Digitalizing Primary Health Care

ACCELERATING DATA USE TO IMPROVE HEALTH OUTCOMES

The Data Use Partnership (DUP) is a Tanzanian Government–led initiative that is improving the national health care system through better digital health systems and the use of health information. DUP aims to strengthen digital health and build local capacity so that everyone—from government officials to health workers to patients—can take more informed action to improve health, leading to a healthier Tanzania. DUP is currently focused on three investment areas: strengthening governance and policy, improving the use of information in primary care and supervision, and designing and implementing a digital health framework.

Background

The Government of Tanzania (GoT), through the DUP initiative, is working to digitalize primary health care (PHC) so that health workers can identify, track, and support patients across the continuum of care, whether a mother is visiting the clinic for her first antenatal care visit or taking her child for a lifesaving vaccine. Applying digital health solutions to PHC can enhance health service delivery; enable evidence-based actions based on high-quality, real-time data; and improve patient care.

Digitalization is the process of introducing digital technologies into the health sector’s daily routine to better capture and manage data digitally and improve workflow for more effective health service delivery. An integrated, digital system will allow for real-time, patient-centered records that enable a continuum of care. It requires user-friendly software designed to support a range of health sector processes—from ordering new medicines and supplies to registering new patients. It also requires hardware and infrastructure appropriate for the primary care context, building the capacity of health workers and health managers to use digital tools and data, and designing
Salome is a nurse in Tanga, Tanzania. She used to have only a partial view into her patients' medical histories. Salome did not know which services a patient had accessed or what tests a patient had received because each facility and health area in her region used a different patient identifier. Oftentimes, these patient IDs were not linked. If patients missed their appointments, Salome had no way to contact them or determine if they had moved, transferred, or accessed services at a neighboring facility.

Under DUP, the Government of Tanzania is working to digitalize primary health care so that health workers like Salome can access an integrated health system. She will be able to view her patients' medical history, even if they receive services at a neighboring facility. Salome will also be able to determine the best course of action for care, using digital decision-support features based on clinical guidelines. If patients miss their appointments, Salome will be able to generate a list of defaulters who are not accessing the services they need and promptly follow up with them.

CHALLENGES UNDER THE CURRENT PAPER-BASED SYSTEM

- Health workers record duplicative patient information in many different registers and documents, which can be time consuming.
- Health facilities do not have the ability to share data between different health areas, programs, and neighboring facilities.
- Health workers lack a single, integrated system for patient records, which makes it difficult to track and develop a comprehensive picture of patient health over time.

Approach and Progress

To achieve this vision, DUP builds on existing work and other digital health initiatives. Software and digital devices are just one piece of the puzzle. Digitalizing PHC will also require supportive policies and guidance to enable Tanzania’s new digital context and to make sure health workers are well equipped to use the system. DUP will develop guidance on how best to introduce and roll out the system, with the aim of eventually replacing paper-based processes. It will also establish guidance on how to use the system, develop training for health workers, establish competency requirements, and define data use roles and responsibilities for Tanzania’s evolving digital landscape. Guidance must also be updated to ensure health data meets compliance criteria and is securely registered, stored, and backed up. Finally, DUP will provide direction on how primary care data should be accessed, shared, approved, and used in a digital context, so that the health sector can operate as a connected system, while maintaining patient privacy.
CHARACTERISTICS OF A PHC DIGITAL SYSTEM

- **Human resource** investments in training and support to help health workers with a range of information and communications technology (ICT) skills.
- A consideration for the broader digital health context, including the ability to validate and exchange health data with other facilities, services, and insurance systems.
- **Configurability** to ensure the digital system is usable across different types of primary health facilities, which provide different services, and can be adjusted over time as health services evolve.
- **ICT hardware** that works across different environments with poor or unreliable connectivity.
- A variety of **access control** features to encourage data exchange while establishing patient confidentiality and privacy.
- Software that is open source, adaptable, and adheres to best practices in order to ensure long-term sustainability.
- The ability to **monitor and evaluate the impact of digitalization** on health service delivery, including use of the new system.

An end-to-end digital health system means frontline health workers will be able to provide a continuum of care. To date, the DUP initiative has:

- **Established PHC business processes.** DUP has mapped the existing digital health landscape, including current tools and guidelines; established a shared vision for Tanzania’s national digital health system; and solidified the current and future state of PHC business processes under a digital system.
- **Developed a plan for digital governance and policy.** DUP is updating Tanzania’s eHealth Strategy (2019–2024) and mapping supporting policies, guidelines, and strategies.
- **Begun work on the Tanzania Health Enterprise Architecture (TZHEA).** In 2018, DUP hosted a workshop for the preliminary phase of development, which resulted in a request for architecture work. The resulting document included scope and principles for architecture, among other information.

**A Way Forward**

In 2019, the GoT, through the DUP initiative will continue to work toward digitalization. It will:

- **Finalize development of the new eHealth Strategy.** DUP will also work to update and develop relevant policy guidelines, ensuring that the country continues to digitalize health care and foster a culture of data use.
- **Further develop the TZHEA blueprint,** which will provide an overview of how the health sector in Tanzania operates, and suggest or determine how the health sector can most effectively achieve its current and future objectives using digital health.

Once these decisions are made, DUP will develop a plan for implementing Tanzania’s digital system and its supporting policy guidelines. Tanzania’s digital system promises to improve patient care, allow health providers to determine where there are gaps in services, and enable policymakers to make smart decisions about health spending.