The government of Tanzania (GoTZ) has shown leadership in prioritizing and planning for improvements in information and communication technology (ICT) infrastructure and use.

Through efforts such as the Health Sector Strategic Plan IV and a national eHealth (electronic health) strategy, the GoTZ has demonstrated its commitment to accelerating transformation of the health sector through the improved collection and use of data. The Tanzania Digital Health Investment Road Map was a government-led effort, drafted to provide clarity on what investments and activities are needed to achieve improvements in data use. It details US$74 million in priority investment areas to allow donors to align their efforts with the government’s priority activities and focus the efforts of implementing partners. It also catalyzed the creation of new coordinating bodies and the revival of existing groups that are designed to allow the GoTZ to better communicate with all stakeholders, monitor digital health activities, and hold implementing partners accountable for adhering to government priorities.

Description of Digital Health Coordination Mechanisms

In Tanzania, digital health investments and implementations are coordinated through the Digital Health Investment Road Map, which was formally endorsed by the government in 2016.

The Road Map contains investment and implementation guidance in five digital health areas: enhancing health service delivery, strengthening health systems performance, optimizing resource allocation, improving data supply and demand, and connecting and harmonizing data systems. Within these five areas, it details 17 investment recommendations prioritized by the GoTZ that will allow Tanzania to effectively use data to improve health.

Creation of the Road Map was funded by the Gates Foundation in 2015, through the Tanzania Data Use Partnership (DUP I). DUP I was a ten-month process of research, prioritization, writing, and costing activities leading to the creation of the Road Map. The Gates Foundation also made a catalytic US$15 million investment in the Road Map in 2017 by funding 7 of the 17 priority investments. These high-priority areas are being implemented under DUP II, a collaboration between donors and implementing partners.

“...The Digital Health Investment Road Map is a journey to better data. It is aimed at improving the quality of health care services through ensuring availability of quality and reliable data. It is intended to bring together the efforts of different parties in improving digital health investments and avoid duplication of efforts.”

– Silvanus Ilomo, Acting Director of Information and Communication Technology, Ministry of Health, Community Development, Gender, Elderly and Children

Suggested Citation: Coordinating Digital Transformation: Tanzania. Seattle: PATH/Digital Square; 2019.
Coordinating Digital Transformation

PATH and the GoTZ. An implementation team monitors activities undertaken as part of DUP II. The implementation team includes technical staff from the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) and the President’s Office—Regional Administration and Local Government (PORALG).

A Governance Unit was formed after the GoTZ endorsed the Road Map. It is co-chaired by the MOHCDGEC and PORALG, and members include the eGovernment Agency, National Bureau of Statistics, PATH, and the Bill & Melinda Gates Foundation. The staff on the ICT teams at both the MOHCDGEC and PORLAG provide oversight to ensure implementation of data use initiatives adheres to the Road Map. They also work to ensure that digital tools for data collection are standardized and interoperable. Implementing partners are expected to prepare reports on their activities for approval by the Governance Unit, which meets quarterly.

Two other groups exist to oversee and coordinate digital health implementation in Tanzania: the Digital Health National Steering Committee and a technical working group (TWG). The establishment of the Road Map led to a review of these two structures to determine how they can be more active and functional.

**Digital Health National Steering Committee**

- A government-led body responsible for coordinating, monitoring, and evaluating implementation of digital initiatives within the health sector.
- An advisory committee was added to allow more stakeholders to be involved. It includes of ICT and monitoring and evaluation from MOHCDGEC and PORLAG; representatives from agencies such as the Medical Stores Department, National Health Insurance Fund, and Tanzania Food and Drugs Authority; and representatives from implementing partners.

**Technical working group**

- Brings together implementers and donors to coordinate digital health activities and help break down silos across health sectors.
- Since the Road Map was published, the structure of the TWG has been revisited, including reviewing the term of membership, and the number of voting members and observing members.
- A community of practice platform has been established to give partners who are not participating in the TWG the opportunity to share their experiences and best practices.

There will be the opportunity in 2019 for the GoTZ to review its digital health progress and the effectiveness of the governance structure. The implementation period (2012–2018) for the Tanzania National eHealth Strategy has ended and a new strategy is being developed. The new strategy will reflect on Road Map implementation thus far and articulate the GoTZ’s digital health priorities for the coming years.
**Digital Health Investment Road Map co-creation process**

The creation of the Road Map was a response to the GoTZ recognizing the importance of high-quality data in improving the quality of health services, and calling for increased and improved investments in health data systems and data use. To prepare the Road Map, a core team comprising staff of the MOHCDGEC, PORLAG, and PATH worked together to interview stakeholders and review existing data use interventions to look for duplication and prioritize future activities. Actors at all levels of the health system were consulted during the assessment to ensure buy-in. The core group conducted a literature review of more than 60 external assessments and government and donor strategies. More than 180 stakeholders were interviewed from the government, donors, implementing partners, and health facilities. After completion of the assessment, health sector officials and policymakers discussed the findings to determine the priority areas and draft the road map. Six meetings were held with a core group of more than 15 stakeholders from the government and other organizations to identify the priority investment areas, which were then presented to partners.

Significant time was also dedicated to accurately costing the 17 priority investments. These costs were established through a detailed process of designing activities, resource requirements, and cost assumptions, with the support of external costing experts. The cost assumptions covered estimates for personnel, training, field work, equipment, and software that would be needed to complete each activity. Dollar amounts were assigned to each cost assumption, such as the cost of a training workshop or the cost per day to employ a project manager. Using these unit costs and estimates of the time and effort needed for each activity, total costs were calculated for all activities.

**Enabling factors**

**Strong political will**

The success in establishing the Road Map was rooted in the strong political will to focus on digital health systems and improved data use as a means to improve health outcomes and work toward achievement of the Sustainable Development Goals.

**Government-led priorities**

The Road Map is based on Tanzania’s vision for digital health and builds on existing policies and strategies. Because it was government-led and based on the findings of the digital health assessment, it was written with a strong understanding of the local context and has support from all levels of the government and health system.

**Engagement of a wide range of stakeholders**

The Road Map has been well received by stakeholders because of the co-creation process. The government took time to build relationships and sought input from a wide range of perspectives, including those of implementing partners, government officials, and health officials.

“For any initiative to be fully implemented and sustained, it has to originate from the government side. Sometimes these initiatives are demanded by the donor, whereby the government has to implement for the sake of maintaining the relationship. But initiatives must start from within the government and be accepted by political leaders.”

– Tumainiel Macha, Assistant Director, Monitoring and Evaluation, Ministry of Health, Community Development, Gender, Elderly and Children
Impact of the Road Map

In this early stage of implementation, stakeholders have attributed important digital health progress to the Road Map. In partnership with DUP II, the MOHCDGEC is in the process of developing health enterprise architecture that aligns with health sector systems. There has been improvement in the policies, strategies, and guidance provided to health facilities to accommodate data use and real-time data availability. Through the digitization of health care services, information exchange has expanded from the local to the regional and national levels. As a result of these improvements in data quality and availability, there is improved accountability and resulting improvements in the quality of health care services. The Road Map also has allowed partners to begin to coordinate at the global level to ensure that investments in Tanzania’s health data systems are complementary and not duplicative.

Within Tanzania, donors with ongoing investments in digital health have started to analyze how the funded activities align with the road map. Donors including the US Agency for International Development, Centers for Disease Control and Prevention, and the Global Fund have identified how their activities related to health data and health information systems support the Road Map’s goals. As donors make new investments into digital health in Tanzania, they will need to continue to work with each other and the government to ensure that activities are supporting the Road Map’s vision.

Lessons Learned from the Digital Health Investment Road Map

The Road Map is lauded for taking a holistic approach to addressing data systems and data use throughout the health system. The creation was guided by the principal hypothesis that better data and regular data use will create a data use culture, leading to better decisions, an improved health system, and improved health outcomes. It was also guided by a data use theory of change that details the factors that accelerate the use of data for improved health system performance. Others looking to design an investment road map should start similarly by establishing the core principles and beliefs that will inform what steps and activities will lead to the desired health system outcomes.

Key informants expressed the wish that the Road Map had been established directly after the development of the Tanzania National eHealth Strategy (published in 2013) because it could have helped prevent fragmented digital health investments and interventions. While strategies are an important first step, an investment road map document that provides clear implementation guidance and coordination platforms for donors and implementing partners is needed. Before the Road Map was established, investments were made into individual data systems for individual health areas, such as HIV/AIDS. These systems continue to operate and work still needs to be done to achieve the Road Map’s vision of having connected data systems that serve the whole health sector.

Increasing collaboration among implementing organizations and donors and getting programs to take a more holistic approach to digitization in the health sector will take time and require continued effort to ensure clear communication and understanding of each other’s efforts. One idea presented by a key informant is to have a common work plan institutionalized by the government for implementers to report into and use for tracking and accountability. A government stakeholder noted that given the Road Map is early in implementation, there are still duplicative activities, but they have adopted practices for informing the implementers that any duplicative initiative should cease and sharing with them how they can participate in the road map and the coordinating bodies.

Key informants also discussed the importance of dedicating ample time and resources to come to the best possible cost estimates for activities detailed in an investment road map. Costing of hardware is relatively easy compared to estimating costs for capacity-building to use new data systems and activities to support behavior change around data use. Both overestimates and underestimates can impact the ability to secure investments.
Lessons for donors

Support governments in developing a road map to align local digital health stakeholders
Provide funds for governments to conduct assessments on the state of digital health and the production of an investment road map. These will lead to more impactful investments and sustainable systems.

Allow for government-led funding strategies
Ensure leadership buy-in to government-led prioritization. Donors should align with government strategies, plan with the government, and build on existing efforts, rather than proposing a new approach.

Inspire others to invest in the coordination mechanism
Be willing to make the first catalytic investment into an investment road map, as the Gates Foundation did to jumpstart implementation of the Road Map. Engage with other donors to develop an agreement for how your investments will be complementary by aligning to the same objectives and supporting unified, holistic digital health systems.

Support advocacy and communication efforts
Distribute success stories and lessons learned widely to allow for others to learn from the project. Digital health interventions should include funds for these dissemination efforts and advocacy for ongoing investments into what worked.

Involve the government during the design of investments
Invite government stakeholders to participate in initial design and planning of digital health investments, before funding solicitations are released and before implementers kick off activities. The government can provide important perspective on how activities can be designed to best support their priorities and be sustainable.

Lessons for governments

Understand the health digital and data ecosystem
Conduct a countrywide digital health assessment prior to drafting an investment road map to identify current activities and establish a baseline for assessing the impact of the road map. Understanding the digital health ecosystem will help to determine what investments will be most appropriate and sustainable within the context and to align with systems already in place.

Build on existing strategies
Ensure an investment road map considers and reflects government policies and strategies that are already in place. As previous strategies expire, use that as an opportunity to ensure any new strategies reflect the road map and establish a strong governance structure for digital health.

Engage a wide range of stakeholders at all stages of road map development
Engage with all stakeholders starting from the assessment and planning stage and into the drafting and costing of investment priorities. This includes raising awareness at all levels of the health system on the importance of the road map.

Formalize implementing partnerships
Coordinate implementation arrangements through memorandums of understanding to define clear expectations for engagement, reporting, decision-making, and oversight. These should include expectations for designing together and participatory planning.

Create forums for sharing and coordination
Organize forums, such as governance bodies and TWGs, for implementing partners and donors to coordinate, share progress, and learn from one another. Create clear expectations for members, including decision-making processes, reporting requirements, and other responsibilities.
Interview List

Giampiero Baldassarri, Senior Advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Silvanus Ilomo, Acting Director, Information and Communication Technology, MOHCDGEC

Erick Kitali, Director of Information and Communication Technology, PORALG

Tumainiel Macha, Assistant Director, Monitoring and Evaluation, MOHCDGEC

Henry Mwanyika, Regional Director, Center of Digital and Data Excellence, PATH

Irene Mwoga, Strategic Information Officer, World Health Organization

Neema Ringo, Technical Lead, Policy and Governance, PATH

References


Digital Square is a partnership of the world’s leading digital health experts from 40+ organizations working together with countries to strengthen digital health systems.

Digital Square offers a new way to invest in digital health—providing a space where countries and members of the global community can gather to think big and do good, together. By convening government officials, technological innovators, donor and implementation partners, and others across borders and boundaries in the Digital Square, we can grow possibility into reality by focusing on our common goal: connecting the world for better health.

Digital Square is housed at PATH. This case study was prepared by PATH staff and was funded by the Bill & Melinda Gates Foundation.