Healthy Mother, Healthy Baby Activity

Concept Note: Why a Tajikistan National Digital Healthy Strategy?

March 2022

FOR LIMITED EXTERNAL CIRCULATION

April 1, 2022

Program Name	Healthy Mother, Healthy Baby Activity
Name of Report	Concept Note: Why a Tajikistan National Digital Health Strategy?
Implementing Partner	Abt Associates
Contract Number	72011520C00003
Name of Subcontractors	Dimagi
Geographic Coverage (districts)	Khatlon Province Districts: Balkhi, Dusti, Jayhun, Jomi, Khuroson, Kushoniyon, N. Khusrav, Quobidiyon, Shahrituz, Vakhsh, Yovon

1. Overview

Digital technology has been widely recognized as a transformative tool towards achieving sustainable and inclusive development, especially at country levels[1]. Digitalization can help increase program efficiencies, ensure access to timely and accurate data, and strengthen the culture of data use for decision-making.

A digital ecosystem comprises stakeholders, systems, and an enabling environment that, together, empower people and communities to use digital technology to access services, engage with each other, and pursue economic opportunities.

USAID Digital Ecosystem Framework

The December 2011 Resolution 643 and 2012 amended Resolution 655, outlines Tajikistan's Concept for the Formation of Electronic Government to improve the quality and availability of public services provided to citizens and organizations through the process of improvements in Information and Communication Technologies. The December 2019, Government Decree No.642 Tajikistan's Concept of Digital Economy, presented digital expectations to fulfill goals set in the National Development Strategy 2030 (NDS). Section15 of No.642, introduced the concept of "Digital medicine." To digitally transform in alignment with NDS, the Tajik health sector is to develop a unifying platform and establish an ecosystem of applications for end users, mobile health applications, citizen electronic health passport, a data repository and a central hub for medical information.

A digital ecosystem looks at the environment, system, and culture to understand the potential opportunities and risks associated with digital technologies. To build a digital ecosystem requires coordinating and aligning Ministry of Health and Social Protection of the Population (MoHSPP) vision with donor/development partners and private sector investment under a comprehensive digital national strategy. This will reduce fragmentation and enable MoHSPP to ensure all digital investments are coordinated and feeding into a greater ecosystem using a common platform. Tajikistan's platform preference for a unifying health information system is District Health Information Software 2 (DHIS2).

THE PRINCIPLES OF DONOR ALIGNMENT FOR DIGITAL HEALTH

*While adhering to the Principles for Digital Development and working through existing global and regional efforts, **donors will do the following:***

- Collaborate to align investments to national digital-health strategies
- Invest in national plans that incorporate "digital global goods" and avoid bespoke systems.
- Engage early to determine and quantify the long-term costs of operating, maintaining, and supporting digital-health systems for sustainable country ownership.
- Track investments, progress, learning, and successes in digital-health systems in a transparent manner.
- Strengthen donor technical skills and core capacities, including awareness of the *Principles for Digital Development*.

*...and **donors will invest in the following:***

- The creation and evolution of a country's national digital-health strategy, policies, and regulatory framework. Strategies include components such as architecture, standards, investment frameworks, and privacy protection, and detailed operational and monitoring plans.
- Systems at a level appropriate to a country's progress along the digital-health maturity continuum.
- Sustainable country capacity for digital-health leadership, governance, implementation, oversight, global good adoption, and donor coordination.
- Scalable, sustainable, accessible, interoperable, and evidence-based digital-health global goods that meet national priorities.
- Diverse stakeholder information-sharing and peer-learning networks at the country and regional levels to foster the coordination and alignment of implementation activities.

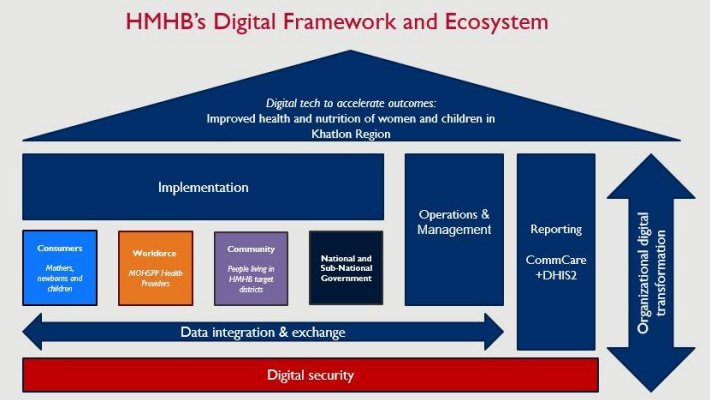
A Vision for Action in Digital Health (usaid.gov)

[1] Accelerating National Digital Transformation Leadership Series Brief #1. Accessed from https://digitalimpactalliance.org/wp-content/uploads/2021/06/DIAL_LeadershipBrief1-DX_v4.pdf

2. USAID Tajikistan Digital Health Investments

In 2021, to better understand the digital health landscape in Tajikistan, USAID Healthy Mother, Health Baby (HMHB) Activity completed an mHealth Tools Assessment.

USAID is supporting MoHSPP and donor/development community to make sustainable digital improvements in the ability of the RT to deliver quality maternal, newborn and child health (MNCH) and nutrition services. HMHB focuses on building the technical capacity, leadership, management, and policy reform potential of Tajikistan.



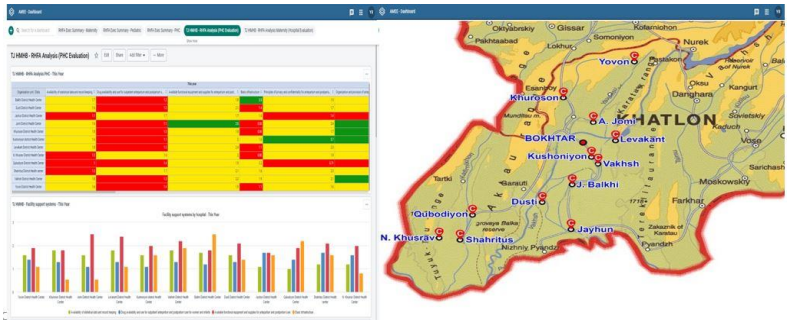
To support the MoHSPP, USAID digitalization investments work to:

- Build a digital ecosystem to strengthen the skills of healthcare workers (HCW) and managers.
- Ensure healthcare data and information is readily accessible and in the hands of MoHSPP and its partners to make informed decisions.
- Link communities to the healthcare system to increase service utilization.

All HMHB applications are built using CommCare, an award-winning, open-source mobile data collection and service delivery platform designed to improve data collection and the quality of health services. CommCare is utilized in over 80 countries.

Data captured in CommCare is integrated into DHIS2, which HMHB uses as its platform to manage and analyze routine project data. The DHIS2-CommCare integration helps avoid increased costs and error rates associated with maintaining two disparate data systems. DHIS2 is the world's largest open-source Health Information Management System (HMIS) and is the same software the MoHSPP uses as their system. By using the same software, HMHB can more easily share data and advocate for strengthened HMIS governance and capacity to administer and maintain the software.

Integrating DHIS2 and CommCare creates an enabling environment that ensures users have the correct information at their fingertips to make better-informed decisions. HMHB uses this data to guide implementation plans and strengthen health worker capacity by ensuring the right tools, information, and resources are readily available.



HMHB uses DHIS2's dynamic dashboards to analyze indicator trends through heat maps, charts, and pivot tables. DHIS2's data visualization allows users to add comments and interpretations of the data within the dashboard to analyze performance or describe what actions are being taken as part of the quality improvement plan.

3. Current HMHB Digital Interventions

HMHB uses CommCare for data capture and digital capacity-building of HCW. DHIS2 serves as HMHB's software for data analysis and visualization.

By combining these two software systems for the delivery of services, tracking of key indicators, and building capacity, HMHB strengthens the skills of HCWs and managers. Thanks to the efficiencies gained through digitalization, HMHB can access more timely and accurate data to ensure activities are appropriately targeted, which ultimately improves service delivery.

A high-level overview of the established system is as follows:

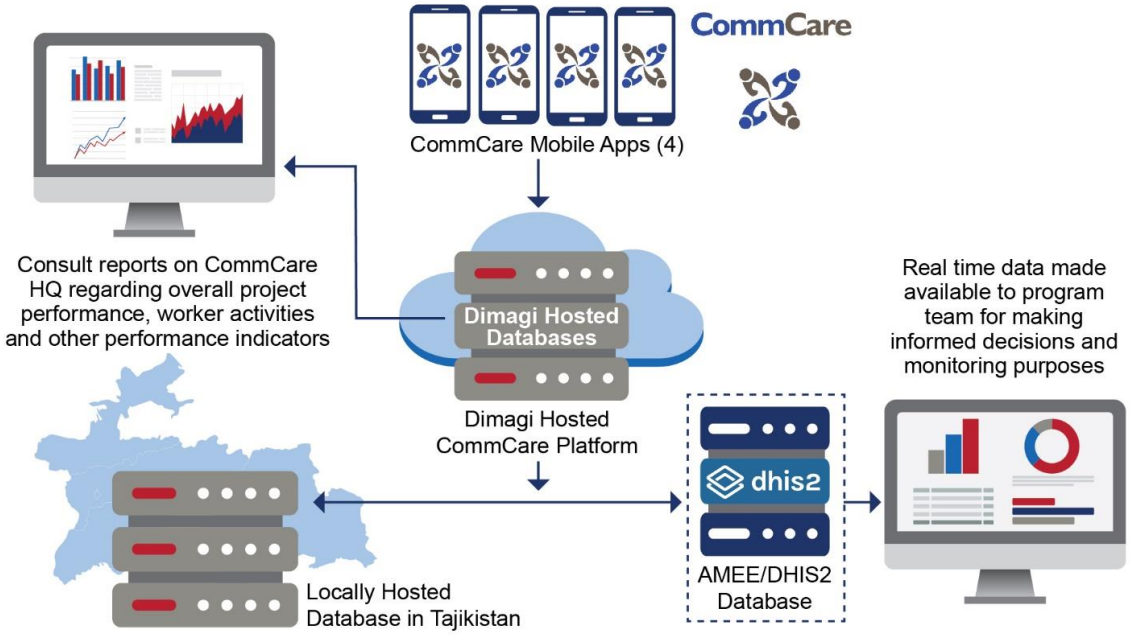


Figure 1. Current digital architecture of HMHB program

To ensure responsiveness to Tajikistan's robust laws protecting Personal Identifiable Information, HMHB worked with the Republican Agency on Protecting State Secrets to obtain approval and facilitate the installation of a local server at the Republican Center for Medical Statistics and Information (RCMSI). CommCare collected data flows directly to DHIS2 and to a server at the RCMSI to expedite MoHSPP decision-making. HMHB mentors RCMSI to build their DHIS2 and CommCare capabilities and familiarity—RCMSI currently uses an outdated version of DHIS2 though HMHB is able to expose and train using the most updated version.

To ensure client data security, CommCare's software and infrastructure reflects robust national and international client and data confidentiality requirements and is compatible to Fast Healthcare Interoperability Resources (FHIR). All CommCare mobile applications have multiple core security features, including password protected access, data encryption and data retention.

Mobile data capture improves the speed and accuracy of data collection and can also act as a holistic job-aid tool. For example, CommCare allows HCWs to keep track of their beneficiaries, schedule reminders for visits, and incorporate training and counseling materials. A suite of tablet/phone-based digital continuing medical education (CME) trainings on MNCH, nutrition and water and sanitation hygiene (WASH) are under development.

USAID's DHIS2-CommCare solution has the potential to build capacity in and beyond the health sector by improving data for decision-making and linking communities to increase utilization.

The table below summarizes the current USAID applications, and the larger impact they could have if fully scaled up:

Domain	HMHB Programmatic objectives	Application	Further enhancements and scale prospects
Facility Assessment	App 1) Assess the status of equipment and trained professionals in PHCs and Hospitals to provide support accordingly	App 1) Rapid Health Facility Assessment (RHFA) Status: launched	The application has digitalized the WHO RHFA tool and can readily be picked up for scale in other regions of the country if sufficient technical infrastructure (mobile phones) is made available It can enable healthcare facility certification based on the assessment, assist health organizations and the MoHPP to identify areas that require attention, and help determine data driven standards for country-wide facilities
Training and Monitoring	Record the number of health care workers who have received CME trainings	App 2) Continuous Medical Education (CME) Status: launched	Training materials can be added for providing further support to the trainers; assessment modules can be created to allow HCW to evaluate their learnings from the trainings for further program improvements
Service Delivery	Understand the existing	App 3) Knowledge, Access	It can enable growth monitoring of children with

	levels of knowledge, access and practices around WASH and nutrition practices within the community Record community-based events (CBE) done at various levels (oblast, district, village) and Social Behavioral Change Communication component covered in the same Track pregnancy, antenatal care, postpartum care and nutrition-related outcomes of children below 5 years of age	and Practice Status: launched App 4a) Maternal Newborn Child Health v1 (MNCH v1) - CBE Status: launched App 4b) MNCH v2 (tracking of pregnant women and postpartum care) and v3 (tracking of nutrition outcomes for children under 5 years of age) Status: currently in development	the help of auto plotting of growth charts on the mobile application; auto-generates task list and visit scheduler for enabling mobile users to focus on the beneficiaries based on priority. The data can be made available on a real-time basis and be viewed by different functionaries at the district, oblast and national levels through a dynamic dashboard that will allow for targeted interventions to improve nutrition outcomes.

**Note: all applications are integrated with DHIS2*

4. Thinking Bigger: Scaling a Digital Health Ecosystem

Based on global experience, DHIS2 and CommCare are scalable. In order to get to full-scale implementation, from an Activity to the national level, it's important to be aware and try to control for the challenges that ultimately come with such plans. Anticipated challenges could range from user management to performance management, and interoperability of the application, operating system versions and technical capacity as well as absent or little monitoring alongside a nationally determined digital strategy roadmap.

The Principles for Digital Development Forum outlines key 'living guidelines' to establish best practices in technology-enabled programs depicted below[2]:

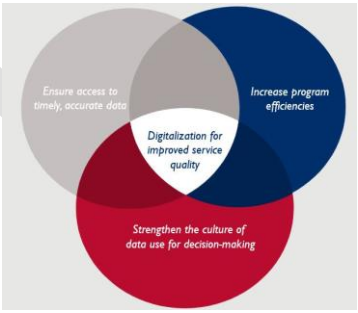
These guidelines are for each phase of a project lifecycle. They contributed to HMHB's approach and are the foundation for USAID's Digital Health Vision for Action.

The next section lays out suggestions and best practices for laying the foundation for a national digital health system.

[2] Principles for Digital Development. Accessed from https://digitalprinciples.org/

- **National governments own their country's digital transformation process** → A national digital transformation agenda is central to a successful digital transformation journey. The National Digital Health Strategy should articulate steps and sequence and denote who is responsible, with solutions and the metrics for evaluation success/completion. Priority components of the Strategy should be explicitly highlighted.

  Over the last 15 years, Tajikistan launched reform processes to revamp the inherited Semashko1 health system and address the high level of out-of-pocket payments on health[3]. The Concept for the Formation of Electronic Government in the RT has further in its goals included improving the quality and availability of public services provided to citizens and organizations through the process of improvements in Information and Communication Technologies. It is critical for RT to continue building and sustaining relationships with technology, programmatic, and private/public implementation partners. Each of these has a critical role in strengthening the overall capacity during various phases keeping in mind digitalization should improve service quality.



- **Cross-sectoral investments should be made in line with the national strategy** → Donors can increase the impact of their investments by being demand-driven to the country's requests for support and aligning to the national digital transformation agenda.

- **Investments in increasing local capacity** → There needs to be a cascading approach towards building capacity right from the top (leadership and governance) to the very end users of the different digital solutions. While building national and donor level strategy and roadmap for implementation, there should also be a component of training and capacity building so as to eventually build local ownership of the solutions.

- **Design for scale** → Think beyond a pilot and towards widespread adoption of solutions so to increase the overall impact of technology. These include, but are not limited to:

  - *Collaboratively defining scale goals*
  - *Vertical Scaling of HMHB applications and other digital solutions*
    - App performance → Redesigning a mature app can require a significant investment. Therefore, it is essential to consider future enhancements already on the project roadmap as well as caseloads right at the planning stage.

[3] The politics of the basic benefit package health reforms in Tajikistan. Accessed from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6532152/

- Infrastructure provisions → This requires decisions to be made about the required reliability of the infrastructure, placement and security of hardware, data storage capacity of servers, and internet connectivity amongst different user groups of users. These require significant investment upfront and thereafter for maintaining the infrastructure.
- Training and capacity building → Cascade training models can be implemented wherein all stakeholders are responsible for training the stakeholders present at the next level of disaggregation. This can be a highly structured format that allows for all key stakeholders to build their proficiency as well as those under them in the hierarchy.

- *Horizontal Scaling (across a wide variety of content areas - other health areas)*
  - Build a long term roadmap to implement the National Digital Health Strategy across different thematic areas and clear prioritization.
  - Design an application: simple, flexible and modular.
  - Interoperability - Interoperable data systems, or different data systems that can communicate and exchange data with each other, has been proven to improve the continuity of care, and with it, the chances of positive health outcomes[4]. For example, USAID in its digital vision emphasizes reusing global goods,[5] which are designed to meet the use-environments needs of and be deployable at scale in, LMICs. All public/private donor/development partners should only introduce systems that align to the chosen system and are part of the Strategy.

5. Case Studies: Lessons fo Supporting National Digital Health Systems

The below cases demonstrate core learnings and experiences on national scale digitalization to increase program efficiency, ensure access to timely and accurate data and help strengthen the culture of data use for decision-making. Cross-cutting to all the aforementioned points is the necessity of setting milestones and periodically assessing around these different digital interventions.

[4] Malaria Consortium's upSCALE Program: Integrating CommCare with DHIS2 for Improved Reporting . Accessed from https://www.dimagi.com/case-studies/malaria-consortium-dhis2/

[5] "Global goods," including software and knowledge products (e.g., assessment models or reference guides), are adaptable and reusable to meet the diverging needs of various geographic or thematic contexts. They are often, but not always, open-source; however, "opensource" does not always mean "free of cost." or "free of intellectual property rights (IPR). Accessed from https://www.usaid.gov/sites/default/files/documents/USAID-A-Digital-Health-Vision-for-Action-v10.28_FINAL_508.pdf

1. Accessible Continuum of Care and Essential Services Sustained (ACCESS) Project: In collaboration with the Ministry of Public Health, Madagascar, USAID deployed a suite of applications as part of the Mikolo project* which has now become ACCESS. The objective of the program is to accelerate health impacts in a sustainable manner for the Malagasy population through three axes: Provide quality and accessible health services to all Malagasy communities in the target regions of the program, Effective functioning of health systems to enable quality services, Better uptake of health behaviours and social norms. Scaling continues, to enable coverage of 5,000 users (Community Agents and Basic Health Centers) by the end of 2023. When the first COVID-19 cases hit the country, this application was quickly adapted to also include COVID-19 specific components to support the front-line workers.

2. The District Health Information System (DHIS2): A literature review and meta-synthesis of its strengths and operational challenges based on the experiences of 11 countries. The purpose of this 2018 District Health Information Systems (DHIS) review is to document data that are routinely collected in all public health facilities in a country using the system. The aim of this study was to examine the strengths and operational challenges of DHIS2, with a goal to enable decision makers in different counties to more accurately evaluate the outcomes of introducing DHIS2 into their particular country. This study highlights specific strengths in the technical and functional aspects of DHIS2 and also drew attention to particular challenges and concerns. These results provide a sound evidence base for decision makers and policymakers to enable them to make more accurate decisions about whether or not to use the DHIS2 in the health system of their country.

3. "Registre Eléctronique des Consultations" (REC) Project: Dimagi has worked closely with the Terre des hommes' "Registre Eléctronique des Consultations" (REC) project to deploy WHO Integrated Management of Childhood Illness (IMCI) guidelines to over 4,000 healthcare workers in Burkina Faso. In order to increase IMCI uptake and adherence, Terre des hommes (Tdh) partnered with Dimagi to introduce the Integrated eDiagnostic Approach (IeDA). The goal of IeDA is to integrate training and support systems with a diagnostic support tool for nurses to better manage the quality of health care services they provide in a more holistic manner. Designed to support health workers and enhance their performance, the low-cost IMCI diagnostic tool aims to make it easier to follow IMCI protocols, thus helping to ensure comprehensive childcare. Tdh tapped Dimagi to develop the system, building off of Dimagi's prior experience deploying IMCI-compliant tools in Tanzania, Mozambique, Malawi, and Niger. Today, the REC guides these workers in treating around 180,000 children every month. So far it has registered more than 2.5 million children in over 1100 facilities across the country.

* Implemented by Dimagi

4. Developing Health Management Information Systems: A Practical Guide for Developing Countries: This Manual is designed to be a quick-and-easy, user-friendly reference for the development of health management information systems (HMIS), with the focus on applications. It serves as a primer on HMIS development and provides a general overview of the basic principles, as well as the fundamental steps and issues involved in the different activities to be undertaken. The information is presented in a concise, direct-to-the point, easy-reading, and outline format. It aims simply to provide the basic elements on HMIS development for people who do not have the time or the need to read deeply on the subject. For those who wish to develop a more in-depth knowledge, the Manual can also serve as the springboard for further reading and research.

5. National eHealth Strategy Tool Kit: Worldwide, the application of information and communication technologies to support national health-care services is rapidly expanding and increasingly important. This is especially so at a time when all health systems face stringent economic challenges and greater demands to provide more and better care, especially to those most in need. The National eHealth Strategy Toolkit is an expert, practical guide that provides governments, their ministries and stakeholders with a solid foundation and method for the development and implementation of a national eHealth vision, action plan and monitoring framework. All countries, whatever their level of development, can adapt the Toolkit to suit their own circumstances. Representing one of the most significant collaborations in recent years between the World Health Organization and the International Telecommunication Union, the Toolkit is a landmark in understanding what eHealth is, what it can do, and why and how it should be applied to health care today.

6. WHO Global strategy on digital health 2020-2025: In 2005 the World Health Assembly through its resolution WHA58.28 on eHealth urged Member States "to consider drawing up a long-term strategic plan for developing and implementing eHealth services…to develop the infrastructure for information and communication technologies for health…to promote equitable, affordable and universal access to their benefits." Countries and stakeholders were urged to direct their efforts towards creating a consistent eHealth vision in line with a country's health priorities and resources, developing an action plan to deliver the proposed vision, and creating a framework for monitoring and evaluating eHealth implementation and progress. More than 120 Member States – including low- and middle-income countries – have developed such strategies and policies.