Digital Government
HEALTH

Introduction to Digital Government in Health

Digital technology has transformed most aspects of people's public and private lives, and it's also driving immense change for governments. Governments are using digital technologies to set measurable administrative goals, improve public service delivery, make data-driven decisions, enact evidence-based policies, ensure greater accountability and transparency, and engage with the public.

What does Digital Government look like in the Health Sector?

Digital government looks different across sectors. Broadly, it is how governments use digital technology to **manage** internal systems and processes, **deliver** services, and **engage** with stakeholders. In the health sector, digital tools and systems can improve access to and efficiency of healthcare through data collection and use, innovative platforms for lifesaving services, and engagement across key stakeholders such as patients, healthcare providers, health systems managers, research institutions, or civil society organizations in the health sector.[1] Accordingly, the USAID Vision for Action in Digital Health underscores four key priorities to align programming: (1) building country digital health capacity; (2) advancing national digital health strategies; (3) strengthening national digital health architecture;[1] and (4) leveraging global goods.[2]

> **"Digital government"** is the use of **digital technologies as an integrated part of government strategies.**
>
> USAID developed the Digital Government Model to help USAID staff and partners understand and engage with the goals and components of digital government.

USAID's Digital Government model can be applied to the health sector:

MANAGE: Systems and processes related to managing the daily work of government. In Burkina Faso, USAID's Country Health Information Systems and Data Use (CHISU) program has supported increased availability and interoperability of quality health data and information systems by improving the electronic One Health platform and its integration with the national health management information system (HMIS) to better meet the needs of the Ministry of Health, the Ministry of Animal Resources and Fisheries, and the Ministry of Environment Green Economy and Climate Change.[3] CHISU is supporting multiple additional countries throughout Africa to integrate and harmonize systems across health areas to improve data collection, analysis, and use at national and sub-national levels.

DELIVER: Platforms to allow stakeholders access to government services. In 2020, the Ministry of Health in Cambodia launched the Smart Hospital e-Health Yoeung app in the capital's Preah Ang Duong Hospital. The app allows patients and doctors to conveniently manage medical records, make appointments through their smartphones, and access daily healthcare information from the Ministry of Health.

ENGAGE: Platforms for stakeholders to contribute to policies and processes. Tanzania's National Health Portal[4] is a free and easy-to-use data dashboard that disseminates health information to help stakeholders[5] make informed health decisions, raise public health awareness, and improve service delivery.[6]

Photo by Des Syafrizal for USAID

Digital Government Trends in the Health Sector

As digital technologies evolve, the following key trends are at the intersection of digital government and the health sector:

Digital solutions for community health workers. The pursuit of universal health coverage is increasingly being channeled into innovative digital solutions for community health workers. For these mobile health solutions to succeed, healthcare workers need adequate training, user-friendly application interfaces, and meaningful involvement during the design,[7] planning, and implementation of interventions.[8] For instance, Zanzibar's digital community health program, *Jamii ni Afya*, trains and equips community health workers with a mobile phone application that provides step-by-step guidance for every health visit with patients. After one year, Zanzibar successfully scaled Jamii ni Afya on a national level, improving access to essential health services for 1.6 million Zanzibaris and generating community health data that has strengthened government decision-making.[9]

Building interoperable digital health systems to address fragmentation. The creation of isolated and fragmented digital health tools and systems has been a major challenge for digital health outcomes. This fragmentation poses a management issue for governments and negatively impacts service delivery. To unify digital health efforts, governments and international development actors are focusing on integrating disparate but interrelated digital health systems to improve management of systems, interoperability, and healthcare service delivery. In Uganda, UNICEF Uganda, IntraHealth International, and GoodCitizen worked with the Ministry of Health to integrate two domestic community health information systems using a communication

---

4 This portal is maintained by the Tanzanian Ministry of Health, Community, Development, Gender, Elderly and Children (MoHCDGEC).
5 These stakeholders involve government, funding and and implementing partners, researchers, academics, faith based organizations, private sector, civil society organizations, media, and the general public.
8 This aligns with the the Principles for Digital Development's Design with the User, which states that digital initiatives should be based on an understanding of user characteristics, needs, and challenges.

system called the [mHero Connector](#) to reduce inefficiencies and improve service delivery, particularly for women and children in rural areas.[10] This integration allows for easier registration, data transfer, and communication on health issues, especially during emergencies such as COVID-19.

Digital health surveillance platforms. Public health surveillance is defined by the Center for Disease Control (CDC) as "the ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice."[11] Digital health surveillance platforms aim to improve data collection, analysis, and quality in laboratories through connected surveillance tools that track and map the emergence of drug resistance. These platforms form the basis of national health surveillance programs and enable governments to make data-driven decisions. Partnerships with governments help developers scale their products to quickly respond to emergencies like the COVID-19 pandemic. In Nigeria, the developers of SORMAS, an open-source, mobile e-health system, partnered with the Nigeria Centre for Disease Control and the Helmholtz Centre for Infection Research in Germany. Drawing on the country's experiences with Ebola and monkeypox, the public-private partnership scaled SORMAS' concept into a full health-surveillance platform to adapt to large-scale, complex outbreaks, such as COVID-19.[12]

Photo by Beso Gulashvili for USAID

Digital Square

[Digital Square](#) is a digital health marketplace that connects health leaders with the resources necessary for digital transformation. Funded by USAID, the Bill & Melinda Gates Foundation, and a consortium of other partners, Digital Square also works with governments and country-based technology experts to provide technical assistance and develop national digital health infrastructure and local capacity to manage and strengthen digital health systems. Over the past five years, Digital Square has raised $100 million from 15 investors to catalyze a range of digital health investments and produce global goods[13] in over 130 countries, as showcased in the [Digital Square Global Goods Guidebook](#).[14] In response to the Ebola crisis, Digital Square gathered donors and participants to discuss methods to expand interoperable systems. Digital Square is now looking to strengthen country responses to COVID-19 and support sustainable and scalable deployment of targeted digital health solutions.

Key Barriers in the Health Sector

The following barriers inhibit opportunities and innovation for digital government, impacting the management of systems and processes, delivery of services, and engagement of stakeholders in the health sector:

Insufficient governance structures and lack of established standards impacting system integration and interoperability. Unclear or inadequate governance structures mean that there is often no strategy, standardization, or long-term financial planning to coordinate investments and support digital health systems. Limited or nonexistent governance and standards leads to unintended consequences such as duplication, fragmentation, and non-interoperability across digital tools and systems. This hinders the ability of governments to effectively manage these systems, deploy innovations, and engage stakeholders in the delivery of health services on national and sub-national levels. Investments in multiple digital systems that provide overlapping functions and which are designed without data exchange and interoperability considerations also limit the decision-making ability of governments to improve public health. A key function of good governance is to facilitate the establishment of interoperability standards, which connect and exchange health information between disparate systems that may store data in different formats.

Insufficient connectivity and affordability. While mobile internet adoption continues to grow across the world, equitable internet penetration remains an unfulfilled objective in regions like sub-Saharan Africa, where coverage and usage gaps were 28 percent and 53 percent, respectively, at the end of 2020.[15] (Per GMSA, the "coverage gap" refers to people who do not live within range of a mobile broadband network, and the "usage gap" refers to those who live within the footprint of a mobile broadband network but are not connected to the internet.) This insufficient internet connectivity, coupled with power supply issues and a lack of affordable internet-enabled devices in certain regions, creates challenges for governments and development partners to deploy, manage, and maximize the adoption of digital tools and services. Improving ICT infrastructure is therefore crucial to connecting medical facilities, community healthcare workers and physicians, national and local governments, and clients.

Lack of professionals in digital health. The proliferation and success of digital health requires professionals that are able to understand, deploy, and manage innovations to improve the provision, access, and quality of healthcare around the world. Without prioritizing access and retention of staff in core technical areas around data governance, use, and management, or digital transformation, the ability for governments or donors to sustain multiple systems diminishes.

Other Digital Government in Health Resources:
» USAID's Vision for Action in Digital Health
» USAID's Vision for Health System Strengthening
» The Biden-Harris Administration Global Health Worker Initiative
» Health Data Collaborative - Data for health and sustainable development
» Digital Health (usaid.gov)
» Artificial Intelligence in Global Health (usaid.gov)
» Unlocking digital healthcare in lower- and middle-income countries | McKinsey

FOR MORE INFORMATION, please contact the IPI/ITR Digital Societies and Governments team (digitalsocieties@usaid.gov) and the Digital Health team (gh.digitalhealth@usaid.gov)

1   Digital health is "the systematic application of information and communications technologies, computer science, and data to support informed decision-making by individuals, the health workforce, and health institutions, to strengthen resilience to disease and improve health and wellness for all." A Vision for Action in Digital Health | U.S. Agency for International Development.
2   A Vision for Action in Digital Health | U.S. Agency for International Development (usaid.gov).
3   Overview | Country Health Information Systems and Data Use Project (CHISU) (chisuprogram.org).
6   Tanzania National Health Portal (moh.go.tz).
7   Digital Solutions for Community and Primary Health Workers: Lessons From Implementations in Africa - PubMed (nih.gov).
9   Zanzibar's Digital Community Health Program Reaches Full National Scale - Transforming How 1.6 Million People Access Essential Health Services - United Republic of Tanzania | ReliefWeb.
10 Uganda implements new health system integration technology | UNICEF Uganda.
11 Introduction to Public Health Surveillance|Public Health 101 Series|CDC.
12 SORMAS expanded deployment in Nigeria from 15 states covering 75 million inhabitants in 2019 to 36 states covering all 206 million inhabitants in the country in 2020. Unlocking digital healthcare in lower- and middle-income countries | McKinsey.
13 "Global goods" include content (knowledge products) and software tools, which frequently are open-source, adaptable, and reusable to meet the diverging needs of various geographic or thematic contexts. Global goods can include reference guides; reusable digital components, such as identification or messaging systems deployable across sectors; as well as software tools specific to the health sector." A Vision for Action in Digital Health (usaid.gov).
14 Digital Square recommits to advancing health equity through digital transformation — Digital Square.
15 GSMA | The state of mobile internet connectivity in Sub-Saharan Africa: why addressing the barriers to mobile internet use matters now more than ever | Mobile for Development.

USAID
FROM THE AMERICAN PEOPLE

USAID'S DIGITAL STRATEGY
USAID's Digital Strategy was launched in April 2020 with the goal of supporting USAID partner countries through their digital transformations. It aims to improve measurable development and humanitarian assistance outcomes through the responsible use of digital technology and to strengthen the openness, inclusiveness, and security of partner country digital ecosystems.