

Strengthening and Improving Health Information Systems: Progress in Côte d'Ivoire

A national health information system (HIS) is the backbone for a country's capacity to gather data to understand health issues. In Côte d'Ivoire, MEASURE Evaluation—funded by the United States Agency for International Development—has worked since 2004 with the Ministry of Health and Public Hygiene (MSHP) and implementing partners to strengthen the performance and management of the country's HIS. The project supports the governance of the HIS (**enabling environment**), the development and rollout of tools and products that respond to health information needs (**information generation**), and capacity development of HIS users (**the human element**). All of these elements are necessary for **HIS performance**. This document provides a snapshot of the work accomplished to strengthen HIS in Côte d'Ivoire as of June 2019.

● **Enabling environment:** Leadership and management ● **Information generation:** Standards for interoperability and infrastructure ● **HIS performance:** Data quality and use

EMERGING HIS 2015

Over 10 years, three assessments¹ of the routine health information system (RHIS) revealed:

- The national HIV strategic plan was not coordinated with a monitoring and evaluation (M&E) framework.
- The existing health management information system (HMIS) was slow and did not integrate data quality assurance and decision support dashboards—making data entry, validation, and use inefficient.
- The national HMIS aggregated data but was not interoperable with other electronic health systems.
- Routine HIV data were not collected at facilities, creating barriers to HIV response.

ADVANCED DEVELOPMENT 2013–2015

2016–2019

- The national HIV strategic plan was updated to address existing challenges, including insufficient human resources and integration of data sources; and infrequent data review, feedback, and use for decision making.
- DHIS 2 was instituted by the MSHP as the national routine HIS platform.
- HIS architecture was developed with resources and policies, such as technical working groups; management tools; and guidance for data quality, data use, and supervision.
- SIGDEP—which houses electronic medical records (EMRs)—was developed to capture HIV patient care, treatment, and drug management data.
- In response to the 2014 Ebola outbreak, an early warning system for real-time epidemic response was developed and integrated into DHIS 2.
- A national data warehouse was built on the DHIS 2 platform. A metadata dictionary presented health indicators from various data systems.
- DHIS 2 was deployed to 100 percent of regions and districts, and to 100 percent of general hospitals, with MSHP staff trained for technical support.
- SIGDEP was deployed to 90 percent of eligible HIV care and treatment sites.
- Five health programs were integrated into DHIS 2: HIV, tuberculosis, nutrition, malaria, and maternal and child health.
- A customized electronic logistics management information system (eLMIS) on DHIS 2 was deployed to 100 percent of district-level public health pharmacies.
- The MSHP developed a costed National HMIS Strategic Plan, plus governance documents such as a data management procedure manual.

The Human Element:

To build M&E staff capacity at the district and regional level, the MSHP mandates the creation of M&E advisor positions (82 at the district level and 20 at the regional level).

The National Public Health Institute developed training on database management, data quality improvement, data use, and M&E.

The MSHP developed a cost-effective eLearning platform to support HIS users.

25 central-level MSHP staff participated in a training of trainers on RHIS concepts in order to conduct further cascade training at the regional and district levels.

428 users were trained in the use of data management software.

1,107 health staff were trained in the use of paper-based data collection tools.

HIS PERFORMANCE 2018

- SIGDEP data are used to track patients with HIV and those lost to follow-up. Routine PMTCT Option B+ data are used to inform national annual estimates on HIV prevalence among pregnant women.
- 66 percent of regions were involved in data analysis using DHIS 2 in 2018, compared to 23 percent in 2012.²
- The percentage of districts receiving at least one supervision visit increased from none in 2012 to 80 percent in 2018.²
- Completeness of data reported by facilities to districts increased from 65 percent in 2012 to 90 percent in 2018; timeliness of data reported from districts increased from 50 percent in 2012 to 79 percent in 2018.²

OPTIMIZING PERFORMANCE 2019

- Expand DHIS 2 to facilities.
- Expand EMRs to collect patient-level data beyond HIV data.
- Achieve the vision of full data exchange among DHIS 2, SIGDEP, eLMIS, and other systems to reduce duplication and introduce efficiencies.
- Build health program staff capacity to communicate their data needs to information system professionals.
- Support the full implementation of the MSHP's information technology transition plan.

¹ Performance of Routine Information System Management (PRISM) 2008 and 2012 and an M&E system assessment (2011)

² Performance of Routine Information System Management (PRISM) 2018