

Assessment Background

The East African Community (EAC), a regional intergovernmental organization of six partner states, has worked for the past decade to improve the efficacy and efficiency of health services in member countries, with a focus on strengthening digital health (eHealth). The EAC has committed to supporting regional actions to strengthen the enabling environment for effective digital health information systems (HIS).

In 2018, the EAC commissioned an assessment of the status of eHealth and the interoperability of its components across member states, to be carried out with oversight by the EAC's East African Science and Technology Commission. In 2019, the Ministry of Health (MOH) of Rwanda partnered with MEASURE Evaluation—a project funded by the United States Agency for International Development and the United States President's Emergency Plan for AIDS Relief—to conduct an assessment of the interoperability and readiness of the country's HIS as part of the larger regional assessment.

Methods

The MOH and MEASURE Evaluation used the *HIS Interoperability Maturity Assessment Toolkit*¹ to examine Rwanda's HIS according to three key domains of interoperability: leadership and governance, human resources, and technology. The assessment consisted of a desk review of existing literature and policies on digital health, meetings to interview and learn from HIS and digital health stakeholders, and workshops with HIS and digital health stakeholders. During the workshops, stakeholders from organizations that support HIS strengthening in Rwanda participated in guided discussions and reached consensus on the country's maturity level for each of the 18 subdomains of interoperability in the in the [HIS Interoperability Maturity Model](#).

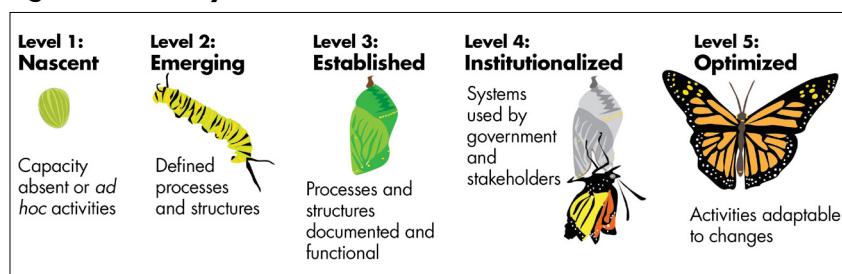
¹ MEASURE Evaluation. (2019). Health Information Systems Interoperability Maturity Toolkit. Retrieved from <https://www.measureevaluation.org/resources/tools/health-information-systems-interoperability-toolkit/health-information-systems-interoperability-toolkit>

East African Community Digital Health and Interoperability Assessments Results at a Glance: Rwanda

Five-Point Maturity Scale

The HIS Interoperability Maturity Model uses a five-point scale to assess processes, capabilities, and documentation related to each subdomain in Figure 1. The scale starts at “nascent” with a score of one, and goes to “optimized” with a score of five as shown in this figure.

Figure 1. Maturity model levels

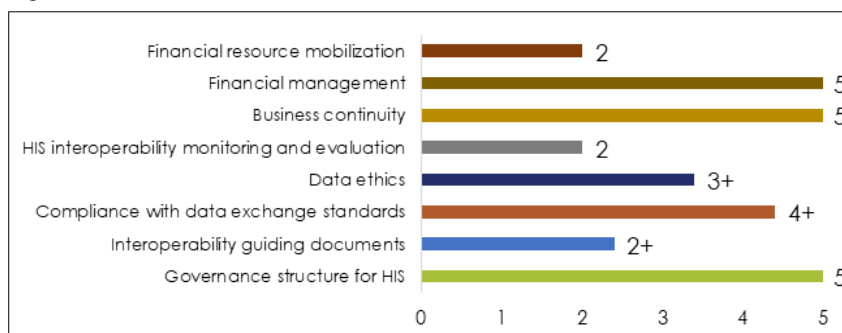


Results

The following figures depict the maturity level of each of the subdomains within the three domains (leadership and governance, human resources, and technology).

Leadership and Governance

Figure 2. Leadership and governance subdomain maturity levels in 2019

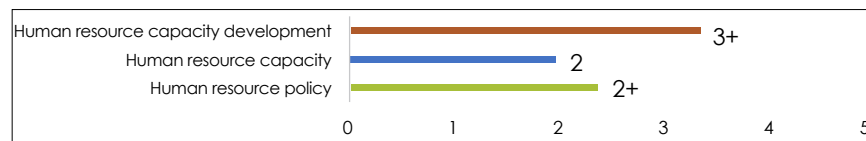


Strong structures and documents govern Rwanda's digital HIS and ensure its interoperability. Members of the MOH's eHealth team come from the eHealth Unit, Health Management Information System Unit, Rwanda Biomedical Center, and Information and Communication Technology (ICT) Unit. Rwanda has also been developing its Healthcare Digital Transformation Strategy, which is a plan to use ICT to make healthcare more patient-centered. The Rwanda Information Society Authority (RISA) assesses

digital health systems to ensure that they meet certain requirements. Rwanda has a new health data law, which, along with a health sector research committee, will serve as part of the regulatory framework to protect digital health data. The eHealth technical working group (TWG)—which brings together members of the eHealth team, other government stakeholders, implementing partners, and donors—is not meeting regularly. Stakeholders also reported not being up-to-date on the status of the Healthcare Digital Transformation Strategy.

Human Resources

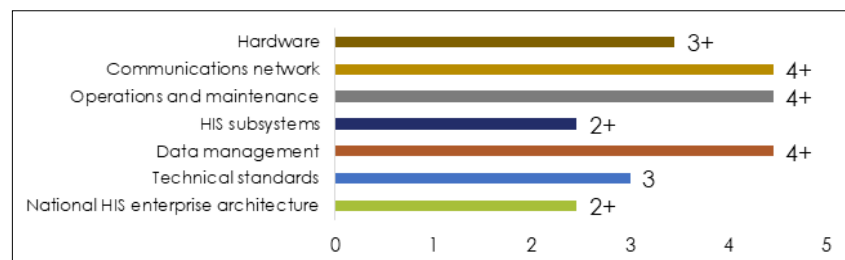
Figure 3. Human resources subdomain maturity levels in 2019



Rwanda has a great deal of technical and innovative capacity, but much of that capacity is not yet in the health sector, forcing the country to rely on external assistance. Although Rwanda plans to implement in-service training for public sector staff, it does not have a human resource policy or strategic plan that identifies the specific skills needed to drive national digital HIS. Rwanda has several sources of pre-service training for healthcare workers, including a nationally recognized digital health curriculum for medical and nursing schools and the Center for Excellence in Biomedical Engineering.

Technology

Figure 4. Technology subdomain maturity levels in 2019



Rwanda was one of the first countries to implement a national health information exchange (HIE) under the Rwanda Health Enterprise Architecture project. Although the HIE technology for that project has been dormant for several years, the country is devising plans to revive certain pieces of the architecture as part of the Healthcare Digital Transformation Strategy. The development of the HIE has facilitated coordination of systems and reduced many silos; however, the HIS still suffers from fragmentation, owing to a lack of data exchange standards and terminologies and uncertain funding for digital health initiatives.

Recommendations

The assessment workshop generated the following recommendations for key MOH actions necessary to further strengthen the digital HIS landscape and build the foundation for HIS interoperability in Rwanda:

- **Document and disseminate:** Together with RISA, work with stakeholders to develop documented processes, plans, and standards for HIS and digital health, including interoperability, and disseminate them to all relevant stakeholders.
- **Build capacity:** Revise HIS training for different cadres of health workers and include it in the national capacity-building plan, increase training centers, and engage the private sector to support complex systems—all with an aim to build public sector capacity to develop, support, sustain, and maintain HIS interoperability and use.
- **Implement:** Implement the following initiatives to build the enabling environment for an interoperable HIS: ensure regular risk assessment of the HIS, implement the Healthcare Digital Transformation Strategy, establish a national health informatics society or association, and formalize the information system certification process with published guidance for stakeholders.
- **Revive:** Restart the eHealth TWG (that brings donors and partners together with the MOH) and relaunch its activities so that everyone is on the same page about the vision for digital health in Rwanda.
- **Monitor:** Put in place the following three monitoring initiatives: a committee on data ethics, to minimize threats to data security and confidentiality; regular monitoring of implementation of the Healthcare Digital Transformation Strategy; and periodic review of a certified system to ensure continued compliance. Also, conduct a digital health and interoperability assessment every 2–3 years to monitor progress towards an interoperable, resilient HIS.

Key Contact

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