Health Information Systems

I-TECH
International
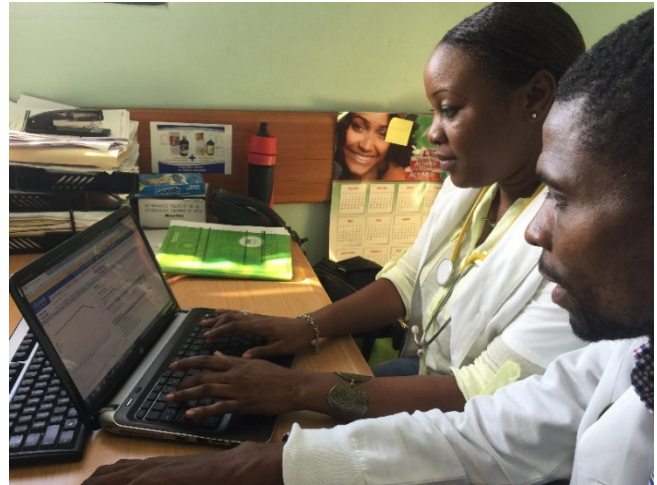Training & Education
Center for Health

Digital Health Information Systems (HIS) are one foundation of a strong health system. HIS allow clinicians quicker access to patient information; aggregate health data to help identify areas of high need; support pharmacies to avoid stockouts of essential medicines; and assist clinics, health districts and governments to forecast revenues and outlays. Effective HIS transform data into information that can guide decision-making and policy.

I-TECH CAPACITY

The **Digital Initiatives Group at I-TECH (DIGI)** builds on 15 years of experience designing, developing, implementing, and evaluating health information systems around the world to help Ministries of Health and their collaborators to achieve HIS goals. Through DIGI, I-TECH develops and deploys systems and provides technical assistance and training on electronic medical records, laboratory information management, disease surveillance, national eHealth architecture design, national standards for data transfer and system interoperability, and data use for improved clinical service delivery and high-level policymaking.

APPROACH

DIGI approaches its work from a foundation of capacity building and expert project management, delivering solutions that promote ownership and sustainability. Employing user-centered design approaches, DIGI develops standards-based health information tools and platforms, contributing to robust digital health ecosystems.

DIGI Areas of Service Delivery

- Digital Health Policy & Governance
- Business, Technical, Application, and Data Architecture
- Software Design & Development
- Health Data Exchange Standards
- Information Security
- Digital Health Workforce Development
- Data Use and Analytics
- Evidence-Based Implementation
- Monitoring and Evaluation in Digital Health

Standards-based Solutions

DIGI develops and promotes standards-based health information tools and platforms, contributing to robust digital health ecosystems that enable interoperability.

"Global Goods": Open Access to Technology

Open access to technology is critical for our partners in low- and middle-income countries (LMIC). DIGI is a leader in digital health "global goods" communities including OpenMRS, OpenHIE, OpenELIS, and Bahmni. The team has significant experience implementing open-source tools with projects including: OpenMRS point-of-care and OpenHIE in Haiti, Kenya, and Cameroon; advancing OpenELIS interoperability with OpenLMIS and OpenMRS; OpenMRS quality assurance; and leading a global Open LIS Community of Practice. DIGI also provides leadership in the WHO Digital Client Records Standards & Architecture working group and the Health Data Collaborative Digital Health & Interoperability working group.

By promoting open source "global goods" that are supported by implementer communities, we help partners like Ministries of Health to be able to own and continue to develop the solutions long-term.

User-centered Design

We support design processes that prioritize starting with a clear understanding of user needs and required tasks through documentation of user stories and design requirements. We define use cases as part of software designs, use iterative user feedback or co-design processes, and ensure involvement of end users in software testing. We apply these principles to all types of projects, from design of data collection tools to design of data visualization and dashboarding tools.

Evidence-based Development

True to our roots within the University of Washington, DIGI practices evidence-based development, including drawing from best practices and iterating proposed solutions with application of learning across projects, as well as performance evaluation to ensure sustainable implementation of systems. Our end goal is system success in terms of availability, quality, and use of data.

Capacity Building

DIGI infuses a capacity building approach in all of our work, using approaches that promote ownership and sustainability. DIGI partners with Ministries of Health and relevant stakeholders to reinforce ownership, develop appropriate governance mechanisms and policies, build capacity of system users. The DIGI approach empowers individuals at all levels of the health system.

Flexible and Responsive Project Management

DIGI brings together individuals with a breadth of experience and skills in digital health who can be assigned to projects in a flexible, responsive way. We draw upon diverse resource persons from departments across UW, and our network of staff in nearly 30 countries positions DIGI to leverage and adapt solutions to any context.

RECENT PROJECTS

Botswana National Data Warehouse and Dashboards
Cambodia Enhancing Quality of Healthcare Activity
Cameroon HIS Strategic Planning
Côte d'Ivoire Lab Information Systems (LIS)
Haiti HIS Architecture
Kenya HIS Curriculum Development
Malawi HIV Case Base Surveillance System

Malawi HIV Recency Testing Data System
Malawi National HIV Reference Lab LIS
Namibia Mobile Voluntary Medical Male Circumcision Quality Monitoring Application
OpenELIS Integration with OpenMRS and OpenLMIS
South Africa Policy Information Management System
TrainSMART
Zimbabwe Data Governance & Management

DIGI's work has been funded by the President's Emergency Plan for AIDS Relief (PEPFAR), the Health Resources and Services Administration (HRSA), the Centers for Disease Control and Prevention (CDC), the United States Agency for International Development (USAID), and Digital Square. For more information on these projects, see **DIGI Projects & Products**.

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