

## **Ethiopian National eHealth Strategic**

**eHealth:** The World Health Organisation defines E-Health as *the use of information and communication technologies (ICT) for health. 'In a broader sense, it is concerned with improving the flow of information, through electronic means, to support the delivery of health services and the management of health systems'* eHealth can be also considered as a means to ensure that the right health information is provided to the right person at the right place and time in a secure, electronic form to optimize the accessibility and quality of health care delivery, research, education and knowledge for health system. E-Health should be viewed as both the essential infrastructure underpinning information exchange between all participants in a healthcare system and as a key enabler and driver for improved health outcomes for a population.

In order to build a flexible and efficient eHealth capability Ethiopia should embark on a strategy of national eHealth coordination and alignment. This will involve the establishment of national frameworks and infrastructural components that can be leveraged at national, regional and local levels to deliver solutions that are able to be integrated and share data across geographic and health sector boundaries. The strategic plan encourages national alignment and connectivity whilst providing the region and district, individual care providers and care provider organisations with the ability to take different approaches to solving their specific eHealth challenges.

**Rationales:** The FMOH has a well defined vision to improve the access and quality of care with a five year Health Strategy Development Plan (HSDP). To realize this vision, the Ministry has recognized and positioned eHealth as a key transformation enabler. The current eHealth applications in Ethiopia are delivering promising results. However, preliminary situation assessment indicates that eHealth initiatives in Ethiopia are characterized as small scale, duplication of efforts isolated and unable to effectively communicate (interoperable) with each others.

In that recognizant, the Government of Ethiopia (GOE) has considered developing and formulating a national eHealth strategy for coordinating and streamlining the various eHealth initiatives underway in the country as well as establishing a foundation for sustainable eHealth implementation.

The eHealth strategy will consider and realize standardization and implementations of national eHealth systems that include: access to health information and knowledge-sharing planning and decision making; health system capacity building in terms of creating enabling eHealth environment (Human resource, legal framework, privacy and compliance and funding); and Health Growth and Transformation plan (GTP) to pull together various disparate initiatives into a shared vision with a process oriented roadmap to move ahead.

In order to achieve and support long-term FMOH health strategic goals, the existing e-Health initiatives need to be much more strongly integrated, interoperable and stick with standards (technology/program) without compromising the objectives of each sub-system and establishing foundations for planning, coordinating scaling up different e-Health efforts.

**Challenges:** The Ethiopian healthcare system is straining to deal with several issues and struggles to achieve the maximum impact on the HSDP IV/ MDGs targets and to use effectively the limited financial and human resources as well as innovative approaches. However, overall

healthcare and eHealth has the following challenges: A) The Healthcare Sector Challenges: Shortage of healthcare professionals, Emerging of new diseases, Seamless healthcare services all over the country and New treatments and technology. B) The eHealth Systems Challenges: Infrastructure (electricity, hardware and communication, application), Human Resource (IT, informatics, HIT, other professions), Leadership and Governance and Financing

**Opportunities: Government ICT Initiatives:** Telecommunication is a central infrastructure in the implementation of eHealth programs. Without addressing the telecommunication infrastructural issues, it will be virtually difficult to realize the goal of e-Health implementation. The Government of Ethiopia as part of the ICT4D process is currently implementing a number of major projects and initiatives including: the SchoolNet, WoredaNet, AgriNet, EthERNET, rural connectivity and the E-government program among others. **Electricity:** According to the GTP Ethiopia is performing massive electrification, that includes the rural electrification program which aims to increase the number of towns and rural villages which have access to electric power from 648 to 6,000. *In addition to this the FMOH has mobilized resources and performed/ proceeds 2013/14 to electrified 400 Health Centers and 1,654 Health Posts through PV sola and planned 900HCs and 13,000 HPs in the year 2014/2015.* **Hardware (Computer, Laptop, Mobile, Tablets, Printers, UPS, etc):** Necessary ICT hardware that includes computation devices such as: computers, Servers, Laptops, Tablets, Mobiles, Printers, Scanner, GPS handheld and other related accessories have been made available to all levels. Recently more than 4,172 computers for eHMIS/PHEM and 1,300 for new medical education institutions have been acquired and distributed. **Software (Application):** Over the years FMOH have developed various national e-health application that includes; eHMIS/PHEM, EMR/E.H.R, CHMIS, HRIS (manage/license), IFMIS, Mhealth, etc. Other initiatives includes: LIS, hub Store IS, drug dispensing, CBHIS, Achieving/indexing IS, Fleet MIS, Stock MIS, etc has also developed and deployed to all levels. **Leadership & Governance Policies and Strategies:** There are encouraging government policies and strategies that creates favorable opportunities for eHealth implementation, these include: PHID/HITCT at FMOH & Amhara RHB, ICT & Health Policy, Educational Curriculum (NEMI, other IT embedded syllabus), E-Governance Strategy by GOE (MCIT), GTP, HSDP, HIS, HAD, and Other core processes including HMIS, HRD, MNCH, MDG, etc. **Financing:** The GOE has spent resources for ICT infrastructure building, training, development and implementation that are foundation for ehealth initiatives. Over the years the expenditures on ICT has increased. Other major contributors for resources include: GOE budget, HCF reform, other budget (GF, GAVI, USG, MDG-PF, other development partners). **Human Resources:** As part of MOH's Human Resource Strategy 20/20 HIT in diploma has been trained at 20 TVET collages, currently close to 917 have graduated and more than 1,500 have been enrolled; a MSc in Health informatics at Mekele University currently 26 have graduated and 29 enrolled; Addis Ababa University currently 100 have graduated and 22 enrolled; Gonder university currently 51 have graduated and 7 enrolled. Gonder University has started 2012/13 academic calendar a Bsc program and currently 27 students enrolled.

## Strategy

The National eHealth strategy of Ethiopia is aimed at guiding and streamlining the Information and Communication Technology (ICT) solutions in the healthcare sector. The core of the strategy is the commitment that health program will be focused on three groups of beneficiaries (Health and healthcare providers, Consumers of health and Health and healthcare service managers)

**Vision, Mission and Objectives:** The Ethiopian health sector outlined the mission and vision of

the sector as follows:

**Vision:** Provision of equitable, quality and timely health services through the use of eHealth

**Mission:** To adopt appropriate eHealth environment in the health sector of Ethiopia, to improve the health outcome by bridging the equity gap and enhancing the effectiveness and efficiency of the health service delivery.

**Main Objectives:** To create standardized, integrated and harmonized e-health environment to improve health service delivery.

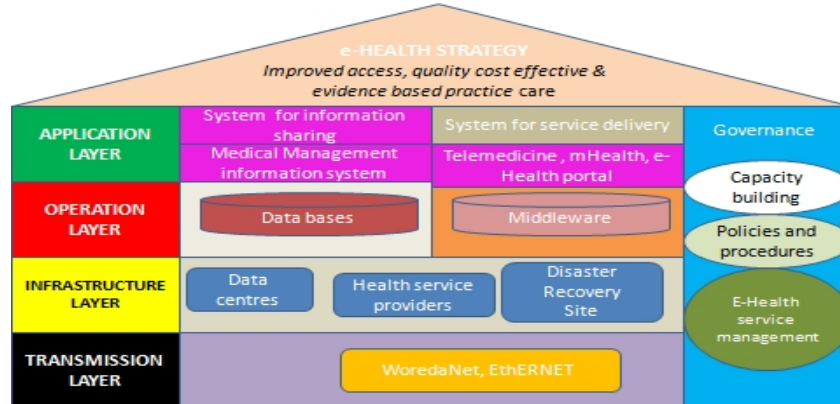
### **Specific Objectives;**

1. To improve access, quality, efficiency health systems through e-health application (such as: Telemedicine, M-Health, Tele-education, E.H.R, etc)
2. To enhance evidence based planning and decision making process through timely, accurate and comprehensive data/information management system at all levels of health care. (such as: eHMIS, ePHEM (disease surveillance), Telemedicine, M-Health, E.H.R, HRIS, etc)
3. To improve the referral system (referral and service availability database, ambulatory management information system, GIS, E.H.R. telemedicine, mhealth)
4. To strengthen the human resources development (HRIS, e-learning/teleeducation)
5. To enhance health and health related researches through the promotion of electronic data collection and exchange. (Electronic survey and surveillance, electronic publication, knowledge based database).
6. To enhance public access to health information exchange and dissemination on health services (web portal, call center, e-news letter, SMS, social media, digital notice boards).
7. To adapt eHealth standards and systems architecture to ensure harmonized and interoperable eHealth applications. (Guidelines, unique identifiers, facility master list, national health data dictionary)

### **Strategic Areas of Interventions**

1. To adapt e-health standards (*Legal and Regulatory framework*)
2. Implementing the national ICT infrastructure for e-health (*Infrastructure, standards and system for eHealth*)
3. Establish governance and leadership for eHealth.
4. Educational promotion to all stakeholders on e-health (*Financing and Investment for eHealth as well as support and promote eHealth service and Applications*)
5. Support Human resource development and capacity building for eHealth (HIT, IT, informatics, care providers).

**Implementation:** The overall eHealth implementation will be led and governed by the FMOH, which includes HDA structure. Following the guiding principles outlined in the previous section and intervention area: (a) Systems for health management strategic information (b) Systems for health care service delivery (c) System for research support (d) Systems for human resource development and HSDP IV identified five domain areas of priorities: 1) HIS – eHMIS, ePHEM, EHR, IPFSMIS, IFMIS, HRIS, LIS; 2) Telemedicine - patient centric services, referral system, remote and rural setting; 3) MHealth – /HEP/ and MDG and HSDP targets; 4) E-learning – health workforce training and CME; 5) Community information (CHMIS, CBHIS)



**Governance:** The strategy will be implemented by FMOH and stakeholders working group formed by a multidisciplinary team organized in program line and functional domain sub-committees. The PHID directorate, HITCT will be responsible for the operation of the eHealth. The committee will be guided by already existing FMOH governance. The FMOH governance will support eHealth development, annual operational plans for strategy implementation, identify opportunities with key partners, approve criteria for identification and selection of sites and area of intervention for eHealth. There will be sub committees to provide support to eHealth initiatives and to test the compliance whose functions will be to implement selected areas of intervention.

**Monitoring and Evaluation Framework:** Monitoring and evaluation are important activities to ensure effective and efficient implementation of the strategy. Both activities will be participatory, whereby key stakeholders shall be involved. The implementers or institutions will be part of routine M&E process. The eHealth M&E framework will be in-line with the established health sector M&E framework and process. In order to establish an eHealth M&E indicators, a strategy & framework should establish a defined and structured program to support initial evaluation and ongoing monitoring of eHealth interventions. Such a program could provide high quality, rigorous, and comparative information on the impact of eHealth solutions to better inform decision and policy makers and guide their actions regarding implementation or continued support of eHealth initiatives

- 1) Develop key measurable performance indicators of eHealth in-line with the existing national M&E framework.
- 2) Set measurable targets with time frame
- 3) Report on “impact” to facilitate decision making and financing.

**Conclusion:** The Ethiopian Healthcare strategy generally followed the integration “information”, “financing” and “leadership and governance” components of the health system with the principle of harmonization “one-plan, one-budget and one-report”. Monitoring the performance of the health sector is based on a core set of sector-wide indicators to provide a comprehensive picture on the performance of Ethiopian health sector. The strategy development has based on globally acceptable principles ( WHO/ITU toolkit and WHO and AU resolutions).