

Africa Health Infoway Final Report

Background:

The (AHI) was intended to be a district-based public health information network for African health. It aimed to provide a technology platform to collect sub-national health data and statistics for analysis and dissemination. This data would in turn be used to facilitate decision making in health, and to strengthen the capacity of African countries to use information in decision making. The initial phase of AHI was designed to cover a period of three years.

Achievements:

AHI completed a scoping study, which was carried out in selected countries to assess the existing environment in the use of ICT in public health at district level.

The study was commissioned in 51 districts in 17 African countries¹, carefully selected from the different sub-regions in the continent and covering both the more endowed and less endowed districts. It assessed the current use of ICT in public health at district level, and specifically noted the types of health information systems currently in use in health systems in Africa, identifying their strengths and weaknesses. It also aimed to evaluate the capacity to use information technology, and how health information systems are used for decision-making by various categories of stakeholders. Some of the most important features of the status of eHealth in Africa were as follows:

Existing information systems

The study identified that existing health information systems in the region generally covered hospital/health unit, patient information, epidemiological surveillance, administrative support and vital registration. Data from these sources were generally found to be incomplete in most cases because of the cumbersome systems of data collection and storage.

Lack of awareness of the potential of eHealth

The study identified the general lack of awareness of the value of eHealth among policy makers, health managers, administrators, health workers, and even ICT professionals. A concerted effort to raise the profile of eHealth must now be made to consolidate the various initiatives in the African countries with a view to strengthening advocacy and building public awareness, highlighting its potential through joint plans and activities.

Collaboration with in-country and external institutions

The study also highlighted the need for systems to: a) register health facilities and infrastructure; b) register health personnel and monitor their training; c) monitor health problems, key interventions, and critical resources, and service statistics; d) manage logistics and stock, and e) archive data. A major part of AHI's efforts will be to identify existing applications in the districts that may serve these needs and, in

¹ Cameroon, Chad, Egypt, Ethiopia, Gambia, Ghana, Kenya, Mali, Morocco, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Swaziland, Tanzania and Uganda

many cases, to facilitate eHealth system development in partnership with collaborating institutions, either already working in specific countries, or new partners that work in this area of expertise.

Critical need for electronic health records

The study also showed that electronic health records, hospital information systems, and patient information systems are critically needed in most countries and service statistics should be integrated with geographical information systems. An additional effort must be made to facilitate GIS development and integration with AHI package applications. This is potentially a very important technological player for a complete picture of health service delivery in any given area; therefore GIS activities are planned for years 2 and 3.

Building human capacity

The capacity of technicians who can support the operation and maintenance of the health information systems must also be developed. The AHI business plan includes both training and "change management," so that training needs can be properly planned and change can be introduced smoothly as part of AHI implementation.

Standards

Standards for hardware, software and connectivity to facilitate inter-operability of systems within countries and internationally are essential. One of AHI's main roles will be to facilitate data exchange, and possibly integration between different systems, based upon a common data standard.

Possible collaborations

Based upon these findings, existing health systems in the countries were reviewed to determine their current effectiveness in addressing health needs. Many ICT projects undertaken in the region were the result of isolated initiatives rather than coordinated efforts to improve information management at various levels of the health system. AHI intended to use those systems and applications that have been proven to be particularly effective in addressing health system needs.

The following were identified as possible candidate systems for collaboration in countries:

DHIS2. This web-based district level Health Information System software is currently running in 6 African countries, India and Vietnam. As an open source application, it is used for collecting, analysing, and reporting district level data. It has been developed and is maintained by a consortium of universities in a number of countries.

OpenMRS - This open source system has been identified for electronic recording of patient records at the clinic level. This system is also being developed by a consortium.

OpenHealth - an integrated platform to enable inter-operability between OpenMRS and DHIS2, and other health applications in the future.

The identification of other similar systems continued as a major component of AHI. The systems mentioned above were found best suited at district level in countries, but

required some level of integration to enable data exchange and inter-operability among them. A communication infrastructure that links the district health office with health facilities were also required as part of the implementation. All these networking efforts were to be guided by the AHI business plan.

Partnerships

AHI established collaboration with regional organizations, UN specialized agencies, the private sector and civil society, some of which are as follows:

UN-Economic Commission for Africa (UN-ECA) contributed to the AHI scoping study by funding the work of two consultants to develop the scoping study beyond its initial core. The UN-ECA is implementing the African Information Society Initiative (AISI), an action framework that has been the basis for information and communication activities in Africa since 1996. AISI aims to give Africans the means to improve the quality of their lives, and its health component shares the same goals and objectives as the AHI, supporting countries to achieve the MDGs. UN-ECA has collaborated in the AHI scoping study by funding the recruitment of two consultants to expand the country coverage of the scoping study from 7 to 17 countries. This collaborative work has helped ensure a more accurate determination of the current state of HIS and ICT in these 17 countries, as well as establishing the needs and priorities to properly inform programme preparations.

African Union Commission (AUC). The collaboration with AUC was aimed at facilitating the harmonization of the various ICT-based health initiatives on the continent, and the development of standards to enable data exchange and sharing, and inter-operability among the different systems. It was envisioned that AHI, as the umbrella organization, would help consolidate these on-going efforts, resulting in significant cost savings and greater efficiency for member states and partner institutions. AHI submitted regional eHealth projects and Use Cases to the African Union for funding consideration under the framework of the EU-AUC Cooperation Strategy.

International Telecommunications Union (ITU) AHI represented WHO at the "Connect Africa" summit, as health was among the development sectors to benefit from the ICT infrastructure pursued under the leadership of ITU. Awareness of eHealth and the partnership of WHO and ITU, as well as the financial contribution of DfID for AHI activities, was enhanced by various promotional tools such as fliers, press releases and a banner. Attendance at this summit was also a learning opportunity about similar initiatives in Africa, identifying opportunities for synergy, cost-savings, and efficiency. Discussions were initiated with specific international organizations whose work coincides with that of the AHI, such as UNHCR's ICT initiative focused on refugee centres in rural areas. ITU made a commitment to closely work with WHO in the development and implementation of AHI in Africa, and to lead in facilitating in-country cooperation with local telecommunications carriers on regulatory matters, such as radio frequency licenses, wifi equipment installation and configuration.

Commonwealth Business Council/Tata Consulting Services (CBC/TCS) (Uganda). AHI identified potential opportunities for collaboration and synergy with other organizations to enable the cost-effective and efficient use of a multi-purpose

communication infrastructure. Integration with CBC/TCS for the use of their communication infrastructure, which was being laid down to service the banking sector in Commonwealth countries, beginning with Uganda, was a major collaborative step. AHI was to share the infrastructure for health at the district level, resulting in significant cost savings. The Mbarara district in Uganda was selected for a pilot implementation of this collaborative work. A potential feature of the joint initiative was the use of a smart card to store electronic medical records of patients being treated in the clinics, using the communication infrastructure that was originally intended for banking sector use.

Inveneo - AHI ensured that the technology used in Africa was well suited for services at the rural and urban district levels, and could withstand severe environmental conditions. AHI made efforts to engage indigenous communities in the deployment, operation, and maintenance of the technologies, thereby contributing to human resources skill development at the district level. This approach was also adopted by Inveneo, a non-profit company that manufactures affordable ultra low-power ICT equipment designed specifically for development projects in rural communities. AHI identified Inveneo's low-cost solar-powered PCs as best suited for district level health information management.

Global Digital Solidarity Fund (DSF). In March 2008 the DSF launched the project of "1000 Telemedicine Units for Africa". This eHealth initiative was to support financing for telemedicine units in Africa as well as enable health professionals to increase their expertise through continuing education. The project was to equip district hospitals with diagnostic tools and internet connectivity to enable real-time or deferred exchanges with experts at a distance and to update medical knowledge of health professionals through e-Learning tools. DSF's partners are the Network of French-speaking Africa for Telemedicine (RAFT), and the University Hospitals of Geneva and AHI.

Health Metrics Network. The AHI was complementary to a number of WHO programmes working for the advancement of African health, such as, the Health Metrics Network (HMN), a global partnership that facilitates better documentation and collection of health information at country, regional, and global levels. Team from HMN and AHI were working closely on data exchange standards among different applications (OpenMRS, DHIS2, etc.), and the result of this joint effort was implemented in Sierra Leone. This specific partnership brought together the different technology partners at one table, such as the HISP consortium, Inveneo, the Commonwealth Business Council, and Tata Consulting Services.

Resources and Current Status

UK DfID and the Rockefeller Foundation were the funding sources for AHI activity.

The DfID grants helped support the completion of the scoping study, consultancies on eHealth project assessment in African countries and eHealth policy harmonization, as well as activities to establish firm alliances with other international, regional and commercial partners such as those outlined above. The grants also covered the cost of meetings and communications to heighten awareness.

The Rockefeller Foundation supported the preparation of AHI Business Plan and proof-of-concept development.

Due to lack of funds, the AHI activities were decommissioned as of 2010, with the exception of presentation of the AHI studies at the African Union meeting in early 2011. However, the vision and objectives of the AHI continue to be pursued through other similar initiatives, and in close collaboration with partner organizations.