and reflect |
| FELTP | Field Epidemiology and Laboratory Training Program | PMI | U.S. President's Malaria Initiative |
| FY | fiscal year | PPMED | Policy, Planning, Monitoring and Evaluation Division of the Ghana Health Service |
| GHS | Ghana Health Service | Pusdatin | Pusat Data dan Teknologi Informasi (Indonesia's Center for Data and Information Technology) |
| HDC | Health Data Collaborative | Q2 | quarter 2 |
| | | RBM | Roll Back Malaria |

| | | | |
|------------------|--|---------------|---|
| RHIS | routine health information system | SOCI | Stages of Continuous Improvement |
| SATUSEHAT | Indonesia's national health information exchange platform | SOP | standard operating procedure |
| SISNU | <i>Système d'Information Sanitaire Unique</i> (Haiti's national DHIS2 instance) | SORMAS | Surveillance Outbreak Response Management and Analysis System |
| SITB | <i>Sistem Informasi Tuberculosis</i> (Indonesia's tuberculosis information system) | TB | tuberculosis |
| SLUHIS | St. Lucia Health Information System | TWG | technical working group |
| SME | surveillance, monitoring, and evaluation | USAID | United States Agency for International Development |
| SNOMED CT | Systematized Nomenclature of Medicine Clinical Terms | WHO | World Health Organization |
| SO | strategic objective | XB | cross-bureau |

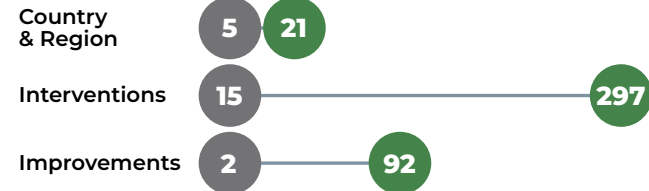


HOW CHISU HAS GROWN



At our **Year 4** midpoint, the scope of our **interventions** has broadened across **country** programs—and our engagements have deepened through new and ongoing collaboration. As a result, we are beginning to see **improvements** in health information systems (HIS) that demonstrate CHISU's contributions to HIS progression over time.

Progression from FY21 to FY24 to date



BURKINA FASO · BURUNDI · CÔTE D'IVOIRE · DRC · EASTERN & SOUTHERN CARIBBEAN · GHANA · HAITI · INDONESIA · KENYA
LATIN AMERICA & THE CARIBBEAN · MADAGASCAR · MALAWI · MALI · NAMIBIA · NIGER · SERBIA · SIERRA LEONE · THAILAND · TOGO

Progress Across CHISU's Strategic Objectives

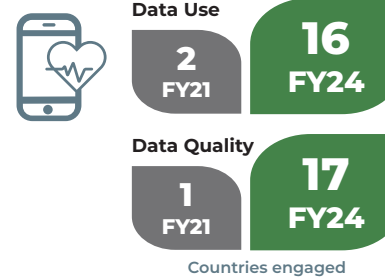
Governance and Leadership



Systems and Software



Data Quality and Use



Local Partner Capacity Enhancement

Eastern & Southern Caribbean Organization: University of the West Indies
Scope: Develop sustainable models for regional technical assistance in the Caribbean region

HIS Learning Exchange

CHISU convened **65 HIS stakeholders (45% were women)** to advance HIS progression across countries in the region.



Indonesia

Organization: Castellum Digital Indonesia (CDI)

Scope: Mentoring hospital, district health office, and provincial health office staff on SOCI, HIS progression, data use, and developing roadmaps to facilitate strategic planning.

CHISU also conducted a gender sensitization session to empower CDI to recognize opportunities for incorporating gender while enhancing HIS in their work.

Stages of Continuous Improvement

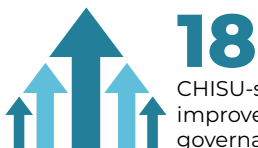
More countries are adopting and adapting our HIS SOCI tool to guide HIS progression. Over time this will help HIS leaders in these countries identify where investments will have the biggest impact.

6 countries have conducted assessments



50%

have completed their first round



CHISU tools are supporting countries in standardizing the creation of data repositories to meet each country's health program's data use needs.

Number of CHISU-supported electronic systems in 2023

22 were scaled or enhanced

32 with newly enabled interoperability or readiness for interoperability



9 CHISU-supported improvements in data quality processes in 2023

11 CHISU-supported improvements in data use processes in 2023





Introduction



The United States Agency for International Development (USAID)-funded Country Health Information Systems and Data Use (CHISU) program strengthens country capacity and leadership to manage and use health information systems (HIS) and data to make evidence-based decisions. The CHISU consortium is led by JSI Research & Training Institute, Inc. (JSI), with partners RTI International, Vital Strategies, Pendulum, Jembi Health Systems, and Global Evaluation and Monitoring Network for Health (GEMNet-Health). With its wealth of perspectives and expertise, CHISU helps countries overcome the complex challenges to HIS evolution. USAID designed CHISU to take an integrated approach to health systems strengthening and to work across all health areas.

CHISU envisions country health systems in which stakeholders at every level—including health workers—can access high-quality data generated from multiple, interoperated data sources to guide policy and improve resource allocation, service delivery, and system performance.

To realize this vision, we work to achieve four strategic objectives (SOs):

- **SO1.** Strengthened governance and enabling environment of host country HIS
- **SO2.** Increased availability and interoperability of quality health data and information systems
- **SO3.** Increased demand and use of health data and information to address health priorities, gaps, and challenges
- **SO4.** Strengthened organizational development of local nongovernmental partners for sustained health data use

This report covers CHISU's work during the first half of the fourth year of implementation, October 1, 2023 through March 31, 2024. Activities implemented in this fiscal year (FY) are listed in Annex 1. They include 41 country-level activities in 17 countries; nine regional-level activities in two regions; 27 global technical activities; and seven global operational activities supported with cross-bureau (XB) funding and U.S. President's Malaria Initiative (PMI) funding.

Photo credits from top to bottom: Taufiq Sitompul, JSI, Jenny Nyeche, JSI, and Henry Aryee, National AIDS Control Program, Ghana

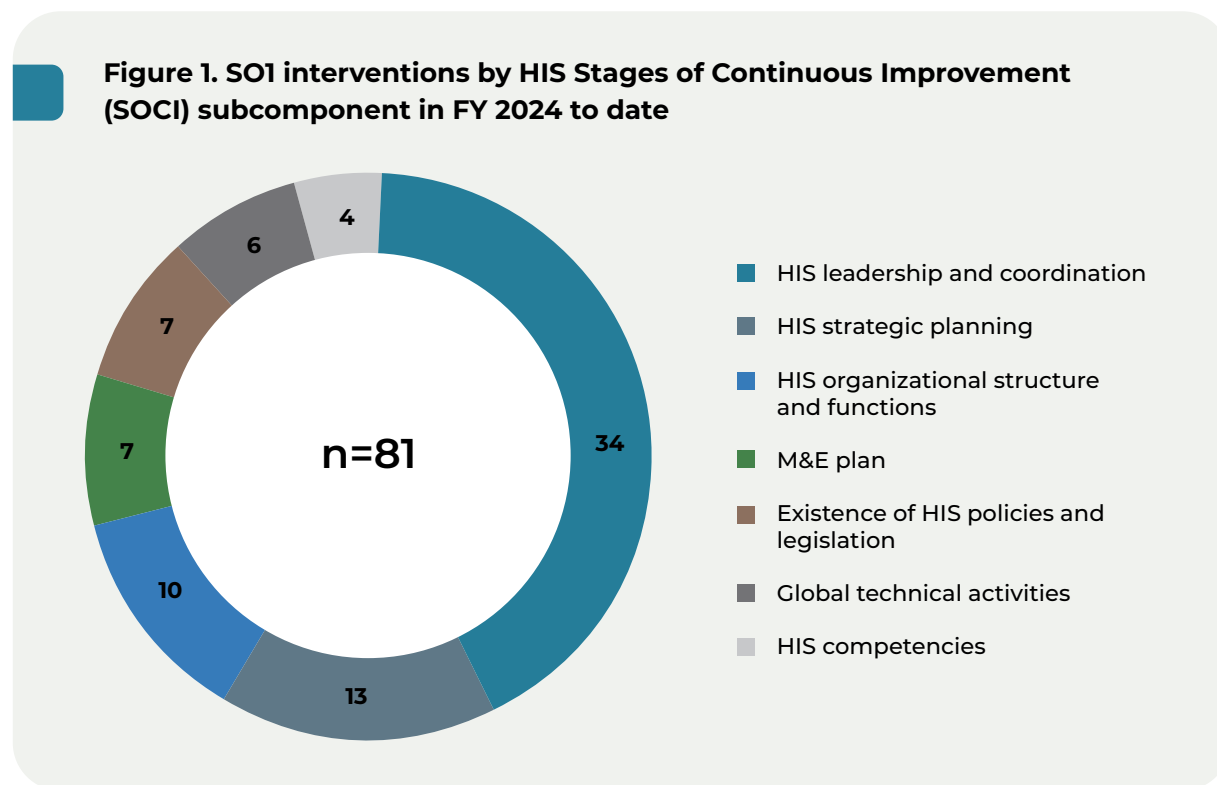


Summary of results

Strategic objective 1: HIS governance

During FY 2024, CHISU has continued strengthening HIS governance and enabling environments both nationally and globally. **Figure 1** summarizes CHISU interventions under SO1 in FY 2024 to date, showing that the majority of our work in governance is focused on establishing and maintaining strong HIS coordination and strategies.

At the global level, we supported numerous global leadership platforms and technical working groups (TWGs) and served in various **HIS leadership roles**. This included supporting the Africa Centres for Disease Control and Prevention (Africa CDC)'s flagship initiatives such as participating in the African Women in Digital Health (AWiDH)'s panel session at the 2023 Global Digital Health Forum; leading the development of the concept note on the interoperability use case for the Digital Health and Regulatory Sandbox flagship; and increasing government participation in and curating a session on data use at the Africa Health Tech Summit. We also serve as the coordinator of the Roll Back Malaria (RBM) Surveillance, Monitoring, and Evaluation (SME) Working Group. In addition, we were actively engaged in the Health Data Collaborative (HDC),



serving as the Global Initiatives chair in the Stakeholder Reference Group as well as in HDC working groups. They included Routine Health Information Systems (RHIS), Community, Data and Digital Governance, and lastly Digital Health and Interopera-

bility, where we also co-chaired two small working groups—Country Engagement and Gender/Diversity, Equity, and Inclusion. We helped finalize Timor Leste's HIS strategic plan in collaboration with the World Health Organization (WHO) Regional Office

for South-East Asia (SEARO) as part of our support for implementing the WHO global RHIS strategy.

At the national level, we supported TWGs within all CHISU-supported countries. These included TWGs that focused on general HIS, information technology (IT), and monitoring and evaluation (M&E) as well as those focused on specific areas such as malaria SME and One Health disease surveillance. To strengthen data governance within countries, CHISU collaborated with Ministries of Health (MOHs) to support countries' development and dissemination of policy documents and guidelines. These documents ranged from a data governance policy, supportive supervision guidelines, and performance and data review guidelines in **Burundi** to terms of reference for One Health committees at subnational levels in **Burkina Faso (Box 1)**. We also supported the Division of National Malaria Program (DNMP) in **Kenya** to conduct a malaria program review by evaluating the *Kenya Malaria Strategy 2019–2023*. We participated in national-level consultations and subnational-level field visits to validate information gathered through thematic desk reviews and to consolidate recommendations to revise the strategy. We also contributed to subsequent discussions that informed the revisions to the new national malaria policy. To increase awareness of HIS products and outputs among health care professionals and other stakeholders, CHISU supported **Indonesia** to develop and promote an HIS resource center. The center will serve as an authoritative reference for HIS stakeholders in the country, providing easy access to policies, technical documents, and stan-

dard operating procedures (SOPs) that support the operationalization of digital transformation of the health sector.

To track HIS progression in **Burkina Faso**, we supported a second HIS Stages of Continuous

Improvement (SOI) assessment, which served as a midterm evaluation of the country's HIS strategic plan implementation. In 2023 with CHISU support, **Indonesia** completed a second Digital Maturity Index (DMI) assessment (adapted from the HIS SOI toolkit) at regional and district levels and across

Box 1. Burkina Faso's first session of the National One Health Council

In March 2024, CHISU catalyzed the first-ever convening of Burkina Faso's National One Health Council, which was established in 2019. The One Health approach calls for close collaboration and an integrated response from multiple government agencies to respond to health events that affect people, animals, and the environment. Representing the highest level of coordination, the One Health Council is chaired by Burkina Faso's Prime Minister and includes ministry officials directly involved in One Health—health, environment, and animal resources and fisheries—along with officials from other ministries, including education and finance. The Council also includes governors from 13 regions, and is complemented by partners with a wide range of technical expertise.

Key results achieved during the Council's first session included:

- Presenting the country's One Health strategic coordination platform
- Validating the administrative steps needed to establish One Health committees at the subnational level, which include regional, provincial, and departmental committees
- Securing written commitment from the 13 governors attending the meeting to support One Health implementation efforts
- Making recommendations to simplify procedures for making state funds available in emergency situations; strengthen environmental sanitation to combat vector-borne diseases, including dengue and malaria; and scale up One Health implementation in all regions of the country

The newly formed regional, provincial, and departmental committees represent a tangible commitment to One Health efforts from stakeholders at all levels of the health system, including those in Burkina Faso's regions, provinces, and departments to better coordinate an integrated response to future zoonotic and infectious disease threats.

participating hospitals. We disseminated the results while organizing a series of capacity-strengthening and digital literacy workshops for DMI, which included mentoring on HIS SOCI topics.

In **Ghana**, we provided technical, administrative, and financial support to the Disease Surveillance Department of the Ghana Health Service (GHS) to develop a data quality assurance plan for their integrated disease surveillance and response system which uses the Surveillance Outbreak Response Management and Analysis System (SORMAS). The draft plan is under review by the Disease Surveillance Department. In **Madagascar**, CHISU provided support to the *Direction des Etudes et de la Planification et du Système d'Information* (DEPSI) in crafting the data quality assurance plan for the country's HIS. We also convened a showcase of data validation committee accomplishments in two regions.

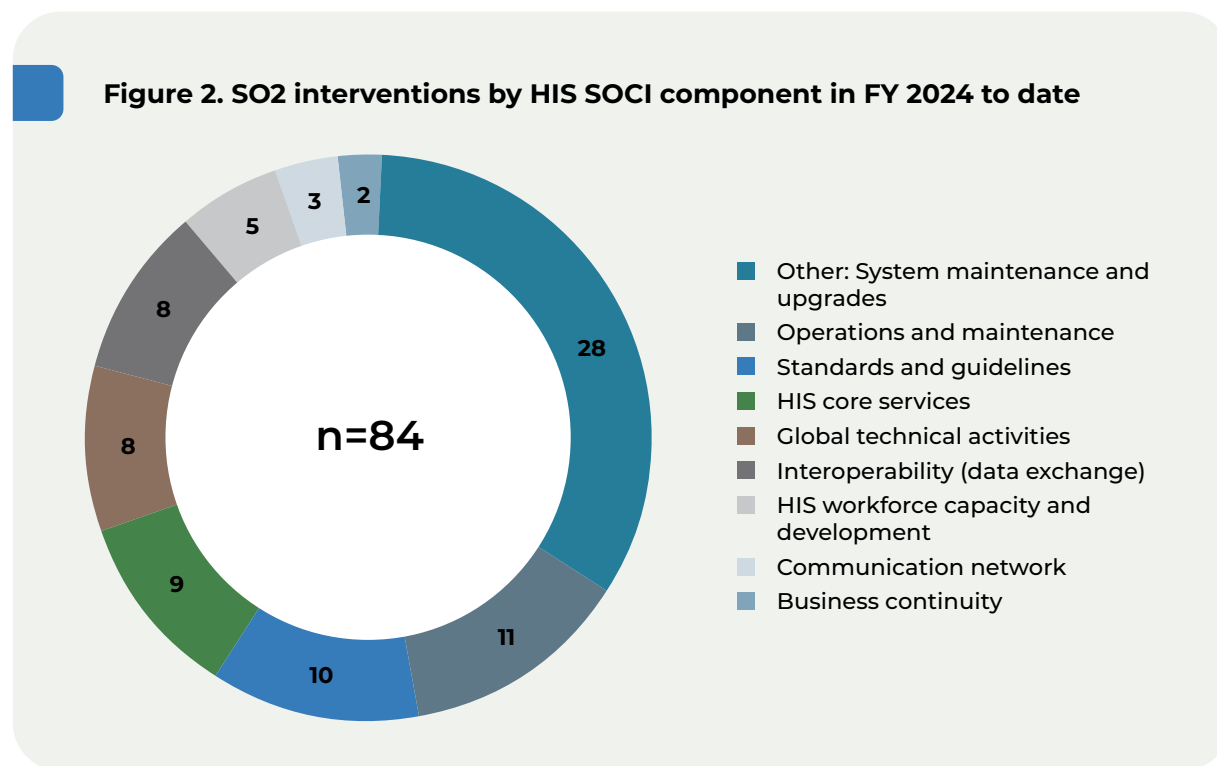
In **Indonesia**, CHISU supported the completion of the *Routine Data Management and Utilization Guidelines*, which will now be implemented in the provincial-level data warehouse in Jakarta. We also finalized the data management SOPs for East Java Province and district-level Health Offices. In **Namibia**, we supported the country's third HIS TWG meeting where subcommittees formed to develop the national HIS policy and to review data collection tools for health programs and recommend harmonization or revision as appropriate. The terms of reference for the HIS TWG are still awaiting final sign-off by the country's MOH.

Strategic objective 2: Systems and software

Over the past six months, we made significant progress supporting countries to strengthen the systems and software that underpin HIS digital transformation. **Figure 2** summarizes CHISU interventions under SO2 in FY 2024 to date. It shows that our work in systems and software is dominated by maintenance and upgrades to existing systems, but a notable set of interventions are focused on broader system interoperability and related standards and guidelines.

As the volume of electronic health data collected in countries increases, there is growing demand for data repositories that meet each country's health program's data use needs. CHISU is developing tools and guidance to support them in standardizing the creation of these repositories, including:

- A **data repositories decision matrix tool** that is critical for supporting countries to make informed choices on the type of data storage to select



- A **data source mapping tool** that is essential for supporting countries to understand how data flows from the source to the destination
- A **data repositories guide** that will help each country set up their selected data storage solution and infrastructure

CHISU continues to support the assessment, configuration, pilot, and rollout of **automated malaria bulletins** in a number of countries. The automated malaria bulletins contain nationally selected indicators that provide quarterly—or any agreed frequency—feedback on the progress made in malaria programming and are guided by each country’s National Malaria Control Program (NMCP) or National Malaria Elimination Program (NMEP). Generating these bulletins has historically been a manual and labor-intensive process, and automation helps stakeholders save time and provide consistency in bulletin production, publication, and dissemination. **Malawi** produced the country’s initial automated bulletin, presented it to the NMCP for a first round of feedback, and used that experience to optimize future versions with CHISU support. In **Mali**, CHISU supported initial customization of the automated bulletin application to produce the first template output (which is now complete and pending review from NMCP) with an upcoming demonstration of the automated bulletin process to the country’s NMCP for initial feedback. Building on our experience developing country-specific automated bulletins, we are turning our learning into a scalable, flexible, and adaptable **automated bulletin application** through global PMI funding. The ap-



Participants interact during a workshop to revise Kenya’s National Malaria Policy. Photo credit: Anziya Images for JSI

plication is compatible with any country’s District Health Information Software, Version 2 (DHIS2) instance, increasing its reach and value because of the widespread global use of DHIS2 to manage health data, including for malaria. The pilot of the bulletin application is planned for **Kenya** in the coming quarter.

Building on CHISU’s previous interoperability investments within countries, we supported **Indonesia** in [launching its official generic interoperability mediator](#), demonstrating its use for harnessing data from the tuberculosis (TB)

program. The mediator is critical for ensuring that data coming from many different vendor systems may be shared, regardless of the format. This data is received by the mediator and is processed to meet the TB interoperability guidelines based on Fast Healthcare Interoperability Resources (FHIR) standards. The mediator subsequently pushes this data to both SITB (the national tuberculous information system) and SATUSEHAT (the national health information exchange platform). During the mediator launch, data was exchanged between local facility electronic medical record (EMR) systems with SITB and SATUSEHAT. This

means that health workers will no longer need to enter clients' data more than once (see **Box 2** for more detail). In **Ghana**, CHISU established interoperability between SiCapp, a seasonal malaria chemoprevention mobile application developed by Ghana's NMEP, and the national HIS platform, District Health Information Management Software 2 (DHIMS2). This replaces a labor-intensive and error-prone manual process that had been in place for the previous five years and now transfers the required data between the two systems in less than two minutes. In **Niger**, CHISU [completed mapping all digital health applications currently being used in the country](#). Twenty-six applications were found but only two—STELab (the cloud-based System for Tracking Epidemiological Data and Laboratory Specimens) and *Carte Sanitaire* (the mapping tool that supports the assessment of health coverage and models recommendations for improving coverage)—were interoperable with DHIS2. This information was used to develop guidelines for interoperability and will inform a blueprint for digital health in the country.

CHISU supported systems and software improvement in several countries within the **Eastern and Southern Caribbean (ESC)** region. We provided technical support to **Suriname** to gather requirements to guide the implementation of the Health Information Exchange Platform (HIEP), which was critical in initiating the HIEP procurement process. CHISU support has been instrumental in expediting HIEP implementation, a significant step toward a more connected health care system.

In **St. Lucia**, CHISU is supporting the country's MOH in a reengineering process for their primary health management information system (HMIS), the St. Lucia Health Information System (SLUHIS), by guiding software upgrades and implementing software development best practices to reduce coding for developers and improve data capture at the site level. Through this partnership, we are working closely with MOH software engineers and are supporting the onboarding of a consultant to supplement the team's efforts.

CHISU has supported the GHS and other partners in **Ghana** to [organize the first-ever national e-Tracker implementation review meeting](#) since the application's adoption in 2015. Meeting participants reviewed the existing e-Trackers (which have been used across many health programs in the country) and developed a roadmap to respond to data collection needs. In **Malawi**, CHISU hosted a comprehensive DHIS2 maintenance work session to resolve recent user and data entry module functionality challenges with stakeholders from the University of Malawi, the Central Monitoring and Evaluation Division (CMED) of the country's MOH, and selected districts. We also supported the malaria M&E sub-task force to digitize the registration and distribution processes of the 2024 mass long-lasting insecticidal net (LLIN) campaign in the country. This will enable registration of 19.6 million people targeted by the LLIN mass campaign and facilitate efficient tracking of 11.7 million LLIN nets.

Box 2. Interoperability mediator eases data entry burden for health workers in Indonesia

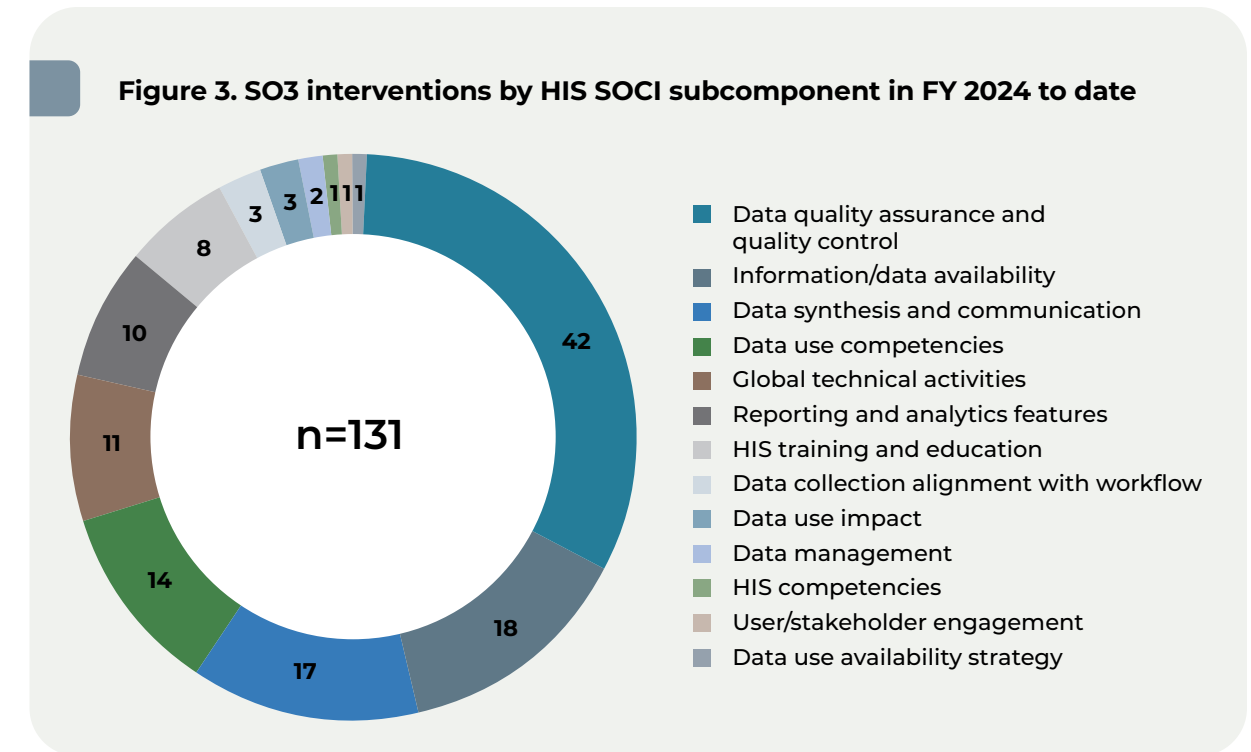
In Indonesia, health workers were often asked to enter duplicate data in multiple systems for the same client visit. Most—if not all—systems capture the same data points, such as patient registrations with similar personally identifiable information (PII). This leads to a high data entry burden for health workers as they often must enter the same data into different health applications. The CHISU-supported generic interoperability mediator ensures a standards-based approach to data exchange between the facility-based EMR, SITB, and SATUSEHAT, making it possible for a client registered in one system to be available for search and access in others. Thus, clients do not need to be re-registered time and time again—reducing data entry burden for health workers. This effort has improved patient registration time from eight minutes and 48 seconds without interoperability to four minutes and 21 seconds with interoperability. This extra effort and time saved can be used to provide direct care to patients. In addition, clients can access their data through both their health facility patient portal and the SATUSEHAT mobile application.

Strategic objective 3: Data quality and use

CHISU partnered with countries to enhance their data quality and use by strengthening data management capacity through supportive supervision visits and training; encouraging use of data for decision making at data review meetings; applying data analytics for health programs; developing national data quality assurance plans to guide data quality improvement interventions and monitor progress; and troubleshooting data quality challenges and providing technical assistance towards their resolution. **Figure 3** summarizes CHISU interventions under SO3 in FY 2024 to date. It shows that most of our work in data quality and use is focused on ensuring that high quality data are available, synthesized, and disseminated.

At the global level, CHISU continues to participate in the Data Quality Audit Consultation Task Force under the RBM SME Working Group's Surveillance Practice and Data Quality Committee. This task force documents the advantages, disadvantages, lessons learned, implementation gaps, and examples of best practices for malaria data quality assessments (DQAs) across countries. Eleven CHISU-supported countries have participated in this task force.

CHISU used mathematical models to explore COVID-19 transmission and its association with vaccination coverage within several countries. In **Malawi**, the study controlled for the confounding effect of nonpharmaceutical interventions, such



as school closures, workplace closures, cancellation of public events, limits on gathering size, closure of public transport, and stay-at-home requirements. In **Madagascar** the study focused on the cost of managing patients in public versus private care. This research highlights the role of advanced analytics in policy analysis and its utility in decision making. We observed gaps in data capture (such as lack of local vaccine costing data) in both countries and that vaccine price was a major cost driver for the vaccination program in both countries. The results found that the COVID-19 vaccine was useful for decreasing transmission of the virus and COVID-19-related mortality but, in the absence of

nonpharmaceutical interventions, was insufficient to contain the outbreak.

In the **Democratic Republic of the Congo (DRC)**, CHISU [supported the NMCP to analyze outliers among malaria-related deaths](#) and used that information to establish new processes to identify, verify, and correct such issues through approaches like supportive supervision. We conducted provincial supervision visits in two provinces and two health zones. These supervision visits focused on data quality and capacity strengthening for data analysis using existing dashboards. Similarly, across six regions in **Ghana**, we worked

with national, regional, and district managers to conduct supportive supervision and coaching for all 104 districts—reaching 761 targeted health facilities and 2,600 service providers—on the various data management challenges identified, including data capture in consulting room registers, aggregating the data from the register onto reporting forms, and data validation and verification principles.

In **Kenya**, CHISU [supported piloting of a malaria routine data quality assessment \(mRDQA\) application](#) as well as mRDQA implementation with a round-one assessment in all eight lake endemic counties (covering 206 health facilities). Preliminary results indicate incompleteness of the data elements mainly due to unavailability of standard reporting registers. Our consolidation of the report and incorporation of subcounty and county-level analysis in the mRDQA dashboard is ongoing. Findings from the assessment will inform targeted surveillance mentorship activity in the next quarter. In **Mali**, CHISU organized malaria data quality reviews (DQRs) for nine health districts, bringing together 272 participants. These reviews supported improvement of the monthly activity report and surveillance through the analysis, interpretation, correction of outliers, and entry of missing data in DHIS2. The main recommendations from the reviews were to allow for zero values in DHIS2 to prevent missing data in the forms and to enable the correction of pharmaceutical product data.

In **St. Lucia (ESC)**, CHISU conducted a workshop with the MOH to identify priority indicators for

data visualization. Discussions also highlighted gaps in data capture and data quality. For the next quarter, we will collaborate with the MOH to develop a plan that addresses data quality issues based on the gaps identified. In **Niger**, CHISU has supported DQRs at the regional level. A supervision guide has been developed and is awaiting adoption by the MOH. As a result of CHISU's support, the head of the Information Programming Department in the Directorate of Statistics now sends regular messages to districts that need to correct identified errors, and generates a report every week to confirm that errors were corrected.

We supported work on a COVID-19 bulletin in **Haiti**, migration and enhancement of the vaccination and COVID-19 case dashboards on SATUSEHAT in **Indonesia**, and a malaria scorecard and dashboard in **Burundi**. Data review meetings—focused on use of data and not data quality gaps—serve an important role in promoting engagement with data and exchange learnings. We supported these meetings in **Ghana, Malawi, Kenya, Madagascar, and Burkina Faso**. We also provided support for other data analytics, including in **Haiti** for TB indicators in preparation for upcoming dashboards and in **Kenya** for combined incidence and vector

Box 3. Using data analytics to strengthen malaria control and elimination efforts in Kenya

CHISU is collaborating with PMI Kinga Malaria (a USAID-funded malaria bilateral) to generate analytics from epidemiologic and entomologic data triangulation to strengthen surveillance-response initiatives; use routine epidemiological data to monitor trends in malaria cases across different settings and seasons; and identify the presence of potential vectors driving malaria transmission in the county. We conducted a trend analysis of epidemiological data from Turkana County as part of monitoring the *Anopheles stephensi* mosquito. In Homa Bay County, we extracted retrospective routine malaria data and conducted an exploratory data analysis to inform monitoring of the effects of indoor residual spraying (IRS) withdrawal.

These analyses highlighted the need to improve Kenya's HIS to include entomologic surveillance data and improve capacity for use of this data. Enhanced vector and disease surveillance, including use of routine data, will be key to monitor the replacement of IRS with use of piperonyl butoxide nets (a type of insecticide-treated bed net) in the county. We will assess the impact on both the traditional malaria vectors as well as emerging vectors on malaria transmission. We will also conduct an exploratory analysis of the impact of changing weather patterns on malaria case burden.



Stakeholders collaborate to develop plans to implement, monitor, and evaluate the National Digital Health Strategy of Madagascar 2023–2027. Photo credit: Ludjet Zahendry, JSI

distribution maps that support malaria epidemiological surveillance (**Box 3**). After CHISU-led training sessions, the Institute of Public Health Batut in **Serbia** developed reports in Power BI to show national performance on common European Union health indicators and on newborn health outcomes. We mentored all 29 districts in **Malawi** on [customization and use of the automated malaria bulletin](#) and other dashboards and scorecards in DHIS2. In **Côte d'Ivoire**, CHISU worked with stakeholders to [harmonize population denominators](#) used for vaccine management.

We trained information system users in **Ghana, Kenya, Thailand, Burkina Faso, Côte d'Ivoire, Madagascar, Malawi, Mali, Niger, and Sierra Leone**. For instance, in **Ghana**, CHISU collaborated with the NMEP and Centre for Health Information

Management to train 151 data managers from the 43 districts and the regional health directorate of Ashanti Region in malaria surveillance, data validation, analysis, visualization, and data use. In **Kenya**, CHISU supported improved data use by updating the existing Field Epidemiology and Laboratory Training Program (FELTP) front-line-level curriculum and the Health Facilities Assessment (HFA) Protocol. The updated FELTP curriculum included basic epidemiology content, along with an introduction to data analysis and visualization and data use for decision making. We also [added content on malaria transmission and control](#), including sociocultural and gender-related factors. Over a span of two months, 39 participants from 11 counties completed the training and are now able to support subcounty malaria surveillance activities.

Strategic objective 4: Local organization capacity enhancement

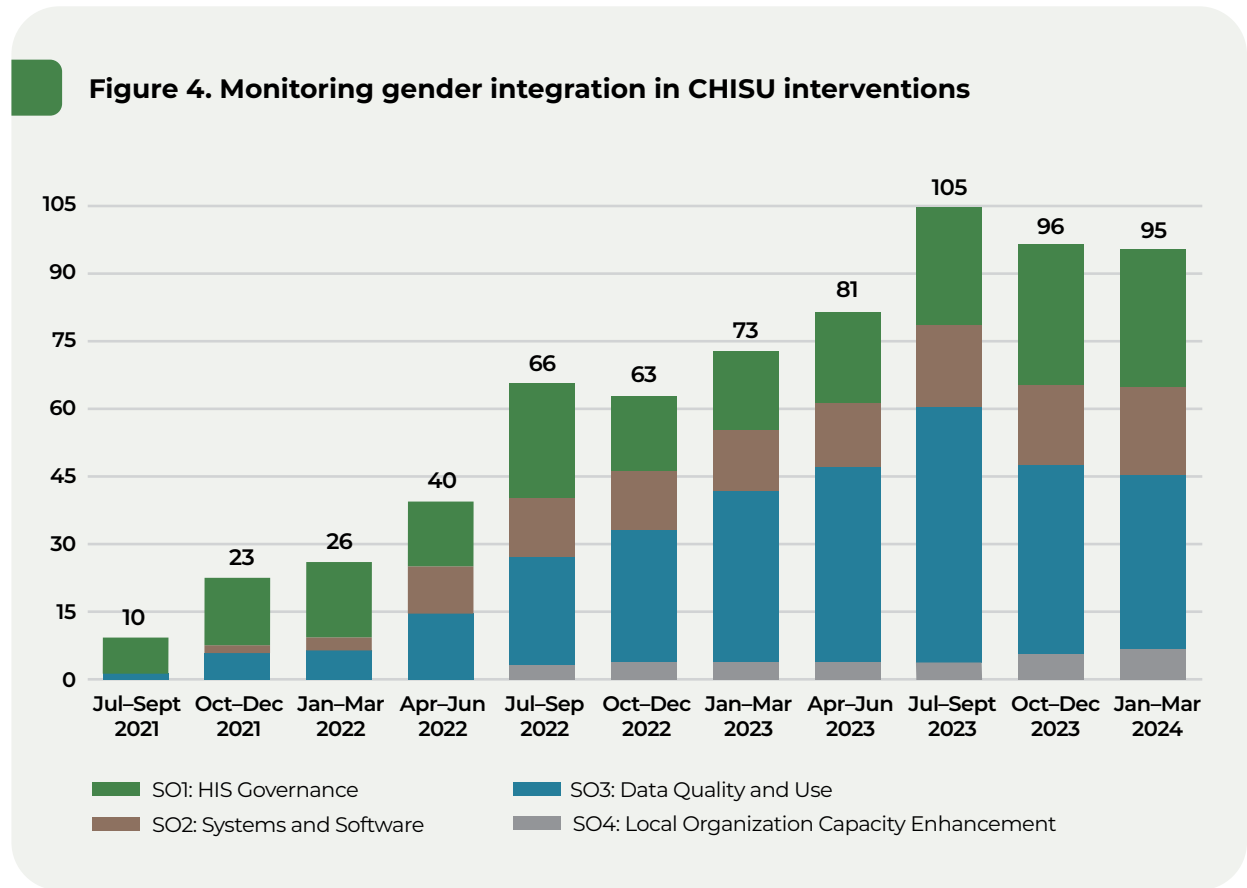
CHISU continued to partner with local organizations to enhance their technical and organizational capacity. In January, we hosted an HIS Learning Exchange for the **ESC region** to increase knowledge among the HIS managers from the 15 countries present on how to address contextual factors that influence the progression of country HIS; how to identify digital transformation catalysts that can aid Caribbean countries in responding to the findings of Information Systems for Health (IS4H) assessments; and how to facilitate discussion on regional standards for HIS and data use. The 65 participants (of which 45 percent were women) included country representatives engaged in HIS strengthening, digital transformation, data management, and data use and analytics across 15 countries and seven regional partners. A key point of agreement was the need for regional coordination of HIS standards and regulations. Participants voiced their appreciation for cross-country exchanges and expressed the need for ongoing support and dialogue through the proposed HIS Technical Support Facility. CHISU is helping to develop the facility as a center for HIS and digital transformation expertise in the region and with regional partners. It will be housed at the University of West Indies, St. Augustine Campus.

Through a combination of face-to-face and online training sessions, CHISU continued to

provide mentoring and supervision to Castelum Digital Indonesia (CDI), a local organization engaged in **Indonesia** that is supporting subnational HIS governance activities. One training focused on financial management for performance improvement; another, on project management. We conducted a follow-up organizational capacity assessment to monitor progress against the baseline assessment from June 2023. CDI demonstrated enhanced capacity in monitoring and evaluation, programmatic and financial accountability, technical assistance, networking, and strategy development. Some areas showed a continued need for support, such as understanding outcome measurement, reporting, independent audits, partnership building, communication products, risk analysis, and SOP development. We also conducted a gender sensitization session to empower CDI to recognize opportunities for incorporating gender while enhancing HIS in their work.

Cross-cutting area: Gender

In FY 2024 to date, CHISU has continued to integrate gender considerations across the four strategic objective areas based on activity work plans. In Quarter 2 (Q2) alone, CHISU reported 95 gender considerations across its strategic objectives—an increase from the 73 reported in FY 2023 Q2 (**Figure 4**). CHISU has continued to serve as co-lead of the Digital Health and Interoperability Gender/Diversity, Equity, and Inclusion small working group and continued to engage



with, advocate for, and support the activities of Africa CDC’s AWiDH initiative. Throughout March, CHISU promoted International Women’s Day by highlighting social media perspectives from staff about how to close the gender digital divide. We also [published a blog](#) on this topic that profiled the AWiDH flagship initiative of the Africa CDC, which CHISU supports.

Noting gender representation disparities in meetings, workshops, and governance bodies focused on digital health and HIS, CHISU documented the sex of participants in these spaces. We examined the sex ratio of participants in decision-making bodies, data quality meetings, and training sessions in **Burkina Faso, DRC, Ghana, Mali, Namibia, Niger, and Sierra Leone**. CHISU

reported that many of these spaces have greater representation from men than women, with the percentage of female participants ranging from 0–75 percent and most frequently falling between 10–35 percent of total participants. When possible, CHISU advocated for women’s inclusion in HIS activities across countries. In **Ghana**, for example, we proposed that more female facilitators be included in a training of trainers session on SORMAS, and that female experts be included in a panel that will inform the development of a DQA plan. In addition, 50 percent of participants across all CHISU-supported trainings were female (see page 36).

CHISU has supported the integration of gender into HIS strategies, SOPs, and roadmaps. In **Côte d’Ivoire**, we proposed to the Directorate of Coordination of the Expanded Immunization Program that integrated data collection tools incorporate a COVID-19 register to capture gender and age variables related to COVID-19 vaccination. The integrated tool will be reviewed and validated by vaccination stakeholders in the next quarter.

CHISU intentionally integrates gender into training sessions and capacity building of local partners. In **Indonesia**, CHISU included gender sensitization in its organizational capacity assessment workshop with its local partner, CDI. In **Kenya**, CHISU supported the revision of the FELTP curriculum to incorporate content on the influence of sociocultural factors—including gender—on malaria transmission and the uptake of malaria control interventions.

The gender-related content prompted discussions about the impact of gender norms and roles on exposure to mosquitoes and risk for malaria. Trainees had the opportunity to analyze gender-related variables such as the age-sex distribution of malaria cases. They also conducted assessments on the uptake of intermittent preventive therapy among pregnant women and the occurrence of malaria cases among pregnant women.

CHISU has incorporated gender data analysis into its work in multiple countries. As a precursor to piloting an mRDQA dashboard in **Kenya**, we conducted a brief survey to understand participants’ access to phones and then disaggregated the data by sex. While both men and women had phones, some women did not have smartphones. This information helps CHISU consider how to address the gender digital divide as we work with countries in their implementation of the mRDQA application moving forward. In **Thailand**, we analyzed malaria incidence data and included a gender variable in our analysis to understand differential trends among men and women. Our analysis of malaria surveillance data included patient-level data to understand whether malaria incidence, severe disease, or mortality is associated with gender. CHISU is conducting a learning activity in **Kenya** designed to document experiences and the effects of implementing an electronic community health information system (eCHIS) on the uptake of reproductive and child health services. In this work, CHISU is considering how attitudes around gender play a role in the uptake of reproductive and child health services.

Cross-cutting area: Data security

Data security and privacy are significant risks affecting the success of digital health interventions. To adequately address and mitigate such risk in countries’ HIS, we need to understand each system’s environment and the risks the system is exposed to as a step toward developing relevant intervention measures. With this in mind, CHISU conducted internal data security and privacy assessments across all CHISU countries. The assessments allowed us to understand each individual system’s gaps plus overall country gaps. The assessment covered the following areas: country and system profile information; privacy assessment; security and privacy control assessment; security planning; access (i.e., authentication and authorization); password management; awareness and training; server management; systems backup and redundancy setup; incident response; risk assessment; and system and communication protection.

From the assessment results, we developed a data security and privacy summary for each country and a CHISU-wide data security and privacy report that shows areas that need more intervention and support. Prioritizing the development of data security and privacy considerations will allow each country to customize their policies based on their identified risks. We will continue working with each country team to ensure implementation of the identified considerations, especially for priorities such as national systems and interoperability infrastructure.

HIS learning

At the beginning of FY 2024, CHISU and USAID worked collaboratively in small groups to determine revisions to the program's learning questions. This culminated in a consensus meeting among all participants in November 2023. The original 18 learning questions were simplified to 12 and were included in an update to the *Activity Monitoring, Evaluation, and Learning Plan* in December 2023. In addition to making progress toward addressing other learning themes, CHISU prioritized four learning questions (**Box 4**) for targeted work by June 2024.

We plan to gather evidence to address the first three prioritized learning questions in **Burkina Faso, Serbia, and Indonesia**. All three countries have (or will soon have) a baseline HIS SOCI or DMI assessment and at least one follow-up assessment. In Burkina Faso and Serbia, we plan to use a contribution analysis approach to develop country-specific, evidence-informed contribution stories that illustrate the causal pathways between CHISU's interventions and observed outcomes in both HIS and overall health system strengthening. Our presence in Indonesia offers a different opportunity to address these learning questions through the team's experience conducting the HIS SOCI-inspired DMI at both the national and subnational levels. Overall this work will demonstrate how our interventions in CHISU-supported countries have contributed to changes in HIS progression, and furthermore, what these contributions in HIS have achieved

in specific health areas as measured by health or health systems outcomes.

Additional CHISU activities are geared toward generating evidence to demonstrate links between HIS strengthening efforts and improved health and/or health systems outcomes. Using

Box 4. Priority learning questions through June 2024



Program-wide. What project activities (or HIS strengthening interventions in CHISU-supported countries) are feasible and acceptable in advancing specific HIS SOCI elements along the maturity continuum and why (under what conditions)?



Program-wide. Which HIS SOCI domain outcomes demonstrate changes in response to specific HIS strengthening interventions?



SO1 HIS governance. What approaches and/or characteristics in strengthening governance are most successful at improving HIS progression?



SO3 data quality and use. What are promising and effective innovations to measure health data demand and use?

combined Office of Health Systems (OHS) and Office of Population and Reproductive Health funding, we are conducting a mixed methods learning activity that investigates changes in reproductive, maternal, newborn, and child health service delivery uptake before and after eCHIS implementation in **Kenya** and examines lessons learned from scale-up in three counties. Using OHS and maternal and child health funding, we are developing two case studies demonstrating how investments in HIS contribute to continuity of care and quality of care in **Indonesia**.

To address the fourth priority learning question, we will describe a variety of CHISU's approaches to measuring health data demand and use through global technical activities. In **Burundi**, we are providing technical assistance for installation and use of the updated WHO DHIS2 malaria modules. Similarly in **Madagascar** and **Malawi**, we are providing training on the [revised WHO guidance](#) for monitoring maternal, newborn, child, and adolescent health (MNCAH) performance and on ensuring data quality. These activities may provide opportunities to gauge changes in data use capacity as a result of CHISU technical assistance. To understand the challenges that arise in establishing routine data quality measures, we have also begun a cross-country synthesis of lessons learned from conducting DQAs in 11 countries to date.

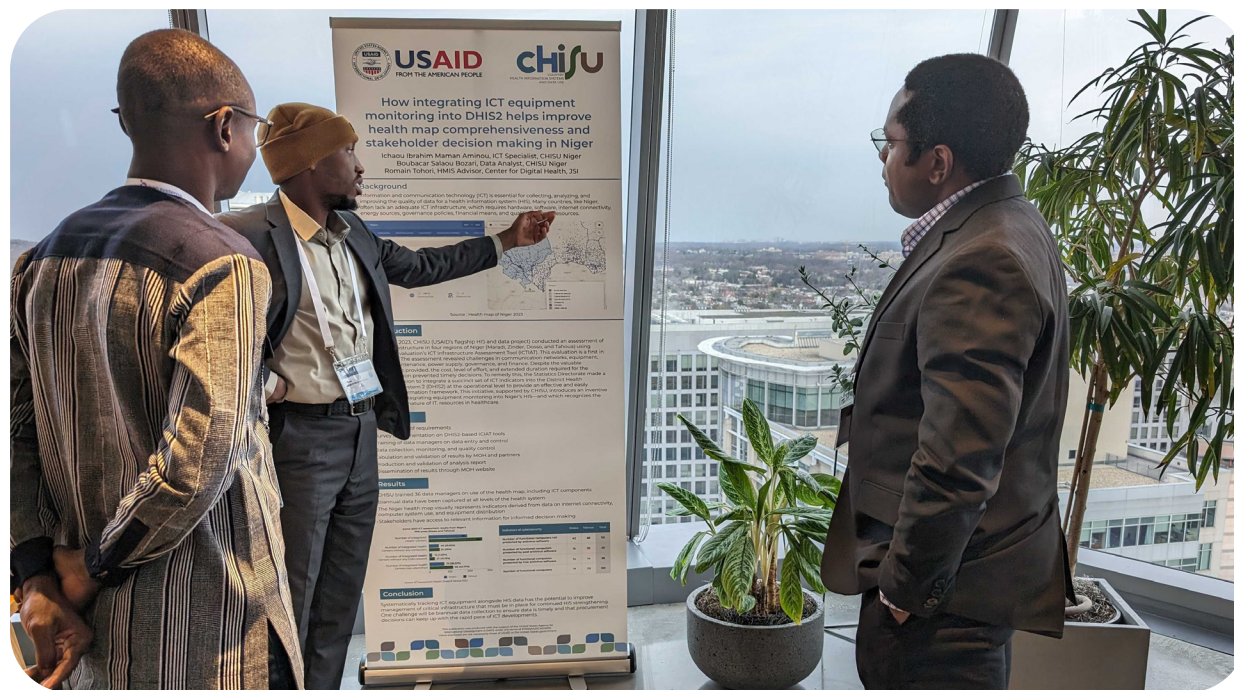
As part of CHISU's approach to learning about HIS progression, we facilitate periodic Pause and Reflect (P&R) sessions for country and regional teams

to review their implementation progress and plan for strategic adaptations needed to achieve our desired improvements in the country HIS in the future. Seven country teams (**Côte d'Ivoire, Ghana, Haiti, Kenya, Malawi, Niger, and Serbia**) held at least one P&R session in the first half of FY 2024, with Kenya and Niger each holding two sessions. We continue to tailor the format and structure of P&Rs to the needs of each country team, often using collaborative platforms like Miro to capture discussions on activity progress toward outcomes. The Côte d'Ivoire and Kenya teams elected to hold a P&R early in their respective implementation years to use the session as a strategic and operational alignment opportunity for their teams in the year ahead. The Serbia team reflected on almost three years of implementation and CHISU's legacy in the country. The Haiti team reflected on the innovations and approaches they are finding useful to continue their work to support key stakeholders in a challenging implementation environment.

Health system strengthening

CHISU helps countries overcome the complex challenges to HIS progression through an integrated approach to health systems strengthening that is applied across all health areas and aligns with [USAID's Vision for Health System Strengthening 2030](#).

CHISU contributes to **equity** in the health system by applying advanced analytics and providing dashboards and scorecards to improve understanding of the effectiveness of past interven-



Members of CHISU Niger present on their work integrating ICT equipment into DHIS2 at the DHIS2 Symposium. Photo credit: Steve Ollis, JSI

tions—and then use that to inform future strategies and approaches that target high-burden areas or vulnerable populations. This is being used for COVID-19 vaccination in Malawi and Madagascar and for malaria control in Ghana, Kenya, and Malawi. Similarly, we promote improved **quality** in health systems. In Burundi, Haiti, Kenya, and Sierra Leone, we are strengthening primary health care networks at the community level and continuity of care by investing in community health information systems (CHIS) and their interoperability with routine clinical information systems.

CHISU supports countries to **optimize resources**. Repeated monitoring of HIS progression has provided vital information to stakeholders for targeting investments to the areas of highest need, such as in the follow-up national HIS SOCI assessment in Burkina Faso and DMI assessments at 151 provinces and districts and at 1,549 hospitals in Indonesia. The supply chain and inventory management operations assessment in Guyana (ESC) led to updated warehouse procedures that are leading to improved management of materials for COVID-19 and other areas. Close collaboration and mentoring for local organizations to implement



Participants of a three-day workshop with Madagascar's Directorate of Studies, Planning, and Information Systems to develop an HIS data quality plan for 2024-2027. Photo credit: Ludjet Zahendry, JSI

the HIS SOCI assessment in Serbia and Indonesia builds capacity for **locally-led development** in future HIS progression.

Countries are taking a **whole-of-society approach** by engaging multisectoral stakeholders in deci-

sions around digital transformation. Initiatives like the One Health system strengthening in Burkina Faso, Côte d'Ivoire, and Indonesia demonstrate a commitment to comprehensively address health by considering human, animal, and environmental health. In addition, we support countries to move

from one-to-one data exchange to enterprise-level interoperability. Investments in these platforms outside of traditional funding silos are enabling countries to reach more health areas, and in many cases this is happening by **engaging the private sector**. For instance, TB, MNCAH, routine immunization, COVID-19, respiratory illness surveillance, and claims data are all available in Indonesia's SATUSEHAT platform, with many private health facility electronic medical records systems sharing and receiving these data. CHISU is documenting a case study that demonstrates the connection between this kind of HIS progression with primary health care. It will bolster our ability to tell this story to broader audiences.

CHISU's activities reflect a holistic and multifaceted approach to health system strengthening. They encompass equity, quality, resource optimization, whole-of-society approaches, private sector engagement, and localization. The program supports effective and sustainable solutions that are tailored to the specific needs of countries, address disparities, promote inclusivity, and contribute to the overall improvement of health systems globally.

Conclusion



CHISU supported the Ministry of Health's Center for Data and Information Technology (PUSDATIN) and Digital Transformation Office (DTO) to hold a workshop in Indonesia to map terminology standards in the SATUSEHAT platform. Photo credit: Dwi Anisa Prafitria, JSI

During CHISU's third year, we identified three key themes: engagement, growth, and learning. Now in our fourth year, we are beginning to see improvements in countries' HIS as a result of our implementation—which are positive changes in a country's HIS governance and leadership, systems and software, and data quality and use that demonstrate CHISU's contributions to HIS progression over time.

We serve in a leadership role for HIS through many meaningful collaborations at the global level that establish and reinforce international standards. At national and subnational levels, we engaged with 54 coordinating and technical bodies in 16 countries that span six health areas.

Our work extended to enhancing systems and software to support digital transformation in HIS. Notable interventions included supporting the development of automated malaria bulletins and facilitating interoperability between different systems, as demonstrated in Indonesia and Ghana. We remain committed to improving data quality and use—with the ultimate goal of promoting data-driven decision making—and continue to strengthen the expertise and effectiveness of local organizations in driving HIS initiatives.

Across our efforts, we are dedicated to integrating gender considerations, advocating for women's inclusion in HIS activities, and incorporating gender analysis into data-related work. Additionally, CHISU addressed emerging challenges in data security and privacy by conducting assessments and developing strategies to mitigate risks associated with digital health interventions.

Drawing on this learning and implementation experience, CHISU is reflecting on the following themes as the project moves forward:

- As the program matures, we are **learning about the types of improvements that our interventions are enabling**, such as the

patterns across improvements as well as the correlation between certain interventions implemented in one year and the improvements we see the following year.

- With more robust activity implementation across countries, we are **observing alignment between our interventions and the project Theory of Change**, with some additional emerging areas.
- We are **seeing promising signs of HIS progression in countries with repeat HIS SOCI assessments**. This confirms that our technical approach is sound even as there are shifts in the HIS and digital health ecosystem.

The HIS landscape is more complex than ever as systems scale up to reach larger populations, connections between systems multiply, and data security risks increase. Looking ahead, CHISU will continue generating evidence, facilitating learning, and adapting strategies to further strengthen HIS and advance digital transformation in health. CHISU remains committed to achieving our objectives and contributing to improved health outcomes in partnership with countries across the globe.

Annexes

Annex 1. Activities and expenditure report

This report covers CHISU's work during the first half of the fourth year of implementation, October 1, 2023 through March 31, 2024. Activities implemented in this fiscal year (FY) include 41 country-level activities in 17 countries; nine regional-level activities in two regions; 27 global technical activities; six cross-cutting global operational activities supported with cross-bureau (XB) funding; and one U.S. President's Malaria Initiative (PMI)-funded operational activity.

CHISU activities for period ending March 31, 2024

| Code | Activity Name | Start Date | End Date | Status |
|---------------------------|--|-------------------|-------------------|------------------|
| Country Activities | | | | |
| BF-001 | One Health information system support in Burkina Faso | 10/1/2020 | 9/30/2024 | Open |
| BF-002 | Support to PMI Activities in Burkina Faso | 10/1/2022 | 9/30/2024 | Open |
| <i>BF-003</i> | <i>Strengthening availability and use of COVID-19 data in Burkina Faso</i> | <i>10/1/2021</i> | <i>12/31/2023</i> | <i>Closed</i> |
| BF-004 | Strengthening use of ENDOS in Burkina Faso | 10/1/2021 | 9/30/2024 | Open |
| <i>BF-005</i> | <i>COVID-19 Data System Design Analysis and immunization tool revision in Burkina Faso</i> | <i>4/1/2022</i> | <i>6/30/2023</i> | <i>Closed</i> |
| COVID-002 | COVID-19 Vaccine Data Availability in Burkina Faso | 04/1/2022 | 11/8/2023 | Closed |
| BI-001 | Strengthening Malaria Data Systems and Use in Burundi | 10/1/2023 | 9/30/2024 | Open |
| BI-002 | Strengthening HIV Data Quality and Use in Burundi | 10/1/2023 | 9/30/2024 | Open |
| BI-003 | Strengthening MCH Data Systems and Use in Burundi | TDB | TBD | Not yet approved |
| CD-001 | Support to PMI Activities in DRC | 2/1/2023 | 9/30/2024 | Open |
| CI-001 | Côte d'Ivoire Scoping Exercise; Support to COVID-19 data management and use in Côte d'Ivoire | 10/1/2022 | 7/31/2024 | Open |
| CI-002 | Strengthening malaria data quality and use in Côte d'Ivoire | 4/1/2023 | 8/31/2024 | Open |
| CI-003 | Support Côte d'Ivoire's One Health information system | 08/1/2023 | 7/31/2024 | Open |
| CI-004 | Strengthen Côte d'Ivoire National Health Management Information System | 10/1/2023 | 9/30/2024 | Open |
| CI-005 | AI-driven malaria forecasting in Côte d'Ivoire | TBD | TBD | Not yet approved |
| PRH-102 | AI-Driven Family Planning Forecasting in Côte d'Ivoire | TBD | TBD | Not yet approved |
| <i>GH-001</i> | <i>Ghana Scoping</i> | <i>10/04/2021</i> | <i>11/30/2021</i> | <i>Closed</i> |
| GH-002 | Strengthening malaria data quality and use in Ghana | 1/1/2022 | 6/30/2024 | Open |
| GH-003 | COVID-19 surveillance system alignment | 9/1/2022 | 6/8/2024 | Open |
| GH-004 | Ghana COVID e-Tracker and DHIMS2 Support - P2 | 1/1/2023 | 6/15/2024 | Open |

| Code | Activity Name | Start Date | End Date | Status |
|-----------|--|------------|------------|------------------|
| GH-005 | COVID-19 Surveillance System Alignment - P2 | 1/1/2023 | 6/15/2024 | Open |
| COVID-003 | <i>Ghana COVID Scoping Exercise</i> | 6/1/2022 | 7/31/2022 | Closed |
| COVID-009 | Support to e-Tracker in Ghana | 10/1/2022 | 12/15/2023 | Open |
| GN-001 | mRDQA Training in Guinea | 2/1/2024 | 2/15/2024 | Open |
| HT-001 | <i>Haiti Scoping</i> | 10/15/2021 | 1/31/2022 | Closed |
| HT-002 | <i>HIS support to COVID-19 in Haiti</i> | 1/1/2022 | 11/30/2023 | Closed |
| HT-003 | Support to SISNU in Haiti | 1/1/2022 | 6/30/2024 | Open |
| HT-004 | HIS Support to TB/HIV in Haiti | 1/1/2022 | 12/31/2024 | Open |
| ID-001 | Strengthening HIS progression and digital transformation in Indonesia | 10/01/2021 | 12/31/2023 | Open |
| ID-002 | Strengthening HIV data systems and use in Indonesia | 2/1/2024 | 9/20/2024 | Open |
| ID-003 | Global Health Security support in Indonesia | 10/1/2023 | 12/31/2023 | Open |
| COVID-005 | <i>COVID-19 support in Indonesia</i> | 8/1/2022 | 2/29/2024 | Closed |
| KE-001 | <i>Support to malaria sub-national tailoring exercise in Kenya</i> | 1/1/2023 | 8/31/2023 | Closed |
| KE-002 | Co-Creation and Operations Start up SOW; Strengthening Malaria Data Systems and Use in Kenya | 3/1/2023 | 7/31/2024 | Open |
| OHS-101 | eCHIS in Kenya Phase I | 5/1/2023 | 6/30/2024 | Open |
| PRH-101 | eCHIS in Kenya Phase 2 | 5/1/2023 | 6/30/2024 | Open |
| CII-001 | Kenya Grant from GH Center for Innovation and Impact (CII) | TBD | TBD | Not yet approved |
| MG-001 | <i>Three Health Information System Assessments in Madagascar</i> | 8/1/2022 | 5/31/2023 | Closed |
| MG-002 | Strengthening the HIS in Madagascar | 6/1/2023 | 9/30/2024 | Open |
| ML-001 | <i>Mali Scoping</i> | 9/16/2021 | 11/30/2021 | Closed |
| ML-002 | <i>Strengthening COVID-19 data quality and use in Mali</i> | 1/1/2022 | 8/25/2023 | Closed |
| ML-003 | Strengthening malaria data quality and use in Mali | 6/1/2023 | 5/31/2024 | Open |
| ML-004 | Support to Mali's One Health information system | 10/26/2023 | 11/30/2024 | Open |
| MW-001 | <i>Malawi Scoping</i> | 11/1/2021 | 4/30/2022 | Closed |
| MW-002 | Strengthening malaria data systems and use in Malawi | 3/1/2022 | 2/28/2024 | Open |
| COVID-008 | Scoping Exercise in Namibia; COVID-19 data management support in Namibia | 7/25/2022 | 7/31/2024 | Open |
| NR-001 | <i>Niger Scoping</i> | 4/1/2021 | 5/31/2021 | Closed |
| NR-002 | Strengthening the HIS in Niger | 9/2/2021 | 9/30/2024 | Open |
| NR-003 | Strengthening malaria data quality and use in Niger | 4/1/2023 | 3/31/2025 | Open |
| SB-001 | <i>Serbia Scoping</i> | 11/1/2020 | 5/31/2021 | Closed |
| SB-002 | Strengthening HIS Governance and Data Use in Serbia | 4/1/2021 | 9/30/2024 | Open |
| SL-001 | Strengthening Malaria Data Systems and Use in Sierra Leone | 7/1/2023 | 6/30/2024 | Open |
| TH-001 | Strengthening Malaria Data Systems and Use in Thailand | 10/1/2024 | 9/30/2024 | Open |
| TH-002 | TICA-USAID Activity | 4/1/2024 | 9/30/2024 | Open |

| Code | Activity Name | Start Date | End Date | Status |
|------------------------------------|--|------------|------------|--------|
| Regional Activities | | | | |
| ESC-001 | COVID-19 support in Eastern and Southern Caribbean Countries | 4/1/2022 | 8/23/2023 | Closed |
| ESC-002 | COVID-19 support in Eastern and Southern Caribbean Countries | 4/1/2022 | 12/9/2023 | Closed |
| ESC-003 | COVID-19 vaccine supply chain support in Eastern and Southern Caribbean Countries | 7/8/2022 | 1/8/2024 | Closed |
| ESC-004 | Support to the Caribbean HIS Technical Support Facility | 10/1/2023 | 9/30/2024 | Open |
| ESC-005 | Support to HIS and Supply Chain strengthening in Guyana | 10/1/2023 | 9/30/2024 | Open |
| ESC-006 | Support to HIS strengthening in St. Lucia | 10/1/2023 | 9/30/2024 | Open |
| ESC-007 | Support to HIS and Supply Chain strengthening in Saint Vincent and the Grenadines | 10/1/2023 | 9/30/2024 | Open |
| ESC-008 | Support to HIS strengthening in Suriname | 10/1/2023 | 9/30/2024 | Open |
| COVID-001 | COVID-19 support in Eastern and Southern Caribbean Region | 04/01/2022 | 09/08/2023 | Closed |
| COVID-004 | COVID-19 supply chain support in ESC | 06/09/2022 | 07/31/2024 | Closed |
| COVID-011 | HIS and Supply Chain Support to Dominica and Regional Learning Exchange | 10/1/2023 | 9/30/2024 | Open |
| LAC-001 | HIS Support to LAC Countries | 10/11/2022 | 3/31/2025 | Open |
| MENA-001 | Support to GHSA information systems in MENA | 05/10/2021 | 06/30/2022 | Closed |
| Global Technical Activities | | | | |
| COVID-006 | COVID-19 Vaccine Cost Effectiveness Study | 4/1/2023 | 6/30/2024 | Open |
| COVID-007 | COVID-19 digital health learning activity | 10/1/2022 | 12/18/2023 | Closed |
| COVID-010 | COVID-19 operations research vaccine rollout | 1/1/2023 | 6/30/2024 | Open |
| MCH-001 | MNCAH Facility Data Use Guidelines | 2/14/2022 | 9/30/2024 | Open |
| MCH-002 | Adoption of the WHO Facility Data Use Guidelines | 10/1/2023 | 9/30/2024 | Open |
| OHS-001 | Digitize and deploy HPHC Tool | 2/23/2021 | 6/30/2024 | Open |
| OHS-002 | Digital supportive supervision | 10/1/2021 | 3/31/2024 | Open |
| OHS-003 | GHSA surveillance, data analysis, and Use | 10/1/2021 | 3/31/2024 | Closed |
| OHS-004 | Country HPHC Implementation | 7/1/2022 | 3/31/2024 | Open |
| OHS-005 | Catalytic implementation of the WHO global RHIS strategy | 7/1/2022 | 6/30/2024 | Open |
| OHS-006 | Support to Africa CDC Emerging Flagship Initiatives | 7/1/2023 | 6/30/2024 | Open |
| OHS-007 | PHC Primer/Learning Exchange | 7/1/2023 | 6/30/2024 | Open |
| PMI-001 | Assessing community-based information system guidance in PMI priority countries | 10/1/2021 | 12/31/2023 | Closed |
| PMI-004 | Develop analytical framework for countries to continuously monitor intervention coverage and effectiveness | 7/1/2023 | 6/30/2024 | Open |
| PMI-005 | Malaria risk stratification and incidence mapping in PMI focus countries | 7/1/2023 | 6/30/2024 | Open |
| PMI-006 | Support the standardized use of the DHIS2 Malaria Module | 7/1/2023 | 6/30/2024 | Open |
| PMI-007 | Update and rationalize the content of the RHIS Profiles | 7/1/2023 | 6/30/2024 | Open |
| PMI-008 | Automation of Malaria Bulletins | 7/1/2023 | 6/30/2024 | Open |

| Code | Activity Name | Start Date | End Date | Status |
|---|--|-------------------|-------------------|---------------|
| PMI-009 | Support to the RBM SMERG Secretariat | 7/1/2023 | 6/30/2024 | Open |
| PMI-010 | Malaria Global Technical Leadership | 7/1/2023 | 6/30/2024 | Open |
| PMI-011 | Integrated Data Repository Matrix Tool for Decision Making | 7/1/2023 | 6/30/2024 | Open |
| XB-008 | Global HIS management and leadership | 7/1/2023 | 6/30/2024 | Open |
| XB-009 | Digital tool to measure and store country HIS progression | 10/1/2021 | 6/30/2024 | Open |
| <i>XB-010</i> | <i>Artificial Intelligence and Machine Learning knowledge hub</i> | <i>10/1/2021</i> | <i>12/31/2022</i> | <i>Closed</i> |
| XB-012 | HIS Technical Capacity Assessment Tool | 7/1/2023 | 6/30/2024 | Open |
| XB-013 | Generalize TB D2AC Capacity Assessment Tool | 7/1/2023 | 6/30/2024 | Open |
| XB-014 | Country guidelines on establishing data repositories for health programs | 7/1/2023 | 6/30/2024 | Open |
| XB-015 | Generalize mRDQA | 7/1/2023 | 6/30/2024 | Open |
| Operations and Global Cross-Cutting Program Activities | | | | |
| <i>PMI-002</i> | <i>PMI portfolio startup</i> | <i>9/1/2022</i> | <i>9/30/2023</i> | <i>Closed</i> |
| PMI-003 | Country portfolio transition | 9/1/2022 | 6/30/2024 | Open |
| <i>XB-001</i> | <i>Operations Start Up</i> | <i>8/1/2020</i> | <i>9/30/2021</i> | <i>Closed</i> |
| XB-002 | Country operations support | 8/1/2020 | 6/30/2024 | Open |
| XB-003 | Monitoring, evaluation, and learning | 8/1/2020 | 6/30/2024 | Open |
| XB-004 | Gender in HIS support | 8/1/2020 | 6/30/2024 | Open |
| XB-005 | Knowledge management support | 8/1/2020 | 6/30/2024 | Open |
| XB-006 | Communications | 8/1/2020 | 6/30/2024 | Open |
| <i>XB-007</i> | <i>Technical Start Up and Orientation</i> | <i>8/1/2020</i> | <i>6/30/2022</i> | <i>Closed</i> |
| <i>XB-011</i> | <i>Mid-project technical meeting</i> | <i>7/1/2022</i> | <i>6/30/2024</i> | <i>Closed</i> |

Annex 2. Indicator achievement

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|---|---|
| SOI: Strengthened governance and enabling environment | | | |
| 1.1: Number of countries and regions engaged by CHISU to improve governance and enabling environment for HIS | Program records | 17 | CHISU is working on HIS governance in Burkina Faso, Burundi, Côte d'Ivoire, DRC, ESC, Ghana, Haiti, Indonesia, Kenya, LAC, Madagascar, Malawi, Mali, Namibia, Niger, Serbia, and Sierra Leone. |
| 1.2: Number of CHISU-supported, standards-based HIS governance processes implemented | Program records | 81 BF-8 BI-8 CI-6 CD-3 ESC-6 GH-1 HT-2 ID-9 KE-5 MG-9 MW-2 ML-6 NA-1 NR-4 SB-2 SL-3 Core-6 | <p>CHISU supported the HIS SOCI area of <i>HIS leadership and coordination</i> through 34 processes: coordinating thematic technical commissions and the national One Health Council in Burkina Faso; hosting consultation meetings with stakeholders involved in the management of COVID-19 data in Burkina Faso; coordinating HMIS-strengthening partners in Burundi; supporting malaria TWGs in DRC; supporting malaria research promotion in DRC; supporting malaria conference participation in DRC; developing and implementing a roadmap for COVID-19 integration into the RHIS in Côte d'Ivoire; supporting HIS TWG meetings in Côte d'Ivoire; developing a roadmap for One Health information system management in Côte d'Ivoire; coordinating an HIS data exchange standards and data governance body in Côte d'Ivoire; developing a roadmap for streamlining and optimizing COVID-19 information systems in Indonesia; supporting the HIS TWG in ESC; supporting SORMAS transition planning in Ghana; supporting eHealth policy review in Haiti; supporting the HIS TWG in Indonesia; supporting committees of experts and the data management subcommittee in Kenya; supporting malaria data quality TWGs in Kenya; providing technical inputs to the Global Fund application in Kenya; coordinating the HIS subcommittee in Madagascar; coordinating the SME TWG in Madagascar; ensuring continuity of the USAID implementing partner HMIS TWG in Madagascar; advising stakeholders on electronic logistics management information system (eLMIS) deployment in Madagascar; coordinating the malaria SME TWG in Mali; supporting NMCP participation in key meetings in Mali; coordinating One Health partner meetings in Mali; supporting surveillance thematic group meetings in Mali; supporting the MOH with organization of epidemic coordination meetings in Mali; supporting M&E and NMCP TWG meetings in Malawi; supporting the HMIS TWG in Niger; supporting the malaria SME TWG in Niger; supporting the eHealth Steering Committee in Serbia; supporting the NMCP TWG in Sierra Leone; supporting the HMIS TWG in Sierra Leone; and coordinating the CHIS TWG in Sierra Leone.</p> <p>CHISU supported the HIS SOCI area of <i>HIS strategic planning</i> through 13 processes: supporting the joint external evaluation of International Health Regulations in Burkina Faso; implementing the integrated national strategic plan for the elimination of human rabies in Burkina Faso; conducting the second HIS SOCI assessment in Burkina Faso; organizing the HIS SOCI assessment in Burundi; developing a roadmap to increase the availability of health data from the private sector in Côte d'Ivoire; conducting a supply chain system assessment in ESC; implementing the HIS project plan for the supply chain in ESC; providing technical input for malaria control and elimination priorities in the health sector strategic plan in Kenya; providing technical support for malaria policy and strategy development in Kenya; providing technical support on the implementation of the national malaria strategic and M&E plan in Madagascar; supporting implementation of the national HIS strategic plan in Madagascar; supporting development of the new HIS strategic plan in Niger; and developing the new surveillance strategic plan in Niger.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|------------------------|----------------|--|
| <p>CHISU supported the HIS SOCI area of <i>HIS organizational structure and functions</i> through ten processes: developing a procedures manual for the HIS directorate in Burkina Faso; developing a data cleaning guide for the national health information management system (ENDOS) in Burkina Faso; developing supportive supervision guidelines in Burundi; developing performance review guidelines in Burundi; developing data review guidelines in Burundi; providing technical support to organize the malaria SME TWG in Burundi; creating SOPs for supply chain functions in ESC; supporting an HIS TWG in Haiti; developing a roadmap to define governance structures in Namibia; and outlining a plan for HIS SOCI mentorship in Serbia.</p> <p>CHISU supported the HIS SOCI area of <i>existence of HIS policies and legislation</i> through seven processes: developing and disseminating terms of reference of decentralized thematic commissions in Burkina Faso; developing a data governance policy in Burundi; conducting a data security governance needs assessment in Côte d'Ivoire; developing an HIS policy in ESC; supporting digital health transformation guidelines and policies in Indonesia; providing technical inputs to One Health data management policy and regulations in Indonesia; and providing technical input for national malaria HIS policies in Malawi.</p> <p>CHISU supported the HIS SOCI area of <i>monitoring and evaluation plan</i> through seven processes: providing technical support for the implementation of the malaria strategic plan and its M&E plan in Burundi; carrying out an HIS SOCI assessment in Indonesia; conducting M&E of SATUSEHAT in Indonesia; providing technical assistance to develop HIS and DHIS2 improvement plans in Madagascar; supporting the development of an M&E plan for the national digital health strategy in Madagascar; documenting lessons learned in Madagascar; and disseminating revised malaria surveillance and indicators guidance in Mali.</p> <p>CHISU supported the HIS SOCI area of <i>HIS competencies</i> in SOI topics through four processes: planning and hosting an HIS regional learning event in Trinidad and Tobago (ESC), development of a national HIS resource center and community of practice in Indonesia; HIS SOCI mentorship in Indonesia; and digital literacy capacity building for DMI/ HIS SOCI in Indonesia.</p> <p>CHISU supported six <i>core technical processes</i>: catalytic implementation of the WHO global RHIS strategy; support to Africa CDC emerging flagship initiatives; HIS strengthening investments and primary health care case study development; support to the RBM SME Working Group Secretariat; malaria global technical leadership; and global leadership in HIS evolution.</p> | | | |
| <p>SO2: Increased availability and interoperability of quality health data and information systems</p> | | | |
| <p>2.1: Number of countries and regions engaged by CHISU to increase availability and interoperability of health data and information systems</p> | <p>Program records</p> | <p>16</p> | <p>CHISU is working on systems and software in Burkina Faso, Burundi, Côte d'Ivoire, DRC, ESC, Ghana, Haiti, Indonesia, Kenya, LAC, Madagascar, Malawi, Mali, Niger, Sierra Leone, and Thailand.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|----------------|--|
| 2.2: Number of CHISU-supported systems and software processes developed | Program records | 84 | <p>CHISU supported the SO2 area of <i>system maintenance and upgrades</i> through 28 processes: designing rapid mortality surveillance forms in MS-Surveillance in Burkina Faso; improving the lab information systems by updating the IBIPIMO mobile application in Burundi; supporting the automation of the quarterly epidemiological bulletin in Burundi; providing technical support on SIDAInfo system enhancement and maintenance in Burundi; deploying a COVID-19 vaccination aggregated data collection system in Côte d'Ivoire; setting up a new instance of DHIS2 for the university hospital network in Côte d'Ivoire; producing automated malaria bulletins in Côte d'Ivoire; improving the One Health website in Côte d'Ivoire; upgrading the SLUHS system in ESC; supporting the OpenHRMS system upgrade in ESC; supporting the establishment of an app-based surveillance system in pharmacies and over-the-counter medicine-sellers in Ghana; supporting the configuration of the mRDQA tool in Guinea; configuring the COVID-19 vaccination Tracker in Haiti; developing the initial configuration for the orphans and vulnerable children system in Haiti; supporting SISNU configuration in Haiti; supporting the implementation and use of eCHIS in Kenya; supporting development of the quarterly automated malaria bulletin in Kenya; adjusting malaria outbreak thresholds in DHIS2 in Kenya; supporting the automation of malaria bulletins in Madagascar; supporting <i>Office National de Nutrition</i> (National Nutrition Office [ONN]) by digitizing data collection and reporting in Madagascar; configuring and maintaining the Health Network Quality Improvement System app in Malawi; automating the malaria bulletin in DHIS2 and enabling the migration of entomology database metadata into DHIS2 in Mali; maintaining DHIS2 in Niger; customizing the automated malaria bulletin in Niger; digitizing the immunization information system in Serbia; scaling up and supporting mRDQA implementation in Sierra Leone; supporting the automation of the malaria bulletin as a DHIS2 application in Sierra Leone; and designing CHIS apps in Sierra Leone.</p> <p>CHISU supported the HIS SOCI area of <i>information and communication technology (ICT) business infrastructure support</i> through seven processes: providing maintenance of SIDAInfo and help desk support for its users in Burundi; conducting an ICT infrastructure assessment and procuring ICT to fill gaps in Côte d'Ivoire; conducting an assessment of the HIS interoperability landscape in Côte d'Ivoire; providing SISNU database and server support in Haiti; supporting the National Health Data web portal server to maintain access to SISNU data in Haiti; providing IT support and capacity building for server management in Haiti; and supporting access to the SISNU-TB Tracker in Haiti.</p> <p>CHISU supported the HIS SOCI area of <i>aggregate data exchange</i> through seven processes: developing the One Health information system interoperability solution in Côte d'Ivoire; facilitating data integration into DHIS2 in ESC; assessing interoperability readiness between malaria apps and the malaria data repository in Ghana; completing interoperability between SORMAS and DHIMS2 in Ghana; supporting data integration into SISNU in Haiti; conducting an interoperability readiness assessment of One Health information systems in Indonesia; and assessing the interoperability of applications used at the MOH with DHIS2 in Niger.</p> <p>CHISU supported the HIS SOCI area of <i>data and exchange standards</i> through seven processes: advising on standards for interoperability of eLMIS and DHIS2 in Burundi; developing Health Information Mediator requirements in Suriname (ESC); enhancing the COVID-19 vaccination system functionalities in Indonesia; developing interoperability data standardization in Indonesia; developing the FHIR mediator in Indonesia; mapping data standards to support interoperability of One Health information systems in Indonesia; and conducting an interoperability readiness assessment in Thailand.</p> <p>CHISU supported the HIS SOCI area of <i>enterprise architecture</i> through five processes: providing technical support for the enterprise architecture finalization and validation in Burundi; developing an enterprise architecture interoperability solution for vaccination systems in Côte d'Ivoire; developing an enterprise architecture roadmap for interoperability in Côte d'Ivoire; supporting the development of an HIS enterprise architecture for Guyana in ESC; and supporting conceptualization of the case-based surveillance system in Kenya.</p> |
| | | BF-2 | |
| | | BI-7 | |
| | | CI-10 | |
| | | CD-2 | |
| | | ESC-7 | |
| | | GH-5 | |
| | | GN-1 | |
| | | HT-10 | |
| | | ID-9 | |
| | | KE-4 | |
| | | MG-4 | |
| | | MW-2 | |
| | | ML-2 | |
| | | NR-5 | |
| | | SB-1 | |
| | | SL-4 | |
| TH-1 | | | |
| Core-8 | | | |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|---|---|
| | | | <p>CHISU supported the HIS SOCI area of <i>HIS training and education</i> in SO2 topics through three processes: implementing training on server administration and maintenance in Burundi; training staff on cybersecurity and data protection in Ghana; and training data managers on the <i>Carte Sanitaire</i> in Niger.</p> <p>CHISU supported the HIS SOCI area of <i>business continuity processes and policies</i> through two processes: conducting an assessment of the existing infrastructure and information systems in Côte d'Ivoire and conducting a digitization needs assessment with ONN in Madagascar.</p> <p>CHISU supported the HIS SOCI area of <i>hardware</i> through four processes: supporting NMCP to procure office supplies in DRC; conducting an assessment of handheld devices in Ghana; supporting facility-level DHIS2 data entry in Malawi; and conducting an ICT assessment and procurement of ICT supplies in Niger.</p> <p>CHISU supported the HIS SOCI area of <i>networks and internet connectivity</i> through three processes: supporting internet connectivity for departmental directorates in Haiti; supporting internet connectivity for selected facilities and districts in Haiti; and maintaining internet connectivity and teleconferencing equipment in NMCP offices in Sierra Leone.</p> <p>CHISU supported the HIS SOCI area of <i>HIS standard guidelines</i> through three processes: revising a conceptual framework on health information exchange implementation in Suriname in ESC; supporting the implementation of SATUSEHAT in Indonesia; and supporting the development of a DHIS2 maintenance and update plan in Madagascar.</p> <p>CHISU supported the HIS SOCI area of <i>indicator registry</i> through two processes: supporting mRDQA DHIS2 application configuration in Kenya and supporting a community health worker database registry in Indonesia.</p> <p>CHISU supported the HIS SOCI area of <i>HIS competencies</i> in SO2 topics through two processes: conducting an HIS capacity assessment in DRC and participating in a meeting on health surveillance and information systems for Barbados and Eastern Caribbean Countries (ECC) hosted by the Pan American Health Organization (PAHO).</p> <p>CHISU supported the HIS SOCI area of <i>terminology management</i> through two processes: supporting the International Classification of Diseases Eleventh Revision (ICD-11) classification in ENDOS in Burkina Faso and implementing standard terminology in Indonesia.</p> <p>CHISU supported the HIS SOCI area of <i>data exchange security</i> through one process: conducting data security testing targeting the generic FHIR mediator and use case applications in Indonesia.</p> <p>CHISU supported eight <i>core technical processes</i>: providing insight into USAID's COVID-19 digital health investments; building and maintaining the web-based High Performing Health Care (HPHC) tool; building capacity to perform malaria stratification analyses; developing a scalable and robust malaria bulletin that is configurable to different country and subnational contexts; developing a data repository decision matrix tool; building and maintaining the web-based HIS SOCI tool; developing an HIS technical capacity assessment tool; and supporting country guidelines on establishing data repositories for health programs.</p> |
| 2.3: Number of CHISU-supported electronic systems that were scaled or enhanced | Program records | 6 BF-1 GN-1 ID-2 KE-1 ML-1 | <p>CHISU scaled two systems: SATUSEHAT to 34 <i>puskesmas</i> (primary health care facilities) and three clinics in Jombang District through the mediator in Indonesia, and eCHIS to community health assistants and promoters in two counties in Kenya.</p> <p>CHISU enhanced four systems: designed and configured a rapid mortality surveillance form in MS-Surveillance in Burkina Faso; configured the mRDQA tool in Guinea; developed and finalized the FHIR mediator in Indonesia; and automated the malaria bulletin in the national DHIS2 in Mali.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|--|--|
| SO3: Increased demand and use of health data and information to address health priorities, gaps, and challenges | | | |
| 3.1: Number of countries and regions engaged by CHISU to increase demand and use of health data and information to address health priorities, gaps, and challenges | Program records | 18 | CHISU is working on data use in Burkina Faso, Burundi, Côte d'Ivoire, DRC, ESC, Ghana, Haiti, Indonesia, Kenya, LAC, Madagascar, Malawi, Mali, Namibia, Niger, Serbia, Sierra Leone, and Thailand. |
| 3.2: Number of countries and regions engaged by CHISU to increase quality of HIS data | Program records | 17 | CHISU is working on data use in Burkina Faso, Burundi, Côte d'Ivoire, DRC, ESC, Ghana, Guinea, Haiti, Indonesia, Kenya, LAC, Madagascar, Malawi, Mali, Niger, Sierra Leone, and Thailand. |
| 3.3: Number of CHISU-supported data use processes implemented | Program records | 81 BF-5 BI-4 CI-9 CD-2 ESC-3 GH-6 HT-7 ID-5 KE-10 MG-5 MW-2 ML-3 NA-2 NR-3 SB-3 SL-1 TH-2 Core-9 | <p>CHISU supported the HIS SOCI area of <i>information/data availability</i> through 17 processes: scaling up of event-based surveillance (EBS) in Burkina Faso; supporting validation meetings for dashboards in Burkina Faso; creating a central repository to archive information products in Burundi; assisting with the development of newsletters and information products in Côte d'Ivoire; supporting development and dissemination of the malaria epidemiological bulletin and reports in DRC; providing technical assistance to roll out dashboards in DRC; supporting GHS e-Tracker training in Ghana; conducting training on SORMAS in Ghana; implementing the improved <i>Carte Sanitaire</i> in Haiti; finalizing expansion of vaccination sites for scale up of SISNU in Haiti; orienting stakeholders to a new automated data validation and visualization tool in Indonesia; supporting eCHIS training in Kenya; providing technical assistance to improve management and distribution of registers in Malawi; developing a data use template and collecting examples of data use in Mali; reviewing and updating COVID-19 data collection tools in Namibia; providing technical support for tracking and responding to malaria surveillance data from border areas in Thailand; and conducting an assessment of training needs for prioritized system maintenance topics in Thailand.</p> <p>CHISU supported the HIS SOCI area of <i>data synthesis and communication</i> through 17 processes: holding a data review and experience-sharing workshop in Burkina Faso; implementing a web and mobile malaria dashboard in Burundi; participating in cross-country learning visits in Côte d'Ivoire; supporting enhanced data analysis in ESC; documenting the digital transformation process in a case study in ESC; supporting analysis and writing for the National Health Statistical Report in Haiti; supporting the configuration and implementation of the Health Quality Score Card in Haiti; developing COVID-19 vaccination data use tools and information products in Indonesia; supporting epidemiologic surveillance analytics in Kenya; supporting recruitment and training of data collections for the HFA in Kenya; supporting targeted data use mentorship in Malawi; supporting the development of NMCP annual activity reports in Mali; organizing the indicator performance review of the NMCP in Mali; support to the annual statistical report development process in Namibia; designing a dashboard in Niger; providing training and direct support on Power BI in Serbia; and training the NMCP SME team on surveillance and use of malaria data for decision making in Sierra Leone.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|-----------|----------------|----------------|--|
| | | | <p>CHISU supported the HIS SOCI area of <i>data use competencies</i> through 14 processes: training district and health facility staff on the malaria scorecard app in Côte d'Ivoire; organizing and cofacilitating a malaria SME and malariology course in Côte d'Ivoire; training subnational staff on data visualization and use in Ghana; training district-level staff in geo-enabled microplanning in Ghana; building post-training capacity during supervision visits in Ghana; updating the FELTP curriculum and supporting a training in Kenya; increasing the use of routine data for programming in Kenya; increasing capacity for standard mRDQA reporting procedures through short-term virtual classes in Kenya; hosting data review forums for malaria epidemic preparedness and response in Kenya; conducting a landscape assessment on ICD-11 data gaps and challenges in Kenya; monitoring use of information products at the facility level in Madagascar; mentoring staff overseeing data entry and analysis in Madagascar; supporting SME training for new staff at regional and district levels in Madagascar; and strengthening MOH central-level staff capacity on data use in Madagascar.</p> <p>CHISU supported the HIS SOCI area of <i>reporting and analytics</i> features through 10 processes: updating SIDAnfo dashboards and reports in Burundi; supporting forecasting in mSupply in Côte d'Ivoire; conducting quarterly review of mSupply adoption data in Côte d'Ivoire; continuously maintaining and improving the existing model in Côte d'Ivoire; reviewing mSupply and eSIGL data and recalibrating as needed in Côte d'Ivoire; creating data visualization functionalities and dashboards for SLUHIS 3.0 in ESC; supporting the TB control program to use DHIS2 dashboards and analytics features in Haiti; providing data analytics from the FHIR database and enhancing data analytics with artificial intelligence and machine learning (AI/ML) in Indonesia; providing technical support to the MOH to improve data visualizations in Madagascar; and assessing readiness for advanced analytics (such as AI/ML) in Serbia.</p> <p>CHISU supported the HIS SOCI area of HIS training and education in SO3 data use topics through seven processes: training ministry technicians on One Health surveillance in Burkina Faso; incorporating new modules on national electronic tools in health care curricula in Côte d'Ivoire; embedding a Malaria Data Specialist within NMEP in Ghana; developing and rolling out an online training digital repository to be used in departmental directorates and the MOH in Haiti; training selected NMCP staff on malaria surveillance and M&E in Niger; and training central- and regional-level malaria data managers on DHIS2 in Niger.</p> <p>CHISU supported the HIS SOCI area of <i>data use impact</i> through three processes: supporting joint investigations in Burkina Faso; supporting the eCHIS launch event in Kenya; and conducting a mixed methods learning activity on eCHIS impact on reproductive and MNCAH service delivery in Kenya.</p> <p>CHISU supported the HIS SOCI area of <i>data collection alignment with workflow</i> through two processes: reviewing and updating guidelines for CHIS data collection and reporting in Burundi and assessing the state of digitization of immunization in Serbia.</p> <p>CHISU supported the HIS SOCI area of <i>data use availability strategy</i> through one process: conducting a data use needs assessment for One Health in Indonesia.</p> <p>CHISU supported the HIS SOCI area of <i>user/stakeholder engagement</i> through one process: building capacity for data analysis and use in Indonesia through a framework for linking data with action.</p> <p>CHISU supported nine <i>core technical processes</i>: analyzing COVID-19 vaccination strategy cost-effectiveness; conducting a study on the factors leading to successful COVID-19 vaccination rollout; reviewing digital supervision frameworks and tools; developing Global Health Security Agenda case studies focused on alignment of health security data in routine data systems; expanding use of the HPHC tool; developing an analytical framework to help countries analyze intervention coverage and effectiveness data; revisions to the DHIS2 malaria modules and training materials; updating content of RHIS country profiles; and generalizing the TB Data-to-Action Continuum (D2AC) capacity assessment tool.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|----------------|---|
| 3.4: Number of CHISU-supported data quality processes implemented | Program records | 50 | CHISU supported the HIS SOCI area of <i>data quality assurance and quality control</i> through 42 processes: conducting retrospective COVID-19 vaccination data entry and data quality checks in Burkina Faso; conducting training on surveillance data management in MS-Surveillance in Burkina Faso; mentoring staff to conduct regular DQR meetings in Burundi; supporting staff to conduct malaria data review workshops and tracking program performance in Burundi; adapting and implementing the mRDQA tool to the COVID-19 DHIS2 instance in Côte d'Ivoire; supporting harmonization of the population denominator used for vaccine management in Côte d'Ivoire; conducting quarterly DQA using the mRDQA application in Côte d'Ivoire; providing technical assistance on supervision in DRC; supporting the conduction of mRDQAs within provinces in DRC; supporting annual NMCP supervision of provinces for malaria activities in DRC; conducting a DQA in ESC; training targeted staff in regions on data validation and use in Ghana; supporting district post-training follow-up supportive supervision to facilities in Ghana; providing technical and logistical support for data validation and verification meetings in Ghana; conducting pre- and post-intervention data quality audits in Ghana; supporting SORMAS DQA and development of a data quality assurance plan for SORMAS in Ghana; conducting post-training review meetings in Ghana; developing a plan for the national rollout of mRDQA in Guinea; developing and implementing data quality and data verification tools in Haiti; conducting DQA workshops in Haiti; conducting a DQA in Indonesia; providing targeted mentorship for data quality reviews and the use of the WHO DQR application in DHIS2 in Kenya; collaborating with MOH/DEPSI to build HIS capabilities in Madagascar; reviewing and updating the existing data quality assurance plan in Madagascar; supporting the activation and strengthening of the data validation committee in Madagascar; mentoring staff to conduct a desk review in Madagascar; supporting implementation of routine malaria data verification in Malawi; providing technical support for strengthening supportive supervision in Malawi; supporting staff for data entry and use in Malawi; providing regional mRDQA training in Mali; training the NMCP management team on SME and DHIS2 in Mali; conducting regular malaria data quality reviews in Mali; supporting regions to conduct mRDQAs in facilities in Mali; conducting quarterly DQRs in Niger; developing a data quality assurance plan in Niger; supporting regional directorates to conduct supervision and DQRs in Niger; organizing a regional data quality workshop in Niger; supporting quarterly regional DQR and analysis meetings in Niger; supporting quarterly supervision using the mRDQA tool in facilities in Niger; supporting supervision in targeted districts in Niger; supporting development of a data quality assurance plan and supporting SOPs in Sierra Leone; and developing and implementing a data quality and data verification system in Thailand. |
| | | Core-2 | <p>CHISU supported the HIS SOCI area of <i>data collection alignment with workflow</i> through one process: training warehouse staff on supply chain management principles and data collection in ESC.</p> <p>CHISU supported the HIS SOCI area of <i>data management</i> through two processes: supporting the distribution of national registers and data collection tools in DRC and supporting province-level SOPs for data quality in Indonesia.</p> <p>CHISU supported the HIS SOCI area of <i>HIS competencies</i> in SO3 data quality topics through one process: strengthening data review meetings in collaboration with PMI partners in DRC.</p> <p>CHISU supported the HIS SOCI area of <i>HIS training and education</i> in SO3 data quality topics through one process: training stakeholders on the use of the mRDQA application in Guinea.</p> <p>CHISU supported the HIS SOCI area of <i>information/data availability</i> through one process: providing post-e-Tracker training technical supportive supervision for facilities facing challenges in Ghana.</p> <p>CHISU supported two <i>core technical processes</i>: identifying and documenting where and how community HIS guidelines were applied and what changes in community-based data have resulted and conducting a rapid landscape assessment on instances where the 2019 WHO reproductive, maternal, newborn, child, and adolescent health use of facility data guidelines are in use.</p> |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|------------------------|--|
| SO4: Strengthened organizational development of local nongovernmental partners for sustained data use | | | |
| 4.1: Number of local partners engaged by CHISU to improve practices and capacities that would enable them to receive direct assistance for HIS programming | Program records | 2 ESC-1 ID-1 | CHISU is working in an intentional and demand-driven performance improvement process with one local partner in Indonesia and with one local partner in ESC. |
| Cross-cutting | | | |
| 5.1: Number of people trained in skills and concepts that address HIS governance and enabling environment, HIS interoperability, data quality, demand, and use | Program records | 5,142 | This includes 855 in Burkina Faso, 157 in Côte d'Ivoire, 351 in Ghana, 45 in Haiti, 70 in Indonesia, 3,105 in Kenya, 140 in Madagascar, 114 in Malawi, 126 in Mali, 104 in Niger, and 75 in Sierra Leone. Of the participants who reported their sex, 50 percent (2,558) were females and 50 percent (2,582) were males. The largest stakeholder group was from MOHs (91 percent, 4,565). Seven percent (369) were from other government ministries, and less than two percent came from other stakeholder types, including nongovernmental organizations (NGOs) and educational institutions, international donors, and the private sector. Sixty percent (3,066) of those trained came from the community level, 30 percent (1,567) came from the subnational level, six percent (300) came from the national level, and four percent (181) came from the health facility level. |
| Data security and privacy | | | |
| 6.1: Number and percent of CHISU-supported countries where CHISU activities include data security | Program records | 12 | CHISU conducted an internal data security and privacy assessment in Burkina Faso, Côte d'Ivoire, DRC, Ghana, Guyana, Haiti, Indonesia, Kenya, Madagascar, Malawi, Mali, and Niger. |
| Gender | | | |
| 7.1: Number and percent of HIS products or events created or conducted with CHISU support that included gender consideration | Program records | 149 (70 percent) | Out of the 214 knowledge-sharing products and events (see 8.1 and 8.2 below), 149 (70 percent) considered gender. This includes 10 from Burkina Faso, two from DRC, four from Côte d'Ivoire, nine from Ghana, three from Haiti, 63 from Indonesia, 34 from Kenya, three from LAC, nine from Mali, one from Serbia, one from Sierra Leone, and 10 from core activities. |

| Indicator | Data Source(s) | Y4 Achievement | Comment |
|---|-----------------|----------------|--|
| Knowledge management | | | |
| 8.1: Number of knowledge-sharing products to which CHISU contributed | Program records | 103 | This includes nine products from Burkina Faso, four from Burundi, two from Côte d'Ivoire, four from Ghana, 10 from Haiti, 52 from Indonesia, six from Kenya, four from Madagascar, two from Mali, one from Sierra Leone, and eight from core activities. |
| 8.2: Number of knowledge-sharing events in which CHISU participated | Program records | 111 | This includes one from Burkina Faso, four from Burundi, two from DRC, four from Côte d'Ivoire, six from Ghana, two from Haiti, 11 from Indonesia, 41 from Kenya, three from LAC, seven from Madagascar, two from Malawi, seven from Mali, two from Niger, five from Serbia, and 14 from core activities. |

Annex 3: Communication products

Blog posts

- [Connecting the stories of health information system progression across Burkina Faso, Côte d'Ivoire, and Mali](#)
- [Why is governance important in health information system strengthening—and how does it play a role in CHISU's work?](#)
- [Improving data use in Malawi by upgrading the national health information software—and training key staff on its use](#)
- [Convening around digital health innovation at the Global Digital Health Forum 2023](#)
- [Launching the digital HIS Stages of Continuous Improvement \(SOCl\) tool to empower HIS stakeholders](#)
- [Breaking silos to increase digital health access: CHISU's key takeaways from GDHF 2023](#)
- [Shifting power to achieve better health outcomes for all](#)
- [Using advanced data analytics for more informed COVID-19 vaccination decision making in Malawi](#)
- [Improving Kenya's malaria response by revising epidemic thresholds](#)
- [Integrating a gender perspective to foster more equitable health information systems \(updated\)](#)
- [Better data for better decisions: Building health information systems with women's perspectives](#)
- [Learning from Haiti's COVID-19 experience to improve evidence-based decision making for a stronger pandemic response](#)
- [Improving malaria data quality for better decision making in Mali](#)
- [Harnessing collaboration to close the gender digital divide in Africa](#)

Event posts

- [Unleashing the Power of the HIS Stages of Continuous Improvement \(SOCl\) Tool](#)
- [CHISU @ the Global Digital Health Forum 2023](#)
- [Key Conferences in 2024](#)
- [Finding Common Threads in the Interoperability Journey: Learning from CHISU Implementation in Indonesia, Burkina Faso, Ghana, and Madagascar](#)

Success stories

- [Convening malaria experts in Burundi to better understand and address recent increases in the disease](#)
- [Standardizing population estimates to strengthen data quality and use in Côte d'Ivoire](#)
- [Fixing malaria data quality issues to inform strategic decisions in the Democratic Republic of the Congo](#)
- [Catalyzing stakeholder commitment to improving electronic data capture in Ghana](#)
- [Easing health workers' data entry burden using an interoperability mediator in Indonesia](#)
- [Streamlining data quality assessments to strengthen malaria efforts in Kenya](#)
- [Strengthening gender-responsive data use in Kenya](#)
- [Strengthening malaria surveillance in Madagascar using data dashboards](#)
- [Developing an automated malaria bulletin application to strengthen data use in Malawi](#)
- [Ensuring historical data is part of Mali's malaria story for better decision making](#)
- [Mobilizing stakeholders to establish system interoperability in Niger](#)

- [Bolstering Serbia's ability to communicate about health data](#)
- [Bringing partners together to pilot a community health worker application in Sierra Leone](#)
- [Improving malaria surveillance and health system interoperability in Thailand](#)

Webinars and other recordings

- [Webinar: Unleashing the Power of the HIS Stages of Continuous Improvement \(SOCl\) Tool](#)
- [CHISU Webinar "Finding Common Threads in the Interoperability Journey"](#)

Newsletter

- [CHISU Bulletin 2023 Year in Review](#)

Resources

- [Stages of Continuous Improvement \(SOCl\) Toolkit](#)
- [CHISU Factsheet](#)
- [CHISU Y3 Annual Report](#)
- [CHISU Highlights from October 2022–September 2023](#)
- [Thailand](#) and [Sierra Leone](#) country briefs

Social media

CHISU published 629 posts on its platform with a 5.39 percent engagement rate on its social media platforms:

- LinkedIn: [@CHISU Program](#)
- X (formerly known as Twitter): [@CHISUProgram](#)
- Facebook: [@CHISUProgram](#)
- Instagram: [@chisuprogram](#)
- YouTube: [@CHISUProgram](#)

For International Women's Day, CHISU conducted a social media campaign on LinkedIn, X, Facebook, and Instagram that included 19 posts.

Promotional material

- Visual and icon libraries
- Conference postcards and other promotional materials
- Conference posters and presentations
- Webinar banners and other promotional materials
- Social media assets for conferences, events, webinars, and observance dates, as well as to explain technical concepts and illustrate programmatic achievements
- Social media toolkits for CHISU staff participating in conferences such as the Global Digital Health Forum
- Photo tiles for social media and presentations
- Thematic illustrations and other data visualization infographics
- Event promotional and signage materials
- Country and global presentations, reports, briefs, leaflets, newsletters, and other products
- Country and global banners, office signage, training, and other communication materials

Launched

- [Activity updates page](#) with activities connected to country pages
- [Web interactive Y3 annual report](#)
- Revised branding and marking plan and finalized 508-compliant templates

www.chisuprogram.org

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of #7200AA20CA00009. Views expressed are not necessarily those of USAID or the United States government.