



# Digital Health Technology



To improve the health and security of all U.S. citizens—and to ensure sustainable thriving of the world population—the United States must maintain its leadership in global health through forward-looking policies, a long-term vision, and continued investment. Where should U.S. investments and attention be focused? The report *Global Health and the Future Role of the United States* highlights four priority global health challenges and identifies four opportunities to do business differently.

## Why is Digital Health an Opportunity?

The limitations of traditional “brick-and-mortar” health care systems, making tasks such as data collection, health care provision, and research challenging, can be vastly improved by digital health technologies. Though many innovative tools have been developed, to truly create sustainable impact, digital health needs to be implemented in a coordinated fashion. With the increasing penetration of wireless networks in developing countries, there is an opportunity for digital health to be used as the backbone of newer health systems and allow for leapfrogging many traditional systems.

### In fact:

- In 2015, **25 percent** of Africa and **58 percent** of Asia had an internet connection, with even higher numbers of mobile phone connectivity.
- A coordinated national digital health strategy can **strengthen** data systems for disease surveillance, **optimize** health services to increase patient engagement, and **increase** the efficiency of clinical research.
- Ghana, Nigeria, and Tanzania have all adopted **national e-health strategies** to focus on their national priorities while also emphasizing the need for reduced fragmentation.

## What's the Big Picture?

Digital health technology—including telemedicine, mobile health apps, and remote access, among others—has contributed to significant advances in global health. However, the growing interest has created a duplicative and fragmented approach to the use of digital health tools in many countries. In fact, Uganda issued a temporary moratorium on digital health pilots in 2012 because its health system was being overrun. With the proliferation of stakeholders being involved, there is a need for a paradigm shift in digital health infrastructure. Rather than investing in single application digital health solutions, the global community and the United States should shift towards broader digital health infrastructure investments, such as aligning tools across disease areas into one database. This would provide a more strategic approach that acts holistically with countries’ current priorities and long-term goals.



## CASE STUDY FROM THE REPORT COCONUT SURVEILLANCE

Coconut Surveillance is an open-source, mobile-based tool for malaria control and elimination currently being used in Zanzibar. Community health workers use tablets to collect data as they conduct case detection. The information is then dispatched to health officials at the Zanzibar Malaria Elimination Program. Data collected are synchronized with a cloud database (accessible on the web) in close-to-real time, allowing for rapid analysis and decision making for targeting program resources. If expanded to other disease areas, this tool could be even more beneficial.

U.S. Agency for International Development (USAID)

USAID Global Development Laboratory (GDL)

U.S. Department of State (State)

## RECOMMENDED ACTIONS

### Invest in Digital Health Technology

Why?

Countries need cross-cutting digital health platforms that are adaptable to local requirements and can provide real-time data and analytic insights to inform health-related decisions. These platforms should address health care priorities during peace-time while also serving as a resilient system for facilitating controlled sharing of data during an emergency.

How?

Relevant agencies of the U.S. government should convene an international group of public and private stakeholders to create a common digital health framework that addresses country-level needs ranging from integrated care to research and development.

This effort should include:

- **State and USAID should incentivize and support countries to build interoperable digital health platforms**
  - **GDL should provide technical assistance on development and implementation**
- **Expansion of the “build-once” principles of the 2017 Digital Global Access Policy Act**
- **Alignment of digital health funding by multiple U.S. agencies to maximize effectiveness, leveraging private industry and country co-investment**

## OTHER BRIEFS IN THIS SERIES

The report highlights four priority global health challenges and four key opportunities to do business differently.

### DOING BUSINESS DIFFERENTLY



Medical Product Development

### PRIORITIZING GLOBAL HEALTH CHALLENGES



Women's and Children's Health



Financing



Global Health Security



Global Health Leadership



HIV/AIDS,  
Tuberculosis,  
and Malaria



Cardiovascular Health  
and Cancer Prevention

### SPOTLIGHT ON: Digital Health Technology and HIV/AIDS, Tuberculosis, and Malaria

Digital health tools can reduce lapses in tuberculosis treatment through fingerprints and text message updates of patient compliance to the entire health care team. As many health challenges include loss of patient follow-up, this real-time information can lead to better outcomes and be expanded to other health areas.

To read the full report and other related resources, including all of the briefs in this series, please visit [nationalacademies.org/USGlobalHealth](http://nationalacademies.org/USGlobalHealth).