

Information and Communication Technology in International Health



Good health information is essential for health systems strengthening. Information and communication technology (ICT) provides powerful tools to improve the quality and use of health information at all levels, from point-of-care to national policy dialogue.

Over the past decade, international standards, open-source software, and mobile phone technologies have become powerful tools. These tools are driving a global movement toward coherent national frameworks, interoperable components, locally affordable systems, local ownership, and increasing local capacity.

RTI's understanding of national health information systems includes recognizing the critical impact of government decentralization. Our pioneering work in point-of-care systems, based on open-source technology, demonstrates that they can be brought to scale and be sustained. The practical use of mobile phone technology has engaged private sector support and broad stakeholder partnerships. RTI's reliable and cost-effective data systems for international health are based on a decade of experience in low-resource settings in Africa, Asia, and Latin America.

Expertise

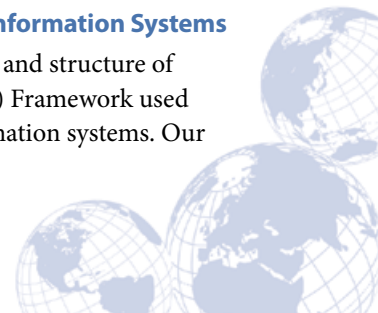
- Strengthening national health information systems
- Realizing the potential of sustainable point-of-care systems
- Capitalizing on the potential of mobile technologies
- Developing reliable data systems for international health research

RTI helps local and national stakeholders to

- Focus health information system design on information demand and use
- Advance from national assessment and planning to coordinated implementation
- Strengthen capacity to implement, support, and use information systems for supportive supervision and evidence-based decision making
- Apply appropriate international standards and develop essential national standards
- Use open-source technology and locally affordable computing infrastructure
- Leverage public-private partnerships (PPPs) and local institutions of higher education
- Realize the potential of sustainable point-of-care information systems
- Advance from pilot projects to systems that are scaled up under local power
- Develop and use practical, cost-effective monitoring and evaluation (M&E) systems

Strengthening National Health Information Systems

RTI supports the essential guidance and structure of the Health Metrics Network (HMN) Framework used to strengthen national health information systems. Our



experience gives us special insight into the impact that government decentralization has on the implementation of national frameworks. We help partner governments develop specific strategies to clarify, coordinate, and support the respective roles of national and subnational government. We

- Conducted the first national health information system assessment in Egypt (1997). Our experts helped Egypt implement key recommendations, including clarifying the roles of national and subnational information centers; promoting essential national standards, using demand-driven design; and developing a national system for tracking public health expenditures.
- Conducted a national health information system assessment in Rwanda that specifically addressed challenges introduced by government decentralization. RTI experts in information systems, M&E, program management, and information technology assessed information needs, access, and use at all levels of the public health-care system.

Realizing the Potential of Sustainable Point-of-Care Systems

Most health information originates at the point of patient care. National health information systems heavily depend on statistics compiled and reported manually by clinicians. These systems suffer from delayed reporting and poor data quality. Electronic medical record systems can help improve the quality of care and data for decision makers at all levels. RTI has been a leader in using open-source software and mobile phone networks to realize this potential. We

- Helped to develop the Zambian Electronic Perinatal Record System (ZEPRS), which has been used by 25 interconnected health facilities in more than 3 million patient encounters
- Helped develop an electronic system used by health centers in Nairobi, Kenya, for managing antiretroviral pharmaceutical supplies and reporting via the mobile phone network
- Are helping to develop an electronic system for managing medical and legal assistance for rape survivors in South Africa

Capitalizing on the Potential of Mobile Technologies

More than 4 billion of the world's 6.8 billion people have cell phones. Developing countries account for about 30% of users. This technology has significant potential to improve access to health care and information for patients, clinicians, and policy

makers. RTI has helped several countries to build PPPs to realize this potential

- In Tanzania, we helped develop a malaria epidemic detection system based on data submitted via mobile phones by sentinel facilities
- In Kenya, we helped create an open-source pharmaceutical supply management system used in Nairobi to compile and submit reports electronically over a mobile phone network to the central warehouse
- In the Philippines, we helped facilitate a national partnership to build on a locally developed electronic medical record system, which is using a mobile phone network to provide data to the national health information system.

Developing Reliable Data Systems for International Health Research

International research provides scientific evidence that is critical in evaluating health interventions. International research partnerships help to identify feasible, cost-effective, sustainable interventions for major health challenges in the developing world.

RTI helps support these partnerships by helping institutions in low-resource settings to develop and manage reliable and cost-effective solutions for collecting, managing, transmitting, and analyzing international health research data. We are

- Developing and managing data management and transmission systems used by research sites in China, India, Peru, Russia, and Zimbabwe over an 8-year international HIV/AIDS prevention study
- Developing and managing data systems that support international research designed to address the alarming rates of morbidity and mortality in women and children, and the lack of research expertise and infrastructure in developing countries
- Working to harmonize HIV/AIDS data sources, introduce electronic data management systems, and strengthen local data management capacity in Central Africa in Burundi, Cameroon, and the Democratic Republic of Congo

More Information

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