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EHEALTH SOLUTIONS IN THE AFRICAN REGION:
CURRENT CONTEXT AND PERSPECTIVES

Report of the Regional Director

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BACKGROUND

1. The World Health Organization (WHO) defines eHealth as the cost-effective and secure use of information and communication technologies (ICTs) for health and health-related fields. ICT provides a range of technologies for gathering, storing, retrieving, processing, analysing, transmitting and receiving data and information. These include radio, television, mobile phones, computer and network hardware and software, as well as the services and applications associated with them, including videoconferencing and distance learning. eHealth is an umbrella term that covers a variety of areas such as health informatics, digital health, telehealth, telemedicine, eLearning and mobile health.

2. EHealth can contribute to health systems strengthening in several ways by improving the availability, quality and use of information and evidence through strengthened health information systems and public health surveillance systems; developing the health workforce and improving performance by eliminating distance and time barriers through telemedicine and continuing medical education; improving access to existing global and local health information and knowledge; and fostering positive lifestyle changes to prevent and control common diseases.

3. Recognizing ICT’s significant developmental role and cross-cutting impact in regard to all aspects of national life, including health, an ICT-related target was included in Millennium Development Goal No. 8. The World Health Assembly resolution on eHealth, WHA58.28, noted the potential impact that ICT could have on health-care delivery. Subsequently the WHO Executive Board endorsed a set of activities to be implemented by the WHO Secretariat aimed at, among others, creating an environment that ensures data privacy, security and confidentiality, and improves interoperability. This included the establishment of the Global Observatory for eHealth to improve the evidence base and guide policies for integrating eHealth into health systems.

4. The WHO Regional Committee for Africa, through Resolution AFR/RC56/R8, called on Member States to adopt and implement eHealth strategies to improve their health systems. The

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3 Target 18F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.
6 Global Observatory for eHealth; [http://www.who.int/goe/](http://www.who.int/goe/) (last accessed on 8/12/09).
Ouagadougou\(^8\) and Algiers\(^9\) declarations and the Framework for Implementation of the Algiers Declaration\(^10\) also underscore the importance of eHealth in health systems strengthening.

5. Major eHealth projects in the Region include the Telemedicine Network for Francophone African Countries,\(^11\) Access to Research Initiative (HINARI),\(^12\) ePortuguese Project\(^13\) and PanAfrican eNetwork Project.\(^14\) Several countries in the Region are implementing telemedicine and eLearning projects.\(^15\) Some of these are using mobile phones to support the delivery of health care, awareness and education; remote data collection; remote monitoring and home care; communicating treatments to patients; and reporting and responding to disease outbreaks and emergencies. Others are using satellite technologies to broadcast health promotion to patients and health workers in hospitals and clinics.

6. While eHealth projects in the Region continue to be on a small scale and are fragmented, the rapid advances in ICT have put countries under intense market pressure to adopt ICT-associated services. There is a need to ensure that the introduction of ICT in the health sector is driven by country needs and appropriate policies, rather than by pressures from technology producers.

7. This document highlights some key issues that need to be addressed and proposes concrete actions for adopting eHealth solutions as tools for strengthening health systems in order to accelerate progress towards the achievement of the MDGs and the improvement of health outcomes in the Region.

ISSUES AND CHALLENGES

8. Some major issues in the Region include the “digital divide,” i.e. inadequacy of ICT infrastructure and services and the limited ability and skills to use them. It is estimated that in sub-Saharan Africa, access to fixed telephone lines in 2007 was 1.5 per 100 population, access to mobile phone subscriptions was 22.9 per 100 population, and the level of internet use was 3.7 per 100 population. This contrasts with the global average of 19.0 per 100 population, 50.3 per 100 population and 20.6 per 100 population, respectively.\(^16\) While mobile phone services are booming, the African Region has extremely little bandwidth, and the costs of Internet services are beyond the reach of the majority of the people.

9. Development and maintenance of ICT infrastructure are expensive and the costs are beyond the budget of many institutions in Africa, particularly when technology is sought for large-scale use. The

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\(^{11}\) Le Réseau en Afrique Francophone pour la Telemedecine (RAFT); http://raft.heuge.ch (last accessed 13/11/09).

\(^{12}\) HINARI; http://www.who.int.hinari (last accessed 13/11/09).

\(^{13}\) ePortuguese; http://www.who.int/eportuguese/en (last accessed 13/11/09).


\(^{15}\) Algeria, Benin, Burkina Faso, Burundi, Cameroon, Chad, Republic of Congo, Cote d’Ivoire, Ethiopia, Ghana, Kenya, Madagascar, Mali, Mauritania, Niger, Rwanda, Senegal and South Africa.

ICT infrastructure development needs of the health sector are not within the purview of ministries of health. Economic situations and financial constraints both countrywide and in the health sector are such that many health facilities and medical training institutions are unable to cater for their needs, including computerization. Dependence on external resources or donor funding for the introduction of eHealth in the Region has become the rule rather than the exception.

10. The key challenges countries need to address include limited awareness about eHealth; lack of enabling policy environment; weak leadership and coordination; inadequate human capacity; weak ICT infrastructure and services; inadequate financial resources; and weak monitoring and evaluation systems.

11. **Limited awareness of eHealth**: Policy-makers, health authorities and health practitioners are not fully aware of the potential benefits of the use of ICT for health. Neither has the health sector developed medium- or long-term strategic plans for developing eHealth infrastructure and services.

12. **Lack of enabling policy environment**: Most countries in the Region have not developed national policies, strategies or regulatory frameworks that are necessary for establishing common technical infrastructure, interoperability and standardization protocols. Countries also need to address ownership, confidentiality, security of data and quality of information.

13. **Weak leadership and coordination**: In several countries, there is a multiplicity of players and partners in several eHealth projects being implemented with limited capability for interoperability. The challenge is to strengthen coordination and collaboration among all stakeholders, partners and donors as well as improve the capacity of the health sector to lead the process.

14. **Inadequate human capacity to plan and apply eHealth solutions**: The number of health workers capable of leveraging ICT in their work remains limited. Health workers are not systematically trained in the use of ICT. There are insufficient numbers of health workers with the capacity to design, deploy and effectively manage eHealth projects and programmes. The use of ICT-facilitated learning remains limited in most health training institutions.

15. **Weak ICT infrastructure and services within the health sector**: Existing eHealth projects within the health sector are small-scale and fragmented, and their scope and coverage are rather limited. In most countries, the ministries in charge of communications, technology and finance are primarily responsible for national ICT infrastructure. The challenge is for ministries of health to ensure that ICT needs and adequate coverage of the health sector are taken into consideration during the preparation and implementation of national ICT plans.

16. **Inadequate financial resources**: Financing eHealth infrastructure and services requires collaboration and coordination between multiple partners from both the private and public sectors. The challenge is for the health sector to partner with other governmental sectors and the private sector to mobilize the resources required for eHealth.

17. **Weak monitoring and evaluation**: The majority of the eHealth projects, initiatives, national plans or frameworks implemented so far in the Region have not been adequately monitored or evaluated. Indeed, comprehensive frameworks for monitoring and evaluation have yet to be developed. The challenge is to ensure the availability of efficient systems for monitoring and evaluation and for sharing of experiences and lessons learnt.
18. Despite the above challenges, opportunities exist for planning and deploying eHealth solutions. These include the rapid advances in ICT, increasing access to mobile phones and broadband connectivity, increasing interest by donors and countries in strengthening health systems, and the partnerships being built by agencies such as WHO, International Telecommunication Union, World Bank, United Nations Economic Commission for Africa and others. The partnerships seek to develop national road maps for eHealth, facilitate connectivity of health facilities in districts, and provide health workers access to a suite of eHealth applications and solutions for enhancing professional capacity.

19. Two recent meetings have provided a basic foundation for harmonizing national policies and mobilizing countries to plan and implement eHealth services in the Region. They are the Fourth Conference of Ministers of Health of the African Union and the Kigali meeting on eHealth and Health Information Systems. In particular, the Kigali meeting focused on an “enterprise architecture,” an approach in which all relevant components of an information system are identified and the relationship between the components is defined. The meeting also addressed the implementation of policy and solution in Africa.

**ACTIONS PROPOSED**

20. In order to strengthen national health systems and improve the health of the people, countries should take actions leading to increased access to eHealth tools and services. Crucially, these actions should be taken in the context of the implementation of the Algiers and Ouagadougou declarations, and be integrated with other efforts to strengthen national health systems.

21. **Promote national political commitment and awareness of eHealth:** It is necessary to raise the awareness of policy-makers and the general public on the benefits of eHealth, including the identification and use of champions (e.g. celebrities within and outside the health sector) for that purpose. It is important to develop health sector capacity to advocate for eHealth solutions, negotiate with other ministries and lead the national process.

22. **Develop an enabling policy environment:** All countries should carry out a national needs assessment for eHealth and follow this with the development of long-term strategic plans and frameworks for eHealth. Countries should develop policies on eHealth which articulate the commitment of the government to invest in an ICT-based health system that will improve access to quality services at affordable prices. The policies should be based on the national ICT policy. Countries should also develop strategies, norms and appropriate governance mechanisms related to legal liability, ethical standards, and confidentiality and privacy protection.

23. **Strengthen leadership and coordination:** A multisectoral and multidisciplinary consultative process involving all key stakeholders, including the users and beneficiaries, should be used to develop national plans, policies, strategies, and ethical and legal frameworks. Each country should consider establishing multidisciplinary and intersectoral support mechanisms. The top leadership in the health sector should lead by example in acquiring the skills and utilizing the relevant technologies.

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17 Organized by WHO and the Government of Rwanda, 19 to 23 October 2009, with participants from eight countries (Ethiopia, Ghana, Kenya, Malawi, Nigeria, Rwanda, Tanzania and Uganda), comprising MOH officials, ICT staff and solution implementers in the countries.
24. **Build infrastructure and establish services for eHealth:** Countries should select appropriate technologies and solutions to be used within their specific environments, bearing in mind the current state of power supply standards, health systems and telecommunications infrastructure. Health needs should drive technology acquisition and adoption. Some of the key areas of focus include building the ICT infrastructure necessary to support eHealth services; establishing Internet connections for health institutions; establishing web sites for ministries of health; building local area networks and establishing telemedicine facilities. The adoption of open ICT platform technologies should be encouraged, and maintenance of adopted technologies should be given high priority.

25. **Develop human capacity for eHealth:** Systematic education in eHealth for health personnel must be at the heart of any strategy designed to facilitate eHealth. Countries need to introduce ICT in the curricula of all health training institutions. eHealth training should be included in continuing education programmes for health workers. The use of eLearning programmes for professional education should be promoted in the health sciences as well as in ongoing professional development. Local academics and researchers as well as external technical experts should be involved in these efforts. Countries should consider establishing centres of excellence to train eHealth professionals and reach a critical mass of expertise for service, training and research. Experts in eHealth are also to be recruited.

26. **Mobilize financial resources for eHealth:** Countries need to make the necessary investments in ICT infrastructure and services in the health sector, using domestic and external financing. Countries will need to ensure integration of ICT in all budgetary processes to promote sustainability. International partners and donors should be encouraged to support national efforts. Governments should establish an enabling policy environment that will encourage the private sector to seek funds for capital investments that will allow the introduction of new cost-effective technologies.

27. **Monitor and evaluate national eHealth plans and frameworks:** Countries should establish monitoring and evaluation systems to measure progress in the implementation of national eHealth strategic plans. This is crucial to ensure delivery of the expected benefits.

28. The Regional Committee is invited to examine and endorse the actions proposed in this document.