# East African Community Digital Health and Interoperability Assessments

## Results at a Glance: Kenya

### Assessment Background

Over the past decade the East African Community (EAC) has prioritized digital health by committing to regional actions to strengthen the enabling environment for health services. In 2019, the Ministry of Health (MOH) of Kenya partnered with MEASURE Evaluation—a project funded by the United States Agency for International Development (USAID)—to conduct an interoperability readiness assessment of the Kenyan health information system (HIS). This was part of a broader EAC-commissioned regional assessment carried out with oversight by the EAC's East African Science and Technology Commission to understand the status of eHealth and interoperability in each of its member states.

### Methods

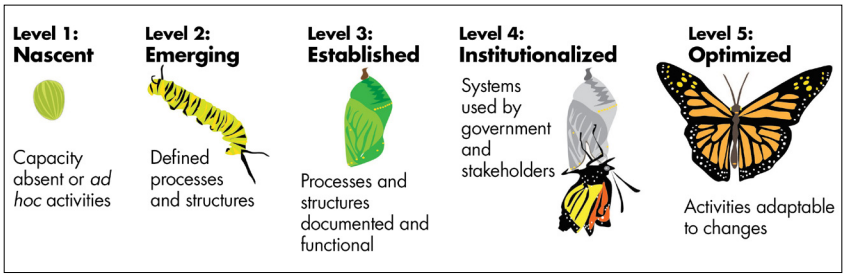
The assessment consisted of three components: a desk review of existing literature and policies on digital health; meetings to interview and learn from HIS and digital health stakeholders; and two workshops with HIS and digital health stakeholders. The discussions in the first workshops were guided using the Global Digital Health Index (GDHI), which enables countries to assess their maturity in digital health and benchmark themselves against other countries. The second workshop focused on the findings from a previous workshop and stakeholder discussions conducted by Afya Health Africa using the HIS Interoperability Maturity Assessment Toolkit (MEASURE Evaluation, 2017)[1] to understand the status of the three key domains of HIS: leadership and governance, human resources, and technology, and develop recommendations for moving forward. During the second workshop, stakeholders from across multiple organizations supporting HIS-strengthening in Kenya discussed the GDHI and HIS Interoperability Maturity Assessment Toolkit results, and developed action items related to the 18 subdomains in the toolkit.

[1] MEASURE Evaluation. (2017). Health Information Systems Interoperability Maturity Toolkit: User's Guide. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.

### Five-Point Maturity Scale

The HIS Interoperability Maturity Model uses a five-point scale to assess processes, capabilities, and documentation related to each subdomain. 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**

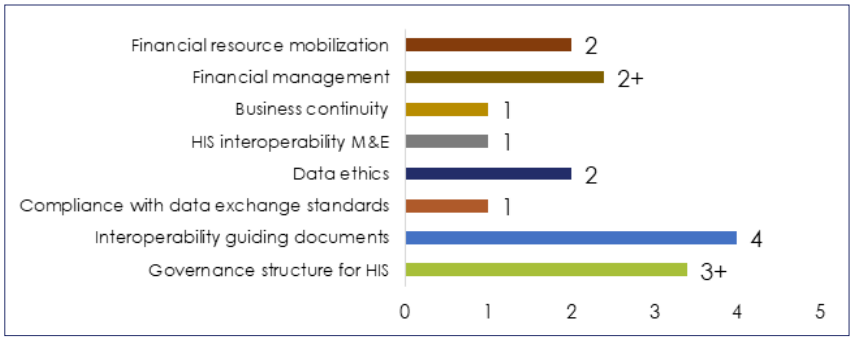



### Results

The following figures depict the maturity levels of each of the subdomains within the three domains of leadership and governance, human resources, and technology. For more details on the GDHI scores, please refer to the full assessment report that can be obtained from the key contact at the end of this brief.

### Leadership and Governance

**Figure 2. Leadership and governance subdomain maturity levels**

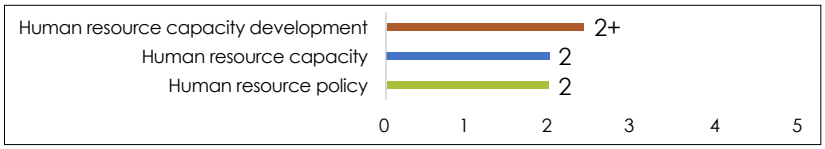



While Kenya does have an established national governance structure for HIS and several interoperability guidance documents, the adoption of policies outlined in the documents is inconsistent at the national and county levels. Further, there is no formal and ongoing monitoring of financial management or efforts around financial resource mobilization specific to interoperability work. Without a coordinating

body, activities related to data exchange standards, data ethics, monitoring and evaluation (M&E) of HIS interoperability, and business continuity related to HIS interoperability are being implemented—but in an isolated manner.

## Human Resources

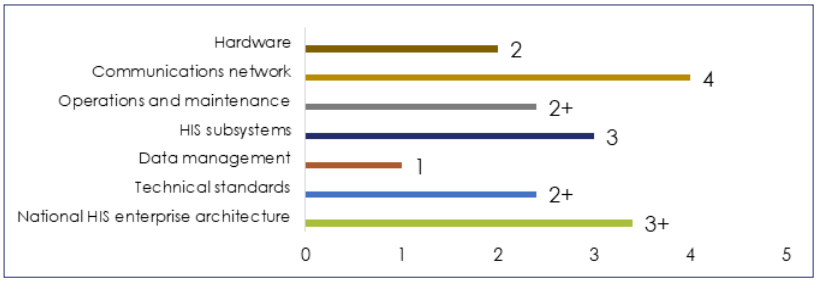
**Figure 3. Human resources subdomain maturity levels**




To quantify the HIS human resource capacity needs, a national needs assessment was completed. With Kenya dependent on external stakeholders for technical assistance, a key challenge remains for sustainability of ongoing HIS-strengthening efforts. There are many people in country with the skills needed to support HIS interoperability, and both pre-service and in-service training opportunities are available, but few technology professionals are drawn to this industry. Additionally, trained digital health staff frequently migrate from the MOH to better-paying private sector positions. HIS-related cadres are not included in the MOH human resources policy.

## Technology

**Figure 4. Technology subdomain maturity levels**




Kenya has an established HIS enterprise architecture, has adopted technical standards, and has certified certain HIS subsystems, including a countrywide rollout of District Health Information Software, version 2 (DHIS2), which it uses as its national health management information system. A major weakness of the enterprise architecture, however, is a lack of enforcement. The government has continued to improve and support expansion of data communication networks to support HIS, however there is no formal mechanism for maintaining the hardware. In addition, country-level data management processes have not been formalized. The current efforts to enforce these processes are mostly the result of isolated efforts.

## Recommendations

The assessment generated recommendations for key actions necessary to further strengthen the digital HIS landscape and build the foundation for HIS interoperability in Kenya. These include the following:

- HIS interoperability maturity M&E needs to be a continuous process with annual reviews of digital health strategy, standards, and technologies to ensure that information available to the national HIS is current.
- The eHealth Technical Working Group (TWG) needs to develop and maintain a listing of key digital health stakeholders to foster collaboration amongst key digital health implementers in Kenya and take the lead on sensitizing senior-level MOH management to digital health needs and trends.
- Legal parameters for digital shared records should be established to help stakeholders understand what legal gaps exist in implementing shared health records.
- The *huduma namba*—a new National Integrated Identity Management System from the government of Kenya—has been established in Kenya as a national unique identifier. Efforts should be made to leverage this initiative to develop a unique patient identifier.
- The eHealth TWG and the information, communication and technology (ICT) arm of the MOH need to take an active role in the ongoing global and regional conversation on digital health and interoperability in order to stay current on best practices, and to advocate for the needs of Kenya and other East African countries.
- The eHealth TWG should lead an initiative to develop and disseminate an in-service training for health workers on data security and privacy using international guidelines.
- A facility-level assessment of health information technology readiness and capacity assessment is recommended to assess infrastructure within facilities, as well as the technical self-efficacy of healthcare workers to use technology, and the availability of technical support.
- The current human resource policy should be reviewed, and revisions made to include digital health informaticians in terms of remuneration and accreditation, and to offer a clear career pathway for professional growth that promotes capacity building.

## Key Contact

For the full assessment report or to learn more about the findings, please contact Mr. Onesmus Kamau, MPH, Msc, at the Ministry of Health, Kenya: omkamau@yahoo.com

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